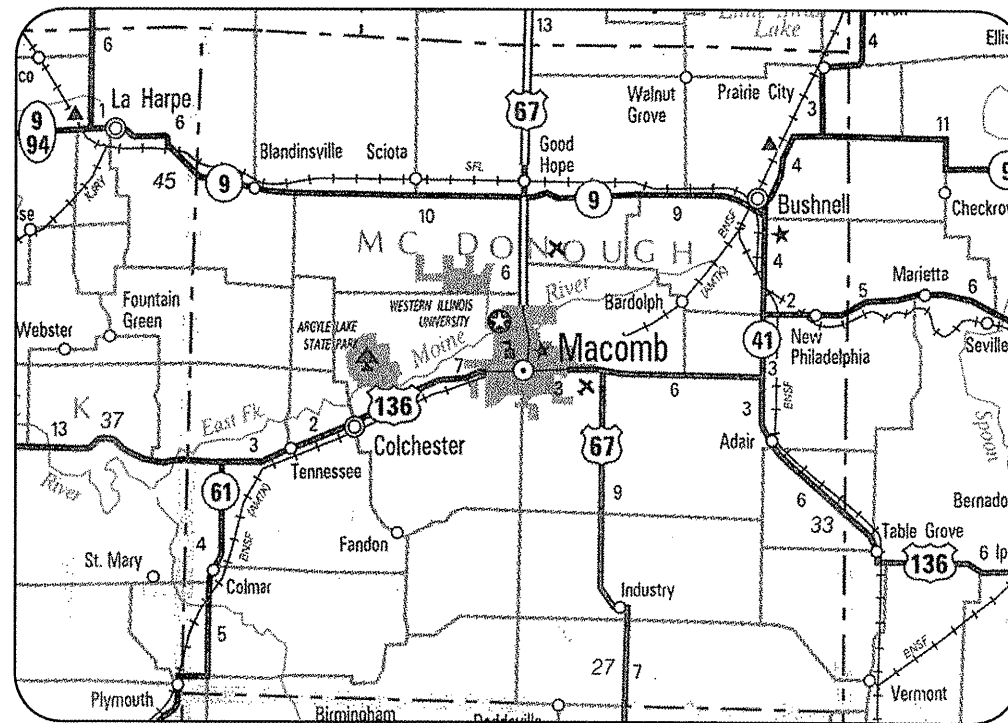
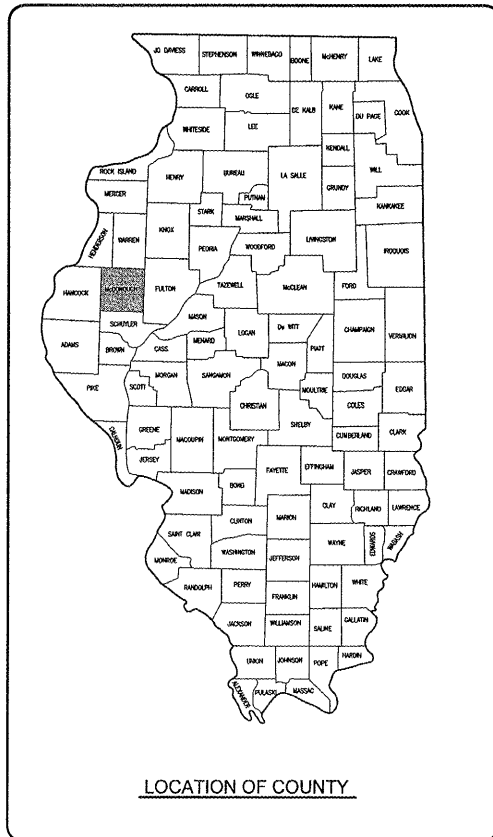


CONSTRUCTION PLANS FOR MACOMB MUNICIPAL AIRPORT MACOMB, MCDONOUGH COUNTY, ILLINOIS CONSTRUCT RAMP EXPANSION

SCOPE OF WORK

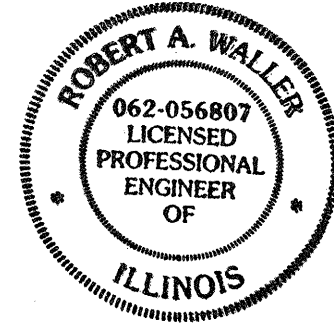
BASE BID: THIS PROJECT CONSISTS OF AN EXPANSION TO THE GENERAL AVIATION RAMP. THE RAMP EXPANSION WILL BE CONSTRUCTED OF 6-IN PORTLAND CEMENT CONCRETE (PCC). ASSOCIATED WORK INCLUDES GRADING; PAVING; MARKING; AIRFIELD LIGHTING, DUCTS, CABLING, HANDHOLES, AND ASSOCIATED ELECTRICAL WORK; DRAINAGE; SEEDING, MULCHING, AND INSTALLATION OF AN EROSION CONTROL BLANKET; AND OTHER INCIDENTAL ITEMS.

BID ALTERNATE NO. 1: A SINGLE LIGHT POLE WITH THREE FIXTURES AND A SINGLE BUILDING MOUNTED LIGHTING FIXTURE IS PROPOSED AS AN ADDITIVE ALTERNATE TO THIS PROJECT. ASSOCIATED WORK SHALL INCLUDE CONSTRUCTION OF A LIGHT POLE FOUNDATION; CABLING; ERECTION OF THE LIGHT POLE; THE INSTALLATION OF A LIGHTING CONTROL SYSTEM; AND ALL ASSOCIATED ELECTRICAL WORK.



LOCATION

ILL. PROJ.: MQB-3798
A.I.P. PROJ.: 3-17-0064-B16
LATITUDE: 40° 31' 22"
LONGITUDE: 90° 39' 15"
ELEVATION: 705.0' M.S.L.
DATE: APRIL 23, 2008



HANSON
Hanson Professional Services Inc.

ELECTRICAL DESIGN

Submitted by: *Kevin N. Lightfoot* ENG'R
Date Submitted: APRIL 23, 2008
Lic. Exp. Date: NOVEMBER 30, 2009

HANSON
Hanson Professional Services Inc.

AIRPORT DESIGN

Submitted by: *R.A. Waller* ENG'R
Date Submitted: APRIL 23, 2008
Lic. Exp. Date: NOVEMBER 30, 2009

MACOMB AIRPORT AUTHORITY

Approved: *Donald Horn* CHAIRMAN
Date: 4/14/08
Approved: *Claudia* SECRETARY
Date: 4/14/08

<p>MACOMB MUNICIPAL AIRPORT MACOMB, ILLINOIS</p>	<p>ILL. PROJ.: MQB-3798 A.I.P. PROJ.: 3-17-0064-B16</p>
<p>RAW 02/15/08 BAK 02/15/08 CAH 04/24/08</p>	<p>RAW 02/15/08 BAK 02/15/08 CAH 04/24/08</p>
<p>HANSON Hanson Professional Services Inc. 1525 South State Street Springfield, Illinois 62703-2686 Offices Nationwide</p>	<p>HANSON Hanson Professional Services Inc. 1525 South State Street Springfield, Illinois 62703-2686 Offices Nationwide</p>
<p>CONSTRUCT RAMP EXPANSION</p>	<p>COVER SHEET</p>
<p style="font-size: 2em; font-weight: bold;">1</p> <p>1 of 32 sheets</p>	

DATE	REVISION	BY

SUMMARY OF QUANTITIES - BASE BID

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITIES	AS BUILT QUANTITIES
AR108088	1/C #8 XLP-USE	L.F.	2100	
AR108108	1/C #8 5KV UG CABLE	L.F.	620	
AR108158	1/C #8 5KV UG CABLE IN UD	L.F.	640	
AR108258	2/C #8 5KV UG CABLE IN UD	L.F.	2,110	
AR108652	3/C #2 600V UG CABLE IN UD	L.F.	300	
AR108658	3/C #8 600V UG CABLE IN UD	L.F.	4,220	
AR108812	12 PAIR CONTROL CABLE	L.F.	940	
AR109200	INSTALL ELECTRICAL EQUIPMENT	L.S.	1	
AR110014	4" DIRECTIONAL BORE	L.F.	1,055	
AR110610	ELECTRICAL HANDHOLE	EACH	4	
AR125415	MITL - BASE MOUNTED	EACH	1	
AR125445	TAXI GUIDANCE SIGN, 5 CHARACTER	EACH	1	
AR125565	SPLICE CAN	EACH	8	
AR125901	REMOVE STAKE MOUNTED LIGHT	EACH	4	
AR125961	RELOCATE STAKE MOUNTED LIGHT	EACH	2	
AR150510	ENGINEER'S FIELD OFFICE	L.S.	1	
AR150530	TRAFFIC MAINTENANCE	L.S.	1	
AR150540	HAUL ROUTE	L.S.	1	
AR152410	UNCLASSIFIED EXCAVATION	C.Y.	1,184	
AR156510	SILT FENCE	L.F.	600	
AR156511	DITCH CHECK	EACH	2	
AR156513	SEPARATION FABRIC	S.Y.	8,942	
AR156531	EROSION CONTROL BLANKET	S.Y.	227	
AR209510	CRUSHED AGGREGATE BASE COURSE	TON	2,057	
AR401665	BITUMINOUS PAVEMENT SAWING	L.F.	591	
AR501506	6" PCC PAVEMENT	S.Y.	8,915	
AR501530	PCC TEST BATCH	EACH	1	
AR510510	TIE DOWN	EACH	9	
AR510515	GROUND ROD	EACH	2	
AR620520	PAVEMENT MARKING-WATERBORNE	S.F.	1,436	
AR620525	PAVEMENT MARKING-BLACK BORDER	S.F.	1,434	
AR701518	18" RCP, CLASS IV	L.F.	159	
AR751410	INLET	EACH	1	
AR751940	ADJUST INLET	EACH	2	
AR752418	PRECAST REINFORCED CONC, FES 18"	EACH	1	
AR901510	SEEDING	ACRE	0.50	
AR908510	MULCHING	ACRE	0.50	

SUMMARY OF QUANTITIES - BID ALTERNATE NO. 1

ITEM NO.	DESCRIPTION	UNIT	TOTAL QUANTITIES	AS BUILT QUANTITIES
AS106503	APRON LIGHT POLE W/TRIPLE FIXTURE	EACH	1	
AS106611	TYPE A ASSEMBLY - 1 FIXTURE	EACH	1	
AS108658	3/C #8 600V UG CABLE IN UD	L.F.	200	
AS109620	LIGHTING CONTROL SYSTEM	L.S.	1	

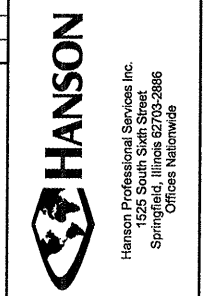
INDEX TO SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	SUMMARY OF QUANTITIES AND INDEX TO SHEETS
3	PROPOSED SAFETY PLAN
4	EXISTING SITE PLAN
5	PROPOSED CONSTRUCTION PLAN
6	EXISTING AND PROPOSED TYPICAL SECTIONS
7	PROPOSED STORM WATER POLLUTION PREVENTION PLAN
8	PROPOSED DRAINAGE PLAN
9	PROPOSED DRAINAGE DETAILS
10	PROPOSED DRAINAGE DETAILS
11	PROPOSED STAKING PLAN
12	PROPOSED JOINTING PLAN
13	PROPOSED JOINTING DETAILS
14	PROPOSED ELECTRICAL PLAN
15	PROPOSED ELECTRICAL PLAN-CONTINUED
16	PROPOSED ELECTRICAL DETAILS SHEET 1
17	PROPOSED ELECTRICAL DETAILS SHEET 2
18	PROPOSED ELECTRICAL DETAILS SHEET 3
19	ELECTRICAL NOTES SHEET 1
20	ELECTRICAL NOTES SHEET 2
21	ELECTRICAL LEGEND AND ABBREVIATIONS
22	VAULT & AIRFIELD ELECTRICAL ONE LINE DIAGRAM
23	ELECTRICAL ONE LINE DIAGRAM FOR APRON LIGHTING & AWOS
24	PROPOSED APRON LIGHTING CONTROLLER
25	APRON LIGHTING DETAILS
26	PROPOSED MARKING PLAN
27	PROPOSED CROSS-SECTIONS FOR RAMP EXPANSION STA. 47+50 TO STA. 48+50
28	PROPOSED CROSS-SECTIONS FOR RAMP EXPANSION STA. 48+75 TO STA. 49+75
29	PROPOSED CROSS-SECTIONS FOR RAMP EXPANSION STA. 49+92 TO STA. 50+75
30	PROPOSED CROSS-SECTIONS FOR RAMP EXPANSION STA. 51+00 TO STA. 52+00
31	PROPOSED CROSS-SECTIONS FOR RAMP EXPANSION STA. 52+11.25 TO STA. 53+25
32	PROPOSED CROSS-SECTIONS FOR RAMP EXPANSION STA. 53+50 TO STA. 54+20

**MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS**

A.I.P. PROJ.: 3-17-0064-B16
IL PROJ.: MGB-3798

FILE PROJECT NO.: 08A0004D_0800	DATE: 02/18/08
FILENAME: R-002ELP.DWG	RAW: 02/18/08
SCALE: NOT TO SCALE	BAK: 02/18/08
DATE: 02/18/08	REVIEWED: CAH 04/24/08
LAYOUT	
DRAWN	



**CONSTRUCT
RAMP EXPANSION**

**SUMMARY OF QUANTITIES
AND
INDEX TO SHEETS**

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SCOPE OF WORK

BASE BID: THIS PROJECT CONSISTS OF AN EXPANSION TO THE GENERAL AVIATION RAMP. THE RAMP EXPANSION WILL BE CONSTRUCTED OF 6-IN PORTLAND CEMENT CONCRETE (PCC). ASSOCIATED WORK INCLUDES GRADING; PAVING; MARKING; AIRFIELD LIGHTING, DUCTS, CABLING, HANDHOLES, AND ASSOCIATED ELECTRICAL WORK; DRAINAGE; SEEDING, MULCHING, AND INSTALLATION OF AN EROSION CONTROL BLANKET; AND OTHER INCIDENTAL ITEMS.

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AIRPORT SECURITY NOTE

AIRPORT SECURITY WILL BE MAINTAINED AT ALL TIMES. ONLY CONTRACTOR EMPLOYEES OR MATERIAL SUPPLIERS SHALL BE ALLOWED WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL COMPLY WITH THE AIRPORT MANAGER, OR HIS AUTHORIZED REPRESENTATIVE, IN REGARD TO ALL SECURITY MATTERS.

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 25 FEET. THE TALLEST EQUIPMENT IS EXPECTED TO BE A SEMI-TRUCK WITH TRAILER IN THE UP POSITION.

HAUL ROUTE AND VEHICLE PARKING

THE CONTRACTOR WILL USE THE DESIGNATED HAUL ROUTE AND PARKING AREA AS SHOWN ON THIS SHEET. THE PROPOSED PARKING AREA WILL BE 75' X 275' (APPROXIMATE). THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE PROPOSED HAUL ROUTE (INCLUDING THE ENTRANCE) AND PARKING AREA THROUGHOUT THE COURSE OF THE PROJECT. ANY AREAS DAMAGED OUTSIDE OF THESE AREAS WILL BE REPAIRED BY THE CONTRACTOR AND AT THE CONTRACTOR'S OWN EXPENSE. THE CONTRACTOR SHALL SUPPLY, PLACE, AND REMOVE ANY TEMPORARY PIPE CULVERTS NECESSARY TO CONSTRUCT THE HAUL ROUTE AT NO ADDITIONAL COST TO THE PROJECT. AT THE CONCLUSION OF THE PROJECT THE CONTRACTOR WILL GRADE, FERTILIZE, SEED AND MULCH ALL AREAS CURRENTLY TURFED WITHIN THE HAUL ROUTE AND PARKING AREA LIMITS, AS NEEDED, TO RESTORE IT TO ITS ORIGINAL STATE. ALL AREAS OF THE HAUL ROUTE THAT ARE WITHIN EXISTING CROP LINES SHALL BE TILLED TO ELIMINATE THE COMPACTION OF THE SOIL THAT OCCURS OVER THE COURSE OF THE PROJECT, TO THE SATISFACTION OF THE RESIDENT ENGINEER. IN ALL CASES ONLY ORGANIC MATERIAL (SOIL OR TURF) SHALL EXIST IN THE AREA OF THE HAUL ROUTE FOLLOWING ITS RESTORATION. RESTORATION OF THE HAUL ROUTE AND PARKING AREA WILL BE PAID FOR IN ACCORDANCE WITH ITEM AR150540 HAUL ROUTE, PER LUMP SUM, AND NO ADDITIONAL COMPENSATION SHALL 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 KEEP ONE RUNWAY OPEN AT ALL TIMES AND MAINTAIN CONTINUOUS TAXIWAY ACCESS TO ALL HANGARS AND ADMINISTRATIVE AREAS.

METHODS TO REDUCE DUST IN THE PROJECT AREA TO THE SATISFACTION OF THE AIRPORT MANAGER IS REQUIRED AND SHALL BE CONSIDERED INCIDENTAL TO THE APRON PROJECT AND NO EXTRA COMPENSATION IS ALLOWED.

