

# CONSTRUCTION PLANS

FOR

## COLES COUNTY MEMORIAL AIRPORT

MATTOON-CHARLESTON, COLES COUNTY, ILLINOIS

### REPLACE ELECTRICAL DUCT IN FRONTAL AREA

**SCOPE OF WORK**

THIS PROJECT CONSISTS OF REPLACING THE ELECTRICAL DUCT IN THE FRONTAL AREA. ASSOCIATED WORK ITEMS SHALL CONSIST OF REMOVAL OF EXISTING ELECTRICAL DUCTS, INSTALLATION OF ELECTRICAL DUCTS, HANDHOLES AND MANHOLES, PLACEMENT OF TEMPORARY CABLE JUMPERS, PAVEMENT REMOVAL AND REPLACEMENT, PAVEMENT MARKING.



### LOCATION

ILL. PROJ.: MTO-3762  
A.I.P. PROJ.: 3-17-0066-B20  
LATITUDE: 39° 28' 40"  
LONGITUDE: 88° 16' 45"  
ELEVATION: 721.0' M.S.L.  
DATE: APRIL 4, 2008



Revised 05/14/08

**HANSON**  
Hanson Professional Services Inc.  
ELECTRICAL ENGINEER  
Submitted by: *Kevin N. Lightfoot* ENG'R  
Date Submitted: MAY 12, 2008  
Lic. Exp. Date: NOV. 30, 2009

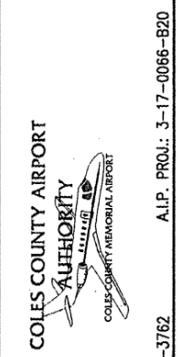
**HANSON**  
Hanson Professional Services Inc.  
CIVIL ENGINEER  
Submitted by: *Charles A. Hagloch* ENG'R  
Date Submitted: May 12, 2008  
Lic. Exp. Date: Nov. 30, 2009

COLES COUNTY AIRPORT AUTHORITY  
Approved: *Roger W. Wetzel* CHAIRMAN  
Date: April 30, 08  
Approved: *Andrew J. Stearns* AIRPORT DIRECTOR  
Date: 4-30, 2008



LOCATION OF COUNTY

DATE	REVISION	BY



IL. PROJ.: MTO-3762 A.I.P. PROJ.: 3-17-0066-B20

REV. PROJECT NO.	DATE	BY	REVISION
07A0101D-0800			
R-001CVR.DWG			
NOT TO SCALE			
04/04/08			
LAYOUT	MDR	03/26/08	
DRAWN	MDR	03/26/08	
REVIEWED	CAH	04/03/08	



REPLACE ELECTRICAL DUCT IN FRONTAL AREA  
COVER SHEET

MAY 11, 2008 3:37 PM HAGLOCH0382  
I:\AIRPORTS\COLES\07A0101\CAD\SHEETS\R-001CVR.DWG - COVER



**SCOPE OF WORK**

THIS PROJECT CONSISTS OF REPLACING THE ELECTRICAL DUCT IN THE FRONTAL AREA. ASSOCIATED WORK ITEMS SHALL CONSIST OF REMOVAL OF EXISTING ELECTRICAL DUCTS, INSTALLATION OF ELECTRICAL DUCTS, HANDHOLES AND MANHOLES, PLACEMENT OF TEMPORARY CABLE JUMPERS, PAVEMENT REMOVAL AND REPLACEMENT, PAVEMENT MARKING.

**AIRPORT SECURITY NOTE**

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR WILL CLOSE AND LOCK THE EXISTING GATE IN THE HAUL ROUTE AT THE END OF EACH WORKING DAY.

**UTILITY NOTE**

THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND AGENCIES WHICH 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 WILL CALL J.U.L.I.E. (1-800-892-0123) TO ACCOMPLISH THE ABOVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL UNDERGROUND NON-JULIE UTILITIES LOCATED WITHIN THE PROPOSED CONSTRUCTION LIMITS. THESE UNDERGROUND IMPROVEMENTS WILL BE LOCATED AT THE CONTRACTOR'S OWN EXPENSE PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

**HEIGHT OF CONSTRUCTION EQUIPMENT**

THE MAXIMUM ANTICIPATED HEIGHT OF THE CONSTRUCTION EQUIPMENT WILL BE 15 FEET. THE TALLEST EQUIPMENT IS EXPECTED TO BE A CONCRETE TRUCK.

**HAUL ROUTE AND VEHICLE PARKING**

THE CONTRACTOR WILL BE ALLOWED TO USE THE EXISTING AIRPORT ENTRANCE ROAD AND PARKING LOT AS HIS PROPOSED HAUL ROUTE. THE CONTRACTOR AND THE RESIDENT ENGINEER WILL WALK THE PROPOSED HAUL ROUTE PRIOR TO STARTING CONSTRUCTION AND WILL NOTE ANY PAVEMENT AREAS THAT ARE QUESTIONABLE. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE THROUGHOUT THE DURATION OF THIS PROJECT. AT THE CONCLUSION OF THE PROJECT, THE CONTRACTOR WILL RESTORE THE ENTRANCE ROAD AND PARKING LOT TO THEIR ORIGINAL STATE AT HIS OWN EXPENSE.

THE CONTRACTOR'S EMPLOYEES WILL BE ALLOWED TO PARK THEIR PERSONAL VEHICLES IN THE EXISTING AUTO PARKING LOT. ONLY CONTRACTOR VEHICLES WILL BE ALLOWED OUTSIDE OF THE EXISTING AUTO PARKING LOT.

**EQUIPMENT PARKING AND MATERIAL STORAGE**

THE PROPOSED EQUIPMENT PARKING AND MATERIAL STORAGE AREA WILL BE 100' X 100' AND LOCATED AS SHOWN ON THIS SHEET. THE CONTRACTOR WILL MAINTAIN THIS AREA THROUGHOUT THE DURATION OF THIS PROJECT. ANY AREA DAMAGED OUTSIDE OF THIS AREA WILL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE. AT THE CONCLUSION OF THE PROJECT THE CONTRACTOR WILL GRADE, FERTILIZE, SEED AND MULCH THIS AREA AS NEEDED TO RESTORE IT TO ITS ORIGINAL STATE. RESTORATION OF THIS AREA WILL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

**CONTRACTOR RESPONSIBILITIES**

THE CONTRACTOR'S EQUIPMENT PARKING AND STORAGE AREA WILL BE AS SHOWN ON THIS SHEET. THE CONTRACTOR'S EMPLOYEES WILL PARK THEIR VEHICLES IN THIS AREA. ONLY CONTRACTOR VEHICLES WILL BE ALLOWED OUTSIDE THIS AREA.

THE CONTRACTOR AND HIS EMPLOYEES WILL BE RESTRICTED TO THE WORK AREA AND ALL OTHER AREAS OF THE AIRPORT ARE "OFF LIMITS" TO THEM.

THE CONTRACTOR SHALL MAINTAIN CONTINUOUS TAXIWAY ACCESS TO ALL HANGARS AND ADMINISTRATIVE AREAS.

NO TRENCHES OR HOLES WILL REMAIN OPEN OVERNIGHT.

**LEGEND**

-  EXISTING IMPROVEMENTS
-  PROPOSED IMPROVEMENTS
-  EXISTING BUILDINGS
-  PROPOSED HAUL ROUTE AND EQUIPMENT PARKING AREA
-  PROPOSED BENCHMARK
-  PROPOSED BARRICADES OR TRAFFIC CONES
-  AREA OF PROPOSED IMPROVEMENTS

**150-ENGINEER'S FIELD OFFICE NOTES**

NO ACTUAL ENGINEER'S FIELD OFFICE WILL BE SUPPLIED AS PART OF THIS ITEM OF WORK. THE CONTRACTOR WILL FURNISH A CELL PHONE TO THE RESIDENT ENGINEER FOR HIS EXCLUSIVE USE FOR THE DURATION OF THIS PROJECT. THE RESIDENT ENGINEER WILL USE THIS PHONE FOR PROJECT BUSINESS ONLY. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL CHARGES ASSOCIATED WITH THIS CELL PHONE.

THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE PAID FOR UNDER ITEMS:

AR150510 ENGINEER'S FIELD OFFICE \_\_\_\_\_ 1 L.S.

**BARRICADES AND TRAFFIC CONES**

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PLACE AND MAINTAIN BARRICADES AND TRAFFIC CONES AS DIRECTED BY THE AIRPORT MANAGER. THE BARRICADES WILL BE EQUIPPED WITH RED FLASHING OR RED STEADY-BURN LIGHTS AND 20" SQUARE ORANGE FLAGS. THE BARRICADES, THEIR MAINTENANCE, PLACEMENT AND REMOVAL WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

SEE SHEET 6 FOR ADDITIONAL BARRICADE REQUIREMENTS

**CERTIFIED PAYROLLS**

THE RESIDENT ENGINEER CANNOT FORWARD CONSTRUCTION REPORTS TO THE ILLINOIS DIVISION OF AERONAUTICS FOR PROCESSING UNTIL ALL CERTIFIED PAYROLLS FOR THE PERIOD HAVE BEEN RECEIVED.

**MATERIAL CERTIFICATION**

COMPLETED WORK CANNOT BE PLACED ON A CONSTRUCTION REPORT UNTIL ALL MATERIAL CERTIFICATIONS FOR THAT PAY ITEM HAVE BEEN RECEIVED, REVIEWED AND ACCEPTED BY THE RESIDENT ENGINEER.

CO053

THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.

**J.U.L.I.E. INFORMATION**

COUNTY \_\_\_\_\_ COLES  
 CITY \_\_\_\_\_ MATTOON  
 TOWNSHIP \_\_\_\_\_ LAFAYETTE  
 SECTION NO. \_\_\_\_\_ 14, 15, 22 & 23  
 ADDRESS \_\_\_\_\_ COLES COUNTY MEMORIAL AIRPORT  
 432 AIRPORT ROAD  
 MATTOON, ILLINOIS 61938

**CRITICAL POINT DATA**

LATITUDE: 39° 28' 50.80"  
 LONGITUDE: 88° 17' 00.32"  
 ELEVATION: 712.00 M.S.L.

**PROPOSED SAFETY PLAN**

GENERAL - THE COLES COUNTY MEMORIAL AIRPORT IS COMPRISED OF TWO RUNWAYS. THE PROPOSED CONSTRUCTION WILL NOT NECESSITATE CLOSING ANY RUNWAYS. WHEN THE CONTRACTOR IS WORKING WITHIN 85' OF A TAXIWAY CENTERLINE THAT TAXIWAY WILL BE CLOSED. THE CONTRACTOR WILL PLACE BARRICADES AS DIRECTED BY THE AIRPORT MANAGER/RESIDENT ENGINEER.

IDENTIFICATION - WHEN THE CONTRACTORS VEHICLES AND EQUIPMENT ARE ON THE AIRPORT THEY SHALL BE PROPERLY MARKED WITH THREE (3') FOOT SQUARE CHECKERED FLAGS (INTERNATIONAL ORANGE AND WHITE). THE CONTRACTOR WILL ALSO PROVIDE WORKERS WITH SOME TYPE OF TAG OR GARMENT TO IDENTIFY THE PERSON AS BEING PART OF THE CONSTRUCTION CREW.

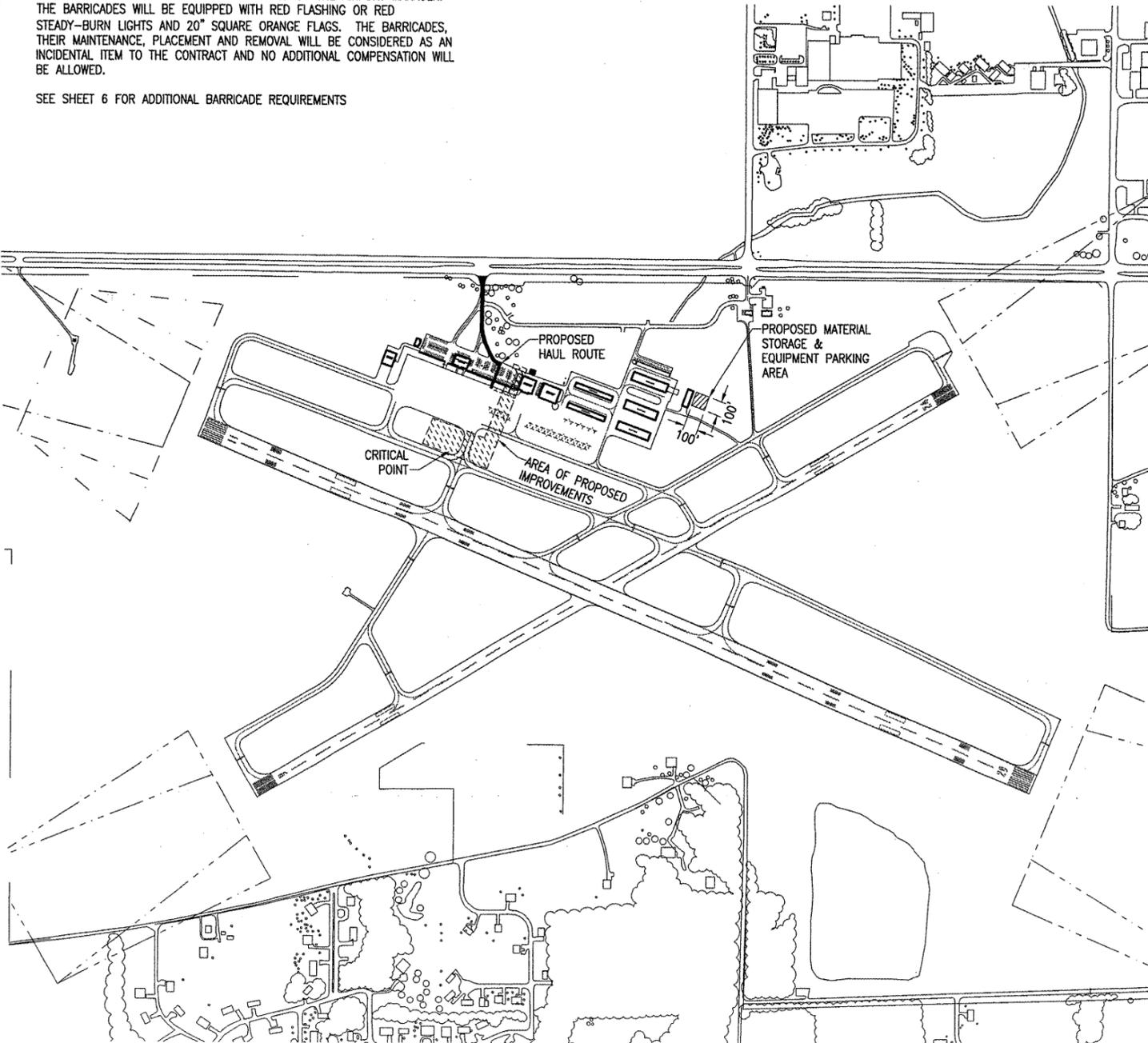
RADIO CONTROL - THE CONTRACTOR WILL BE REQUIRED TO BE IN TWO-WAY RADIO CONTACT (122.70 MHz.) WITH THE AIRPORT UNICOM. THIS WILL KEEP THE CONTRACTOR IN CONSTANT CONTACT WITH THE COLES COUNTY MEMORIAL AIRPORT AND ENABLE THE AIRPORT TO IMMEDIATELY CONTACT THE CONTRACTOR IN CASE OF AN AERONAUTIC EMERGENCY THAT WOULD REQUIRE ACTION BY THE CONTRACTOR AND/OR HIS PERSONNEL.

**EROSION CONTROL**

THIS PROJECT WILL DISTURB LESS THAN 1 ACRE OF LAND, THEREFORE NO N.P.D.E.S. PERMIT WILL BE REQUIRED.

**AIRCRAFT OPERATION LINE**

THE CONTRACTOR WILL LOCATE THIS LINE AT THE START OF CONSTRUCTION AND WILL PLACE FLAGGED LATHE EVERY 150' ALONG IT. THIS LINE WILL BE THE LIMITS THAT ALL CONTRACTOR PERSONNEL MAY VENTURE WHEN A RUNWAY IS NOT CLOSED. THE CONTRACTOR WILL MAINTAIN THE LATHE LINE FOR RUNWAYS.



DATE	REVISION	BY
05/14/08	REVISED AS PER ICA REVIEW	CAH



ICA Project No. 07A0101D_0800 Drawing No. R-0035FY.DWG Scale 1" = 500' Date 04/04/08	LAYOUT 11/28/07 DRAWN CAH/MDR 11/28/07 REVIEWED CAH 04/03/08
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**HANSON**  
 Hanson Professional Services Inc.  
 1525 South Sixth Street  
 Springfield, Illinois 62703-2886  
 Offices Nationwide

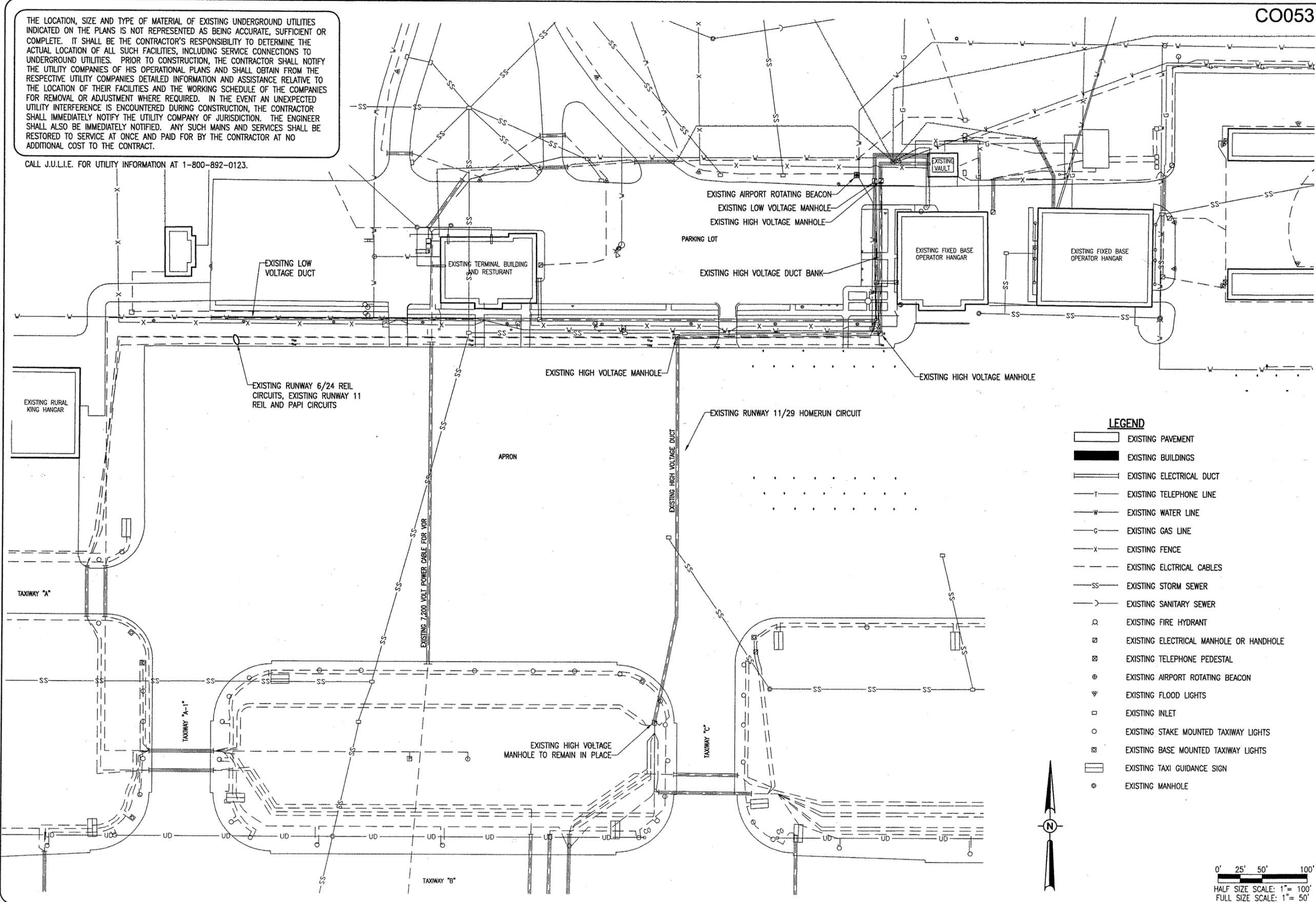
REPLACE ELECTRICAL DUCT IN FRONTAL AREA  
 PROPOSED SAFETY PLAN

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THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.