ALL WORK PERFORMED SHALL BE DONE IN A ORDERLY AND EFFECTIVE MANNER TO MINIMIZE RUNWAY CLOSURE.

TRENCHES OR HOLES MAY REMAIN OPEN OVERNIGHT BUT SHALL BE ENTIRELY BARRICADED.

NO RUNWAY SHALL BE CLOSED OVERNIGHT.

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.

CONTROL POINT DATA				
NO.	DESCRIPTION	NORTHING	EASTING	ELEVATION
1	NGS MON., STEEL ROD IN SLEEVE	1,403,476.08	2,161,141.29	684.61
2	IRON PIN	1,402,486.40	2,160,694.36	N/A
3	IRON PIN	1,402,927.42	2,160,214.70	N/A
4	CHSLD BOX ON W. SIDE PCC FOUNDATION OF AIRPORT BEACON			686.12
5	CHSLD BOX ON N. SIDE PCC FOUNDATION OF FLAGPOLE			688.94

150-ENGINEER'S FIELD OFFICE NOTES

THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE FURNISHED, MAINTAINED, AND REMOVED IN ACCORDANCE WITH ITEM AR150510 "ENGINEER'S FIELD OFFICE" AS STATED ON PAGE 168 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THE LOCATION OF THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE DETERMINED AT THE PRE-CONSTRUCTION MEETING.

THE ENGINEERING FIRM WILL MAKE PAYMENT FOR ALL LONG DISTANCE TELEPHONE CALLS IN EXCESS OF ONE HUNDRED DOLLARS (\$100.00) PER MONTH.

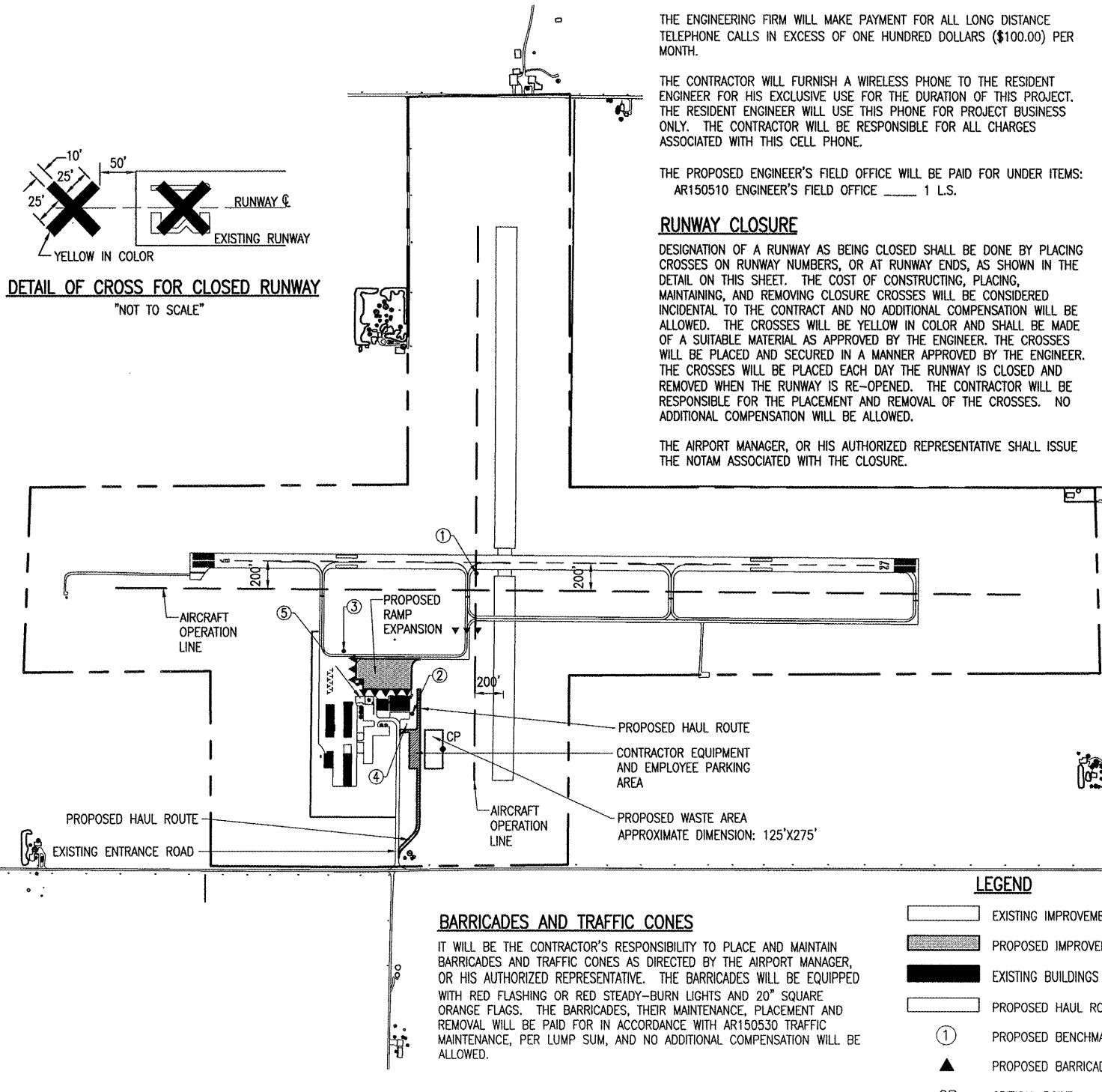
THE CONTRACTOR WILL FURNISH A WIRELESS PHONE TO THE RESIDENT ENGINEER FOR HIS EXCLUSIVE USE FOR THE DURATION OF THIS PROJECT. THE RESIDENT ENGINEER WILL USE THIS PHONE FOR PROJECT BUSINESS ONLY. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL CHARGES ASSOCIATED WITH THIS CELL PHONE.

THE PROPOSED ENGINEER'S FIELD OFFICE WILL BE PAID FOR UNDER ITEMS: AR150510 ENGINEER'S FIELD OFFICE ____ 1 L.S.

RUNWAY CLOSURE

DESIGNATION OF A RUNWAY AS BEING CLOSED SHALL BE DONE BY PLACING CROSSES ON RUNWAY NUMBERS, OR AT RUNWAY ENDS, AS SHOWN IN THE DETAIL ON THIS SHEET. THE COST OF CONSTRUCTING, PLACING, MAINTAINING, AND REMOVING CLOSURE 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 ENGINEER. THE CROSSES WILL BE PLACED AND SECURED IN A MANNER APPROVED BY THE ENGINEER. THE CROSSES WILL BE PLACED EACH DAY 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. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE AIRPORT MANAGER, OR HIS AUTHORIZED REPRESENTATIVE SHALL ISSUE THE NOTAM ASSOCIATED WITH THE CLOSURE.



J.U.L.I.E. INFORMATION

COUNTY: McDONOUGH
 CITY: MACOMB
 TOWNSHIP: MACOMB T-6-N, R-2-W
 SECTION NO.: 7 & 8
 ADDRESS: MACOMB MUNICIPAL AIRPORT
 RR #1
 MACOMB, ILLINOIS 61455

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.

PROPOSED SAFETY PLAN

GENERAL - THE MACOMB MUNICIPAL AIRPORT IS COMPRISED OF TWO RUNWAYS. THE PROPOSED CONSTRUCTION IS NOT ANTICIPATING REQUIRED RUNWAY CLOSURES. HOWEVER, IF RUNWAY CLOSURE IS NECESSARY, IT SHALL BE ACCOMPLISHED AS DESCRIBED ON THIS SHEET AND CONSIDERED INCIDENTAL TO THE PROJECT WITH NO ADDITIONAL COMPENSATION.

THE TAXIWAY ADJACENT TO THE RAMP WILL BE CLOSED ANY TIME WORK IS BEING ACCOMPLISHED WITHIN THE PROJECT LIMITS AND WITHIN 80' OF THE TAXIWAY CENTERLINE. ANY TIME THE GRADE OFF THE EDGE OF PAVEMENT EXCEEDS A DEPTH OF 3", BARRICADES WILL BE PLACED AS SHOWN IN ACCORDANCE WITH ALL OTHER NOTES ON THIS SHEET. ACCESS TO THE TWO HANGARS SOUTH OF THE PROJECT LIMIT WILL BE CONTINUOUS. HOWEVER TAXING OF AIRCRAFT IN THIS AREA IS PROHIBITED, WITH TRANSPORT OF ALL AIRCRAFT IN THIS AREA BEING UNDER TOW.

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 (122.80 MHz.) WITH THE AIRPORT UNICOM. THIS WILL KEEP THE CONTRACTOR IN CONSTANT CONTACT WITH THE MACOMB MUNICIPAL 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 MORE THAN 1 ACRE OF LAND, THEREFORE A N.P.D.E.S. PERMIT WILL BE REQUIRED.

SEE SHEET 7 FOR SWPP MEASURES PROPOSED.

CRITICAL POINT DATA

CRITICAL POINT (CP)
 LATITUDE: 40° 30' 57.82"
 LONGITUDE: 90° 39' 16.78"
 ELEVATION: 692' M.S.L.

MB026

DATE	REVISION	BY

MACOMB MUNICIPAL AIRPORT
 MACOMB, ILLINOIS

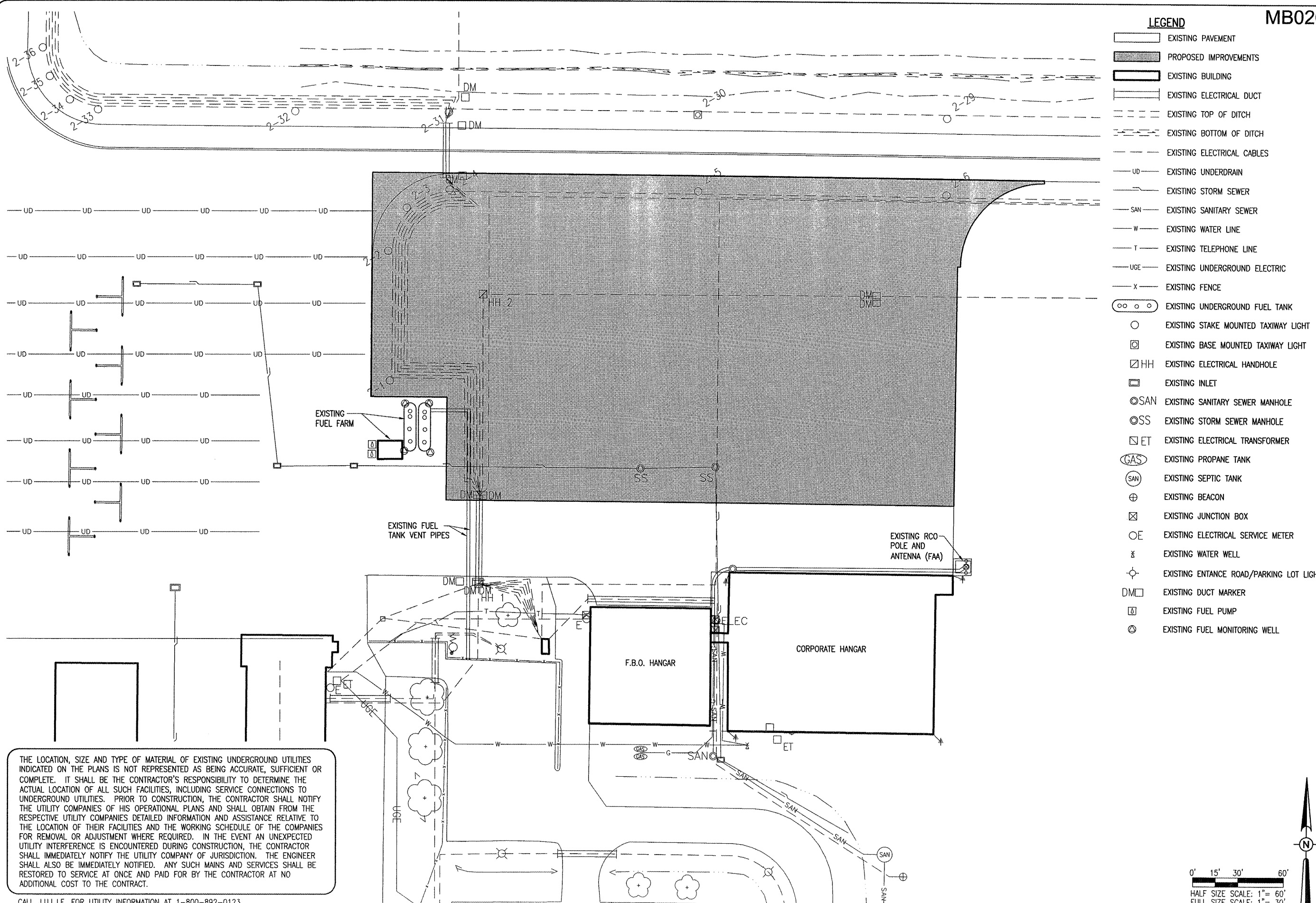
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Estimate R-0035FY.DWG	BAK	02/18/08
Scale 1" = 500'	CAH	04/24/08
Date 02/18/08		



CONSTRUCT RAMP EXPANSION
 PROPOSED SAFETY PLAN

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APR 24, 2008 5:01 PM WALLE00723
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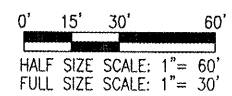
MB026

LEGEND

- EXISTING PAVEMENT
- PROPOSED IMPROVEMENTS
- EXISTING BUILDING
- EXISTING ELECTRICAL DUCT
- EXISTING TOP OF DITCH
- EXISTING BOTTOM OF DITCH
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERDRAIN
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATER LINE
- EXISTING TELEPHONE LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING FENCE
- EXISTING UNDERGROUND FUEL TANK
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING ELECTRICAL HANDHOLE
- EXISTING INLET
- EXISTING SANITARY SEWER MANHOLE
- EXISTING STORM SEWER MANHOLE
- EXISTING ELECTRICAL TRANSFORMER
- EXISTING PROPANE TANK
- EXISTING SEPTIC TANK
- EXISTING BEACON
- EXISTING JUNCTION BOX
- EXISTING ELECTRICAL SERVICE METER
- EXISTING WATER WELL
- EXISTING ENTRANCE ROAD/PARKING LOT LIGHT
- EXISTING DUCT MARKER
- EXISTING FUEL PUMP
- EXISTING FUEL MONITORING WELL

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



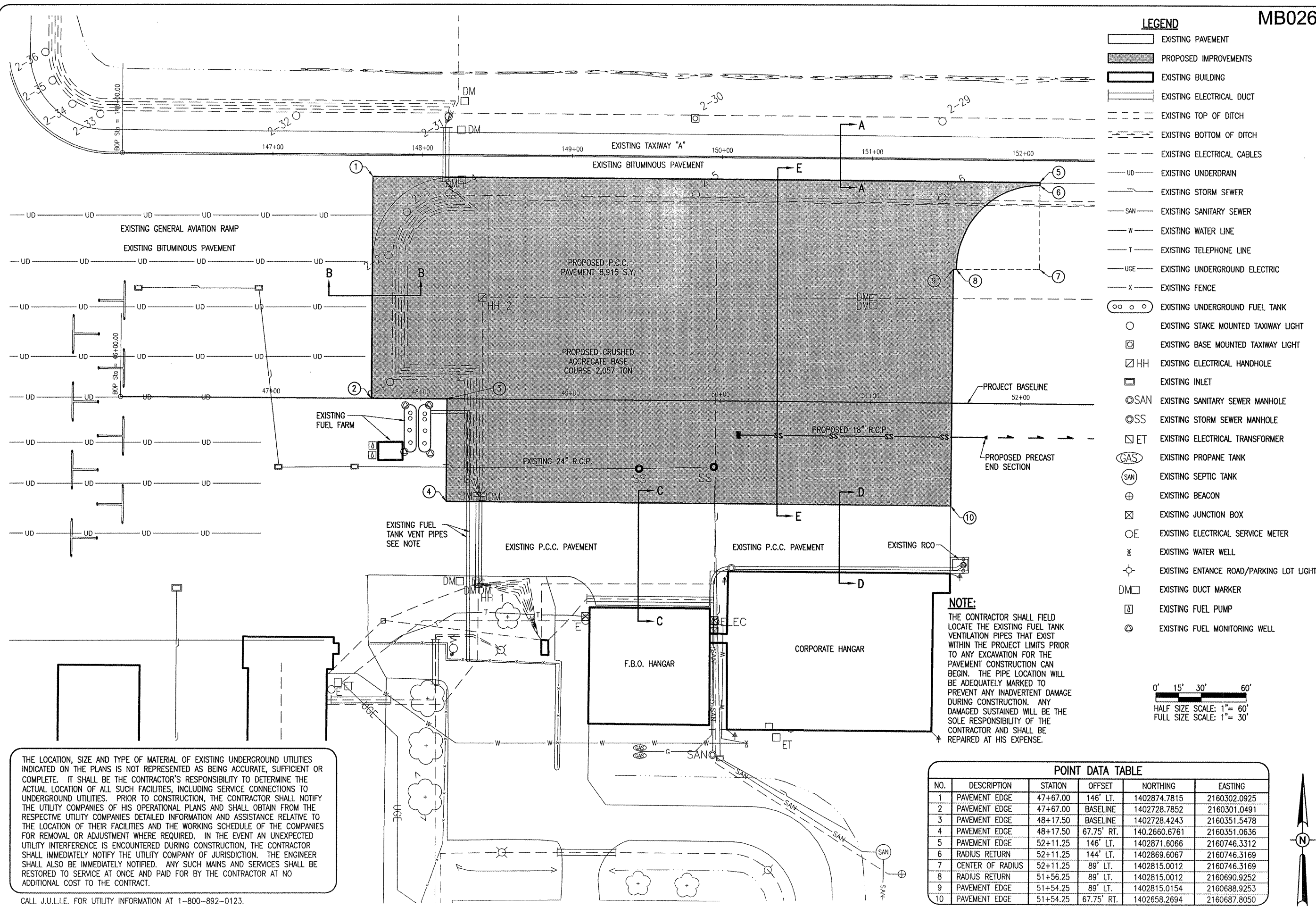
DATE	REVISION	BY

MACOMB MUNICIPAL AIRPORT
 MACOMB, ILLINOIS
 A.I.P. PROJ.: 3-17-0064-B16
 I.L. PROJ.: MOB-3798

HEL Project No. 08A0004D_0800	RAW 02/18/08
Drawn R-101SIT.DWG	BAK 02/18/08
Scale 1" = 30'	CAH 04/24/08
Date 02/18/08	
LAYOUT	
DRAWN	
REVIEWED	

HANSON
 Hanson Professional Services Inc.
 1525 South Sixth Street
 Springfield, Illinois 62703-2888
 Offices Nationwide

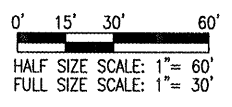
CONSTRUCT
 RAMP EXPANSION
 EXISTING
 SITE
 PLAN



LEGEND

- EXISTING PAVEMENT
- PROPOSED IMPROVEMENTS
- EXISTING BUILDING
- EXISTING ELECTRICAL DUCT
- EXISTING TOP OF DITCH
- EXISTING BOTTOM OF DITCH
- EXISTING ELECTRICAL CABLES
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- EXISTING ELECTRICAL TRANSFORMER
- EXISTING PROPANE TANK
- EXISTING SEPTIC TANK
- EXISTING BEACON
- EXISTING JUNCTION BOX
- EXISTING ELECTRICAL SERVICE METER
- EXISTING WATER WELL
- EXISTING ENTRANCE ROAD/PARKING LOT LIGHT
- EXISTING DUCT MARKER
- EXISTING FUEL PUMP
- EXISTING FUEL MONITORING WELL

NOTE:
 THE CONTRACTOR SHALL FIELD LOCATE THE EXISTING FUEL TANK VENTILATION PIPES THAT EXIST WITHIN THE PROJECT LIMITS PRIOR TO ANY EXCAVATION FOR THE PAVEMENT CONSTRUCTION CAN BEGIN. THE PIPE LOCATION WILL BE ADEQUATELY MARKED TO PREVENT ANY INADVERTENT DAMAGE DURING CONSTRUCTION. ANY DAMAGED SUSTAINED WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED AT HIS EXPENSE.



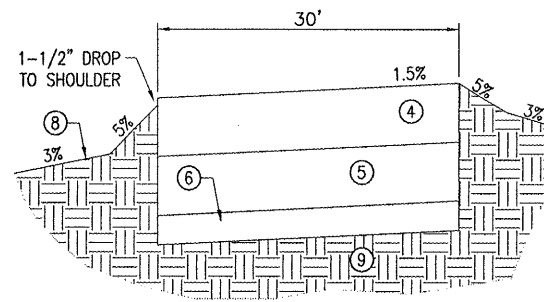
POINT DATA TABLE				
NO.	DESCRIPTION	STATION	OFFSET	EASTING
1	PAVEMENT EDGE	47+67.00	146' LT.	1402874.7815
2	PAVEMENT EDGE	47+67.00	BASELINE	2160302.0925
3	PAVEMENT EDGE	48+17.50	BASELINE	1402728.4243
4	PAVEMENT EDGE	48+17.50	67.75' RT.	2160351.5478
5	PAVEMENT EDGE	52+11.25	146' LT.	1402660.6761
6	RADIUS RETURN	52+11.25	144' LT.	2160351.0636
7	CENTER OF RADIUS	52+11.25	89' LT.	1402871.6066
8	RADIUS RETURN	51+56.25	89' LT.	2160746.3312
9	PAVEMENT EDGE	51+54.25	89' LT.	1402869.6067
10	PAVEMENT EDGE	51+54.25	67.75' RT.	2160746.3169

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.

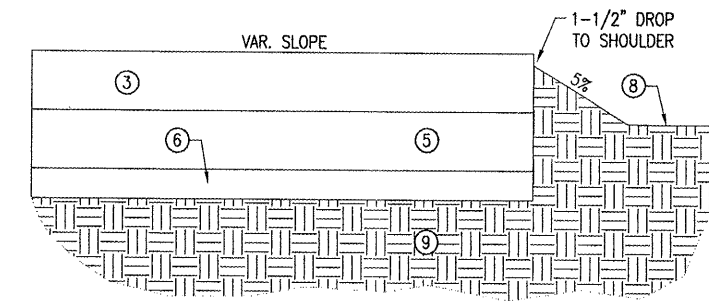
CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.

MB026

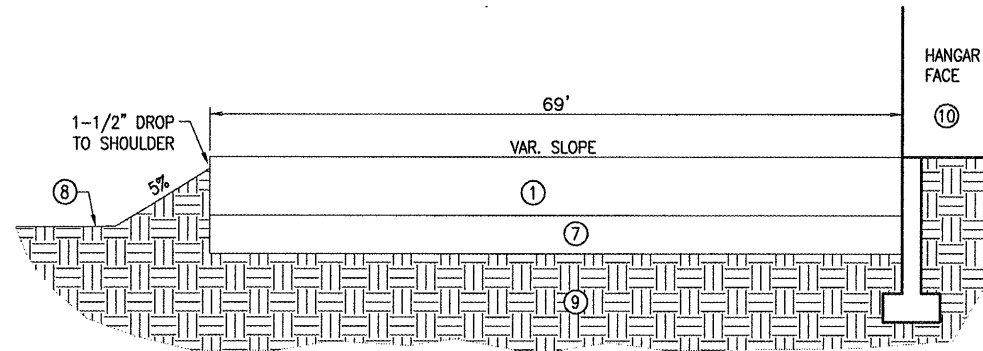
DATE		REVISION							
<p>MACOMB MUNICIPAL AIRPORT MACOMB, ILLINOIS</p>									
<p>IL. PROJ.: MGB-3798 A.I.P. PROJ.: 3-17-0064-B16</p>									
<p>HEB Project No. 08A0004D_0800 Elevation R=121CON.DWG Scale 1"=30' Date 02/26/08</p>									
LAYOUT		RAW		BAK		CAH		04/24/08	
DRAWN		02/26/08		02/26/08		02/26/08		02/26/08	
REVIEWED		02/26/08		02/26/08		02/26/08		02/26/08	
<p>HANSON Hanson Professional Services Inc. 1525 South Sixth Street Springfield, Illinois 62703-2886 Offices Nationwide</p>									
<p>CONSTRUCT RAMP EXPANSION</p>					<p>PROPOSED CONSTRUCTION PLAN</p>				
<p>5</p>									
<p>5 of 32 sheets</p>									



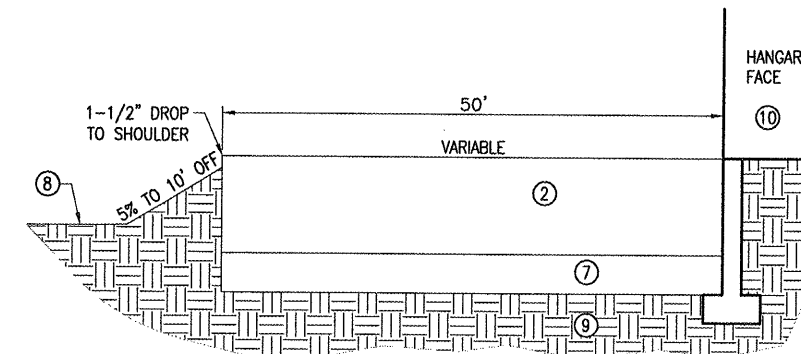
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"NOT TO SCALE"



EXISTING TYPICAL SECTION "B-B"
"NOT TO SCALE"



EXISTING TYPICAL SECTION "C-C"
"NOT TO SCALE"



EXISTING TYPICAL SECTION "D-D"
"NOT TO SCALE"

LEGEND FOR TYPICAL SECTIONS

- ① EXISTING 6" PC CONCRETE PAVEMENT
- ② EXISTING 10" PC CONCRETE PAVEMENT
- ③ EXISTING 5.5"-6" BITUMINOUS SURFACE COURSE
- ④ EXISTING 6.5" BITUMINOUS SURFACE COURSE
- ⑤ EXISTING 6" BITUMINOUS BASE COURSE
- ⑥ EXISTING 3" CRUSHED AGGREGATE BASE COURSE
- ⑦ EXISTING 4" CRUSHED AGGREGATE BASE COURSE
- ⑧ EXISTING GRADE
- ⑨ EXISTING SUBGRADE
- ⑩ EXISTING BUILDING
- ⑪ PROPOSED 6" PC CONCRETE PAVEMENT
- ⑫ PROPOSED 4" CRUSHED AGGREGATE BAS COURSE
- ⑬ PROPOSED SEPARATION FABRIC

UNCLASSIFIED EXCAVATION NOTE

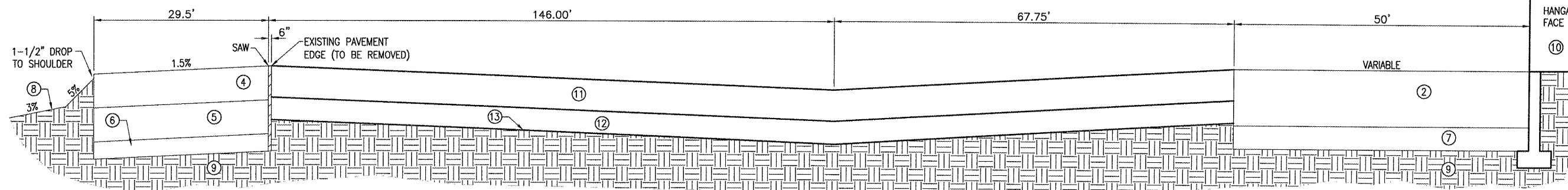
A SMALL AMOUNT OF BITUMINOUS PAVEMENT REMOVAL IS REQUIRED AS PART OF THE PROJECT. THE AREAS OF PAVEMENT TO BE REMOVED INCLUDE THE REMOVAL ALONG THE EDGES OF THE EXISTING PAVEMENT (6-IN WIDTH NOM.) THAT WILL ABUT THE PROPOSED PCC PAVEMENT AND THE REMOVAL OF AN EXISTING TAXIWAY FILLET LEADING TO THE EXISTING GENERAL AVIATION RAMP. THIS WORK IS NECESSARY TO COMPLETE THE EXCAVATION (CORE) FOR THE PROPOSED PCC PAVEMENT AND ARE THEREFORE TO BE CONSIDERED INCIDENTAL TO ITEM AR152410 UNCLASSIFIED EXCAVATION, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. THIS INCLUDES THE BITUMINOUS AND AGGREGATE MATERIALS. THESE MATERIALS WILL BE DISPOSED OF OFF SITE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.

THE SAWCUT OF THE PAVEMENT ALONG THE EDGES SHALL BE PAID FOR UNDER ITEM AR401665 - BITUMINOUS PAVEMENT SAWING, PER L.F.

PAVING NOTE:

ALL P.C.C. PAVEMENT WILL BE CONSTRUCTED IN ACCORDANCE WITH ITEM 501 OF THE RECURRING SPECIAL PROVISIONS ADOPTED JULY 1, 2004.

ALL CRUSHED AGGREGATE BASE COURSE WILL BE CONSTRUCTED IN ACCORDANCE WITH ITEM 209 OF THE SUPPLEMENTAL SPECIFICATIONS ADOPTED JULY 1, 2004.



PROPOSED TYPICAL SECTION "E-E"
"NOT TO SCALE"

DATE	REVISION	BY

MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS
A.I.P. PROJ.: 3-17-064-B16
IL PROJ.: MGB-3798

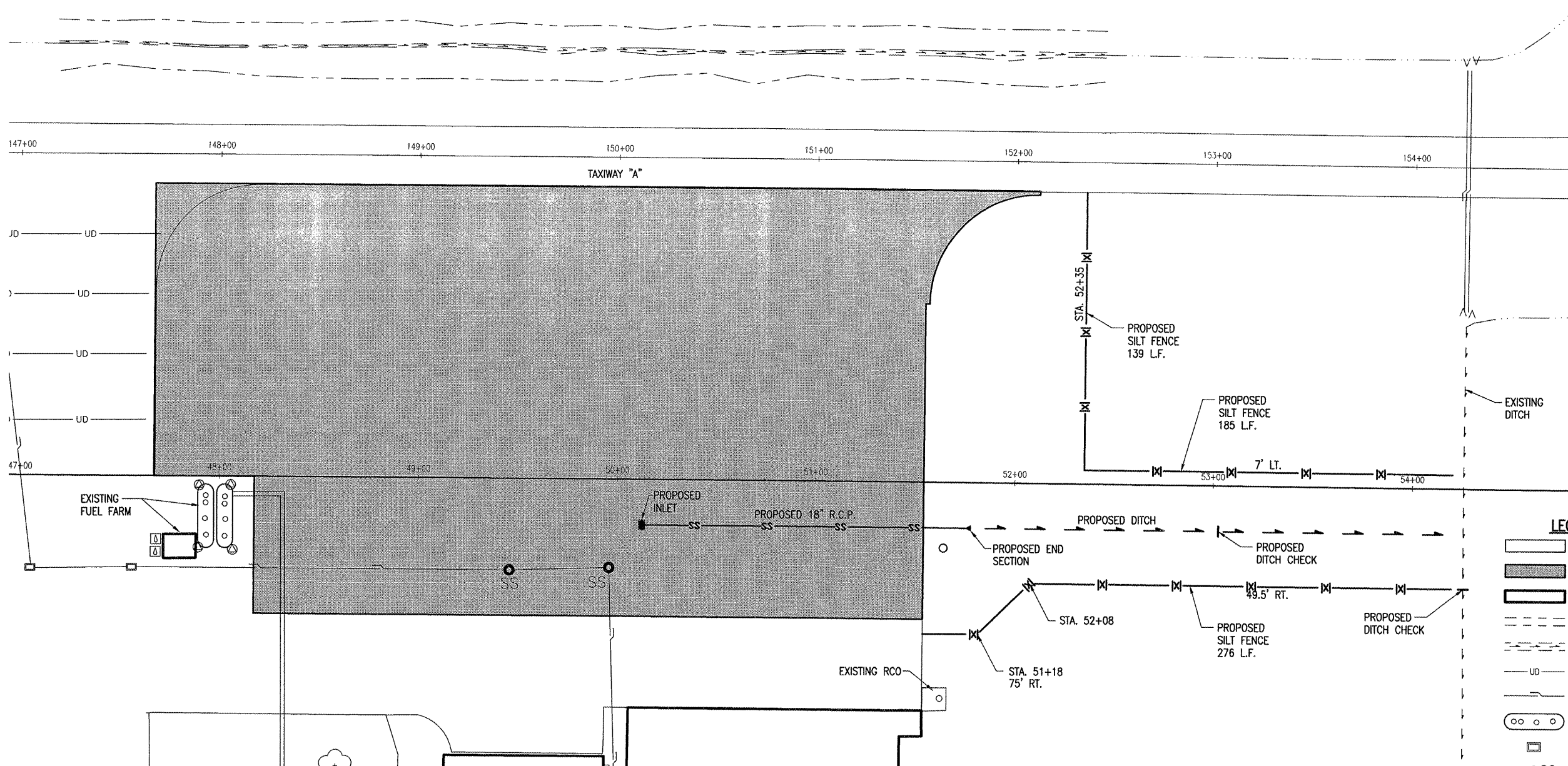
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FILENAME R-52.LTYPE.DWG	BAK	03/10/08
SCALE NOT TO SCALE	CAH	04/24/08
DATE 03/10/08		