CO053



- LEGEND**
- EXISTING PAVEMENT
  - EXISTING BUILDINGS
  - EXISTING ELECTRICAL DUCT
  - EXISTING TELEPHONE LINE
  - EXISTING WATER LINE
  - EXISTING GAS LINE
  - EXISTING FENCE
  - EXISTING ELECTRICAL CABLES
  - EXISTING STORM SEWER
  - EXISTING SANITARY SEWER
  - EXISTING FIRE HYDRANT
  - EXISTING ELECTRICAL MANHOLE OR HANDHOLE
  - EXISTING TELEPHONE PEDESTAL
  - EXISTING AIRPORT ROTATING BEACON
  - EXISTING FLOOD LIGHTS
  - EXISTING INLET
  - EXISTING STAKE MOUNTED TAXIWAY LIGHTS
  - EXISTING BASE MOUNTED TAXIWAY LIGHTS
  - EXISTING TAXI GUIDANCE SIGN
  - EXISTING MANHOLE

DATE	REVISION	BY

COLES COUNTY AIRPORT  
**AUTHORITY**  
COLES COUNTY MEMORIAL AIRPORT

IL PROJ.: MTO-3762 A.I.P. PROJ.: 3-17-0066-B20

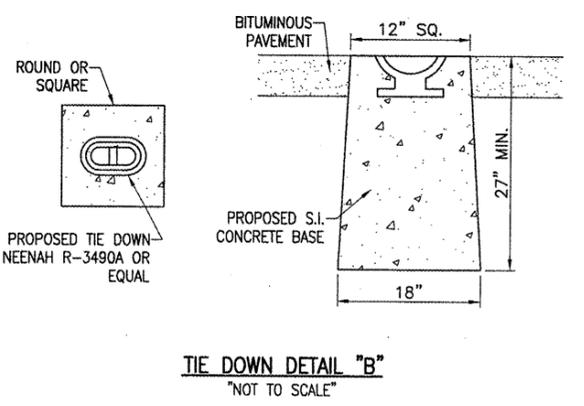
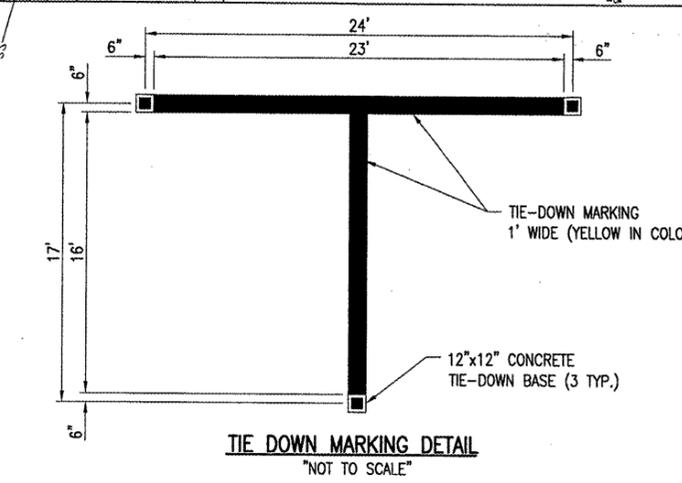
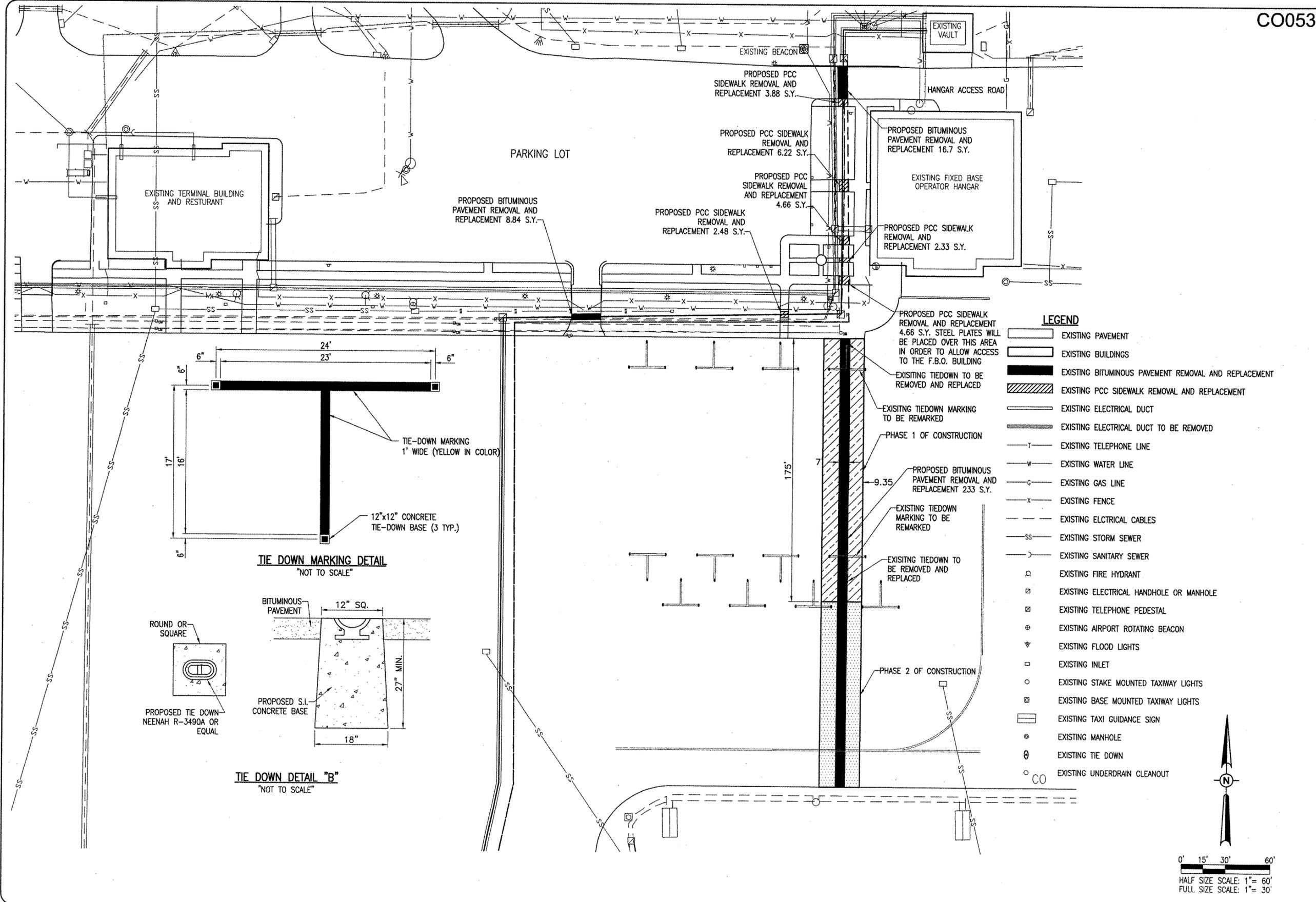
HEI Project No.	07A0101D_0800
Filename	R-101SIT.DWG
Scale	SCALE
Date	04/04/08
LAYOUT	MDR 03/19/08
DRAWN	MDR 03/19/08
REVIEWED	CAH/KVL 04/04/08



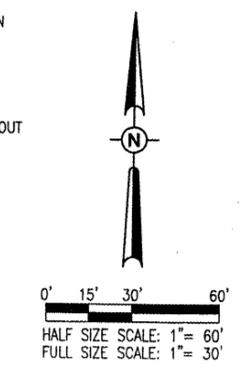
Hanson Professional Services Inc.  
 1525 South Sixth Street  
 Springfield, Illinois 62703-2885  
 Offices Nationwide

REPLACE ELECTRICAL  
 DUCT IN FRONTAL AREA  
 EXISTING  
 UTILITY  
 PLAN

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- LEGEND**
- EXISTING PAVEMENT
  - EXISTING BUILDINGS
  - EXISTING BITUMINOUS PAVEMENT REMOVAL AND REPLACEMENT
  - EXISTING PCC SIDEWALK REMOVAL AND REPLACEMENT
  - EXISTING ELECTRICAL DUCT
  - EXISTING ELECTRICAL DUCT TO BE REMOVED
  - EXISTING TELEPHONE LINE
  - EXISTING WATER LINE
  - EXISTING GAS LINE
  - EXISTING FENCE
  - EXISTING ELECTRICAL CABLES
  - EXISTING STORM SEWER
  - EXISTING SANITARY SEWER
  - EXISTING FIRE HYDRANT
  - EXISTING ELECTRICAL HANDHOLE OR MANHOLE
  - EXISTING TELEPHONE PEDESTAL
  - EXISTING AIRPORT ROTATING BEACON
  - EXISTING FLOOD LIGHTS
  - EXISTING INLET
  - EXISTING STAKE MOUNTED TAXIWAY LIGHTS
  - EXISTING BASE MOUNTED TAXIWAY LIGHTS
  - EXISTING TAXI GUIDANCE SIGN
  - EXISTING MANHOLE
  - EXISTING TIE DOWN
  - EXISTING UNDERDRAIN CLEANOUT



<p>REPLACE ELECTRICAL DUCT IN FRONTAL AREA</p>	<p>PROPOSED PAVEMENT PREPARATION PLAN</p>	<p><b>HANSON</b>                  Hanson Professional Services Inc.                  1525 South Sixth Street                  Springfield, Illinois 62703-2888                  Offices Nationwide</p>
<p>5</p>		<p>5 of 22 sheets</p>

<p>REL Project No. 07A0101D_0800</p>	<p>Eliminate R-111PRP.DWG</p>	<p>Scale 1"=10'</p>	<p>Date 04/04/08</p>	<p>LAYOUT CAH 03/19/08</p>	<p>DRAWN MDR 03/19/08</p>	<p>REVIEWED CAH 04/03/08</p>
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<p>COLES COUNTY AIRPORT AUTHORITY</p>	<p>COLES COUNTY MEMORIAL AIRPORT</p>	<p>A.I.P. PROJ.: 3-17-0066-B20                  I.L. PROJ.: MTO-3762</p>
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 I:\AIRPORTS\COLES\07A0101\CAD\SHEETS\R-111PRP.DWG - FRONTAL AREA

**REMOVE AND REPLACE BITUMINOUS PAVEMENT**

IN ORDER TO REMOVE AND/OR INSTALL ELECTRICAL DUCTS THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE SOME BITUMINOUS PAVEMENT. THE AREAS DESIGNATED FOR REMOVAL AND REPLACEMENT ARE SHOWN ON SHEET NO. 5.

WHERE THE PROPOSED REMOVAL AND REPLACEMENT AREA ABUTS THE EXISTING PAVEMENT, THE PAVEMENT WILL BE SAWED FULL DEPTH. THE SAWING WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE PAVEMENT REMOVAL AND REPLACEMENT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ANY ADJACENT PAVEMENT DAMAGED BY THE PAVEMENT REMOVAL AND REPLACEMENT OPERATION WILL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT ENGINEER AT THE CONTRACTOR'S OWN EXPENSE.

ONCE THE EXISTING ELECTRICAL DUCT HAS BEEN REMOVED AND/OR THE PROPOSED ELECTRICAL DUCT INSTALLED, THE CONTRACTOR WILL BACKFILL THE TRENCH FROM THE TOP OF THE ELECTRICAL DUCT TO THE BOTTOM OF THE PAVEMENT SUBBASE WITH CA-14 OR CA-16. THE CA-14/CA-16 WILL BE CONSOLIDATED TO THE SATISFACTION OF THE RESIDENT ENGINEER. THE CONTRACTOR WILL THEN REPLACE THE AGGREGATE BASE COURSE (CA-6) COMPACTED TO THE SATISFACTION OF THE RESIDENT ENGINEER. ONCE THE AGGREGATE BASE HAS BEEN PROPERLY INSTALLED THE CONTRACTOR WILL SPRAY THE TOP OF THE AGGREGATE BASE AND THE SIDES OF THE BITUMINOUS PAVEMENT WITH A BITUMINOUS TACK COAT. HE THEN WILL REPLACE THE BITUMINOUS PAVEMENT USING 401 - BITUMINOUS SURFACE COURSE MATERIAL. THE BITUMINOUS PAVEMENT WILL BE INSTALLED IN 3" MAXIMUM LIFTS. EACH LIFT WILL BE COMPACTED TO THE SATISFACTION OF THE RESIDENT ENGINEER.

FURNISHING AND INSTALLING THE CA-14/CA-16, CA-6 AND BITUMINOUS PAVEMENT WILL BE CONSIDERED AS PART OF THIS ITEM OF WORK AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THIS ITEM OF WORK WILL BE PAID FOR UNDER ITEM:  
AR401910 REMOVE & REPLACE BIT. PAVEMENT -- PER S.Y.

**REMOVE AND REPLACE PCC PAVEMENT**

IN ORDER TO REMOVE AND/OR INSTALL ELECTRICAL DUCTS THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE SOME CONCRETE SIDEWALKS. THE AREAS DESIGNATED FOR REMOVAL AND REPLACEMENT ARE SHOWN ON SHEET NO. 5.

WHERE THE PROPOSED REMOVAL AND REPLACEMENT AREA ABUTS THE EXISTING PAVEMENT, THE PAVEMENT WILL BE SAWED FULL DEPTH. THE SAWING WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE PAVEMENT REMOVAL AND REPLACEMENT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ANY ADJACENT PAVEMENT DAMAGED BY THE PAVEMENT REMOVAL AND REPLACEMENT OPERATION WILL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT ENGINEER AT THE CONTRACTOR'S OWN EXPENSE.

ONCE THE EXISTING ELECTRICAL DUCT HAS BEEN REMOVED AND/OR THE PROPOSED ELECTRICAL DUCT INSTALLED, THE CONTRACTOR WILL BACKFILL THE TRENCH FROM THE TOP OF THE ELECTRICAL DUCT TO THE BOTTOM OF THE PAVEMENT TO BE REPLACED WITH CA-14 OR CA-16. THE CONTRACTOR WILL THEN REPLACE THE CONCRETE PAVEMENT TO THE DEPTHS OF THE EXISTING PAVEMENT REMOVED.

THE CONTRACTOR WILL USE 610 STRUCTURAL PORTLAND CEMENT CONCRETE.

THE CONTRACTOR WILL FINISH THE CONCRETE WITH A SMOOTH BROOMED FINISH.

FURNISHING AND INSTALLING THE CA-14/CA-16 AND THE 610 CONCRETE PAVEMENT WILL BE CONSIDERED AS PART OF THIS ITEM OF WORK AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THIS ITEM OF WORK WILL BE PAID FOR UNDER ITEM:  
AR501910 REMOVE & REPLACE PCC PAVEMENT -- PER S.Y.

**REMOVE COMBINATION CURB AND GUTTER**

IN ORDER TO REMOVE AND/OR INSTALL ELECTRICAL DUCTS THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE SOME CONCRETE CURBS AND GUTTERS. THE AREAS DESIGNATED FOR REMOVAL AND REPLACEMENT ARE SHOWN ON SHEET NO. 5.

WHERE THE PROPOSED REMOVAL AND REPLACEMENT AREA ABUTS THE EXISTING CURB AND GUTTER, THE CURB AND GUTTER WILL BE SAWED FULL DEPTH. THE SAWING WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE CURB AND GUTTER REMOVAL AND REPLACEMENT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ANY ADJACENT PAVEMENT DAMAGED BY THE CURB AND GUTTER REMOVAL AND REPLACEMENT OPERATION WILL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT ENGINEER AT THE CONTRACTOR'S OWN EXPENSE.

ONCE THE EXISTING ELECTRICAL DUCT HAS BEEN REMOVED AND/OR THE PROPOSED ELECTRICAL DUCT INSTALLED, THE CONTRACTOR WILL BACKFILL THE TRENCH FROM THE TOP OF THE ELECTRICAL DUCT TO THE BOTTOM OF THE CURB AND GUTTER TO BE REPLACED WITH CA-14 OR CA-16. THE CA-14/CA-16 WILL BE CONSOLIDATED TO THE SATISFACTION OF THE RESIDENT ENGINEER. THE CONTRACTOR WILL THEN REPLACE THE CONCRETE CURB AND GUTTER.

THE CONTRACTOR WILL USE 610 STRUCTURAL PORTLAND CEMENT CONCRETE.

THIS ITEM OF WORK WILL BE PAID FOR UNDER ITEM:  
AR754924 REPLACE COMB CURB & GUTTER -- PER L.F.

**PROPOSED APRON PHASED CONSTRUCTION**

IN ORDER TO INSTALL THE PROPOSED ELECTRICAL DUCTS ACROSS THE EXISTING AIRCRAFT PARKING APRON THE CONTRACTOR WILL BE REQUIRED TO REMOVE A SECTION OF THE BITUMINOUS PAVEMENT AS SHOWN ON SHEET NO. 5.

THE CONTRACTOR WILL ONLY BE ALLOWED TO BARRICADE OFF THE NORTH 175' OF THE AIRCRAFT PARKING APRON WHILE ALLOWING AIRCRAFT TO USE THE SOUTH 125' OF THE AIRCRAFT PARKING APRON.

THE CONTRACTOR WILL INSTALL LIGHTED BARRICADES ON BOTH SIDES OF THE PROPOSED PAVEMENT REMOVAL AND REPLACEMENT AREA. THE BARRICADES WILL BE PLACED NO FARTHER THAN 25' FROM EACH OTHER.

THE CONTRACTOR WILL NOT BE ALLOWED TO PROCEED INTO THE SOUTH 125' OF THE AIRCRAFT PARKING APRON UNTIL HE HAS INSTALLED THE PROPOSED ELECTRICAL DUCT AND REPLACED THE BITUMINOUS PAVEMENT ON THE NORTH 150' OF THE AIRCRAFT PARKING APRON. THE CONTRACTOR WILL THEN BE ALLOWED TO BARRICADE OFF THE SOUTHERN 150' OF THE AIRCRAFT PARKING APRON AND AIRCRAFT WILL BE ALLOWED TO USE THE NORTH 150' OF THE AIRCRAFT PARKING APRON. THE PROPOSED PHASING OF THE INSTALLATION OF THE ELECTRICAL DUCT ACROSS THE EXISTING AIRCRAFT PARKING APRON WILL BE CONSIDERED AS AN INCIDENTAL ITEM TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO DO THE PROPOSED PHASING.

**PROPOSED FRONTAL AREA SECURITY**

WHILE THE CONTRACTOR IS WORKING IN THE FRONTAL AREA HE WILL HAVE TO PROVIDE SECURITY THAT WILL INSURE THE SAFETY OF THE PUBLIC.

ONCE THE CONTRACTOR BEGINS EITHER REMOVING THE PAVEMENT ACROSS THE HANGAR ACCESS ROAD OR INSTALLING THE TEMPORARY JUMPER CABLES; THAT ROAD WILL BE BARRICADED AND CLOSED TO ALL VEHICULAR TRAFFIC. BARRICADES WILL BE PLACED ON BOTH SIDES OF THE PROPOSED WORK AREA TO INSURE THAT A VEHICLE COMING FROM EITHER SIDE WILL BE WARNED OF THE CONSTRUCTION AREA. THE BARRICADES WILL REMAIN IN PLACE UNTIL THE PAVEMENT HAS BEEN REPLACED AND THE JUMPER CABLES HAVE BEEN REMOVED.