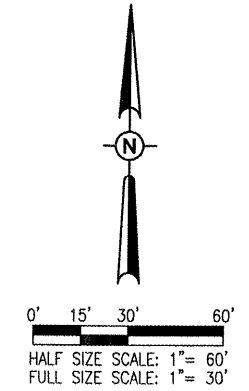
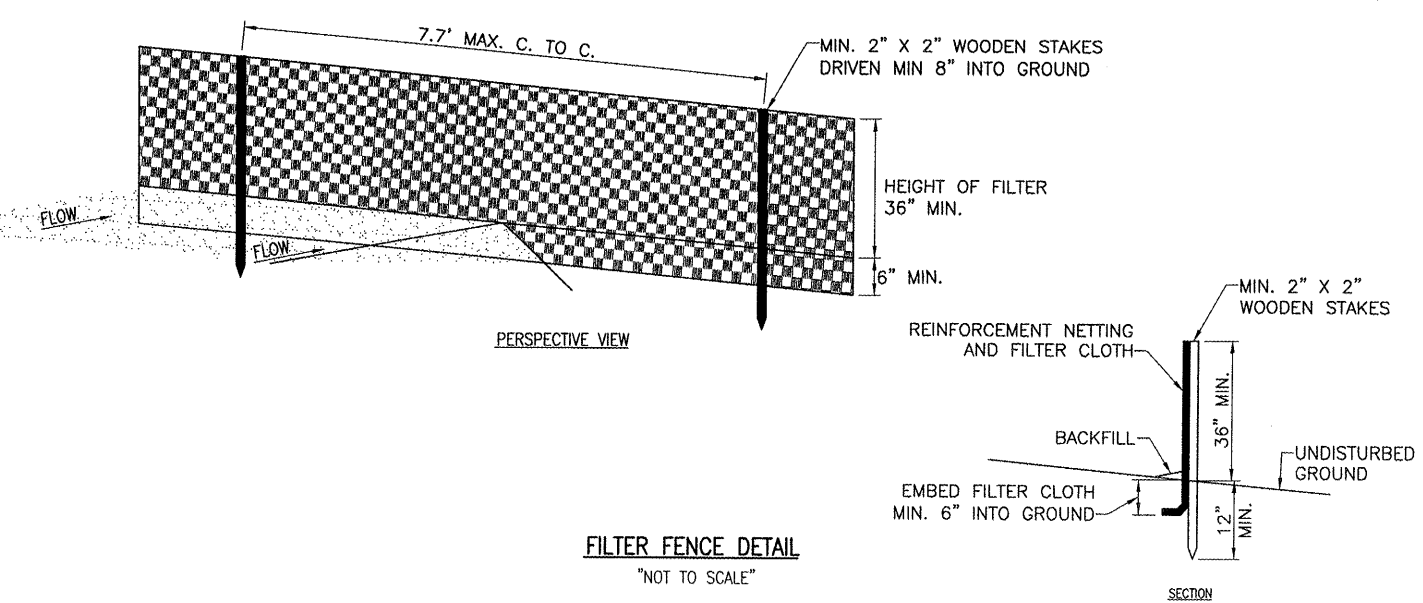
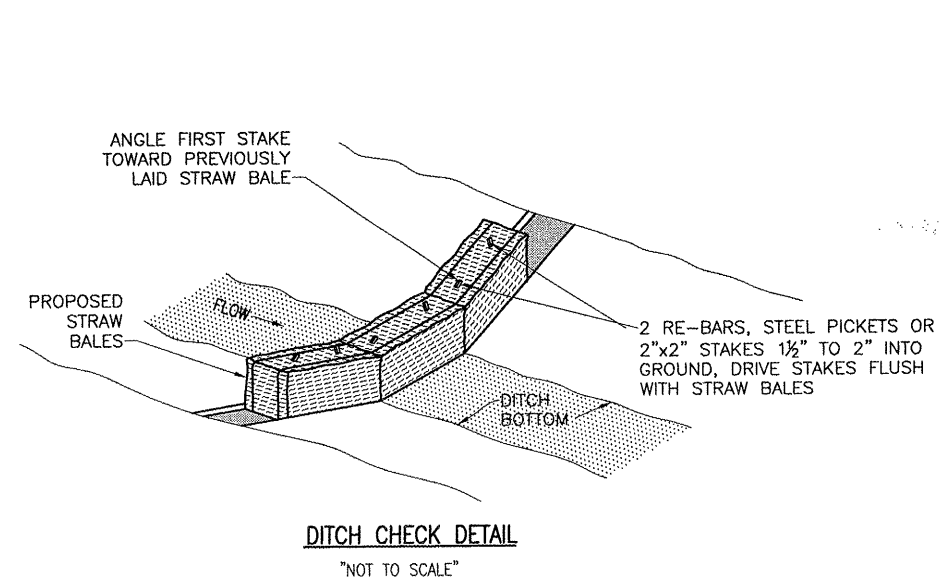
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Springfield, Illinois 62703-2886
Offices Nationwide

CONSTRUCT RAMP EXPANSION AND PROPOSED TYPICAL SECTIONS

APR 24, 2008 5:04 PM WALLE00723
I:\AIRPORTS\MACOMB\08A0004\DESIGN\CADD\SHEETS\R-52.TYP.DWG - Layout1



- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED IMPROVEMENTS
 - EXISTING BUILDING
 - EXISTING TOP OF DITCH
 - EXISTING BOTTOM OF DITCH
 - EXISTING UNDERDRAIN
 - EXISTING STORM SEWER
 - EXISTING UNDERGROUND FUEL TANK
 - EXISTING INLET
 - EXISTING STORM SEWER MANHOLE
 - EXISTING FUEL PUMP
 - EXISTING FUEL MONITORING WELL
 - PROPOSED SILT FENCE



APR 24, 2008 5:11 PM WALLE00723
I:\AIRPORTS\MACOMB\08A0004\DESIGN\CADD\SHEETS\R-181 SWP.DWG - SWPP

DATE	REVISION	BY

**MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS**

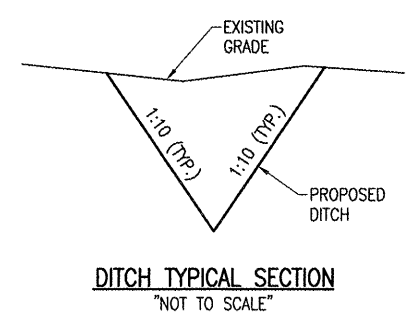
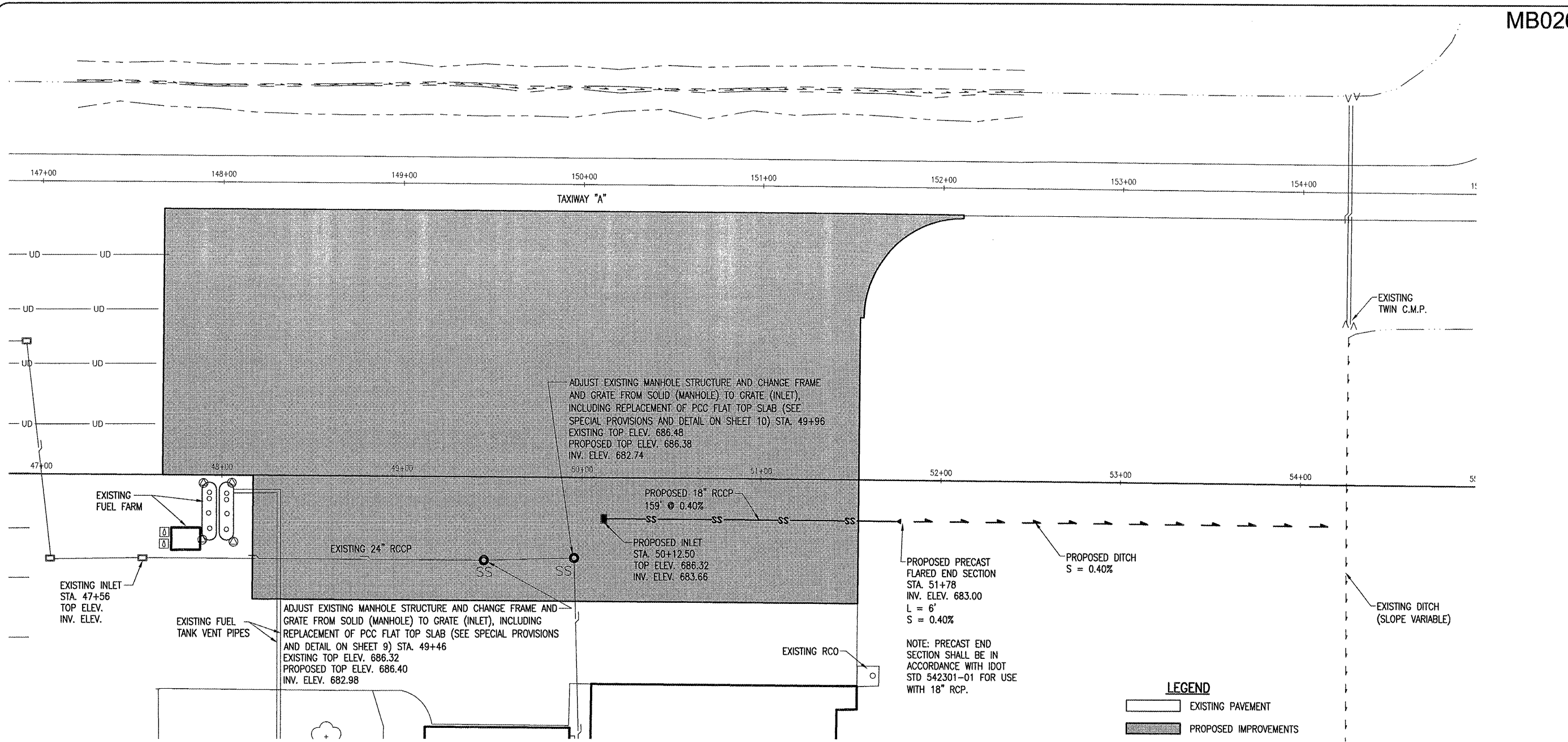
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IEL Project No. 08A0004D_0800 Filename R-181 SWP.DWG Scale 1" = 30' Date 03/11/08	RAW 03/11/08 BAK 03/11/08 CAH 04/24/08
LAYOUT DRAWN REVIEWED	CAH

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Offices Nationwide

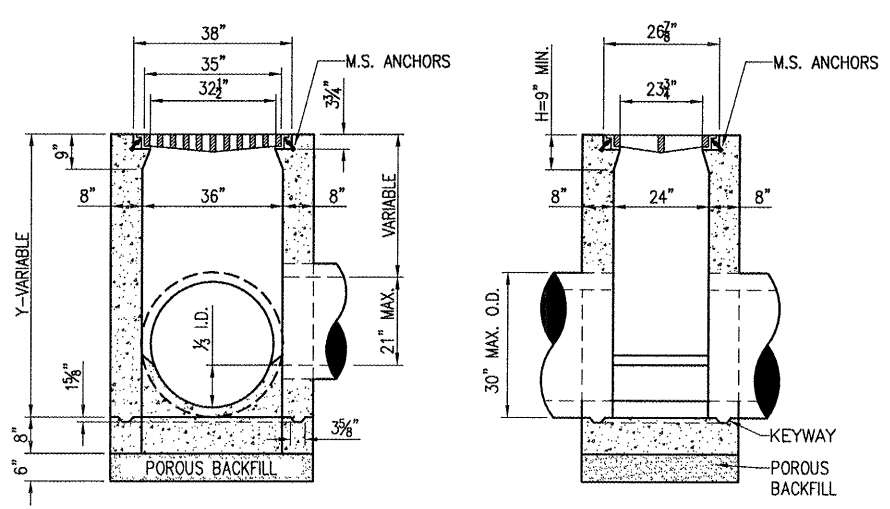
**CONSTRUCT
RAMP EXPANSION**

**PROPOSED
STORM WATER POLLUTION
PREVENTION PLAN**



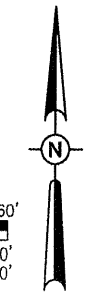
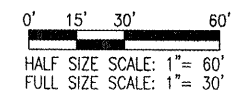
POROUS BACKFILL MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THE SUPPLEMENTAL SPECIFICATIONS

FRAME AND GRATE SHALL BE NEENAH R-3475, OR APPROVED EQUAL



PROPOSED INLET DETAIL

- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED IMPROVEMENTS
 - EXISTING BUILDING
 - EXISTING TOP OF DITCH
 - EXISTING BOTTOM OF DITCH
 - EXISTING UNDERDRAIN
 - EXISTING STORM SEWER
 - EXISTING UNDERGROUND FUEL TANK
 - EXISTING INLET
 - EXISTING STORM SEWER MANHOLE (TO BE ADJUSTED)
 - EXISTING FUEL PUMP
 - EXISTING FUEL MONITORING WELL
 - PROPOSED STORM SEWER
 - PROPOSED DITCH
 - PROPOSED INLET
 - PROPOSED FLARED END SECTION

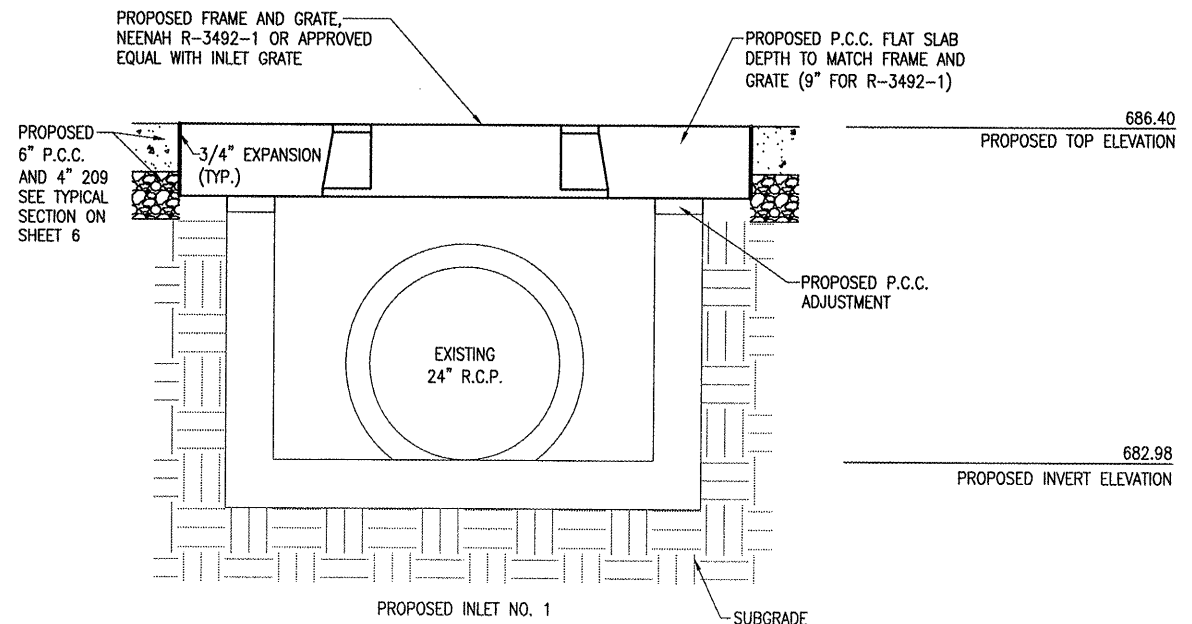
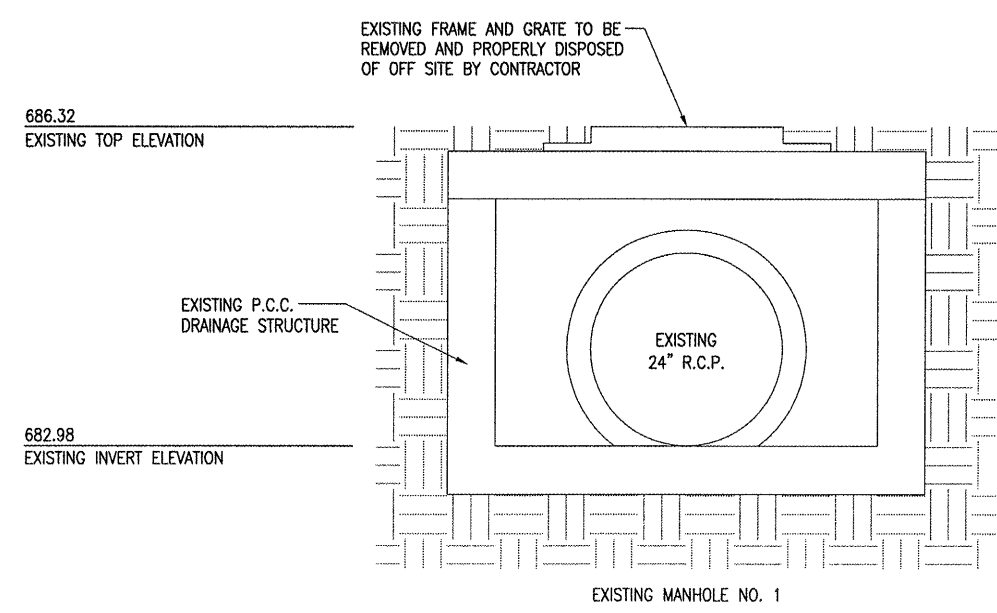
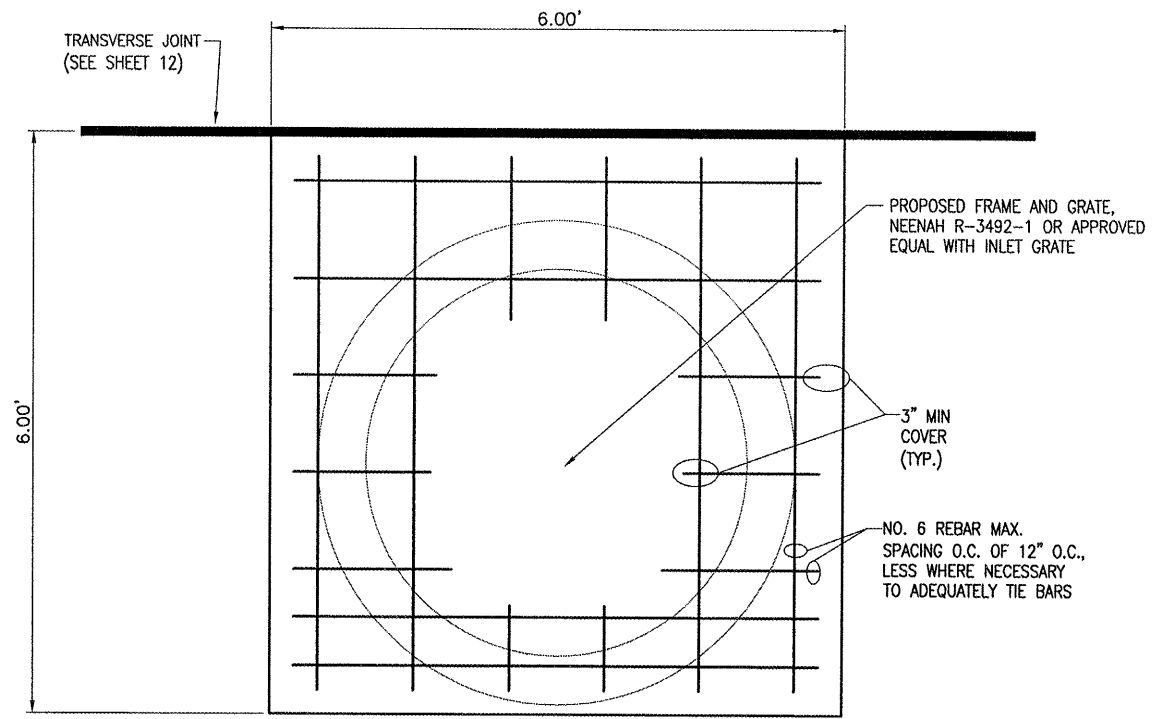


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DATE	REVISION	BY	
<p>MACOMB MUNICIPAL AIRPORT MACOMB, ILLINOIS</p> <p>IL. PROJ.: MGB-3798 A.I.P. PROJ.: 3-17-0064-B16</p>			
<p>HEL Project No. 08A0004D_0800 Elevation R-131DRN.DWG Scale 1" = 30' Date 03/11/08</p>		<p>LAYOUT 03/11/08 DRAWN BAK 03/11/08 REVIEWED CAH 04/24/08</p>	
<p>Hanson Professional Services Inc. Springfield, Illinois 62703-2888 Offices Nationwide</p>			
<p>CONSTRUCT RAMP EXPANSION</p>		<p>PROPOSED DRAINAGE PLAN</p>	
<p>8</p> <p>8 of 32 sheets</p>			

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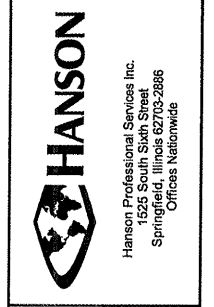
NOTE:
 PAYMENT FOR ALL LABOR; EQUIPMENT; MATERIALS, INCLUDING FRAME, GRATE, P.C.C.; JOINT SEALANT, AND REINFORCING; AND REMOVAL OF EXISTING TOP, FRAME, AND GRATE, SHALL BE MADE IN ACCORDANCE WITH AR751940 - ADJUST INLET, PER EACH.

REVISION	DATE	BY

**MACOMB MUNICIPAL AIRPORT
 MACOMB, ILLINOIS**

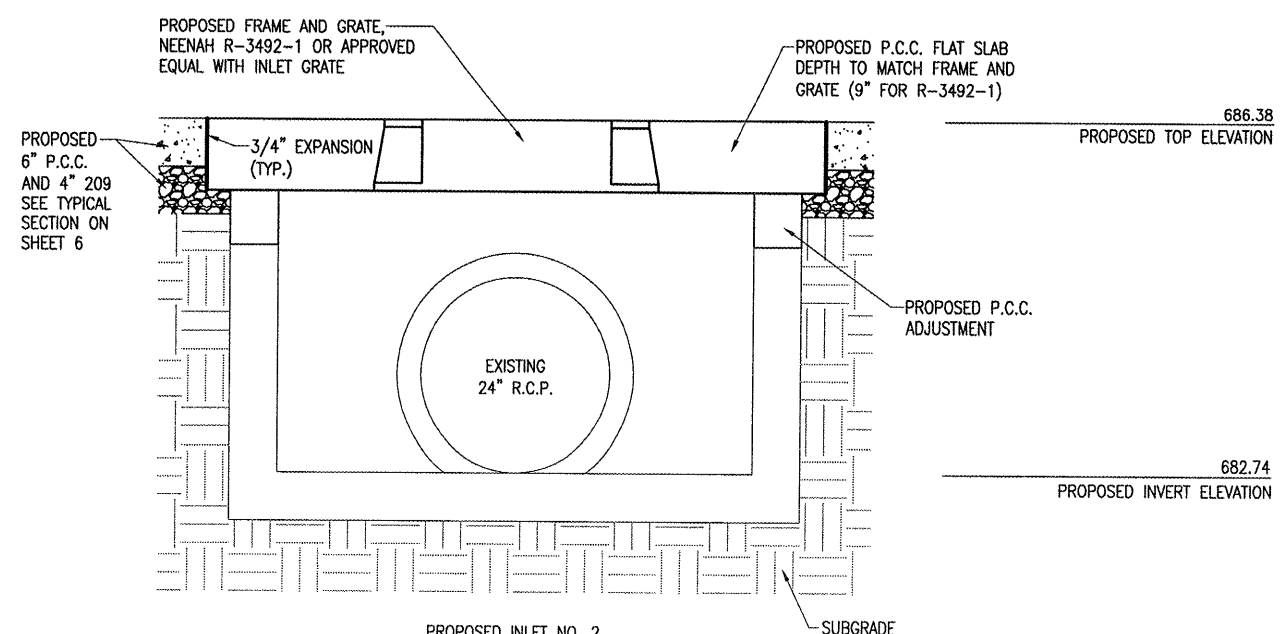
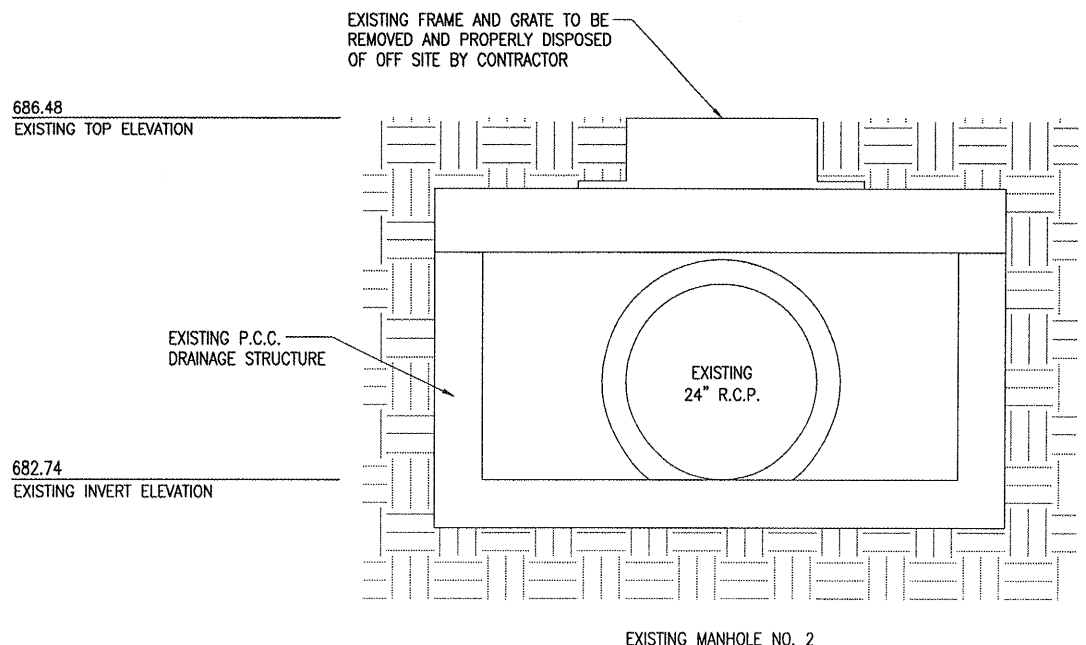
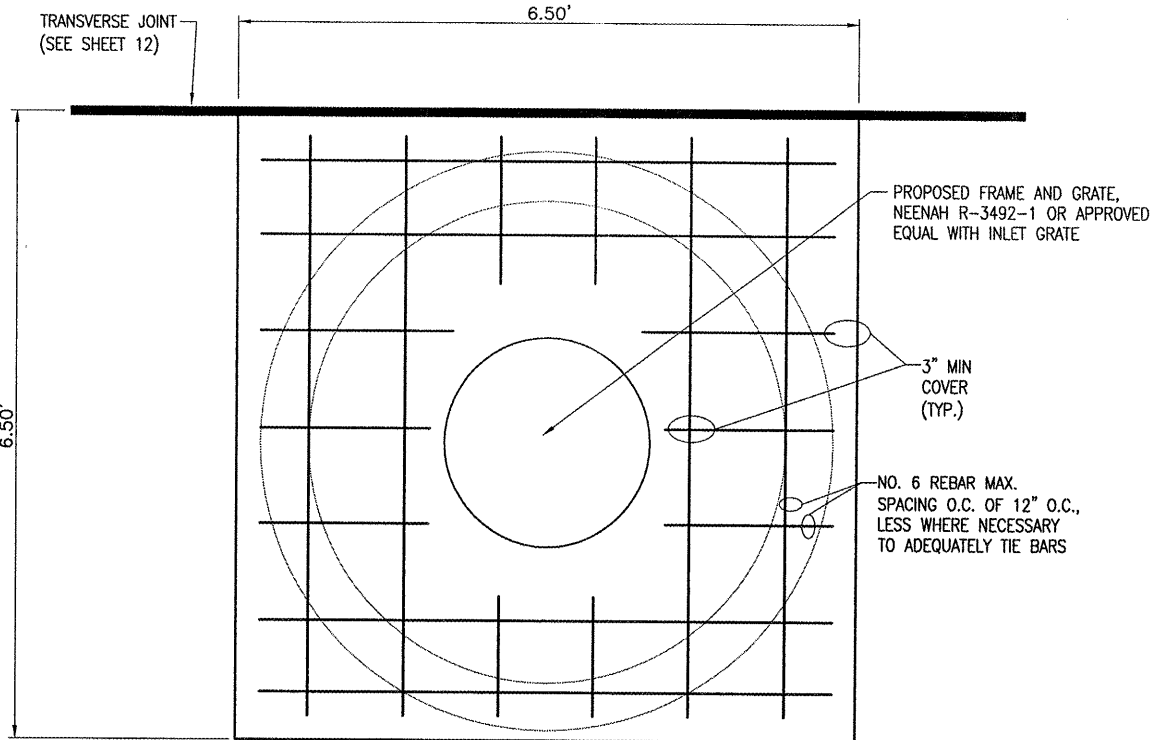
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I.L. Project No. 08A0004D_0800 Filename: R-531DRN.DWG Scale: NOT TO SCALE Date: 03/11/08	LAYOUT RAW 03/11/08 BAK 03/11/08 CAH 04/24/08
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**CONSTRUCT
 APRON EXPANSION**

**PROPOSED
 DRAINAGE
 DETAILS**



NOTE:
 PAYMENT FOR ALL LABOR; EQUIPMENT; MATERIALS, INCLUDING FRAME, GRATE, P.C.C.; JOINT SEALANT, AND REINFORCING; AND REMOVAL OF EXISTING TOP, FRAME, AND GRATE, SHALL BE MADE IN ACCORDANCE WITH AR751940 - ADJUST INLET, PER EACH.

DATE	REVISION	BY	
MACOMB MUNICIPAL AIRPORT MACOMB, ILLINOIS			
A.I.P. PROJ.: 3-17-0064-B16			
IL PROJ.: MOB-3798			
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Date 03/11/08			
LAYOUT	RAW	03/11/08	
DRAWN	BAK	03/11/08	
REVIEWED	CAH	04/24/08	
			
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CONSTRUCT RAMP EXPANSION		PROPOSED DRAINAGE DETAILS	
10			
10 of 32 sheets			

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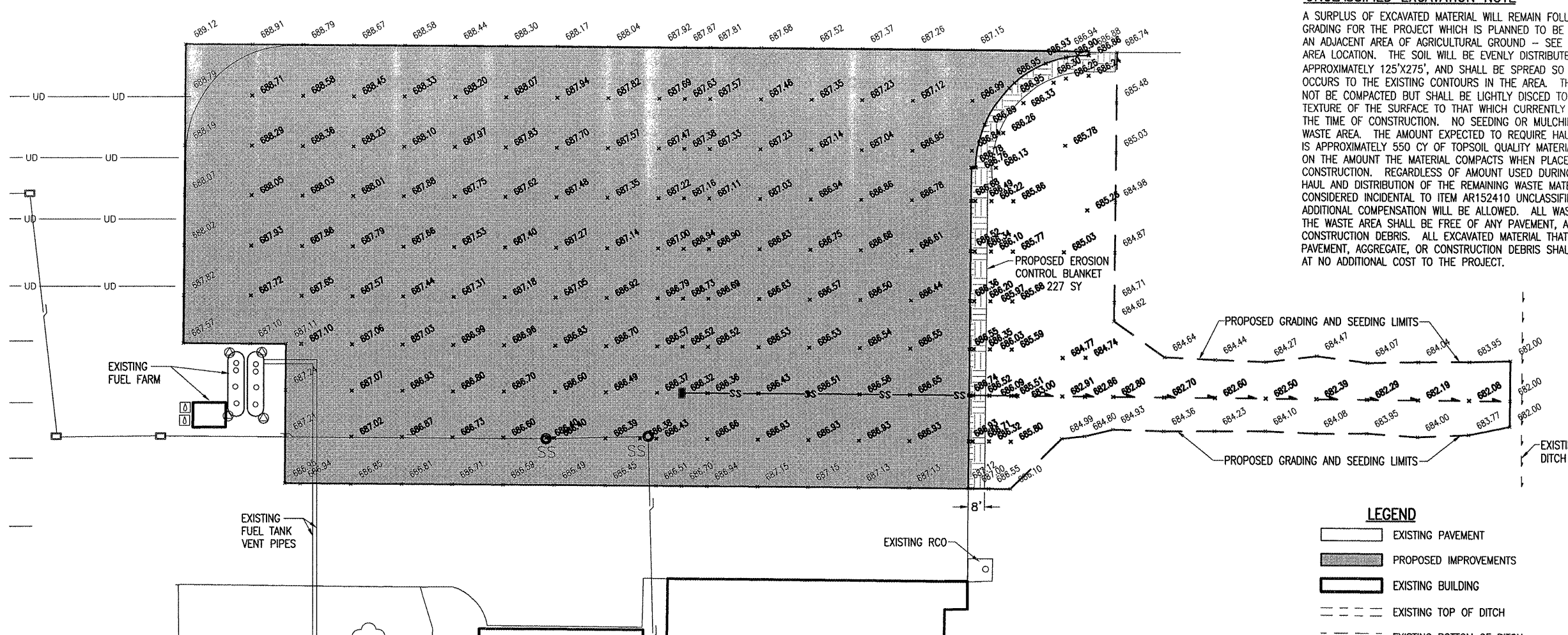
EROSION CONTROL BLANKET NOTES

AN EROSION CONTROL MATERIAL (EXCELSIOR BLANKET) EIGHT FEET IN WIDTH WILL BE INSTALLED AT THE SHOULDER ADJUSTMENT LOCATIONS ADJACENT TO THE EDGE OF THE PAVEMENT AS SHOWN ON THIS SHEET AND IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THIS ITEM OF WORK SHALL BE PAID FOR UNDER ITEM AR156531 "EROSION CONTROL BLANKET" _____ PER S.Y.