WHEN THE CONTRACTOR BEGINS EXCAVATING IN THE FRONTAL AREA BESIDE THE EXISTING FIXED BASE OPERATOR HANGAR, HE WILL FURNISH AND INSTALL A FENCE MATERIAL THAT WILL KEEP THE PUBLIC AWAY FROM THE CONSTRUCTION SITE. THE FENCING MATERIAL MAY BE REMOVED WHILE THE CONTRACTOR IS WORKING IN THE IMMEDIATE AREA BUT MUST BE IN PLACE WHENEVER THE CONTRACTOR IS WORKING IN A DIFFERENT AREA OR AT THE END OF THE CONSTRUCTION DAY. THE CONTRACTOR MUST PROVIDE CONTINUOUS ACCESS TO THE FIXED BASE OPERATOR HANGAR. THIS WILL BE DONE BY PLACING A WOODEN RAMP OR METAL PLATE ACROSS THE AREA THAT HAS BEEN CUT OUT OF THE SIDEWALK. FENCING MATERIAL WILL BE PLACED ON BOTH SIDES OF THE WOODEN RAMP OR METAL PLATE TO KEEP THE PUBLIC FROM THE CONSTRUCTION AREA.

ONCE THE PROPOSED ELECTRICAL DUCT AND MANHOLES HAVE BEEN INSTALLED IN THE FRONTAL AREA AND BACKFILLED, THE CONTRACTOR WILL BE ALLOWED TO REMOVE THE CONSTRUCTION SECURITY FENCE, BARRICADES AND RAMP THAT WAS PLACED ACROSS THE SIDEWALK.

ALL MATERIAL, EQUIPMENT AND LABOR REQUIRED TO INSTALL, MOVE, MAINTAIN AND REMOVE THE SECURITY ITEMS WILL BE CONSIDERED AS INCIDENTAL TO THE PROJECT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

**TIE DOWN NOTES**

THERE ARE TWO EXISTING TIE DOWNS THAT WILL BE REMOVED WHEN THE CONTRACTOR REMOVES THE EXISTING BITUMINOUS PAVEMENT ACROSS THE AIRCRAFT PARKING APRON IN ORDER TO INSTALL THE PROPOSED 6-WAY ELECTRICAL DUCTS. THE REMOVAL OF THESE TWO TIE DOWNS WILL BE CONSIDERED AS PART OF THE BITUMINOUS PAVEMENT REMOVAL AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. THE TIE DOWNS WILL BE DISPOSED OF OFF THE AIRPORT SITE.

TWO NEW TIE DOWNS WILL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET NO. 5.

THE TIE DOWNS WILL BE PAID FOR UNDER ITEM:  
AR510510 TIE DOWNS -- PER EACH.

**PAVEMENT MARKING NOTES**

THE REMOVAL OF THE BITUMINOUS PAVEMENT ACROSS THE AIRCRAFT PARKING APRON WILL REMOVE THE MARKING FOR TWO TIE DOWNS AND SOME OF THE TAXIWAY CENTERLINE. THIS MARKING WILL BE REPLACED IN ACCORDANCE WITH ITEM 620.

ALL PROPOSED MARKING WILL BE SOLID, ONE FOOT IN WIDTH, AND YELLOW IN COLOR. GLASS BEADS WILL BE APPLIED IN THE SECOND APPLICATION.

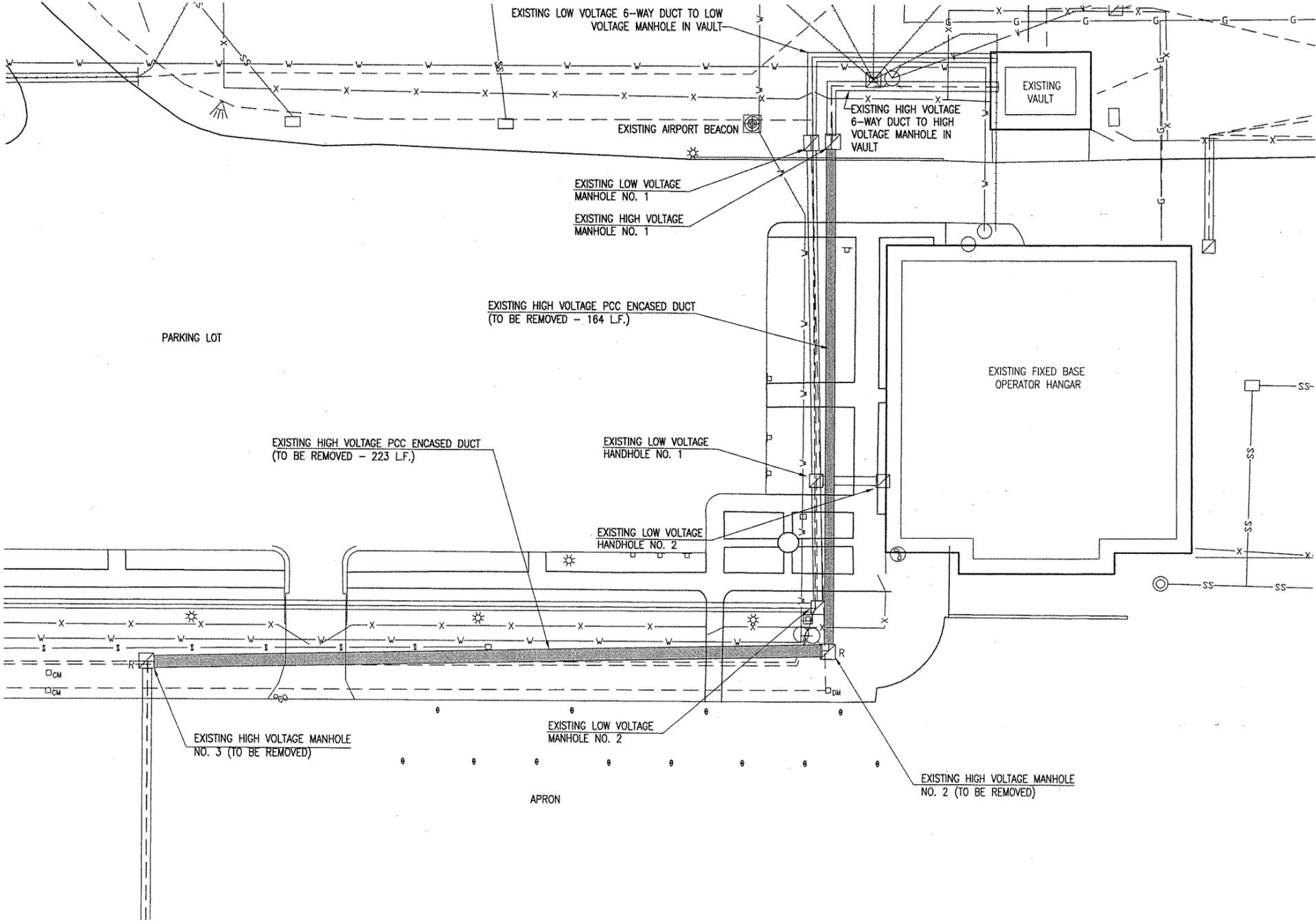
THE PAVEMENT MARKING WILL BE PAID FOR UNDER ITEM:  
AR620520 PAVEMENT MARKING - WATERBORNE -- PER SQ. FT.

		DATE: 03/14/08 REVISION: REVISED AS PER DA REVIEW BY: CHH
HELD Project No. 07A0101D-0800 Engineer: R-111PRP.DWG Scale: 1"=10' Date: 04/04/08		LAYOUT: CAH 03/19/08 DRAWN: MDR 03/19/08 REVIEWED: CAH 04/03/08
		A.I.P. PROJ.: 3-17-0066-820 L. PROJ.: MTO-3762
REPLACE ELECTRICAL DUCT IN FRONTAL AREA		PROPOSED PAVEMENT PREPARATION PLAN NOTES
6		6 of 22 sheets

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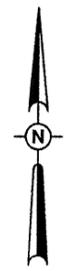
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CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.



**LEGEND**

- EXISTING PAVEMENT
- EXISTING BUILDINGS
- EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL DUCT (TO BE REMOVED)
- EXISTING TELEPHONE LINE
- EXISTING WATER LINE
- EXISTING GAS LINE
- EXISTING FENCE
- EXISTING ELECTRICAL CABLES
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING FIRE HYDRANT
- EXISTING ELECTRICAL MANHOLE OR HANDHOLE
- EXISTING ELECTRICAL MANHOLE (TO BE REMOVED)
- EXISTING TELEPHONE PEDESTAL
- EXISTING AIRPORT ROTATING BEACON
- EXISTING FLOOD LIGHTS
- EXISTING INLET
- EXISTING STAKE MOUNTED TAXIWAY LIGHTS
- EXISTING BASE MOUNTED TAXIWAY LIGHTS
- EXISTING TAXI GUIDANCE SIGN
- EXISTING MANHOLE



0' 10' 20' 40'  
 HALF SIZE SCALE: 1" = 40'  
 FULL SIZE SCALE: 1" = 20'

BY	
REVISION	
DATE	

COLES COUNTY AIRPORT  
 AUTHORITY  
 COLES COUNTY MEMORIAL AIRPORT  
 A.I.P. PROJ.: 3-17-0066-B20  
 I.L. PROJ.: MTO-3762

IBI Project No. 07A0101D_0800	03/19/08
Drawn R-121CON.DWG	03/26/08
Scale	04/04/08
Date	
LAYOUT	CAH
DRAWN	MDR
REVIEWED	CAH/KRL

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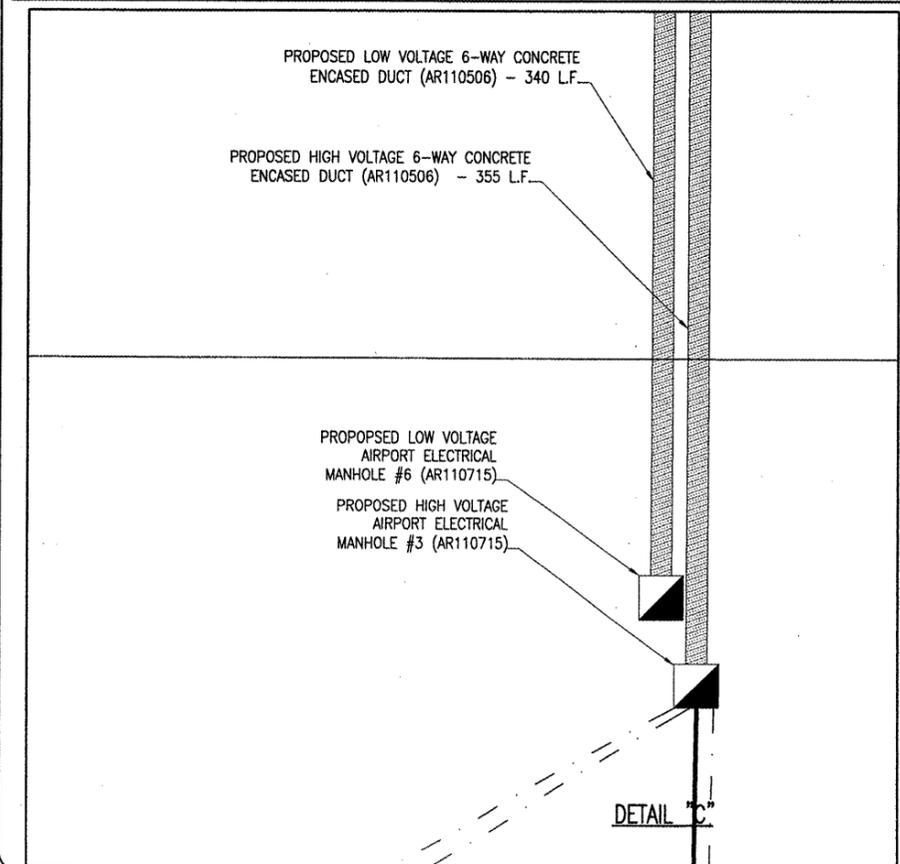
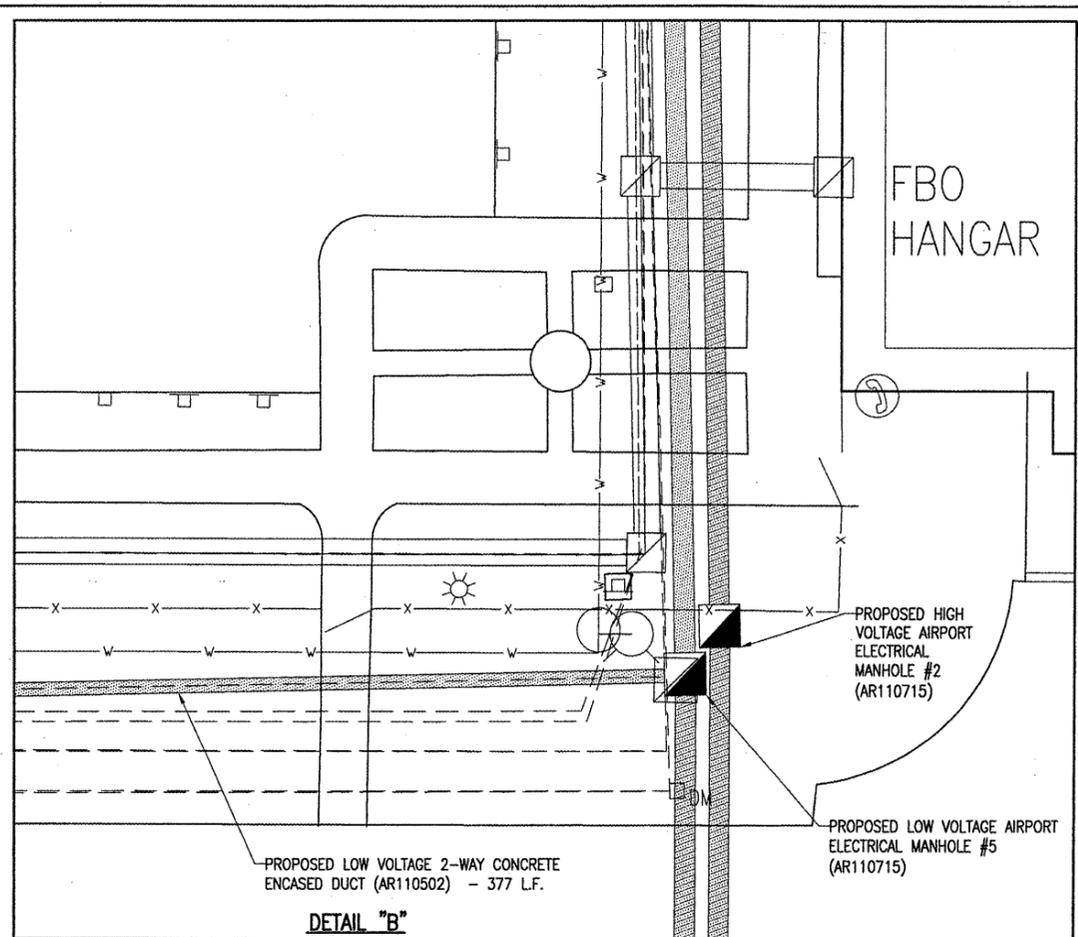
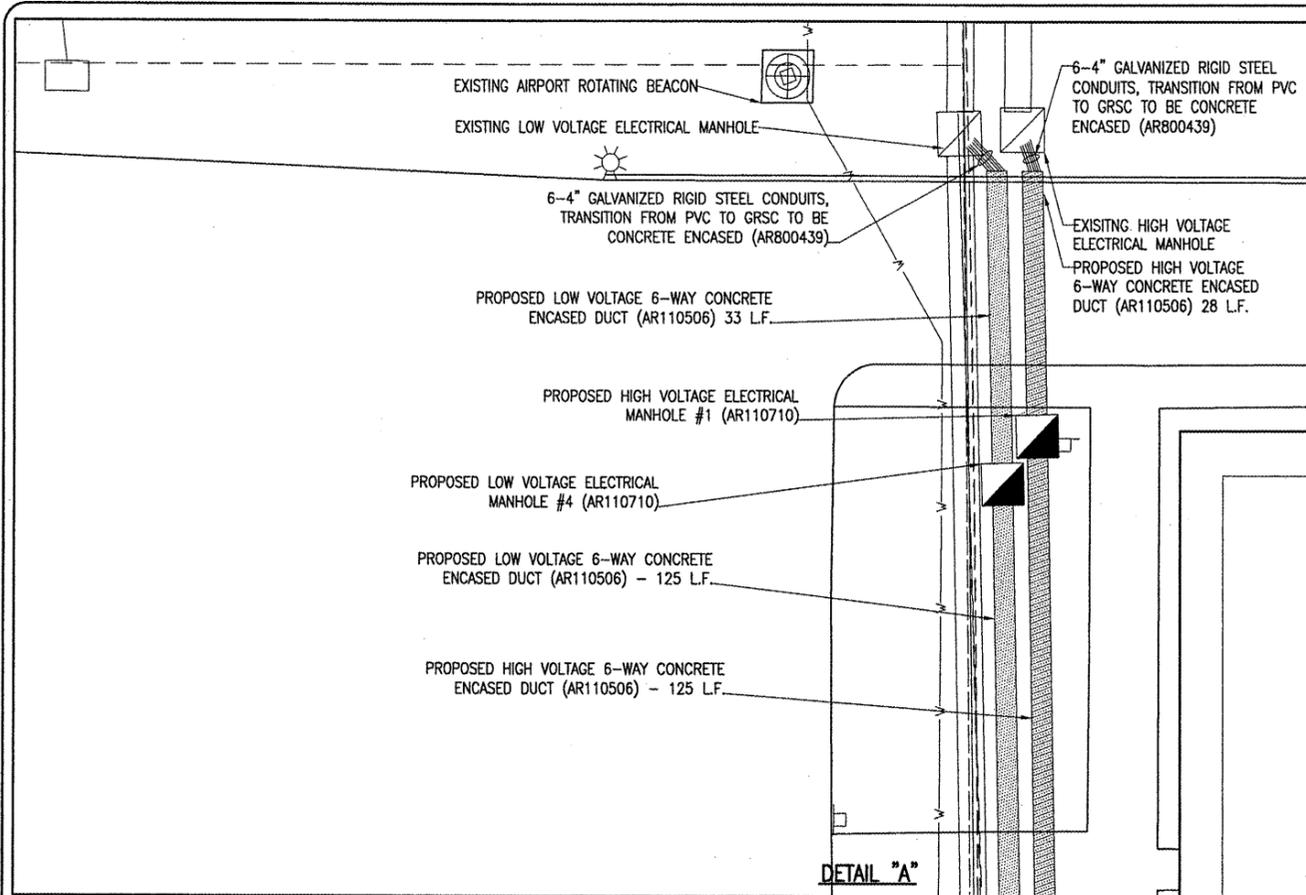
REPLACE ELECTRICAL DUCT IN FRONTAL AREA  
 PROPOSED ELECTRICAL DUCT REMOVAL PLAN

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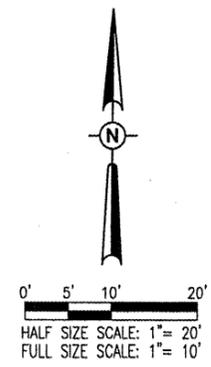
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- LEGEND**
- EXISTING PAVEMENT
  - EXISTING BUILDINGS
  - EXISTING TELEPHONE LINE
  - EXISTING WATER LINE
  - EXISTING GAS LINE
  - EXISTING FENCE
  - EXISTING ELECTRICAL CABLES
  - EXISTING STORM SEWER
  - EXISTING SANITARY SEWER
  - EXISTING FIRE HYDRANT
  - EXISTING ELECTRICAL MANHOLE OR HANDHOLE
  - EXISTING TELEPHONE PEDESTAL
  - EXISTING AIRPORT ROTATING BEACON
  - EXISTING FLOOD LIGHTS
  - EXISTING INLET
  - EXISTING STAKE MOUNTED TAXIWAY LIGHTS
  - EXISTING BASE MOUNTED TAXIWAY LIGHTS
  - EXISTING MANHOLE
  - PROPOSED ELECTRICAL DUCT
  - PROPOSED ELECTRICAL HANDHOLE/MANHOLE