UNCLASSIFIED EXCAVATION NOTE

A SURPLUS OF EXCAVATED MATERIAL WILL REMAIN FOLLOWING THE FINAL GRADING FOR THE PROJECT WHICH IS PLANNED TO BE DISTRIBUTED ON SITE, IN AN ADJACENT AREA OF AGRICULTURAL GROUND - SEE SHEET 3 FOR WASTE AREA LOCATION. THE SOIL WILL BE EVENLY DISTRIBUTED OVER AN AREA APPROXIMATELY 125'X275', AND SHALL BE SPREAD SO THAT MINIMAL CHANGE OCCURS TO THE EXISTING CONTOURS IN THE AREA. THE WASTE AREA SHALL NOT BE COMPACTED BUT SHALL BE LIGHTLY DISCED TO REDUCE THE TYPICAL TEXTURE OF THE SURFACE TO THAT WHICH CURRENTLY EXISTS IN THE FIELD AT THE TIME OF CONSTRUCTION. NO SEEDING OR MULCHING IS EXPECTED IN THE WASTE AREA. THE AMOUNT EXPECTED TO REQUIRE HAUL TO THE WASTE AREA IS APPROXIMATELY 550 CY OF TOPSOIL QUALITY MATERIAL, BUT WILL DEPEND ON THE AMOUNT THE MATERIAL COMPACTS WHEN PLACED AS FILL DURING CONSTRUCTION. REGARDLESS OF AMOUNT USED DURING CONSTRUCTION, THE HAUL AND DISTRIBUTION OF THE REMAINING WASTE MATERIAL SHALL BE CONSIDERED INCIDENTAL TO ITEM AR152410 UNCLASSIFIED EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. ALL WASTE MATERIAL PLACED IN THE WASTE AREA SHALL BE FREE OF ANY PAVEMENT, AGGREGATE, OR CONSTRUCTION DEBRIS. ALL EXCAVATED MATERIAL THAT DOES CONTAIN PAVEMENT, AGGREGATE, OR CONSTRUCTION DEBRIS SHALL BE HAULED OFF SITE AT NO ADDITIONAL COST TO THE PROJECT.



LEGEND

- EXISTING PAVEMENT
- PROPOSED IMPROVEMENTS
- EXISTING BUILDING
- EXISTING TOP OF DITCH
- EXISTING BOTTOM OF DITCH
- EXISTING UNDERDRAIN
- EXISTING STORM SEWER
- EXISTING UNDERGROUND FUEL TANK
- EXISTING INLET
- EXISTING STORM SEWER MANHOLE (TO BE ADJUSTED)
- EXISTING FUEL PUMP
- EXISTING FUEL MONITORING WELL
- PROPOSED EROSION CONTROL BLANKET
- PROPOSED GRADING AND SEEDING LIMITS
- PROPOSED STORM SEWER
- PROPOSED DITCH
- EXISTING GRADE
- PROPOSED GRADE
- PROPOSED INLET
- PROPOSED FLARED END SECTION

901 SEEDING NOTES

THE PROPOSED SEEDING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ITEM 901 "SEEDING" AS STATED ON PAGE 120 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

ALL DISTURBED AREAS LOCATED WITHIN THE PROPOSED GRADING AND SEEDING LIMITS WILL BE SEEDING IN ACCORDANCE WITH THE ABOVE NOTED SPECIFICATION. ALL AREAS OUTSIDE THE DESIGNATED GRADING AND SEEDING LIMITS WILL ALSO BE SEEDING BUT AT THE CONTRACTOR'S OWN EXPENSE.

ALL MATERIALS AND/OR DEBRIS RESULTING FROM THE SEEDING OPERATIONS WILL BE REMOVED FROM THE PAVEMENTS AND MISCELLANEOUS STRUCTURES PRIOR TO OPENING THE RUNWAY.

901-3.4 MAINTENANCE OF SEEDED AREAS. DELETE THE SECOND PARAGRAPH OF THIS SECTION AND ADD THE FOLLOWING:

"THE CONTRACTOR WILL BE REQUIRED TO ESTABLISH A GOOD STAND OF GRASS OF UNIFORM COLOR AND DENSITY TO THE SATISFACTION OF THE RESIDENT ENGINEER. IF AT THE TIME WHEN THE CONTRACT HAS BEEN OTHERWISE COMPLETED, IT IS NOT POSSIBLE TO MAKE AN ADEQUATE DETERMINATION OF COLOR, DENSITY, AND UNIFORMITY OF SUCH STAND OF GRASS, THE ITEM OF WORK WILL BE REVIEWED AT A LATER DATE DETERMINED BY THE ILLINOIS DIVISION OF AERONAUTICS."

DATE SEEDING COMPLETED _____

THE PROPOSED SEEDING WILL BE PAID FOR UNDER ITEMS:
AR901510 SEEDING _____ PER ACRES

908 MULCHING NOTES

THE PROPOSED MULCHING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ITEM 908 "MULCHING" AS STATED ON PAGE 127 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THIS ITEM SHALL CONSIST OF THE FURNISHING, TRANSPORTING, AND PLACING MULCH OVER THE SEEDING AREA. DISTURBED AREAS OUTSIDE THE GRADING LIMITS SHALL ALSO BE MULCHED AND PARTICIPATION WILL BE THE SAME AS FOR SEEDING AREAS.

908-2.1 MULCH MATERIAL: THE CONTRACTOR SHALL USE HYDROMULCH EXCLUSIVELY AS THE TYPE OF MULCH MATERIAL TO BE USED ON THIS PROJECT.

908-3.1 MULCHING: THE HYDRAULIC MULCH SHALL BE APPLIED AS A SLURRY OF 2,500 POUNDS OF MULCH AND NOT LESS THAN 2,500 GALLONS OF WATER PER ACRE.

908-3.4 STRUCTURE CLEANING: AFTER THE PROPOSED MULCH HAS BEEN APPLIED, THE CONTRACTOR WILL CLEAN THE MULCH OFF ALL STRUCTURES (DRAINAGE, ELECTRICAL, LIGHTS, ETC.).

DATE MULCHING COMPLETED _____

THE PROPOSED MULCHING WILL BE PAID FOR UNDER ITEMS:
AR908510 MULCHING _____ PER ACRES

BY	
REVISION	
DATE	

MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS

A.I.P. PROJ.: 3-17-0064-B16

IL PROJ.: MOB-3798

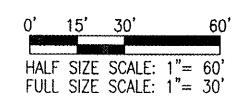
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Filename: R-191STK.DWG
Scale: 1" = 30'
Date: 03/11/08
LAYOUT
DRAWN
REVIEWED
RAW 03/11/08
BAK 03/11/08
CAH 04/24/08



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Springfield, Illinois 62708-2886
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CONSTRUCT
RAMP EXPANSION

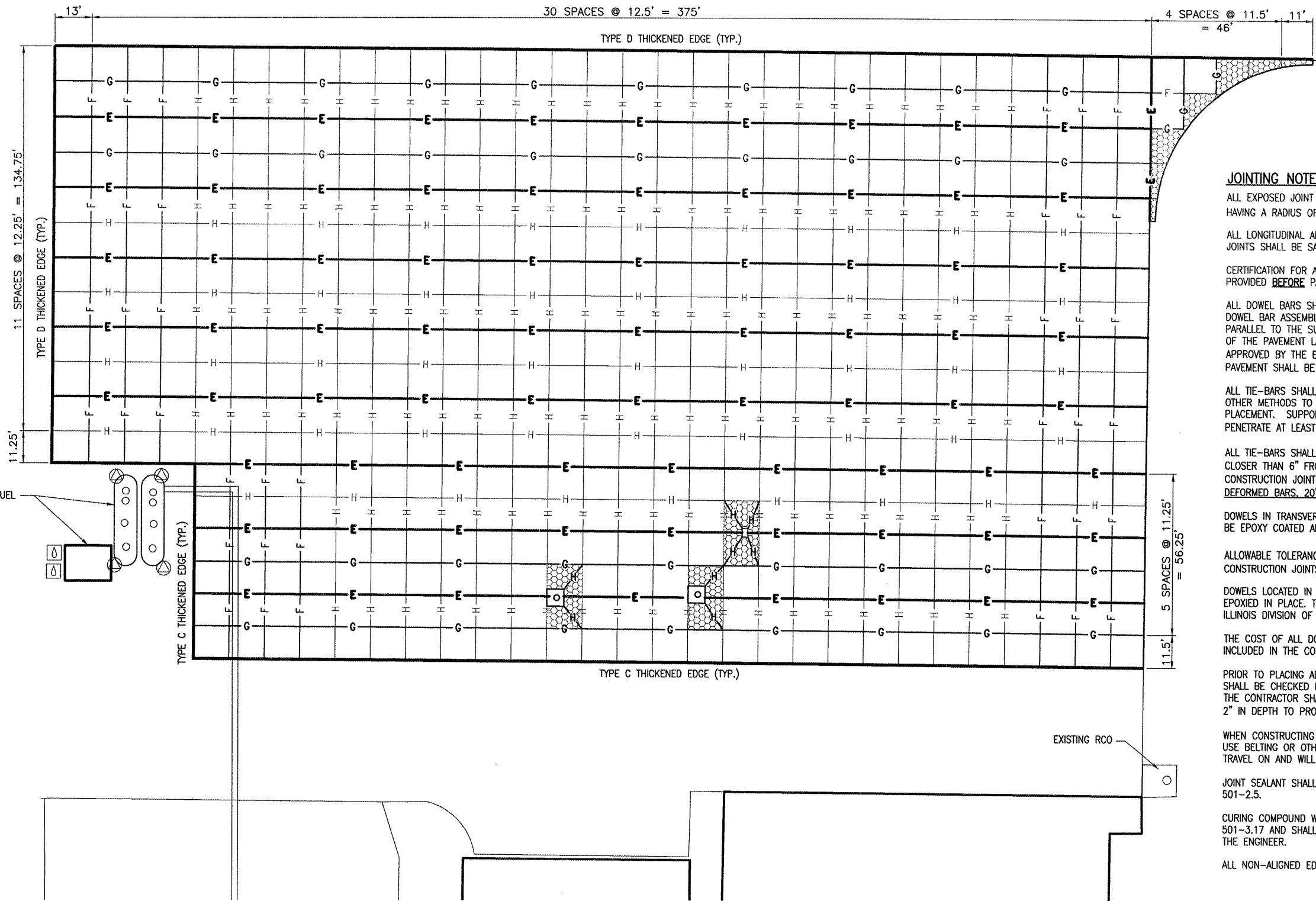
PROPOSED
STAKING
PLAN



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APR 25, 2008 10:17 AM WALLE00723
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MB026



JOINTING NOTES

ALL EXPOSED JOINT EDGES SHALL BE EDGED WITH AN APPROVED TOOL HAVING A RADIUS OF 1/4" OR STONED TO PRODUCE THE 1/8" CHAMFER.

ALL LONGITUDINAL AND TRANSVERSE CONTRACTION AND CONSTRUCTION JOINTS SHALL BE SAWED.

CERTIFICATION FOR ALL REINFORCING STEEL, DOWELS AND REBAR SHALL BE PROVIDED **BEFORE** PAVING BEGINS WITH **NO EXCEPTION**.

ALL DOWEL BARS SHALL BE SECURELY HELD IN PLACE BY MEANS OF A DOWEL BAR ASSEMBLY WHICH WILL INSURE THAT THEY WILL REMAIN PARALLEL TO THE SURFACE OF THE PAVEMENT AND TO THE CENTERLINES OF THE PAVEMENT LANES. THE DOWEL BAR ASSEMBLIES SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. DOWELS FOR THE 6" PAVEMENT SHALL BE 3/4" DIA., 18" LENGTH AND 12" SPACING.

ALL TIE-BARS SHALL BE SECURELY HELD IN PLACE BY SUPPORT PINS OR OTHER METHODS TO PREVENT SHIFTING DURING AND AFTER CONCRETE PLACEMENT. SUPPORT PINS SHALL BE OF SUFFICIENT LENGTH TO PENETRATE AT LEAST 6" INTO THE SUBGRADE.

ALL TIE-BARS SHALL BE PLACED AT A POINT NOT EXCEEDING 15" OR CLOSER THAN 6" FROM A TRANSVERSE, CONTRACTION, EXPANSION, OR CONSTRUCTION JOINT AND SPACED 36" ON CENTERS AND SHALL BE NO. 4 DEFORMED BARS, 20" IN LENGTH.

DOWELS IN TRANSVERSE, CONTRACTION, AND CONSTRUCTION JOINTS SHALL BE EPOXY COATED AND HALF THE LENGTH GREASED WITH A HEAVY GREASE.

ALLOWABLE TOLERANCES FOR GROOVE DEPTH WILL BE +1/8" FOR CONSTRUCTION JOINTS AND +1/4" FOR CONTRACTION JOINTS.

DOWELS LOCATED IN THE CONSTRUCTION JOINTS WILL BE DRILLED AND EPOXIED IN PLACE. THE EPOXY MATERIAL MUST BE APPROVED BY THE ILLINOIS DIVISION OF AERONAUTICS

THE COST OF ALL DOWEL BARS, TIE-BARS, SAWING AND SEALING SHALL BE INCLUDED IN THE COST OF THE P.C.C. PAVEMENT.

PRIOR TO PLACING ADJACENT PAVEMENT SECTIONS, THE VERTICAL EDGE SHALL BE CHECKED FOR TRUENESS IF THE FACE IS BURRED OR IRREGULAR, THE CONTRACTOR SHALL GRIND, STONE OR SAW THE FACE A MINIMUM OF 2" IN DEPTH TO PRODUCE A SMOOTH AND STRAIGHT EDGE.

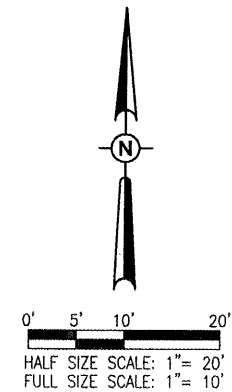
WHEN CONSTRUCTING "FILL-IN" PAVEMENT LANES THE CONTRACTOR SHALL USE BELTING OR OTHER PROTECTIVE MATERIAL FOR THE PAVING MACHINE TO TRAVEL ON AND WILL ROPE THE TRANSVERSE JOINTS.

JOINT SEALANT SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS ITEM 501-2.5.

CURING COMPOUND WILL BE AS SPECIFIED IN THE SPECIFICATIONS, ITEM 501-3.17 AND SHALL BE APPROVED PRIOR TO THE PAVING OPERATION BY THE ENGINEER.

ALL NON-ALIGNED EDGES WILL BE SAWED FULL DEPTH.

- LEGEND**
- EXISTING PAVEMENT
 - PROPOSED IMPROVEMENTS
 - EXISTING BUILDING
 - EXISTING UNDERGROUND FUEL TANK
 - EXISTING FUEL PUMP
 - EXISTING FUEL MONITORING WELL
 - PROPOSED THICKENED EDGE EXPANSION JOINT (SEE LABEL FOR TYPE)
 - PROPOSED TYPE E TIED CONSTRUCTION JOINT
 - PROPOSED TYPE G HINGED CONTRACTION JOINT
 - PROPOSED TYPE H DUMMY CONTRACTION JOINT
 - PROPOSED TYPE F DOWELED CONTRACTION JOINT
 - PROPOSED MESH 6" X 6" (W5 X W5)