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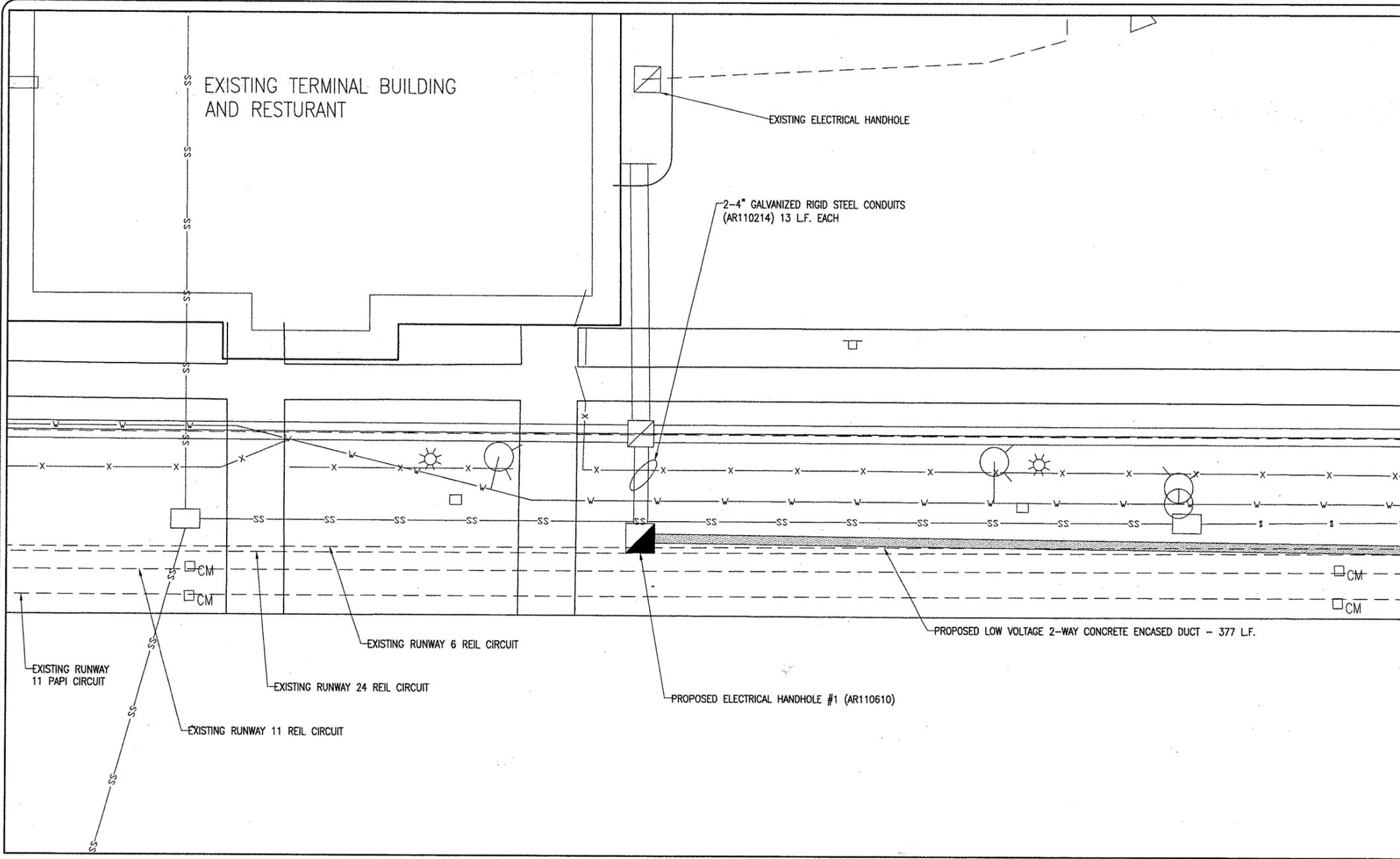
DATE	REVISION	BY

COLES COUNTY AIRPORT AUTHORITY  
 COLES COUNTY MEMORIAL AIRPORT  
 ILL. PROJ.: MTO-3762 A.I.P. PROJ.: 3-17-0086-B20

HEB Project No.	07A0101_0800
Drawn	R-141ELE.DWG
Scale	1"=10'
Date	04/04/08
LAYOUT	CAH 03/19/08
DRAWN	MDR 03/19/08
REVIEWED	CAH/KNL 04/03/08

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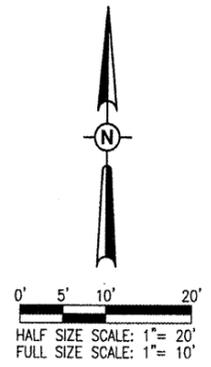
REPLACE ELECTRICAL DUCT IN FRONTAL AREA  
 PROPOSED ELECTRICAL DUCT DETAILS



- LEGEND**
- EXISTING PAVEMENT
  - EXISTING BUILDINGS
  - EXISTING TELEPHONE LINE
  - EXISTING WATER LINE
  - EXISTING GAS LINE
  - EXISTING FENCE
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DATE	REVISION	BY

COLES COUNTY AIRPORT  
 AUTHORITY  
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 I.L. PROJ.: MTO-3762 A.I.P. PROJ.: 3-17-0066-B20

HEB Project No. 07A0101D_0800	CAH	03/19/08
Estimate R-141ELE.DWG	MDR	03/19/08
Scale 1"=10'	CAH/KNL	04/03/08
Date 04/04/08		
LAYOUT		
DRAWN		
REVIEWED		

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REPLACE ELECTRICAL DUCT IN FRONTAL AREA  
 PROPOSED ELECTRICAL DUCT DETAILS AND NOTES

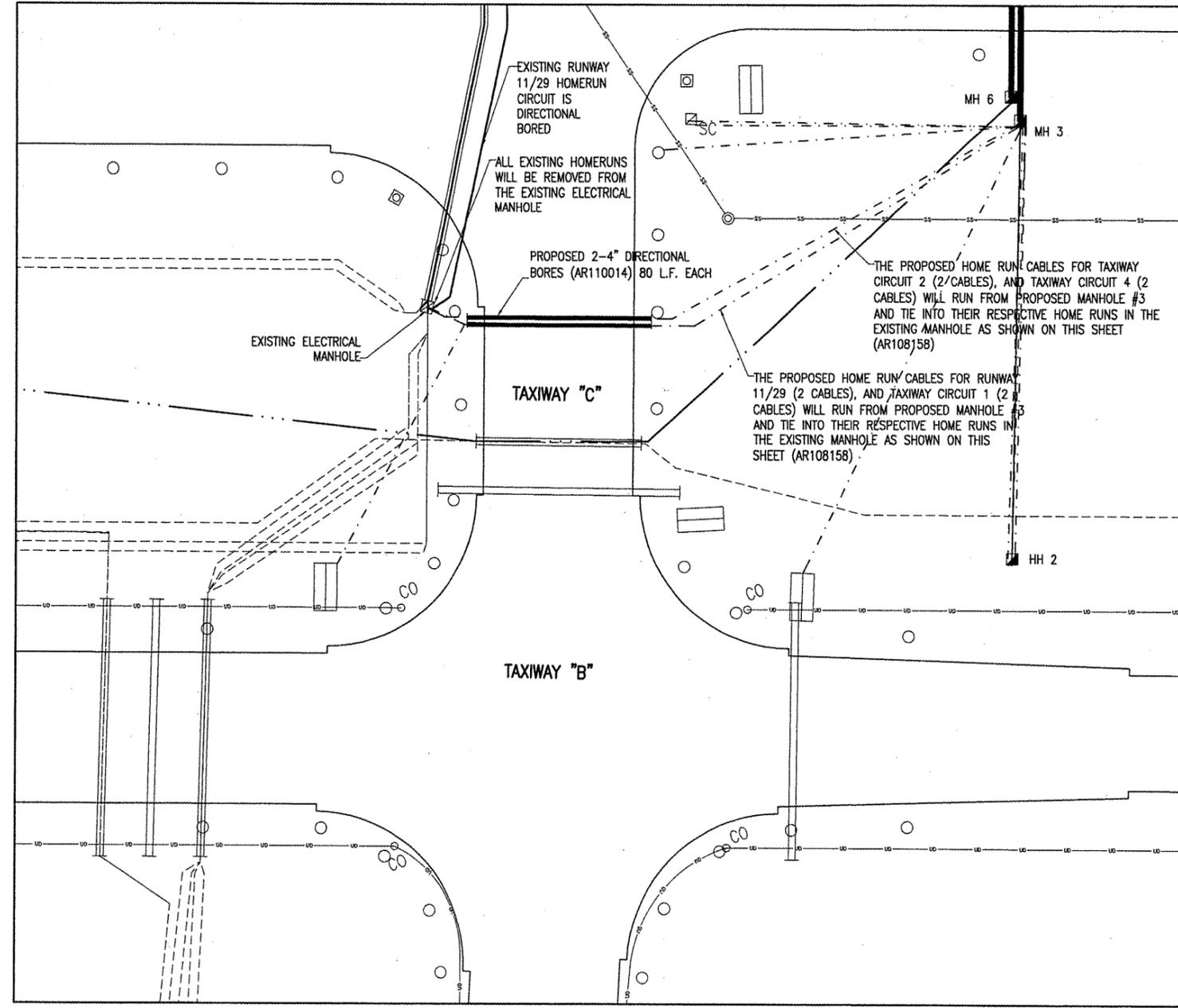
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DATE	REVISION	BY

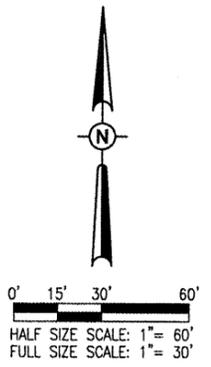
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  - EXISTING ELECTRICAL DUCT
  - PROPOSED ELECTRICAL DUCT
  - EXISTING ELECTRICAL CABLES
  - EXISTING ELECTRICAL CABLES TO BE ABANDONED
  - PROPOSED 1/C #8 5KV L-824 UG CABLE IN UD
  - EXISTING STORM SEWER
  - EXISTING ELECTRICAL MANHOLE OR HANDHOLE
  - PROPOSED ELECTRICAL HANDHOLE OR MANHOLE
  - EXISTING STAKE MOUNTED TAXIWAY LIGHTS
  - EXISTING BASE MOUNTED TAXIWAY LIGHTS
  - EXISTING TAXI GUIDANCE SIGN
  - EXISTING ELECTRICAL MANHOLE
  - EXISTING TIE DOWN
  - EXISTING UNDERDRAIN CLEANOUT
  - EXISTING SPLICE CAN



PROPOSED HOME RUNS FOR RUNWAY 11-29, TAXIWAY LIGHTING CIRCUITS 1, 2 & 4



MAY 14, 2008 11:51 AM KINCA00394 I:\AIRPORTS\COLES\07A0101\CAD\SHEETS\R-24\ELE.DWG - CIRCUITS 1-2-4-11-29

COLES COUNTY AIRPORT  
 AUTHORITY  
 COLES COUNTY MEMORIAL AIRPORT

IL PROJ.: MTO-3762 A.I.P. PROJ.: 3-17-0066-B20

IEL Project No. 07A0101D_0800 Filename: R-24\ELE.DWG Scale: 1"=30' Date: 04/04/08	CAH 03/19/08 MDR 03/19/08 CAH/KNL 04/03/08
LAYOUT	REVIEWED
DRAWN	CAH/KNL

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REPLACE ELECTRICAL DUCT IN FRONTAL AREA  
 PROPOSED HOME RUNS FOR RUNWAY 11-29, TAXIWAY LIGHTING CIRCUITS 1, 2, & 4

BY	
REVISION	
DATE	

COLES COUNTY AIRPORT  
 AUTHORITY  
 COLES COUNTY MEMORIAL AIRPORT  
 A.I.P. PROJ.: 3-17-0066-B20  
 I.L. PROJ.: MTO-3762

REL. Project No. 07A0101D_0800	CAH	03/19/08
File Name: R-241ELE.DWG	MDR	03/19/08
Scale: 1"=30'	CAH/KNL	04/03/08
Date: 04/04/08	REVIEWED	

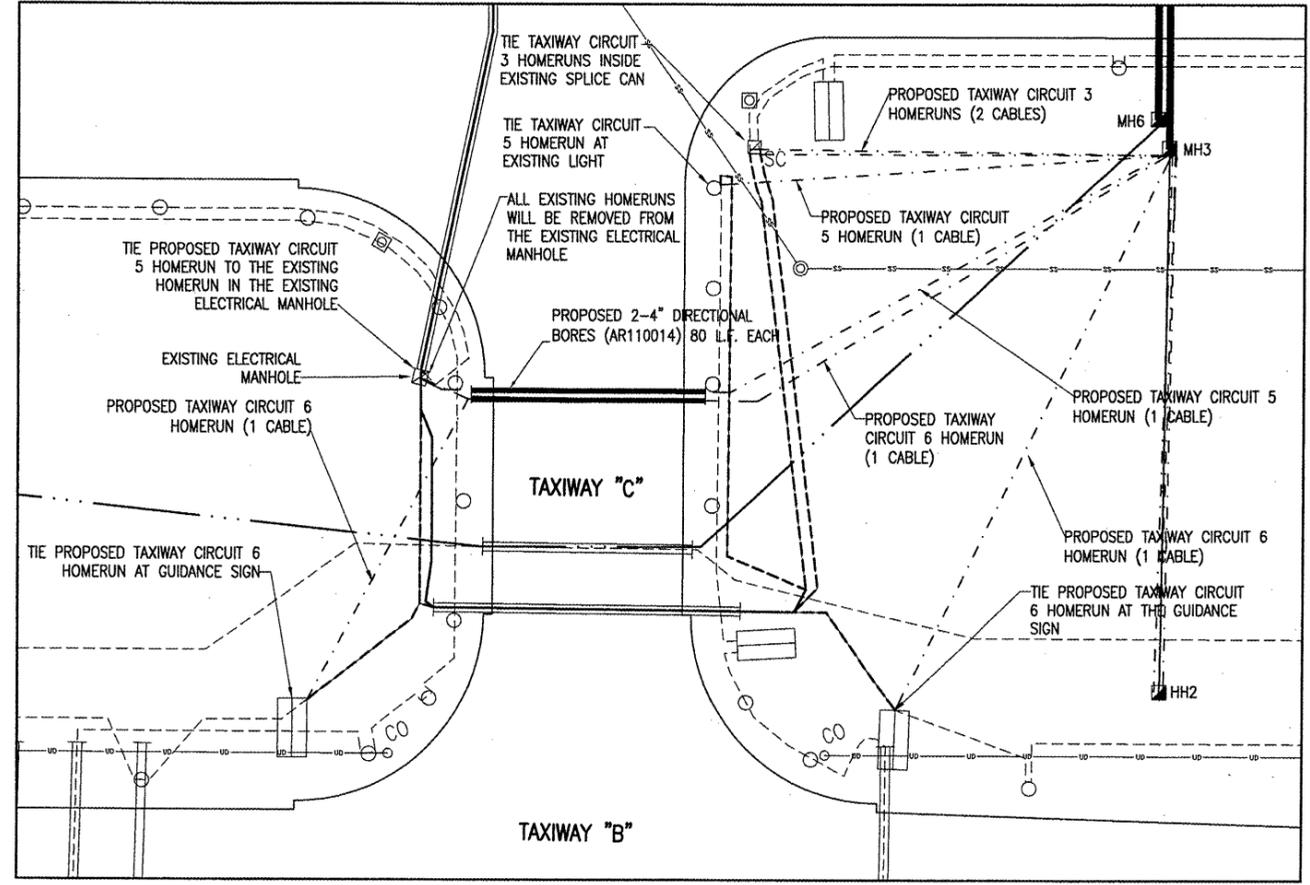
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 Springfield, Illinois 62703-2886  
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REPLACE ELECTRICAL  
 DUCT IN FRONTAL AREA  
 PROPOSED HOMERUNS FOR  
 TAXIWAY LIGHTING  
 CIRCUITS 3, 5 & 6

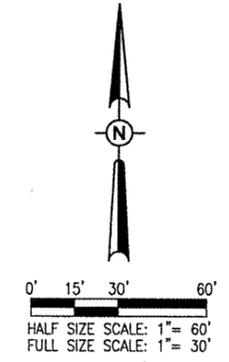
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  - EXISTING ELECTRICAL CABLES
  - EXISTING ELECTRICAL CABLES TO BE ABANDONED
  - PROPOSED 1/C #8 5KV L-824 UG CABLE IN UD
  - EXISTING STORM SEWER
  - EXISTING ELECTRICAL MANHOLE OR HANDHOLE
  - PROPOSED ELECTRICAL MANHOLE OR HANDHOLE
  - EXISTING STAKE MOUNTED TAXIWAY LIGHTS
  - EXISTING BASE MOUNTED TAXIWAY LIGHTS
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  - EXISTING ELECTRICAL MANHOLE
  - EXISTING TIE DOWN
  - EXISTING UNDERDRAIN CLEANOUT
  - EXISTING SPLICE CAN



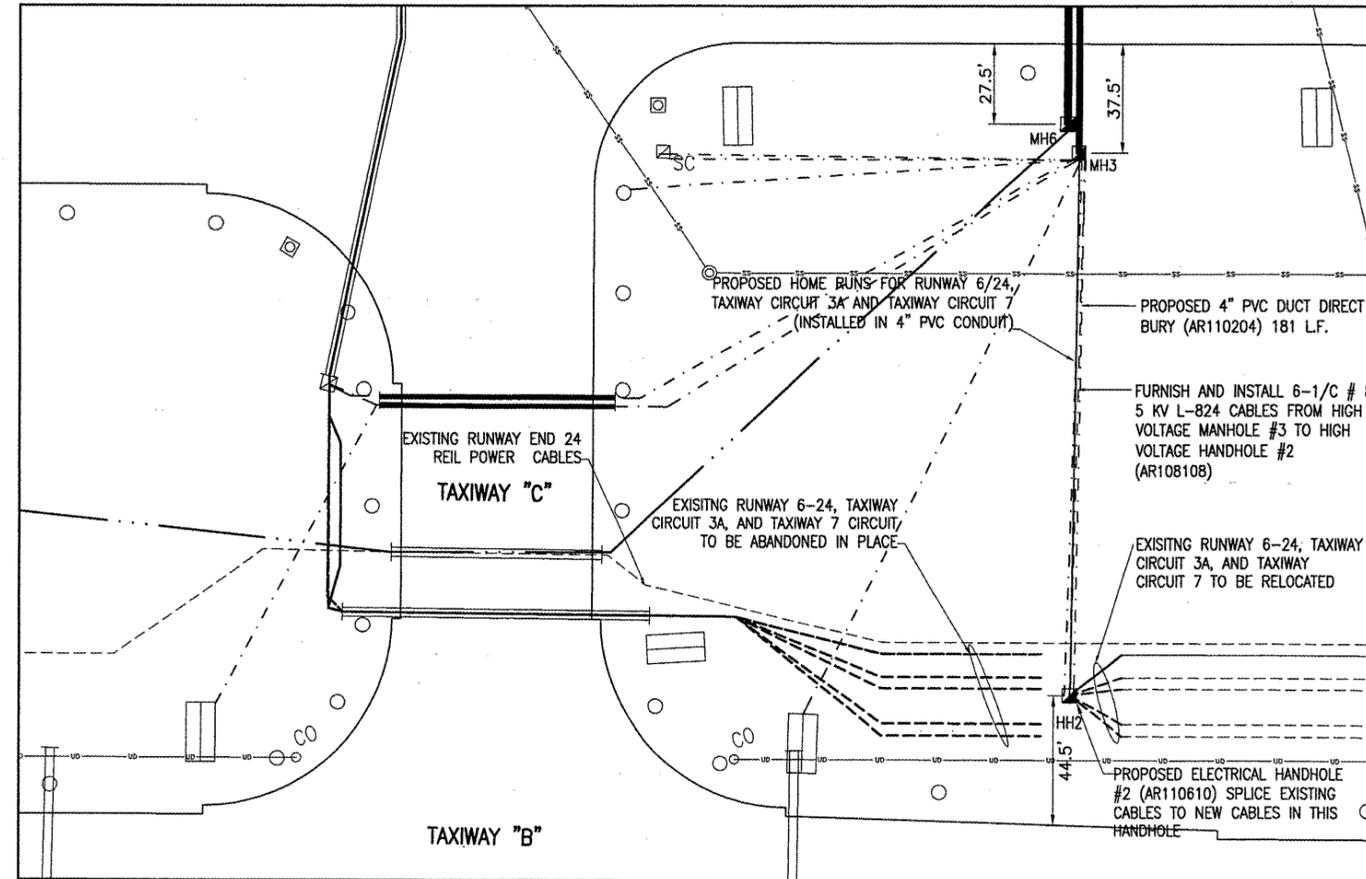
PROPOSED HOMERUNS FOR TAXIWAY LIGHTING CIRCUITS 3, 5 & 6



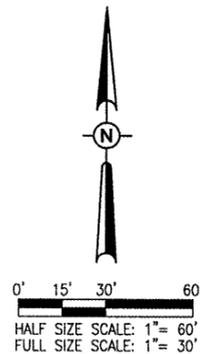
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  - EXISTING ELECTRICAL CABLES TO BE ABANDONED
  - EXISTING ELECTRICAL CABLES TO BE RELOCATED
  - PROPOSED 1/C #8 5KV L-824 UG CABLE IN UD
  - EXISTING STORM SEWER
  - EXISTING ELECTRICAL HANDHOLE
  - PROPOSED ELECTRICAL HANDHOLE
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  - EXISTING BASE MOUNTED TAXIWAY LIGHTS
  - EXISTING TAXI GUIDANCE SIGN
  - EXISTING ELECTRICAL MANHOLE
  - EXISTING TIE DOWN
  - EXISTING UNDERDRAIN CLEANOUT
  - EXISTING SPLICE CAN



PROPOSED HOMERUNS FOR RUNWAY 6-24, TAXIWAY CIRCUIT 3A AND TAXIWAY CIRCUIT 7



MAY 14, 2008 11:52 AM KINCA00394  
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DATE	REVISION	BY



IL PROJ. MTO-3762 A.I.P. PROJ. 3-17-0066-B20

I.E. Project No. 07A0101D 0800 Elevation R-24\ELE.DWG Scale 1"=30' Date 04/04/08	LAYOUT CAH 03/19/08 DRAWN MDR 03/19/08 REVIEWED CAH/KNL 04/03/08
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REPLACE ELECTRICAL DUCT IN FRONTAL AREA  
 PROPOSED HOMERUNS FOR TAXIWAY LIGHTING CIRCUITS 6-24, 3A & 7

**PROPOSED ELECTRICAL HANDHOLE AND MANHOLE NOTES**

THE CONTRACTOR WILL FURNISH AND INSTALL THE VARIOUS MANHOLES AND HANDHOLES AT THE LOCATIONS AND IN ACCORDANCE WITH THE DETAILS AS SHOWN ON THESE CONSTRUCTION PLANS.

PROPOSED MANHOLES NO. 1 AND 4 WILL BE FURNISHED WITH A HEAVY DUTY FRAME AND LID CAPABLE OF WITHSTANDING A MINIMUM 50,000 POUND LOAD, NEENAH FOUNDRY COMPANY R-1640-C OR AN APPROVED EQUAL.

PROPOSED MANHOLES NO. 1 AND 4 WILL BE PAID FOR UNDER ITEM:

AR110710 ELECTRICAL MANHOLE -- PER EACH.

PROPOSED MANHOLES 2, 3, 5, AND 6 WILL BE FURNISHED WITH AN EXTRA HEAVY DUTY FRAME AND LID CAPABLE OF WITHSTANDING A MINIMUM 100,000 POUND LOAD, NEENAH FOUNDRY COMPANY R-3492-A OR AN APPROVED EQUAL.

PROPOSED MANHOLES 2, 3, 5, AND 6 WILL BE PAID FOR UNDER ITEM:

AR11715 ELECTRICAL MANHOLE - SPECIAL -- PER EACH.

PROPOSED HANDHOLES 1 AND 2 WILL BE FURNISHED WITH AN EXTRA HEAVY DUTY SQUARE SLAB TYPE MANHOLE FRAME AND HINGED SOLID LID CAPABLE OF WITHSTANDING A MINIMUM 100,000 POUND LOAD, NEENAH R-2498-P1S OR AN APPROVED EQUAL.

PROPOSED HANDHOLES 1 AND 2 WILL BE PAID FOR UNDER ITEM:

AR110610 ELECTRICAL HANDHOLE -- PER EACH.

**PROPOSED 2-WAY AND 4-WAY CONCRETE ENCASED DUCT NOTES**

ONCE THE CONTRACTOR HAS THE TEMPORARY JUMPER CABLES IN PLACE AND HAS REMOVED THE EXISTING 6-WAY CONCRETE ENCASED ELECTRICAL DUCT FROM EXISTING HIGH VOLTAGE MANHOLE NO. 1 TO EXISTING HIGH VOLTAGE MANHOLE NO. 2, HE WILL INSTALL THE PROPOSED 6-WAY CONCRETE ENCASED ELECTRICAL DUCTS (BOTH HIGH AND LOW VOLTAGES). THESE ELECTRICAL DUCTS WILL BE INSTALLED AT A MINIMUM DEPTH OF 36" BELOW THE EXISTING SURFACE GRADE.

THEY WILL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS AS SHOWN ON THESE CONSTRUCTION PLANS.

WHILE INSTALLING THE PROPOSED 6-WAY CONCRETE ENCASED DUCTS NEAR EXISTING LOW VOLTAGE HANDHOLE NO. 1 HE WILL USE EXTREME CARE NOT TO DAMAGE THE EXISTING ELECTRICAL DUCT THAT RUNS BETWEEN EXISTING LOW VOLTAGE HANDHOLES 1 AND 2. ANY DAMAGE TO THE DUCT OR CABLES THAT ARE IN THIS DUCT WILL BE REPAIRED IMMEDIATELY.

THE PROPOSED 6-WAY CONCRETE ENCASED DUCTS THAT WILL BE INSTALLED ACROSS THE EXISTING AIRCRAFT PARKING APRON WILL BE CONSTRUCTED IN TWO SECTIONS. THIS WILL ALLOW AIRCRAFT TO USE THE AREA OF THE APRON THAT IS NOT UNDER CONSTRUCTION.

ONCE BOTH LOW AND HIGH VOLTAGE 6-WAY CONCRETE ENCASED ELECTRICAL DUCTS HAVE BEEN CONSTRUCTED THE CONTRACTOR WILL BACKFILL AND INSTALL THE PROPOSED RUNWAY AND TAXIWAY LIGHTING CIRCUITS FROM THE EXISTING ELECTRICAL VAULT TO THE VARIOUS LIGHTS, GUIDANCE SIGNS, SPLICE CANS, ELECTRICAL MANHOLES AND HANDHOLES AS SHOWN ON THESE CONSTRUCTION PLANS.

ONCE ALL RUNWAY AND TAXIWAY LIGHTING CIRCUITS ARE FUNCTIONING ON THEIR NEW HOMERUN CABLES, THE CONTRACTOR WILL BE ALLOWED TO REMOVE THE LAST SECTION OF HIGH VOLTAGE 6-WAY CONCRETE ENCASED DUCT AND ELECTRICAL MANHOLE AND THEN INSTALL THE PROPOSED 2-WAY CONCRETE ENCASED DUCT FROM PROPOSED MANHOLE NO. 5 TO PROPOSED HANDHOLE NO. 1.

THE PROPOSED CONCRETE ENCASED DUCTS WILL BE PAID FOR UNDER ITEM:

AR110502 2-WAY CONCRETE ENCASED DUCT -- PER L.F.  
AR110506 6-WAY CONCRETE ENCASED DUCT -- PER L.F.

**PROPOSED DIRECTIONAL BORE NOTES**

THE CONTRACTOR WILL DIRECTIONAL BORE TWO CONDUITS UNDER TAXIWAY "C" AS SHOWN ON THESE CONSTRUCTION PLANS. THESE DUCTS WILL BE DIRECTIONAL BORED AT A MINIMUM DEPTH OF 12" BELOW THE BOTTOM OF THE TAXIWAY PAVEMENT BEING BORED UNDER.

THE PROPOSED DIRECTIONAL BORE WILL BE PAID FOR UNDER ITEM:  
AR110014 DIRECTIONAL BORE -- PER L.F.

**PROPOSED DIRECT BURY NOTES**

THE CONTRACTOR WILL INSTALL SIX 4" RIGID GALVANIZED STEEL DUCTS FROM PROPOSED ELECTRICAL HANHOLE NO. 1 TO EXISTING ELECTRICAL HANDOLE NO. 3. THIS WILL PROVIDE AN ACCESS TO THE TERMINAL BUILDING FOR ANY FUTURE LOW VOLTAGE/CONTROL CABLES.

THE CONTRACTOR WILL INSTALL A 4" PVC DUCT FROM PROPOSED MANHOLE NO. 3 TO PROPOSED HANDHOLE NO. 2. THIS CONDUIT WILL BE PLACED AT A MINIMUM DEPTH OF 30".

THE PROPOSED DIRECT BURY DUCTS WILL BE PAID FOR UNDER ITEM:

AR110204 4" PVC DUCT DIRECT BURY -- PER L.F.  
AR110214 4" STEEL DUCT DIRECT BURY -- PER L.F.

**PROPOSED DUCT INTERFACE TO EXISTING MANHOLES NOTES**

THE CONTRACTOR WILL FURNISH AND INSTALL SIX 4" RIGID GALVANIZED STEEL DUCTS BETWEEN EXISTING LOW VOLTAGE MANHOLE NO. 1 AND THE END OF THE PROPOSED LOW VOLTAGE 6-WAY CONCRETE ENCASED DUCT. HE WILL ALSO FURNISH AND INSTALL SIX 4" RIGID GALVANIZED STEEL DUCTS FROM EXISTING HIGH VOLTAGE MANHOLE NO. 1 AND THE END OF THE PROPOSED HIGH VOLTAGE 6-WAY CONCRETE ENCASED DUCT. THE 4" RIGID GALVANIZED STEEL DUCTS WILL BE LONG SWEEPING BENDS THAT THE CONTRACTOR WILL INSTALL BETWEEN THE MANHOLES AND THE ENDS OF THE 6-WAY DUCTS. THE CONTRACTOR WILL REMOVE A PORTION OF THE LONG SWEEPING BENDS THAT CONFLICTS WITH THE INSTALLATION BETWEEN THE MANHOLES AND THE 6-WAY DUCTS. THE CONTRACTOR WILL BE PAID FOR THE ACTUAL LENGTH OF RIGID GALVANIZED STEEL DUCT INSTALLED.

THE PROPOSED DUCT INTERFACE TO EXISTING MANHOLES WILL BE PAID FOR UNDER ITEM:

AR800439 DUCT INTERFACE TO EXISTING MANHOLES -- PER L.S.

**PROPOSED RUNWAY AND TAXIWAY HOMERUN CABLING NOTES**

THE CONTRACTOR WILL FURNISH AND INSTALL 1/C #8, 5KV, UG CABLE FROM THE EXISTING ELECTRICAL VAULT TO PROPOSED MANHOLE NO. 3. FOR EACH OF THE TWO RUNWAY AND THE EIGHT TAXIWAY LIGHTING CIRCUITS. THESE PROPOSED CABLES WILL NOT BE IN A UNIT DUCT. THESE CABLES WILL START AT THEIR INDIVIDUAL CUTOUTS IN THE VAULT, RUN THROUGH EXISTING AND PROPOSED DUCTING AND TERMINATE IN PROPOSED MANHOLE NO. 3. IN THE MANHOLE THEY WILL BE SPLICED TO 1/C #8, 5KV, UG CABLE IN UNIT DUCT.

THIS CABLE IN UNIT DUCT WILL BE RUN FROM THE PROPOSED MANHOLE NO. 3 TO THE VARIOUS LOCATIONS WHERE THEY WILL BE SPLICED TO THEIR RESPECTIVE EXISTING HOMERUN CABLES AS SHOWN ON THESE CONSTRUCTION PLANS.

RUNWAY 6/24, TAXIWAY 3A AND TAXIWAY 7 HOMERUN CABLES RUN IN A 4" PVC CONDUIT FROM PROPOSED MANHOLE NO. 3 TO PROPOSED HANDHOLE NO. 2. THESE CABLES WILL NOT BE IN UNIT DUCT.

THE PROPOSED CABLES WILL BE PAID FOR UNDER ITEM:

AR10108 1/C #8 5KV UG CABLE -- PER L.F.  
AR10158 1/C #8 5KV UG CABLE IN UD -- PER L.F.

BY	
REVISION	
DATE	
 COLES COUNTY AIRPORT AUTHORITY COLES COUNTY MEMORIAL AIRPORT A.I.P. PROJ.: 3-17-0066-B20 I.L. PROJ.: MTO-3762	
I.E. Project No. 07A0101D_0800 Filename R-24-LELE.DWG Scale N.T.S. Date 04/04/08	LAYOUT CAH 03/19/08 DRAWN MDR 03/19/08 REVIEWED CAH/KNL 04/03/08
 HANSON Hanson Professional Services Inc. 1525 South Sixth Street Springfield, Illinois 62703-2886 Offices Nationwide	
REPLACE ELECTRICAL DUCT IN FRONTAL AREA ELECTRICAL MANHOLE, HANDHOLE, DUCT, AND CABLING NOTES	
15 15 of 22 sheets	

REVISION	DATE	BY

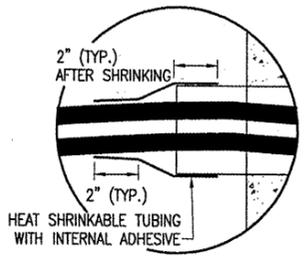
COLES COUNTY AIRPORT  
 AUTHORITY  
 COLES COUNTY MEMORIAL AIRPORT  
 I.L. PROJ.: MTO-3762  
 A.I.P. PROJ.: 3-17-0066-B20

Project No. 07A0101D-0800	03/28/08
Drawn R-544ELE.DWG	03/28/08
Scale N/A	04/04/08
Site 04/04/08	04/03/08
LAYOUT KNL	CAH
DRAWN MW	
REVIEWED CAH	

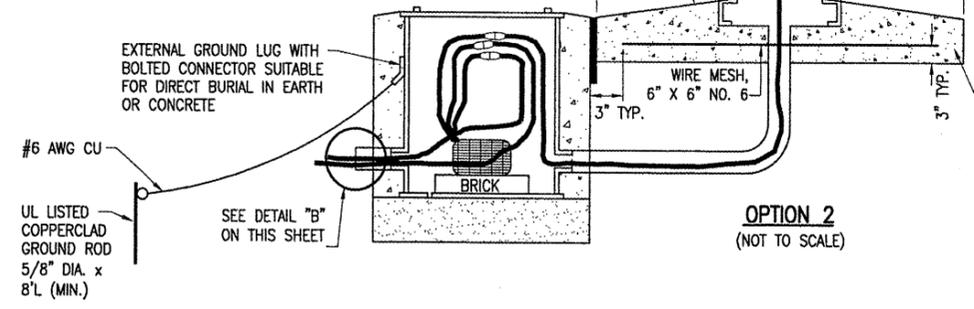
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 Springfield, Illinois 62703-2886  
 Offices Nationwide

REPLACE ELECTRICAL  
 DUCT IN FRONTAL AREA  
 PROPOSED  
 ELECTRICAL DETAILS  
 SHEET 1

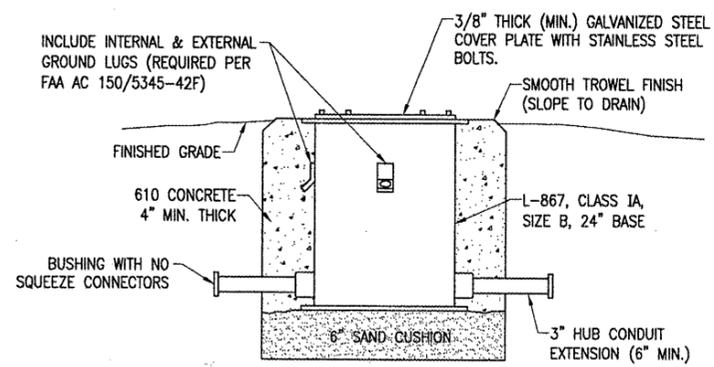
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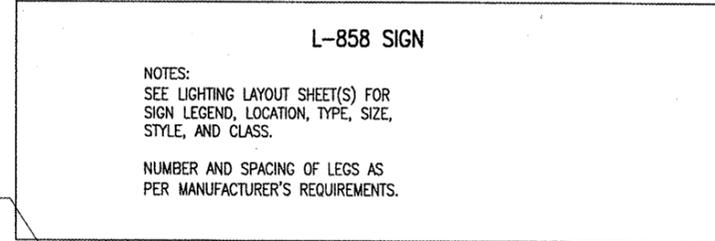
DETAIL "B"  
 (NOT TO SCALE)



OPTION 2  
 (NOT TO SCALE)



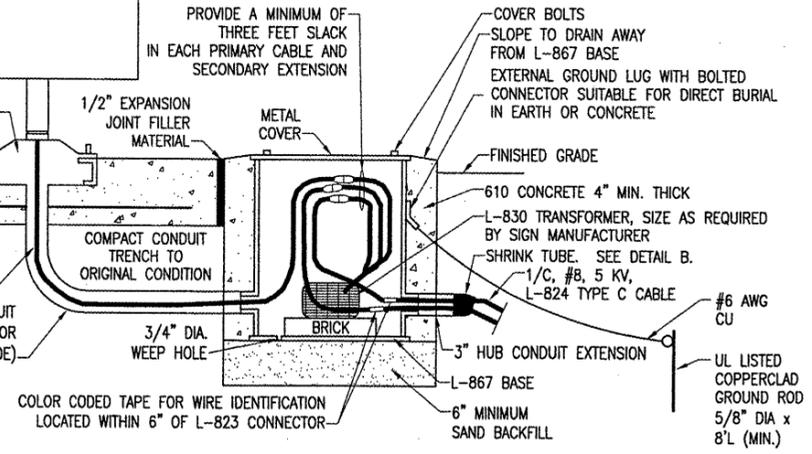
TRANSFORMER BASE/SPLICE CAN DETAIL  
 (NOT TO SCALE)



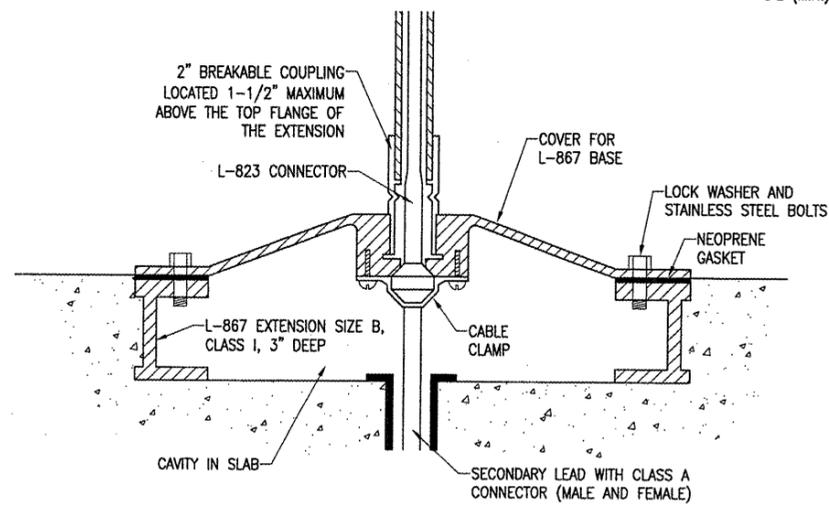
NOTES:  
 SEE LIGHTING LAYOUT SHEET(S) FOR  
 SIGN LEGEND, LOCATION, TYPE, SIZE,  
 STYLE, AND CLASS.  
 NUMBER AND SPACING OF LEGS AS  
 PER MANUFACTURER'S REQUIREMENTS.