DATE	REVISION	BY

**MACOMB MUNICIPAL AIRPORT
 MACOMB, ILLINOIS**

A.I.P. PROJ.: 3-17-0064-B16

ILL. PROJ.: MGB-3788

IEL Project No. 08A0004D_0800 Filename R-161\INT.DWG Scale 1" = 30' Date 03/11/08	RAW 03/11/08 BAK 03/11/08 CAH 04/24/08
LAYOUT	
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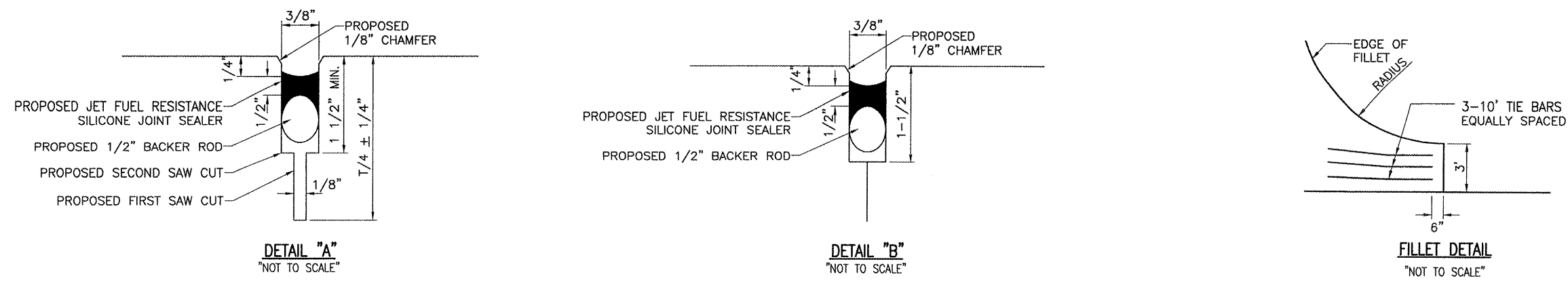
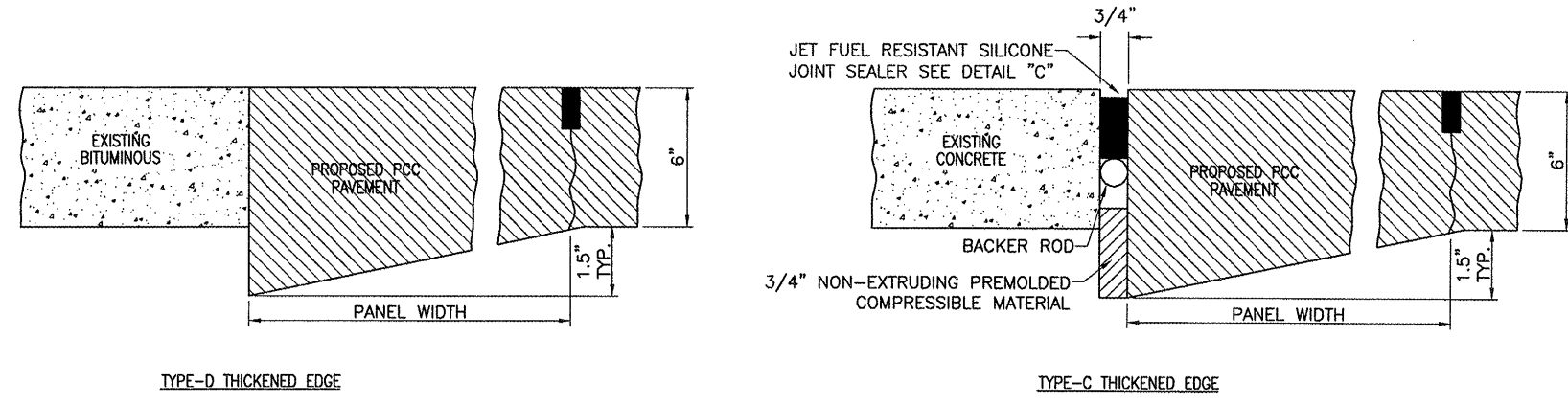
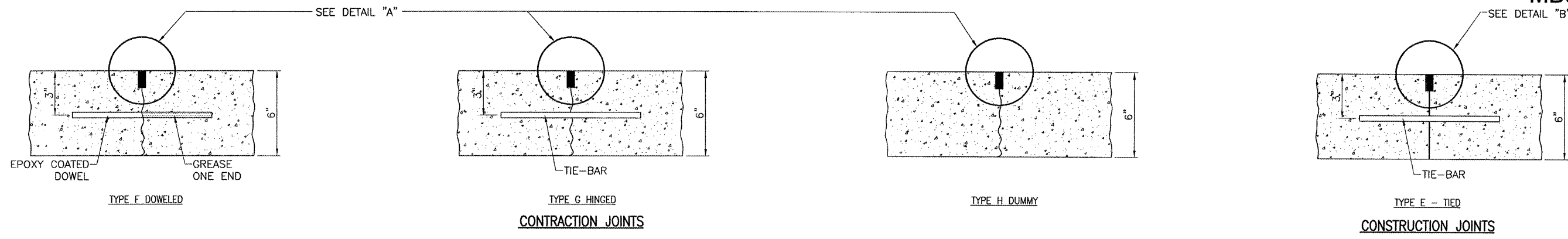
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 1525 South Swan Street
 Springfield, Illinois 62703-2888
 Offices Nationwide

**CONSTRUCT
 RAMP EXPANSION**

PROPOSED
 JOINTING
 PLAN

12

12 of 32 sheets



DATE	REVISION	BY

MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS

IL PROJ.: MOB-3798 A.I.P. PROJ.: 3-17-0064-B16

HEL Project No. 08A0004D.08000	RAW	03/11/08
Filename: R-561.JNT.DWG	BAK	03/11/08
Scale: NOT TO SCALE	CAH	04/24/08
Date: 03/11/08		

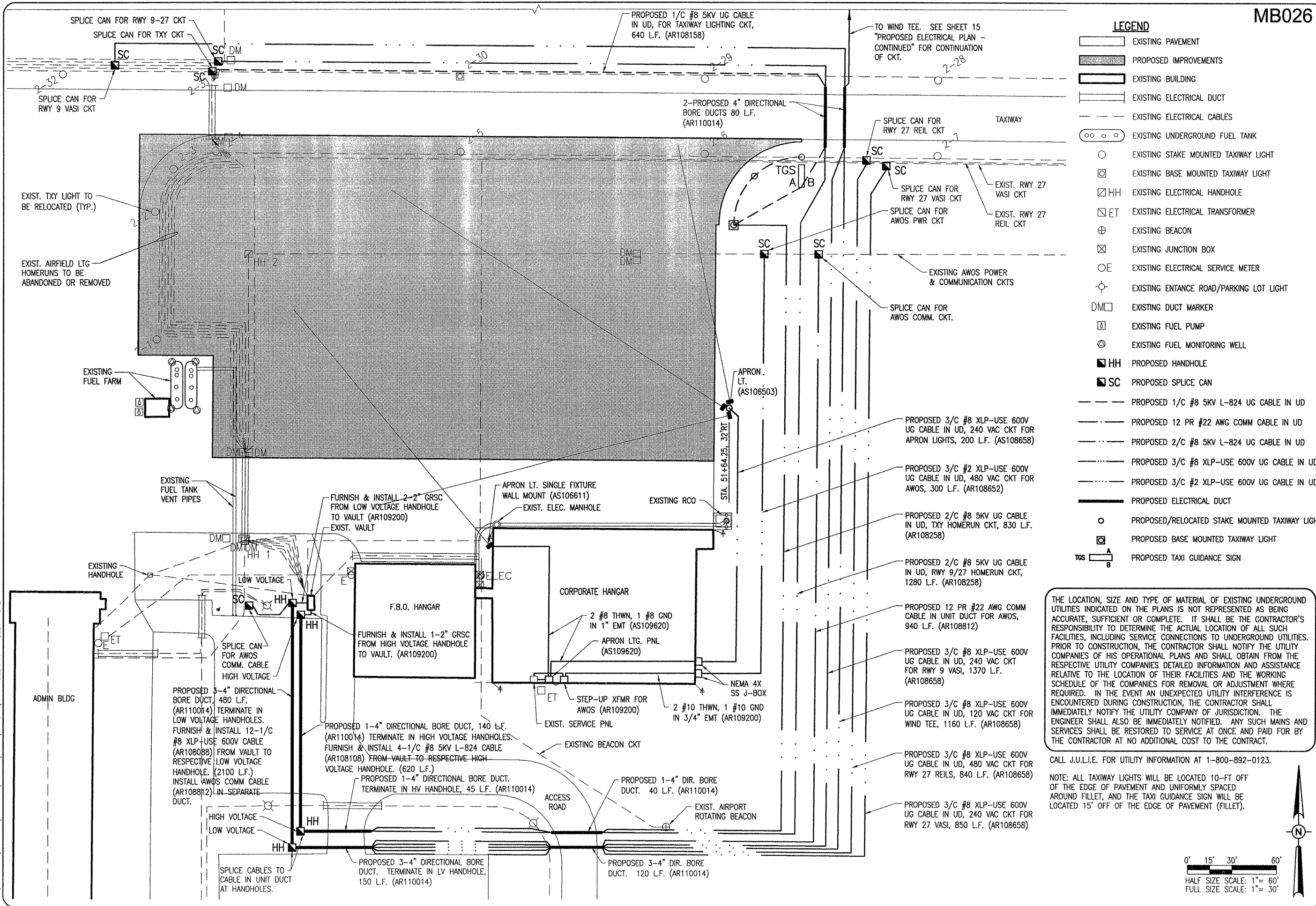


CONSTRUCT RAMP EXPANSION

PROPOSED JOINTING DETAILS

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APR 25, 2008 10:23 AM WALL00723
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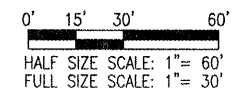
MB026

LEGEND

- EXISTING PAVEMENT
- PROPOSED IMPROVEMENTS
- EXISTING BUILDING
- EXISTING ELECTRICAL DUCT
- EXISTING ELECTRICAL CABLES
- EXISTING UNDERGROUND FUEL TANK
- EXISTING STAKE MOUNTED TAXIWAY LIGHT
- EXISTING BASE MOUNTED TAXIWAY LIGHT
- EXISTING ELECTRICAL HANDHOLE
- EXISTING ELECTRICAL TRANSFORMER
- EXISTING BEACON
- EXISTING JUNCTION BOX
- EXISTING ELECTRICAL SERVICE METER
- EXISTING ENTRANCE ROAD/PARKING LOT LIGHT
- EXISTING DUCT MARKER
- EXISTING FUEL PUMP
- EXISTING FUEL MONITORING WELL
- PROPOSED HANDHOLE
- PROPOSED SPLICE CAN
- PROPOSED 1/2" #8 5KV L-824 UG CABLE IN UD
- PROPOSED 12 PR #22 AWG COMM CABLE IN UD
- PROPOSED 2/2" #8 5KV L-824 UG CABLE IN UD
- PROPOSED 3/2" #8 5KV L-824 UG CABLE IN UD
- PROPOSED 3/2" #8 XLP-USE 600V UG CABLE IN UD
- PROPOSED 3/2" #8 XLP-USE 600V UG CABLE IN UD
- PROPOSED 3/2" #8 XLP-USE 600V UG CABLE IN UD
- PROPOSED ELECTRICAL DUCT
- PROPOSED/RELOCATED STAKE MOUNTED TAXIWAY LIGHT
- PROPOSED BASE MOUNTED TAXIWAY LIGHT
- PROPOSED TAXI GUIDANCE SIGN

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.
 NOTE: ALL TAXIWAY LIGHTS WILL BE LOCATED 10'-FT OFF OF THE EDGE OF PAVEMENT AND UNIFORMLY SPACED AROUND FILLET, AND THE TAXI GUIDANCE SIGN WILL BE LOCATED 15' OFF OF THE EDGE OF PAVEMENT (FILLET).



BY	REVISION	DATE

**MACOMB MUNICIPAL AIRPORT
 MACOMB, ILLINOIS**

IL PROJ.: MOB-3798 A.I.P. PROJ.: 3-17-0064-B16

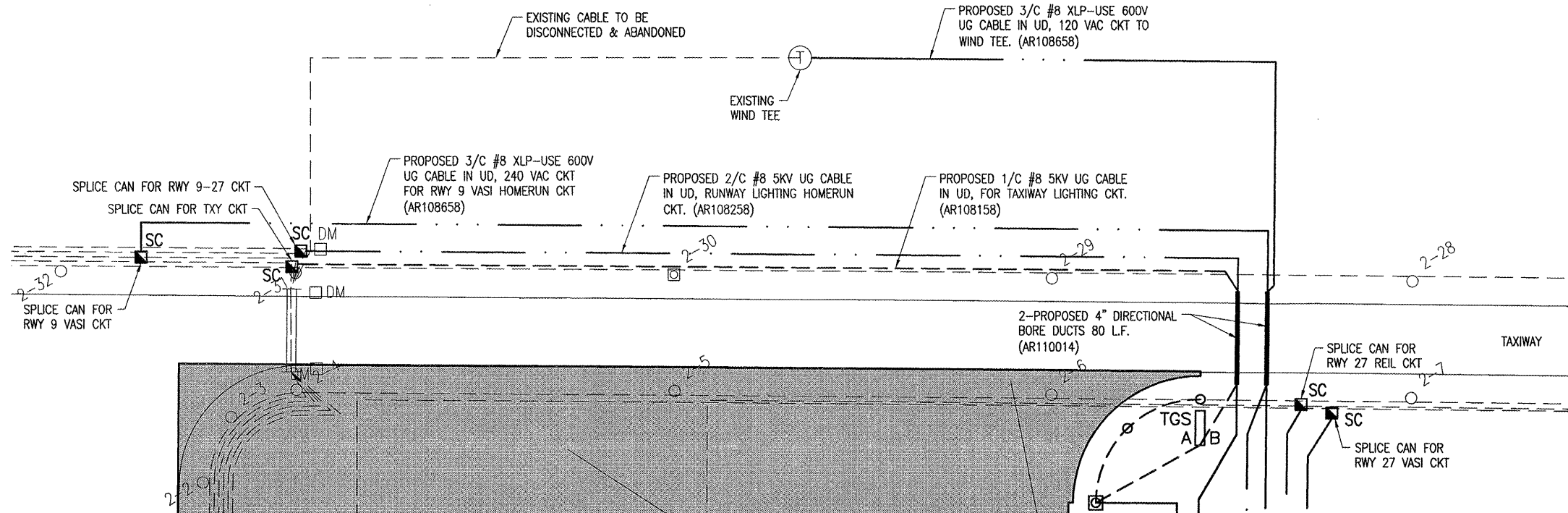
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DATE: 04/11/08	DATE: 04/09/08	DATE: 04/11/08
LAYOUT	KNL	RAW
DRAWN	MY	RAW
REVIEWED		



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**CONSTRUCT
 RAMP EXPANSION**

**PROPOSED
 ELECTRICAL
 PLAN**



LEGEND

	EXISTING PAVEMENT
	PROPOSED IMPROVEMENTS
	EXISTING BUILDING
	EXISTING ELECTRICAL DUCT
	EXISTING ELECTRICAL CABLES
	EXISTING UNDERGROUND GAS TANK
	EXISTING STAKE MOUNTED TAXIWAY LIGHT
	EXISTING BASE MOUNTED TAXIWAY LIGHT
	EXISTING ELECTRICAL HANDHOLE
	EXISTING ELECTRICAL TRANSFORMER
	EXISTING BEACON
	EXISTING JUNCTION BOX
	EXISTING ELECTRICAL SERVICE METER
	EXISTING ENTRANCE ROAD/PARKING LOT LIGHT
	EXISTING DUCT MARKER
	EXISTING GAS PUMP
	EXISTING GAS MONITORING WELL
	PROPOSED HANDHOLE
	PROPOSED SPLICE CAN
	PROPOSED 1/C #8 5KV UG CABLE IN UD
	PROPOSED 12 PR #22 AWG COMM CABLE IN UD
	PROPOSED 2/C #8 5KV UG CABLE IN UD
	PROPOSED 3/C #8 XLP-USE 600V UG CABLE IN UD
	PROPOSED 3/C #2 XLP-USE 600V UG CABLE IN UD
	PROPOSED ELECTRICAL DUCT
	PROPOSED/RELOCATED STAKE MOUNTED TAXIWAY LIGHT
	PROPOSED BASE MOUNTED TAXIWAY LIGHT
	PROPOSED TAXI GUIDANCE SIGN

ELECTRICAL NOTES

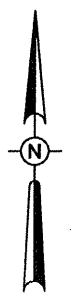
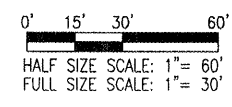
- CABLES:**
- ALL PROPOSED RUNWAY & TAXIWAY LIGHTING CABLE SHALL BE LOCATED 12' FROM THE PAVEMENT EDGE UNLESS OTHERWISE STATED BY THE RESIDENT ENGINEER.
 - ALL PROPOSED CABLE SHALL BE PLACED 18" MINIMUM BELOW THE PROPOSED GRADE.
 - LOW-VOLTAGE WIRING SHALL MAINTAIN SEPARATION FROM HIGH-VOLTAGE WIRING. LOW-VOLTAGE WIRING AND HIGH-VOLTAGE WIRING SHALL NOT BE INSTALLED IN THE SAME RACEWAY, DUCT, HANDHOLE, MANHOLE, OR JUNCTION BOX.
 - IN AREAS WHERE THERE IS A CONGESTION OF CABLES OR WHERE THE PROPOSED CABLE CROSSES AN EXISTING CABLE, THE PROPOSED CABLE WILL BE HAND DUG INTO PLACE. AT ALL OTHER LOCATIONS, THE PROPOSED CABLE IN UNIT DUCT MAY BE EITHER TRENCHED OR PLOWED INTO PLACE. THE TRENCHING AND/OR PLOWING WILL BE CONSIDERED INCIDENTAL TO THE PROPOSED CABLE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
 - ALL CABLE SHOWN BY A (-----) DASHED LINE ARE EXISTING CIRCUITS THAT ARE NOT PART OF THIS CONTRACT. THE LOCATION OF THESE CABLES ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND IDENTIFY THESE EXISTING CIRCUITS PRIOR TO THE INSTALLATION OF THE PROPOSED CABLE. ANY DAMAGE TO THE EXISTING CIRCUITS SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE RESIDENT ENGINEER AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
 - LOW VOLTAGE AIRFIELD CABLES AND CABLE IN UNIT DUCT SHALL HAVE COLOR CODED INSULATION AS FOLLOWS:

120 VAC CIRCUITS	
PHASE A	BLACK
PHASE B	RED OR BLACK WITH RED TAPE
NEUTRAL	WHITE
GROUND	GREEN
240 VAC CIRCUITS	
PHASE A	BLACK
PHASE B	RED
GROUND	GREEN
480 VAC CIRCUITS (480 VAC LINE TO NEUTRAL)	
HOT	BLACK WITH BROWN TAPE
NEUTRAL	WHITE OR GRAY
GROUND	GREEN

- LIGHTS:**
- ALL PROPOSED TAXIWAY LIGHTS WILL BE PLACED 10' FROM THE PAVEMENT EDGE UNLESS SHOWN OTHERWISE.
 - ALL PROPOSED TAXIWAY LIGHTS WILL BE CONSTRUCTED AT THE LOCATION SHOWN ON THIS SHEET AND IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET ** AND THE SPECIFICATIONS.
 - ALL PROPOSED TAXIWAY LIGHTS WILL USE 360° BLUE LENSES.
- DUCT:**
- ALL PROPOSED 2-WAY & 4-WAY CONCRETE DUCTS WILL BE CONSTRUCTED AT THE LOCATIONS SHOWN ON SHEET NO. 14 AND IN ACCORDANCE WITH THE DETAIL ON SHEET NO. 16 AND THE SPECIFICATIONS.
 - THE TOP OF THE PROPOSED 2-WAY & 4-WAY DUCTS WILL BE LOCATED 24" MIN. BELOW THE FINISHED PAVEMENT GRADE.
 - DURING CONSTRUCTION, THE EXISTING RUNWAY AND TAXIWAY LIGHTING CIRCUITS MAY BE INOPERABLE DURING THE DAY. HOWEVER, THE CIRCUIT SHALL BE FUNCTIONING AT THE END OF THE CONSTRUCTION DAY. THE CONTRACTOR WILL DO WHATEVER IS NECESSARY TO HAVE THE CIRCUITS ACTIVE AT THE END OF THE CONSTRUCTION DAY. THE WORK WILL BE CONSIDERED AS PART OF THE LIGHTING INSTALLATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

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.