STAINLESS STEEL HOOK TYPE  
 BOLTS EMBEDDED MINIMUM OF  
 6" IN CONCRETE AND  
 STAINLESS STEEL NUTS (TYP.)

OPTION 1  
 (NOT TO SCALE)



THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS  
 HAS BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER  
 NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER, IN  
 RESPECT TO THE ACCURACY OR SUFFICIENCY OF THE INFORMATION AND  
 THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE  
 CONDITIONS ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN  
 THE CONSTRUCTION.



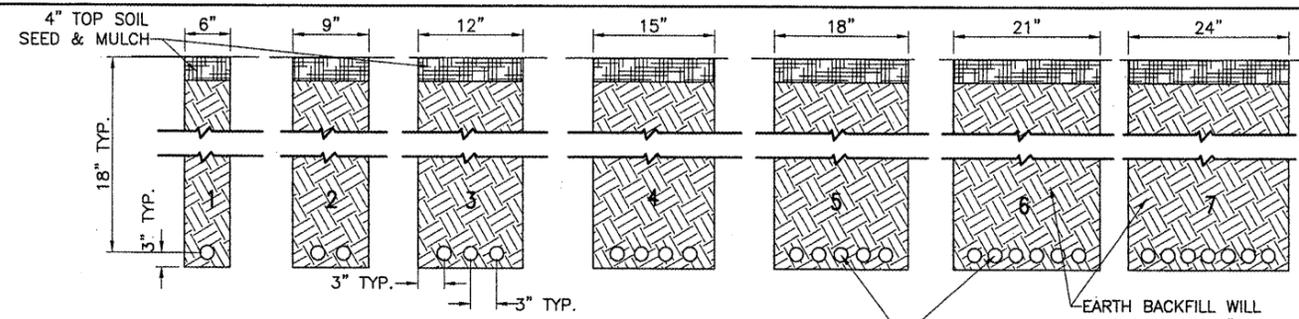
DETAIL "A"  
 (NOT TO SCALE)

THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES  
 INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR  
 COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE  
 ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO  
 UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY  
 THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE  
 RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO  
 THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES  
 FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED  
 UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR  
 SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER  
 SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE  
 RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO  
 ADDITIONAL COST TO THE CONTRACT.

CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.

TAXI GUIDANCE SIGNS ARE EXISTING. DETAILS ARE SHOWN TO  
 PROVIDE INFORMATION ON CONNECTING HOMERUN CABLES FOR  
 AIRFIELD LIGHTING CIRCUITS.

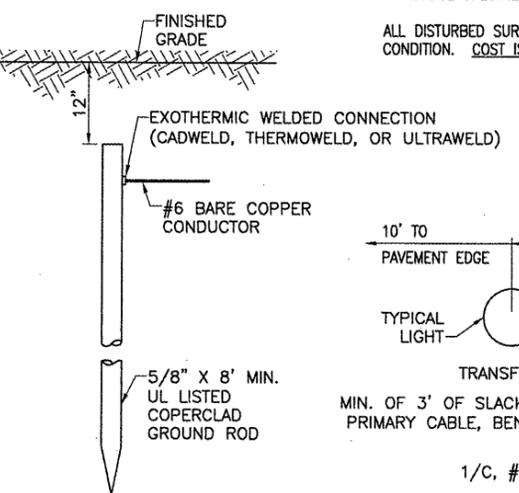
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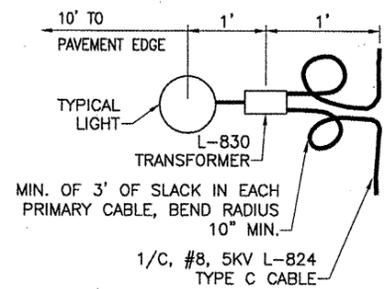
**NOTES:**  
 DETAIL NUMBERS INDICATE NO. OF CABLES.  
 TRENCHES WITH MORE THAN SEVEN CABLES SHALL BE INCREASED 3" IN WIDTH FOR EACH ADDITIONAL CABLE; IF SPECIFIED ON PLANS TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.  
 DEPTH OF TRENCHES SHALL BE AS SHOWN ABOVE UNLESS OTHERWISE SPECIFIED ON THE PLANS.  
 ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. COST IS INCIDENTAL TO TRENCH.

EARTH BACKFILL WILL HAVE MAXIMUM 1" SIZE PARTICLES AND WILL BE PLACED IN TWO LIFTS AS APPROXIMATELY SHOWN (TYPICAL FOR ALL TRENCHES)

CABLES INSIDE UNIT DUCT AS SHOWN ON PROPOSED LIGHTING LAYOUT SHEET(S)



**CABLE TRENCHES**  
 (NOT TO SCALE)

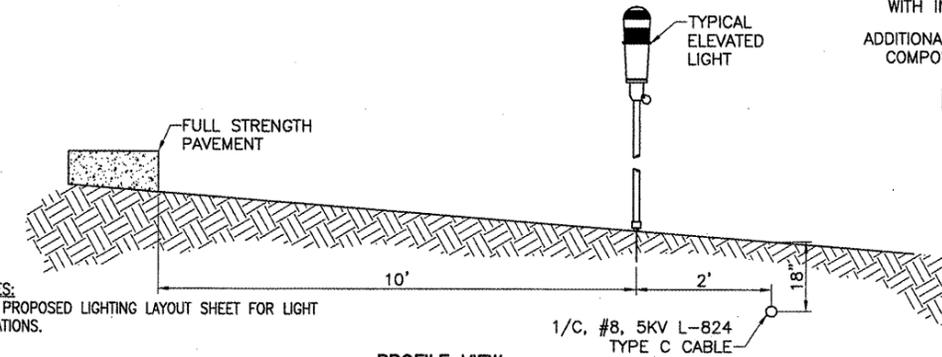


**PLAN VIEW**

**NOTES:**  
 TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLAN.  
 THE RESISTANCE TO GROUND OF THE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS.  
 COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.

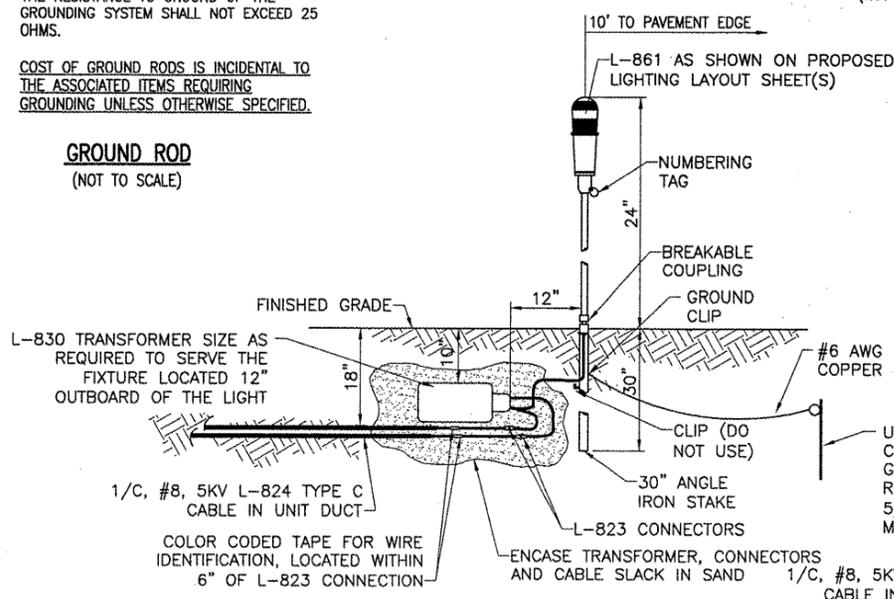
**GROUND ROD**  
 (NOT TO SCALE)

RUNWAY & TAXIWAY EDGE LIGHTS ARE EXISTING. DETAILS ARE SHOWN TO PROVIDE INFORMATION ON CONNECTING HOMERUN CABLES FOR AIRFIELD LIGHTING CIRCUITS.

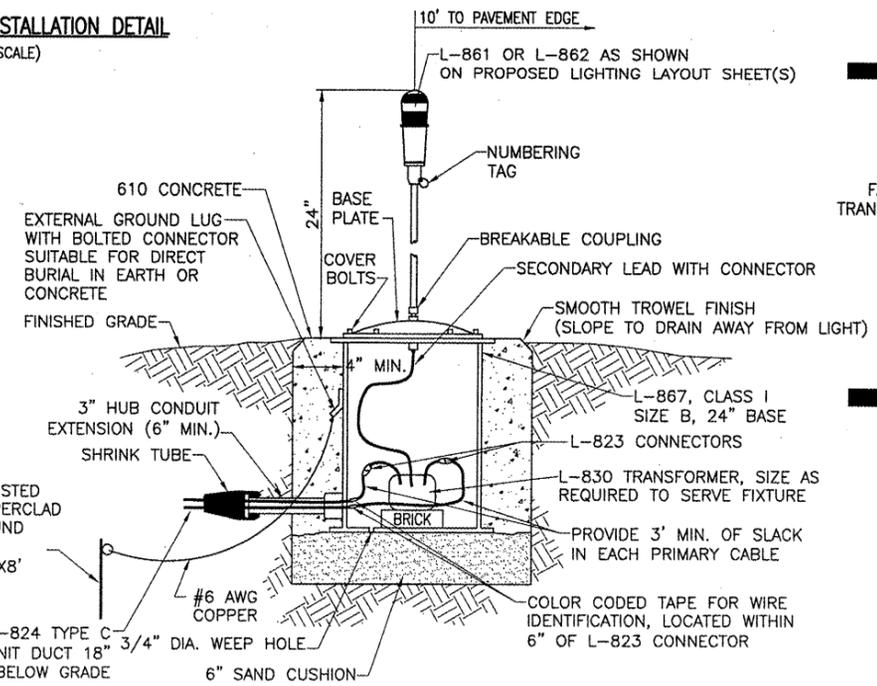


**PROFILE VIEW**

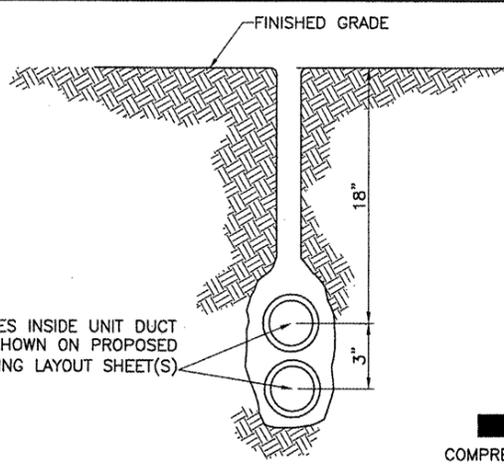
**LIGHT AND CABLE INSTALLATION DETAIL**  
 (NOT TO SCALE)



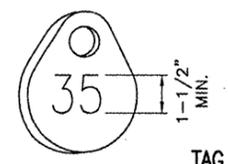
**MEDIUM INTENSITY LIGHT - STAKE MOUNTED**  
 (NOT TO SCALE)



**MEDIUM/HIGH INTENSITY LIGHT - BASE MOUNTED**  
 (NOT TO SCALE)



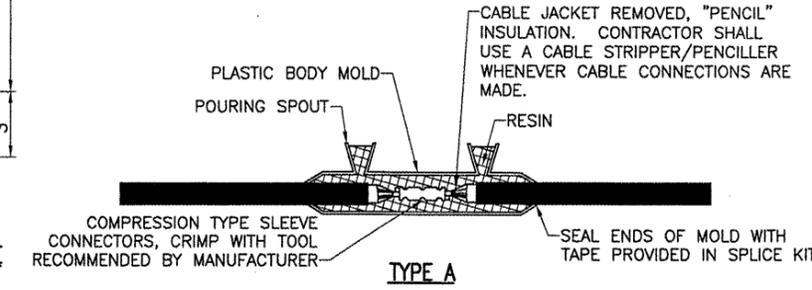
**PLOWED CABLE**  
 (NOT TO SCALE)



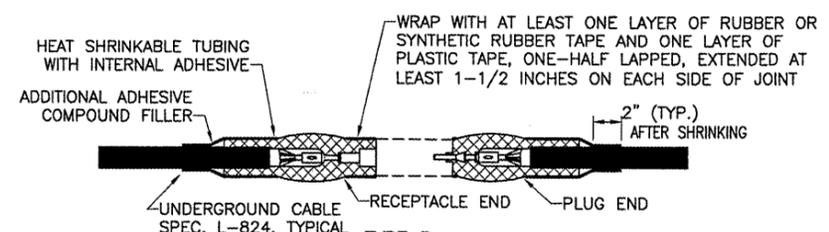
**TAG DETAIL**  
 (NOT TO SCALE)

**NOTE:**  
 AFFIX NON-CORROSIVE TAG TO FIXTURE FACING RUNWAY WITH SET SCREW, WIRE TIE, OR METAL BAND. NUMERALS SHALL BE ENGRAVED FOR PERMANENT READABILITY.

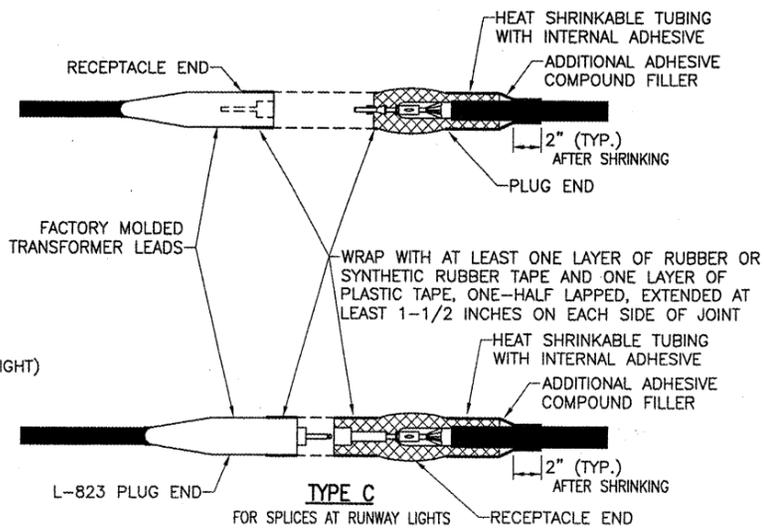
**CO053**



**TYPE A**  
 FOR SPLICES IN HOMERUNS FOR EXTENSIONS TO EXISTING CABLES ONLY



**TYPE B**  
 FOR SPLICES AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT



**TYPE C**  
 FOR SPLICES AT RUNWAY LIGHTS

**NOTES:**  
 SEE PROPOSED LIGHTING LAYOUT SHEET(S) FOR SPLICE TYPE.  
 INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE.

**CABLE SPLICES**  
 (NOT TO SCALE)

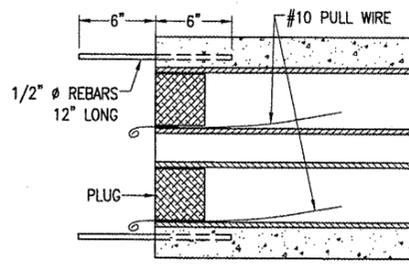
BY	
REVISION	
DATE	

COLES COUNTY AIRPORT AUTHORITY  
 COLES COUNTY MEMORIAL AIRPORT  
 A.I.P. PROJ.: 3-17-0066-B20  
 I.L. PROJ.: MTO-3762

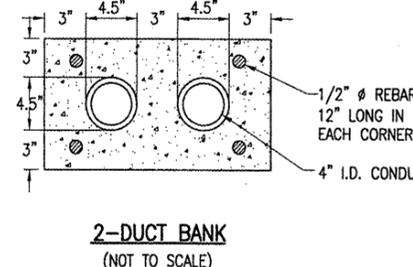
Project No.	07A0101D_0800
Revision	R-54SELE.DWG
Scale	N/A
Date	04/04/08
LAYOUT	KNL 03/28/08
DRAWN	MV 03/28/08
REVIEWED	CAH 04/03/08

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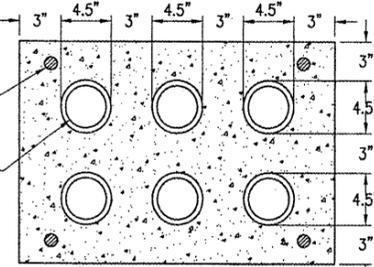
REPLACE ELECTRICAL DUCT IN FRONTAL AREA  
 PROPOSED ELECTRICAL DETAILS SHEET 2



TYPICAL SECTION  
(NOT TO SCALE)



2-DUCT BANK  
(NOT TO SCALE)



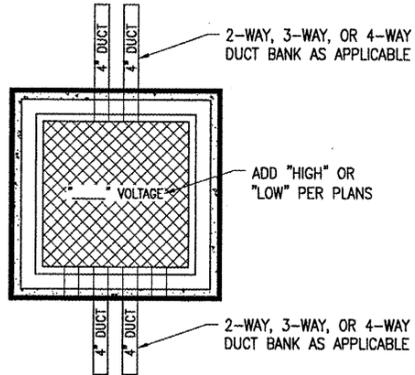
6-DUCT BANK  
(NOT TO SCALE)

DUCT BANK NOTES:

1. ALL DIMENSION ARE MINIMUM.
2. INCLUDE DUCT SPACERS AS MANUFACTURED BY UNDERGROUND DEVICES INC., TO MAINTAIN PROPER SEPARATION OF CONDUITS.
3. REBAR IS REQUIRED TO ACCOMODATE FUTURE DUCT EXTENSIONS & INTERFACE AT DUCT BANK TERMINATIONS. DUCT BANKS TERMINATING IN MANHOLES DO NOT REQUIRE REBAR AT TERMINATIONS.
4. CONDUITS FOR CONCRETE ENCASED DUCT SHALL BE SCHEDULE 40 PVC CONFORMING TO ITEM 110.
5. MINIMUM DEPTH OF TOP OF DUCT ENCASEMENT SHALL BE 30" BELOW FINISHED GRADE.
6. HIGH VOLTAGE AND LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, DUCT, HANDHOLE, OR MANHOLE.
7. HOMERUN CABLES FOR A RESPECTIVE CIRCUIT SHALL BE INSTALLED IN THE SAME RACEWAY OR DUCT.

CABLE & DUCT MARKER NOTES:

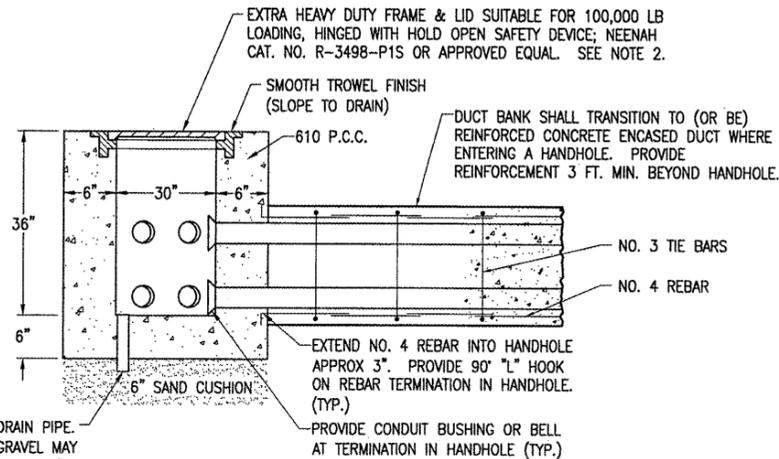
1. THE COST OF ALL TURF AND PAVEMENT DUCT MARKERS SHALL BE INCIDENTAL TO THE DUCT. THE COST OF ALL CABLE MARKERS SHALL BE INCIDENTAL TO THE CABLE.
2. BITUMINOUS PAVEMENT DUCT MARKER AND CONCRETE DUCT MARKER TO BE PROVIDED AT EACH END OF EACH DUCT AS SHOWN ON THE LOCATION PLAN. FOR CONCRETE PAVEMENT, THE LETTER "D" SHALL BE IMPRESSED IN THE PAVEMENT INSTEAD OF THE MARKER. THE LETTER SHALL BE IMPFORMED AS DESCRIBED IN NOTE 4.
3. CABLE MARKERS SHALL BE PLACED AT CHANGES OF DIRECTION AND APPROXIMATELY EVERY 200' ALONG CABLE RUNS.
4. CONCRETE CABLE MARKERS AND DUCT MARKERS SHALL HAVE LETTERS 4" HIGH, 3" WIDE WITH WIDTH OF STROKE 1/2" AND 1/4" DEEP. ALL LETTERS, NUMBERS AND ARROWS TO BE IMPRESSED.



2-WAY, 3-WAY, OR 4-WAY DUCT BANK AS APPLICABLE

ADD "HIGH" OR "LOW" PER PLANS

2-WAY, 3-WAY, OR 4-WAY DUCT BANK AS APPLICABLE

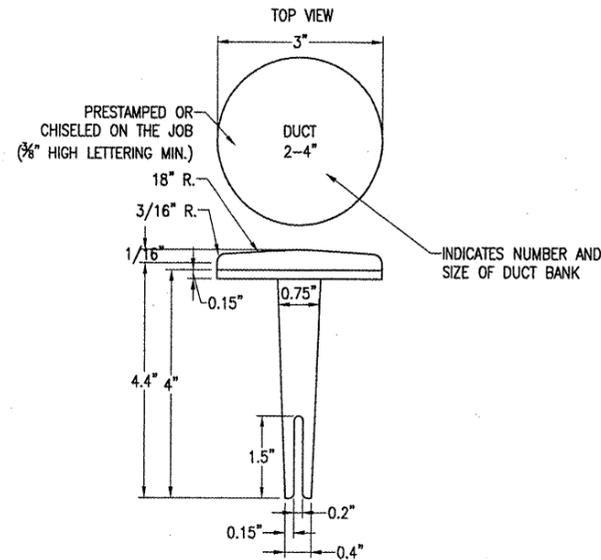


ELECTRICAL HANDHOLE  
(NOT TO SCALE)

2" SCHED 40 PVC DRAIN PIPE. NOTE 6" OF CA-7 GRAVEL MAY BE PROVIDED, INSTEAD OF 6" CONCRETE FLOOR WITH DRAIN PIPE, AT CONTRACTORS OPTION.

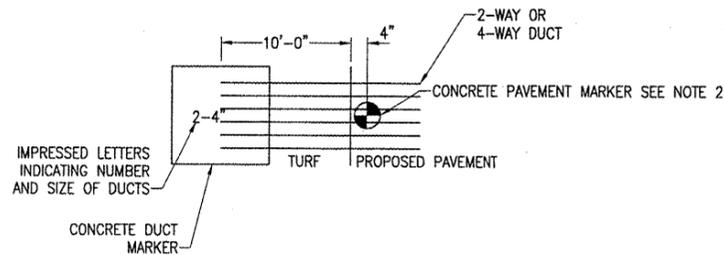
NOTES:

1. LIDS FOR LOW VOLTAGE HANDHOLES SHALL BE LABELED "LOW VOLTAGE". LIDS FOR HIGH VOLTAGE HANDHOLES SHALL BE LABELED "HIGH VOLTAGE". COORDINATE LETTERING WITH MFR.
2. ELECTRICAL HANDHOLE FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 100,000 POUND LOADS AS CALLED FOR IN FAA ADVISORY CIRCULAR AC 150/5320-6D APPENDIX 3 ITEM 2.d. (1). AIRPORT MANHOLE FRAME & LID SHALL BE NEENAH CATALOG NO. R-3498-P1S OR APPROVED EQUAL.
3. REINFORCING FOR DUCT BANK SHALL CONSIST OF NO. 4 DEFORMED REBARS SPACED SIX INCHES (6") ON CENTER, PARALLELING THE DUCTS ON TOP AND BOTTOM WITH NO. 3 FORMED TIE BARS SPACED 12" ON CENTERS. BARS SHALL OVERLAP 1'-8" MIN. REINFORCING SHALL EXTEND THREE FEET BEYOND INTERFACE TO HANDHOLE.
4. HANDHOLES WILL BE PAID FOR UNDER ITEM AR110610 ELECTRICAL HANDHOLE PER EACH. SEE SPECIAL PROVISIONS

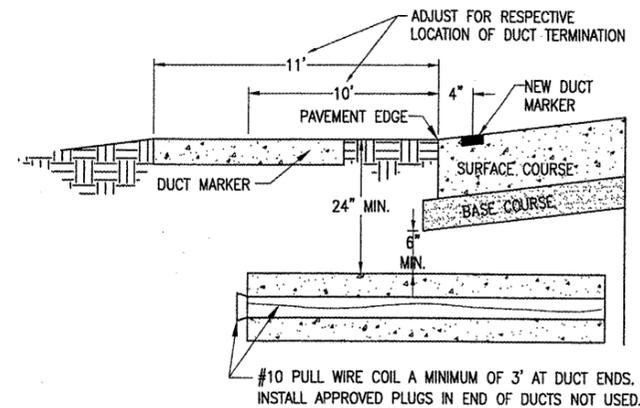


BITUMINOUS PAVEMENT DUCT MARKERS  
(NOT TO SCALE)

NOTE: TOP OF MARKER SHALL BE FLUSH WITH FINISHED PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN A DRILLED HOLE AND SECURED WITH EPOXY GLUE.

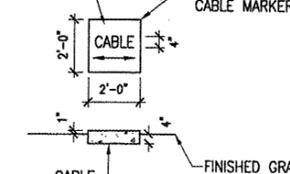


DUCT MARKER DETAIL  
(NOT TO SCALE)



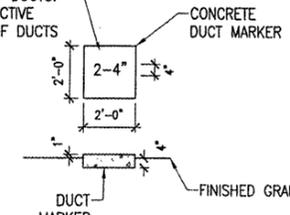
UNDERGROUND ELECTRICAL DUCT  
(NOT TO SCALE)

IMPRESSED LETTERS AND DIRECTIONAL ARROW, ADJUST TO CABLE LAYOUT



TURF CABLE MARKERS  
(NOT TO SCALE)

IMPRESSED NUMBERS NOTING NUMBER & SIZE OF DUCTS. ADJUST FOR RESPECTIVE QUANTITY & SIZE OF DUCTS



TURF DUCT MARKERS  
(NOT TO SCALE)

BY	
REVISION	
DATE	

COLES COUNTY AIRPORT AUTHORITY  
COLES COUNTY AIRPORT

A.I.P. PROJ.: 3-17-0066-B20

Project No.	07A0101D.0800
Revision	R-543ELE.DWG
Scale	NO SCALE
Date	04/04/08
LAYOUT	KNL 03/25/08
DRAWN	MW 03/25/08
REVIEWED	CAH 04/03/08

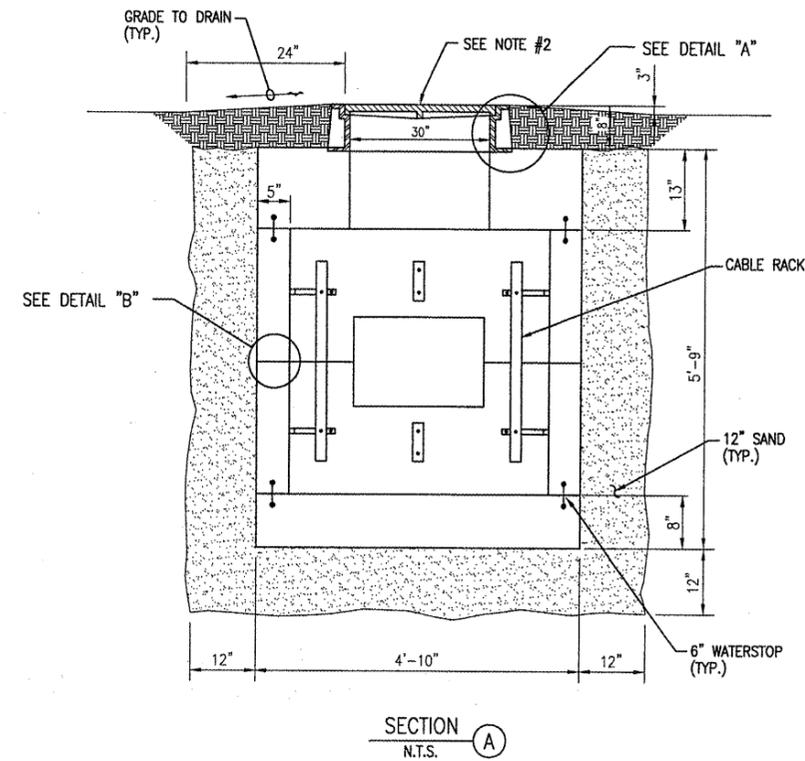
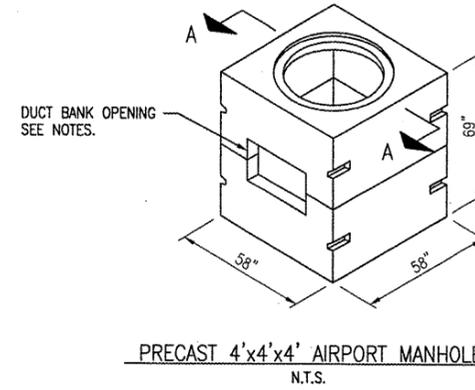
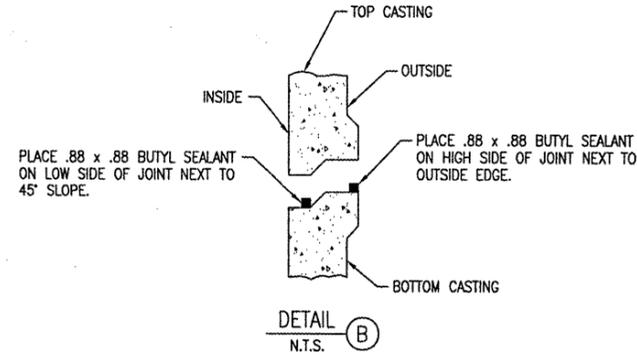
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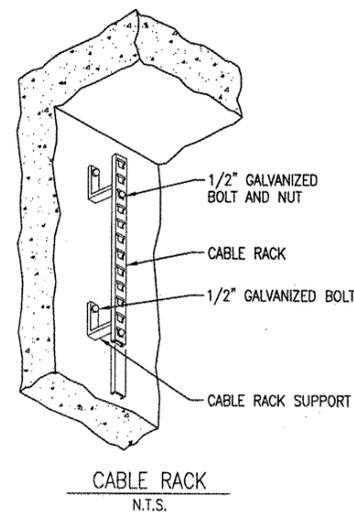
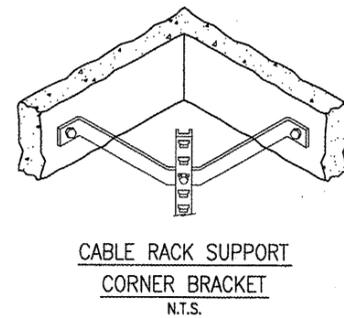
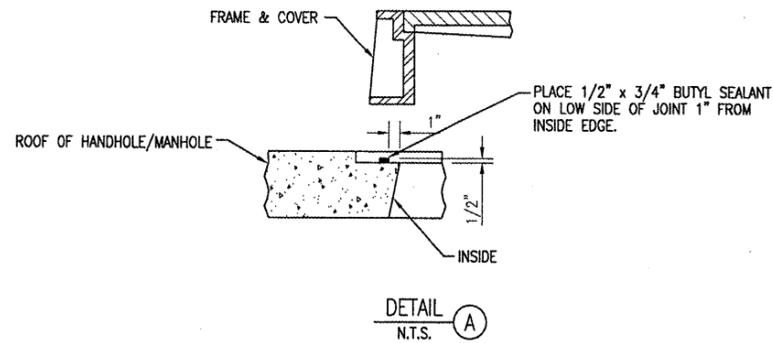
REPLACE ELECTRICAL DUCT IN FRONTAL AREA

PROPOSED ELECTRICAL DETAILS SHEET 3

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4'x4'x4' AIRPORT MANHOLE DETAILS  
N.T.S.



PRECAST 4'x4'x4' AIRPORT MANHOLE NOTES

1. 4'x4'x4' AIRPORT MANHOLE SHALL BE CONSTRUCTED TO MEET THE FOLLOWING:

DESIGN CRITERIA:

- 1) DESIGN SPECIFICATIONS: ACI 318, ASTM C858, FAA AC 150/5320-6D
- 2) DESIGN LOADING:  
B727-200 (210,000 LB. TAXI WEIGHT, 97,600 LB. MAX. GEAR)  
B777-200/300 (752,000 LB. TAXI WEIGHT, 352,000 LB. MAX. GEAR)
- 3) LIVE LOAD SURCHARGE: 24.5% OF THE WHEEL LOAD SOIL PRESSURE
- 4) CONCRETE COMPRESSIVE STRENGTH:  $F'_c = 5,000$  PSI
- 5) REINFORCING STEEL: ASTM A706,  $F_y = 60,000$  PSI

DESIGN ASSUMPTIONS:

- 1) GROUND WATER LEVEL: 3'-6" BELOW GRADE
- 2) EARTH COVER: 0'-8" - 2'-0"
- 3) LIVE LOAD IMPACT:  $I = 20\%$
- 4) COEFFICIENT OF ACTIVE EARTH PRESSURE:  $K_a = 0.3$
- 5) SPECIFIC WEIGHT OF STD. AGGREGATE CONCRETE: 150 PCF
- 6) SPECIFIC WEIGHT OF DRY EARTH: 100 PCF
- 7) SPECIFIC WEIGHT OF SATURATED EARTH: 120 PCF
- 8) EQUIVALENT FLUID PRESSURE OF DRY EARTH: 30 PSF
- 9) EQUIVALENT FLUID PRESSURE OF SATURATED EARTH: 80 PSF

2. AIRPORT MANHOLE FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 100,000 POUND LOADS AS CALLED FOR IN FAA ADVISORY CIRCULAR AC 150/5320-6D APPENDIX 3 ITEM 2.d. (1). AIRPORT MANHOLE FRAME & LID SHALL BE NEENAH CATALOG NO. R-3492-A OR APPROVED EQUAL. LID FOR HIGH VOLTAGE MANHOLE SHALL BE LABELED "HIGH VOLTAGE". LID FOR LOW VOLTAGE MANHOLE SHALL BE LABELED "LOW VOLTAGE".
3. COORDINATE DUCT BANK INTERFACE & OPENINGS WITH THE MANHOLE MFR. CONTRACTOR SHALL SLOPE DUCT BANK TO PRECAST MANHOLE OPENINGS. ALL OPENINGS SHALL BE SEALED WATERTIGHT AFTER DUCT BANK INSTALLATION.
4. 4'x4'x4' AIRPORT MANHOLE SHALL BE MANUFACTURED BY HARTFORD CONCRETE PRODUCTS, INC., 1400 N. WABASH AVE., P.O. BOX 660, HARTFORD CITY, IN. 47348, PHONE 765-348-3506 OR 1-800-428-8110, OR APPROVED EQUIVALENT.
5. 4'x4'x4' AIRPORT MANHOLE SHALL BE PAID FOR UNDER ITEM AR110715 ELECTRICAL MANHOLE SPECIAL PER EACH.

DATE	REVISION	BY

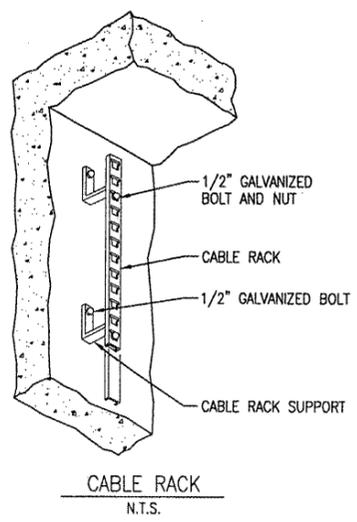
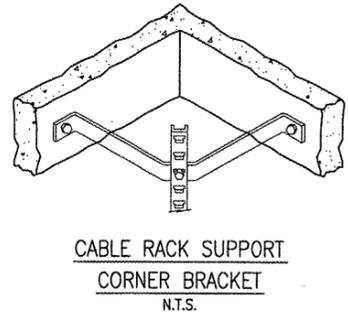
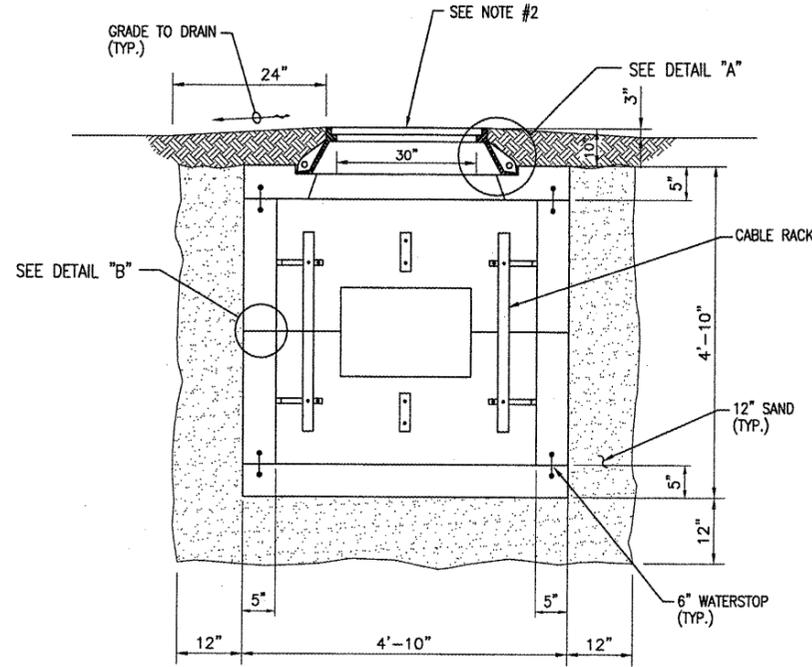
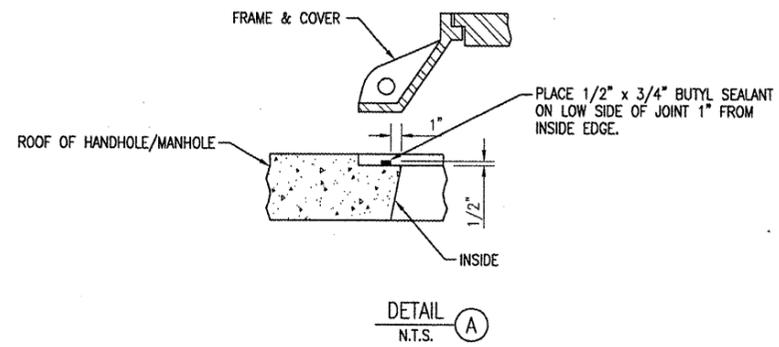
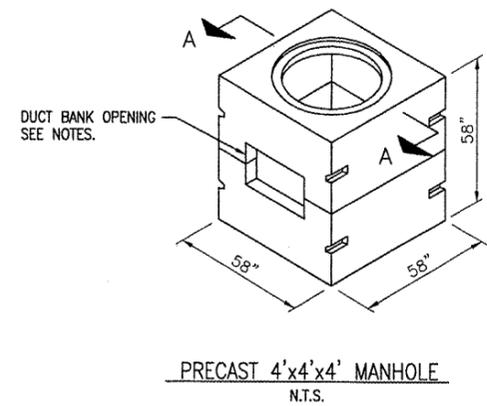
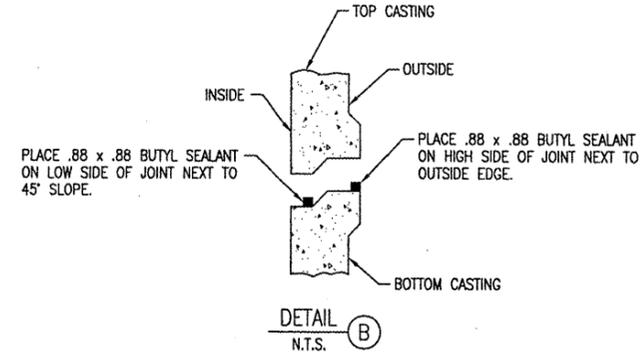
COLES COUNTY AIRPORT AUTHORITY  
COLES COUNTY AIRPORT  
A.I.P. PROJ.: 3-17-0066-B20  
IL PROJ.: MTO-3762

HEI Project No.	07A0101D_0800
Revision	R-541ELE.DWG
Scale	NONE
Date	04/04/08
LAYOUT	KNL 03/24/08
DRAWN	MY 03/24/08
REVIEWED	CAH 04/03/08

**HANSON**  
Hanson Professional Services Inc.  
1625 South Sixth Street  
Springfield, Illinois 62705-2886  
Offices Nationwide

REPLACE ELECTRICAL DUCT IN FRONTAL AREA  
4' x 4' x 4'  
AIRPORT MANHOLE

MAY 14, 2008 1:02 PM KINCA00394  
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SECTION A  
N.T.S.  
PRECAST 4' x 4' x 4' MANHOLE DETAILS  
N.T.S.

PRECAST 4'x4'x4' ELECTRICAL MANHOLE NOTES

- 4'x4'x4' ELECTRICAL MANHOLE SHALL BE CONSTRUCTED TO MEET THE FOLLOWING:  
**DESIGN CRITERIA:**  
 1) DESIGN SPECIFICATION: ACI 318, AASHTO LOAD FACTOR DESIGN METHOD, AND ASTM C858  
 2) DESIGN LOADING: AASHTO HS20 (32,000 LB/AXLE)  
 3) LIVE LOAD SURCHARGE: .5% OF THE WHEEL LOADING APPLIED TO 8'-0" OF DEPTH.  
 4) CONCRETE COMPRESSIVE STRENGTH:  $f'_c = 4500$  PSI  
 5) REINFORCING STEEL: ASTM A706,  $F_y = 60000$  PSI  
  
**DESIGN ASSUMPTIONS:**  
 1) GROUND WATER LEVEL: 3'-6" BELOW GRADE.  
 2) EARTH COVER: 2'-0" MINIMUM TO 5'-0" MAXIMUM  
 3) LIVE LOAD IMPACT: 2'-0"  $1 = 20\%$   
                                   2'-1" TO 2'-11"  $1 = 10\%$   
                                   3'-0" TO 5'-0"  $1 = 0\%$   
 4) COEFFICIENT OF ACTIVE EARTH PRESSURE:  $K_a = 0.3$   
 5) SPECIFIC WEIGHT OF STD. AGGREGATE CONCRETE: 150 PCF  
 6) SPECIFIC WEIGHT OF DRY EARTH: 100 PCF  
 7) SPECIFIC WEIGHT OF SATURATED EARTH: 120 PCF  
 8) EQUIVALENT FLUID PRESSURE OF DRY EARTH: 30 PSF  
 9) EQUIVALENT FLUID PRESSURE OF SATURATED EARTH: 80 PSF  
  
 THE SUPPLIER SHALL PROVIDE CERTIFICATION THAT THE PRECAST MANHOLES MEET OR EXCEED THESE REQUIREMENTS PRIOR TO INSTALLATION.
- MANHOLE FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 50,000 POUND LOADS. MANHOLE FRAME & LID SHALL BE NEENAH CATALOG NO. R-1640-C OR APPROVED EQUAL. LID FOR HIGH VOLTAGE MANHOLE SHALL BE LABELED "HIGH VOLTAGE". LID FOR LOW VOLTAGE MANHOLE SHALL BE LABELED "LOW VOLTAGE".
- COORDINATE DUCT BANK INTERFACE & OPENINGS WITH THE MANHOLE MFR. CONTRACTOR SHALL SLOPE DUCT BANK TO PRECAST MANHOLE OPENINGS. ALL OPENINGS SHALL BE SEALED WATERTIGHT AFTER DUCT BANK INSTALLATION.
- 4'x4'x4' MANHOLE SHALL BE MANUFACTURED BY HARTFORD CONCRETE PRODUCTS, INC., 1400 N. WABASH AVE., P.O. BOX 660, HARTFORD CITY, IN. 47348, PHONE 765-348-3506 OR 1-800-428-8110, OR APPROVED EQUIVALENT.
- 4'x4'x4' MANHOLE SHALL BE PAID FOR UNDER ITEM AR110710 ELECTRICAL MANHOLE PER EACH.

DATE	REVISION	BY

COLES COUNTY AIRPORT AUTHORITY  
 COLES COUNTY MEMORIAL AIRPORT  
 A.I.P. PROJ.: 3-17-0066-B20  
 ILL. PROJ.: MTO-3762

Proj. No. 07A01010_0800	Rev. R-542ELE.DWG	Date 04/04/08
Filename	Scale NONE	
LAYOUT	KNL	03/24/08
DRAWN	MV	03/24/08
REVIEWED	CAH	04/03/08

**HANSON**  
 Hanson Professional Services Inc.  
 1525 South Sixth Street  
 Springfield, Illinois 62703-2886  
 Offices Nationwide

REPLACE ELECTRICAL DUCT IN FRONTAL AREA  
 4' x 4' x 4' ELECTRICAL MANHOLE

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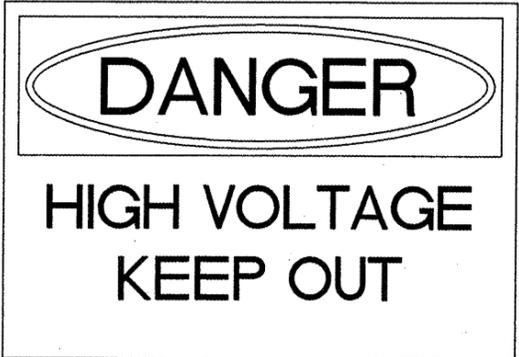
**AIRFIELD LIGHTING NOTES**

1. UNLESS OTHERWISE NOTED, ALL UNDERGROUND AIRFIELD LIGHTING SERIES CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE FAA APPROVED 5000 VOLT L-824 TYPE. ALL UNDERGROUND FIELD POWER LOW VOLTAGE (600 VOLT & BELOW) CIRCUIT CONDUCTORS WHETHER DEB OR IN DUCT/CONDUIT SHALL BE UL LISTED 600 VOLT, TYPE XLP-USE-2 COPPER CONDUCTORS. CONDUCTOR SIZES SHALL BE AS SPECIFIED, HEREIN.
2. NO COMPONENTS OF PRIMARY CIRCUIT SUCH AS CABLE, CONNECTORS AND TRANSFORMERS SHALL BE BROUGHT ABOVE GROUND AT EDGE LIGHTS, SIGNS, REIL, PAPI, ETC.
3. THERE SHALL BE NO EXPOSED POWER/CONTROL CABLES BETWEEN THE POINT WHERE THEY LEAVE THE UNDERGROUND (DEB OR L-867 BASES) AND WHERE THEY ENTER THE EQUIPMENT (SUCH AS TAXIWAY SIGNS, PAPI, REIL, ETC.) ENCLOSURES. THESE CABLES SHALL BE ENCLOSED IN RIGID CONDUIT OR IN FLEXIBLE, WATERTIGHT CONDUIT WITH BREAKABLE COUPLING(S) AT THE GRADE OR THE HOUSING COVER, AS SHOWN IN APPLICABLE DETAILS.
4. THE JOINTS OF THE L-823 PRIMARY CONNECTORS SHALL BE WRAPPED WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE-HALF LAPPED, EXTENDING AT LEAST 1-1/2 INCHES ON EACH SIDE OF THE JOINT, AS SHOWN ON SHEET NO. 26.
5. THE CABLE ENTRANCE INTO THE FIELD-ATTACHED L-823 CONNECTORS SHALL BE ENCLOSED BY A HEAT-SHRINKABLE TUBING WITH CONTINUOUS INTERNAL ADHESIVE, AS SHOWN ON SHEET NO. 26.
6. L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS 'A' (FACTORY MOLDED).
7. THERE SHALL BE NO SPLICES IN THE SECONDARY CABLE(S) WITHIN THE STEMS OF A RUNWAY/TAXIWAY EDGE/THRESHOLD LIGHTING FIXTURE AND THE WIREWAYS LEADING TO TAXIWAY SIGNS AND PAPI/REIL EQUIPMENT.
8. ELECTRICAL INSULATING GREASE SHALL BE APPLIED WITHIN THE L-823, SECONDARY, TWO CONDUCTOR CONNECTORS TO PREVENT WATER ENTRANCE. THESE CONNECTORS SHALL NOT BE TAPED.
9. DEB ISOLATION TRANSFORMERS SHALL BE BURIED AT A DEPTH OF TEN (10") INCHES ON A LINE CROSSING THE LIGHT AND PERPENDICULAR TO THE RUNWAY/TAXIWAY CENTERLINE AT A LOCATION TWELVE (12") INCHES FROM THE LIGHT OPPOSITE FROM THE RUNWAY/TAXIWAY.
10. A SLACK OF THREE (3') FEET, MINIMUM, SHALL BE PROVIDED IN THE PRIMARY CABLE AT EACH TRANSFORMER/CONNECTOR TERMINATION. AT STAKE-MOUNTED LIGHTS, THE SLACK SHALL BE LOOSELY COILED IMMEDIATELY BELOW THE ISOLATION TRANSFORMER.
11. DIRECTION OF PRIMARY CABLES SHALL BE IDENTIFIED BY COLOR CODING AS FOLLOWS: WHEN FACING LIGHT WITH BACK TO PAVEMENT, CABLE TO THE LEFT IS CODED RED AND CABLE TO RIGHT IS CODED BLUE. THIS APPLIES TO STAKE MOUNTED LIGHTS AND BASE MOUNTED LIGHTS WHERE THE BASE HAS ONLY ONE ENTRANCE.
12. L-867 BASES SHALL BE SIZE B, 24" DEEP, CLASS I, UNLESS OTHERWISE NOTED.
13. BASE MOUNTED BREAKABLE COUPLINGS SHALL NOT HAVE WEEP HOLES TO THE OUTSIDE. PLUGGED UP HOLES SHALL NOT BE ACCEPTABLE. IT SHALL BE A 1/4" DIAMETER, MINIMUM, OR EQUIVALENT OPENING FOR DRAINAGE FROM THE SPACE AROUND THE SECONDARY CONNECTOR INTO THE L-867 BASE.
14. THE ELEVATION OF THE BREAKABLE COUPLING GROOVE SHALL NOT EXCEED 1-1/2" ABOVE THE EDGE OF THE COVER IN CASE OF BASE MOUNTED COUPLINGS, OR THE TOP OF THE STAKE IN CASE OF STAKE MOUNTED COUPLINGS.
15. WHERE THE BREAKABLE COUPLING IS NOT AN INTEGRAL PART OF THE LIGHT FIXTURE STEM OR MOUNTING LEG, A BEAD OF SILICON SEAL SHALL BE APPLIED COMPLETELY AROUND LIGHT STEM OR WIREWAY AT BREAKABLE COUPLING TO PROVIDE A WATERTIGHT SEAL.
16. TOPS OF THE STAKES SUPPORTING LIGHT FIXTURES SHALL BE FLUSH WITH THE SURROUNDING GRADE.
17. PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS, STEMS, BREAKABLE COUPLINGS, BASE COVERS, BRACKETS, STAKES, SHALL NOT BE ACCEPTABLE.
18. THE TOLERANCE FOR THE HEIGHT OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE: ONE (1) INCH. IN CASE OF STAKE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE STAKE AND THE TOP OF THE LENS. IN CASE OF BASE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE BASE FLANGE AND THE TOP OF THE LENS, THUS INCLUDING THE BASE COVER, THE FRANGIBLE COUPLING, THE STEM, THE LAMP HOUSING AND THE LENS.

19. THE TOLERANCE FOR THE LATERAL SPACING (LIGHT LANE TO RUNWAY/TAXIWAY CENTERLINE) OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE ONE (1) INCH. THIS ALSO APPLIES AT INTERSECTIONS TO LATERAL SPACING BETWEEN LIGHTS OF A RUNWAY/TAXIWAY AND THE INTERSECTING RUNWAY/TAXIWAY.
20. ENTRANCES INTO L-867 BASES SHALL HAVE CONDUIT COUPLINGS OR REDUCERS TO INTERFACE UNIT DUCT/CONDUIT TO L-867 BASE HUBS, OR SHALL BE SEALED WITH HEAT SHRINK AS SHOWN ON SHEET NO. 26.
21. GALVANIZED/PAINTED EQUIPMENT/COMPONENT SURFACES SHALL NOT BE DAMAGED BY DRILLING, FILING, ETC. DRAIN HOLES IN METAL TRANSFORMER HOUSINGS SHALL BE MADE BEFORE GALVANIZING.
22. EDGE LIGHT NUMBERING TAGS SHALL BE FACING THE PAVEMENT.
23. CABLE/SPLICE/DUCT MARKERS SHALL BE PRECAST CONCRETE OF THE SIZE SHOWN. LETTERS/NUMBERS/ARROWS FOR THE LEGEND TO BE IMPRESSED INTO THE TOPS OF THE MARKERS SHALL BE PRE-ASSEMBLED AND SECURED IN THE MOLD BEFORE THE CONCRETE IS POURED. LEGEND INSCRIBED BY HAND IN WET CONCRETE SHALL NOT BE ACCEPTABLE.
24. ALL UNDERGROUND CABLE RUNS SHALL BE IDENTIFIED BY CABLE MARKERS AT 200 FEET MAXIMUM SPACING, WITH AN ADDITIONAL MARKER AT EACH CHANGE OF DIRECTION OF THE CABLE RUN. CABLE MARKERS SHALL BE INSTALLED IMMEDIATELY ABOVE THE CABLES.
25. THERE SHALL BE NO SPLICES BETWEEN THE ISOLATION TRANSFORMERS. L-823 CONNECTORS ARE ALLOWED AT TRANSFORMER CONNECTIONS ONLY, UNLESS OTHERWISE SHOWN.
26. APPLY AN OXIDE INHIBITING, ANTI-SEIZING COMPOUND TO ALL SCREWS, NUTS AND BREAKAGE COUPLING THREADS.
27. LOCATIONS OF ENDS OF ALL UNDERGROUND DUCTS SHALL BE IDENTIFIED BY DUCT MARKERS.
28. WHERE A PARALLEL, CONSTANT VOLTAGE PAPI SYSTEM IS PROVIDED, THE "T" SPLICES SHALL BE OF THE CAST TYPE.
29. CONCRETE USED FOR SLABS, FOOTINGS, BACKFILL AROUND TRANSFORMER HOUSINGS, MARKINGS, ETC. SHALL BE 3000 PSI, AIR-ENTRAINED.
30. ALL POWER AND CONTROL CABLES IN MAN/HAND HOLES SHALL BE TAGGED. USE EMBOSSED COPPER STRIPS TO BE ATTACHED AT BOTH ENDS TO THE CABLE BY THE USE OF PLASTIC STRAPS. MINIMUM OF TWO TAGS SHALL BE PROVIDED ON EACH CABLE IN A MAN/HAND HOLE-ONE AT THE CABLE ENTRANCE AND ONE AT THE CABLE EXIT.
31. THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS AND SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123. ALSO CONTACT AIRPORT MANAGER AND/OR RESPECTIVE AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. CONTACT FAA FOR ASSISTANCE IN LOCATING THEIR CABLES.
32. WHEN PREPARING CABLE FOR SPLICES, THE CONTRACTOR SHALL USE A CABLE STRIPPER/PENCILLER WHENEVER CABLE CONNECTIONS ARE MADE.

**GROUNDING NOTES FOR AIRFIELD LIGHTING**

1. GROUNDING FOR RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS SHALL BE AS DETAILED ON THE PLANS AND AS SPECIFIED HEREIN. PER FAA AC 150/5340-30C DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, CHAPTER 12, PART 12.6; A SAFETY GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. THE PURPOSE OF THE SAFETY GROUND IS TO PROTECT PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE AS THE RESULT OF A SHORTED CABLE OR ISOLATION TRANSFORMER. A SAFETY GROUND SHALL BE INSTALLED AT EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. A SAFETY GROUND SHALL ALSO BE INSTALLED AT EACH STAKE MOUNTED LIGHT FIXTURE. THE SAFETY GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR CONNECTED TO THE GROUND LUG ON THE RESPECTIVE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE AND A 5/8-INCH DIAMETER BY 8-FOOT LONG (MINIMUM) UL LISTED COPPER CLAD GROUND ROD. CONNECTIONS TO GROUND LUGS ON THE L-867 TRANSFORMER BASE/LIGHT CAN OR MOUNTING STAKE SHALL BE WITH A UL LISTED GROUNDING CONNECTOR. CONNECTIONS TO GROUND RODS SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS, CADWELD BY ERICO PRODUCTS, INC., SOLON, OHIO, (PHONE: 800-248-9353), THERMOWELD BY CONTINENTAL INDUSTRIES, INC., TULSA, OKLAHOMA (PHONE: 918-663-1440) OR ULTRAWELD BY HARGER, GRAYSLAKE, ILLINOIS (PHONE: 800-842-7437). EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS AS REQUIRED FOR EACH RESPECTIVE APPLICATION. BOLTED CONNECTIONS WILL NOT BE PERMITTED AT GROUND RODS. TOP OF GROUND RODS SHALL BE BURIED 12 INCHES MINIMUM BELOW GRADE, UNLESS SPECIFIED OTHERWISE HEREIN, FOR RESPECTIVE APPLICATIONS.
2. CLEAN ALL METAL SURFACES BEFORE MAKING GROUND CONNECTIONS. METALLIC SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON-CONDUCTIVE MATERIAL PER 2008 NATIONAL ELECTRICAL CODE ARTICLE 250-12.
3. PER FAA 150/5340-30C THE RESISTANCE TO GROUND OF THE RESPECTIVE MOUNTING STAKE OR LIGHT BASE (WITH GROUND ROD CONNECTED) MUST BE 25 OHMS OR LESS.



PROVIDE WEATHERPROOF WARNING SIGN ON EACH VAULT EXTERIOR DOOR (FIVE TOTAL) LABELED "DANGER - HIGH VOLTAGE - KEEP OUT" PER THE REQUIREMENTS OF NEC 110.34 (C). WARNING SIGNS SHALL BE INCIDENTAL TO ITEM AR800405 INSTALL TEMPORARY LIGHTING PER LUMP SUM.

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DATE	REVISION						
I.L. PROJ.: MTO-3762 A.I.P. PROJ.: 3-17-0066-B20							
199 Project No. 07A0101D-0800 Electronic E-003.DWG Scale NONE Date 04/04/08	LAYOUT KNL 03/24/08 DRAWN MW 03/24/08 REVIEWED CAH 04/03/08						
REPLACE ELECTRICAL DUCT IN FRONTAL AREA ELECTRICAL NOTES SHEET 2							
22							
22 of 22 sheets							