BY	
REVISION	
DATE	

MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS

A.I.P. PROJ.: 3-17-0064-B16
IL. PROJ.: MQB-3798

I.E.I. Project No. 08A0004D_0800 Filename: R-142ELE.DWG Scale: 1" = 30' Date: 04/11/08	LAYOUT: KNL DRAWN: MV REVIEWED: RAW
04/09/08	04/09/08



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CONSTRUCT
RAMP EXPANSION


PROPOSED
ELECTRICAL
PLAN - CONTINUED

BY	
REVISION	
DATE	

MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS

A.I.P. PROJ.: 3-17-0084-B16
ILL. PROJ.: MOB-3798

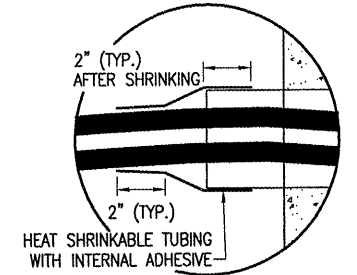
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Element	R-541ELE.DWG
Scale	NONE
Date	04-11-08
LAYOUT	KNL 01/24/08
DRAWN	MV 01/24/08
REVIEWED	RAW 04/11/08



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CONSTRUCT
RAMP EXPANSION

PROPOSED
ELECTRICAL DETAILS
SHEET 1



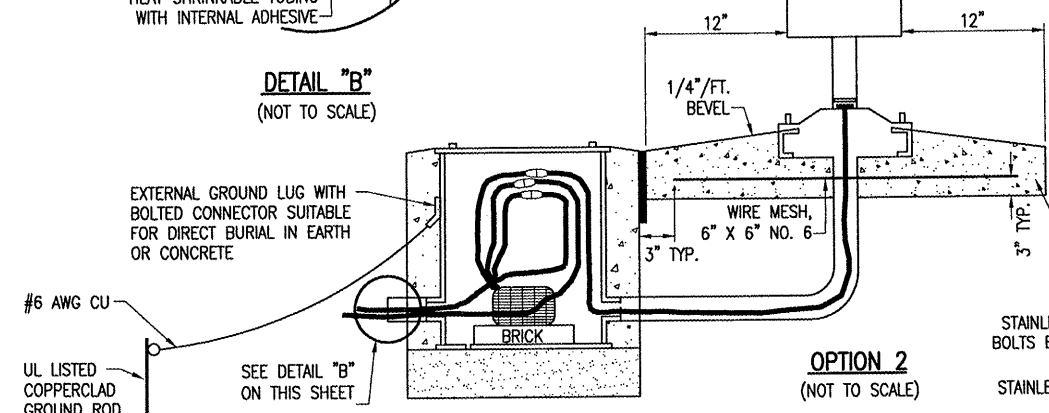
DETAIL "B"
(NOT TO SCALE)

L-858 SIGN

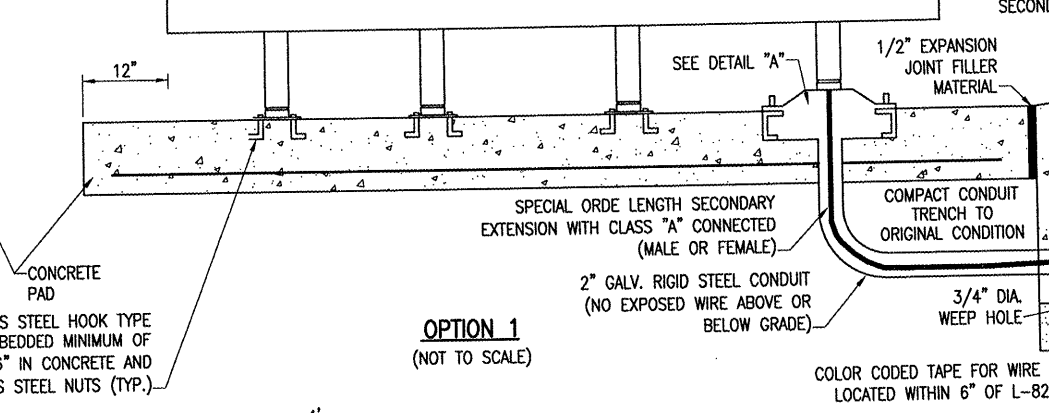
NOTES:
SEE LIGHTING LAYOUT SHEET(S) FOR
SIGN LEGEND, LOCATION, TYPE, SIZE,
STYLE, AND CLASS.

NUMBER AND SPACING OF LEGS AS
PER MANUFACTURER'S REQUIREMENTS.

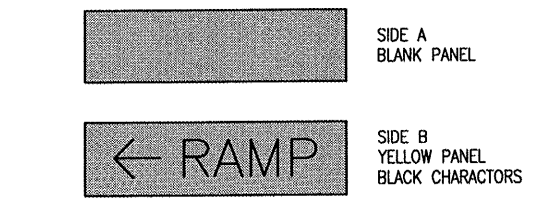
THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS
HAS BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER
NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER, IN
RESPECT TO THE ACCURACY OR SUFFICIENCY OF THE INFORMATION AND
THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT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



OPTION 2
(NOT TO SCALE)

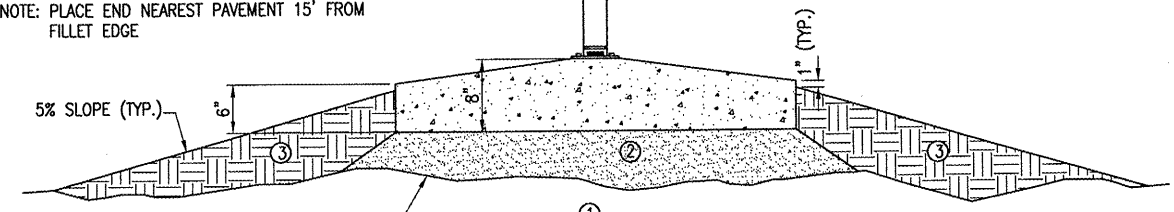


OPTION 1
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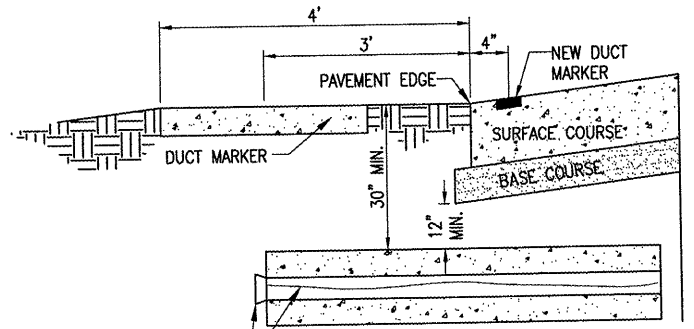
TAXI GUIDANCE SIGN PANEL DETAIL

NOTE: PLACE END NEAREST PAVEMENT 15' FROM
FILLET EDGE



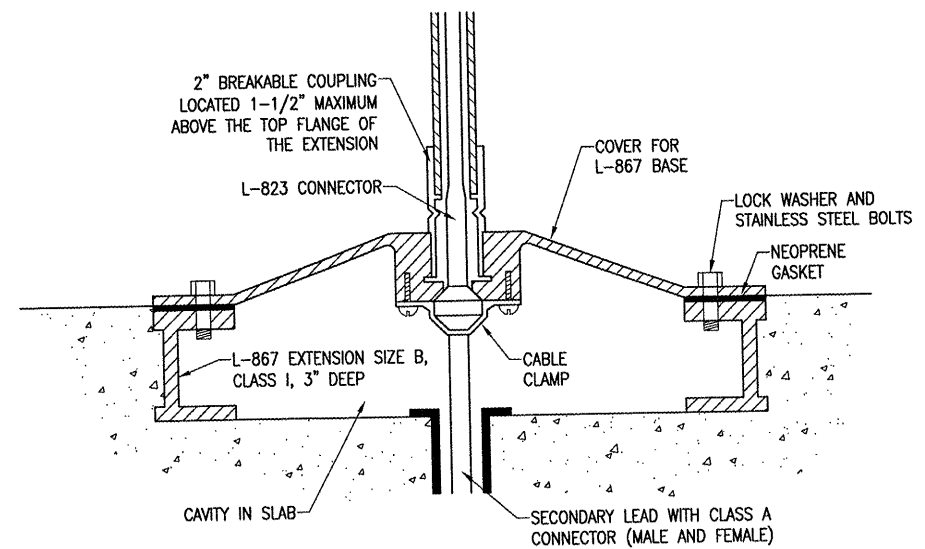
SIGN DETAIL
(NOT TO SCALE)

- ① EXISTING SOD TO BE STRIPPED AND REMOVED
- ② SAND BACKFILL, VARIABLE DEPTH
- ③ PROPOSED TOPSOIL BACKFILL MATERIAL



UNDERGROUND ELECTRICAL DUCT

(NOT TO SCALE)



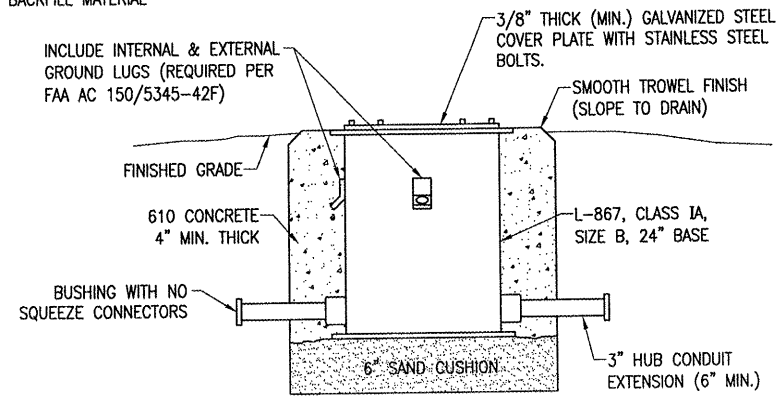
DETAIL "A"
(NOT TO SCALE)

GENERAL NOTES

SEE LIGHTING LAYOUT SHEET FOR SIGN LEGEND, LOCATION,
TYPE, SIZE, STYLE, AND CLASS.

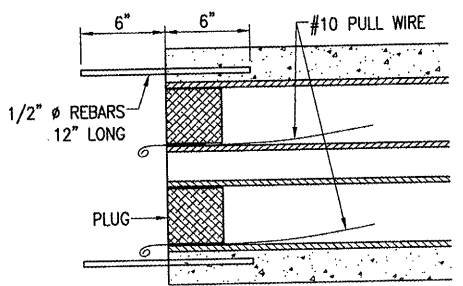
SEE SHEETS 19 THROUGH 21 FOR ELECTRICAL NOTES.

PER FAA AC 150/5340-30C DESIGN AND INSTALLATION DETAILS
FOR AIRPORT VISUAL AIDS, A SAFETY GROUND MUST BE INSTALLED
AT EACH LIGHT FIXTURE. A SAFETY GROUND SHALL BE INSTALLED
AT EACH STAKE MOUNTED LIGHT AND EACH TRANSFORMER
BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY
LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. 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 3/8-INCH DIAMETER
BY 8-FOOT LONG (MINIMUM) UL LISTED COPPER CLAD GROUND
ROD.



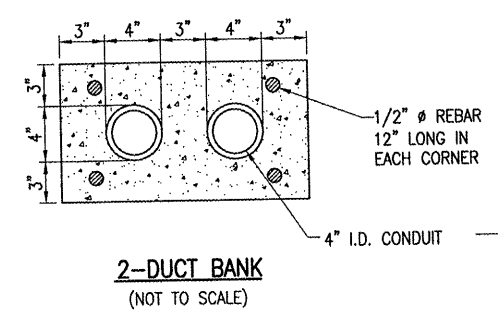
TRANSFORMER BASE/SPLICE CAN DETAIL

(NOT TO SCALE)



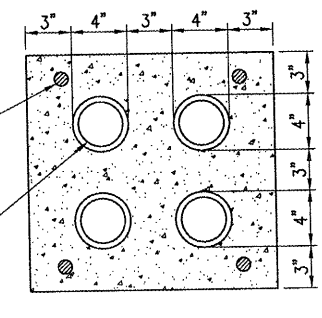
TYPICAL SECTION

(NOT TO SCALE)



2-DUCT BANK

(NOT TO SCALE)

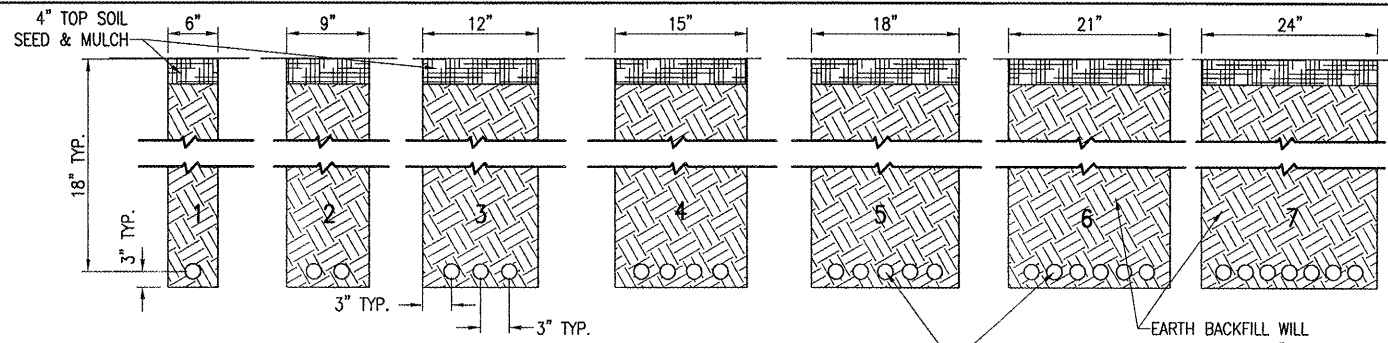


4-DUCT BANK

(NOT TO SCALE)

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APR 25, 2008 10:29 AM WALLE00723
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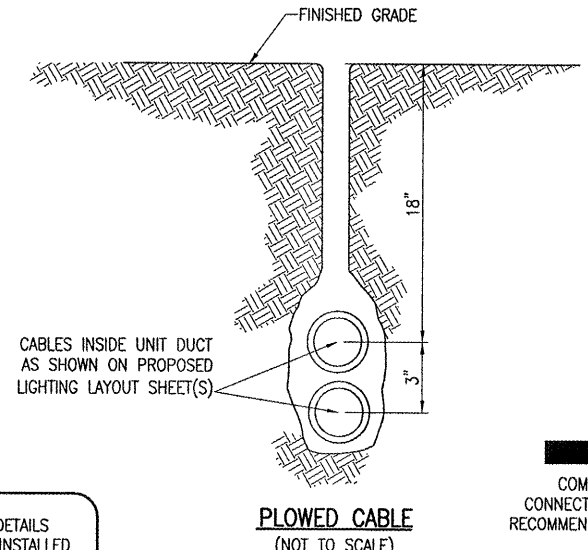


NOTES:
 DETAIL NUMBERS INDICATE NO. OF CABLES.
 TRENCHES WITH MORE THAN SEVEN CABLES SHALL BE INCREASED 3" IN WIDTH FOR EACH ADDITIONAL CABLE; IF SPECIFIED ON PLANS TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.

DEPTH OF TRENCHES SHALL BE AS SHOWN ABOVE UNLESS OTHERWISE SPECIFIED ON THE PLANS.

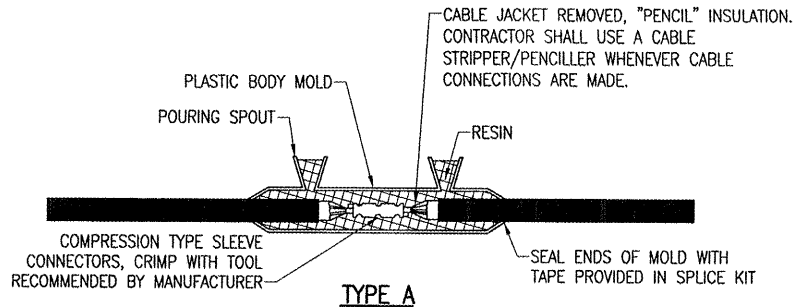
ALL DISTURBED SURFACES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. COST IS INCIDENTAL TO TRENCH.

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



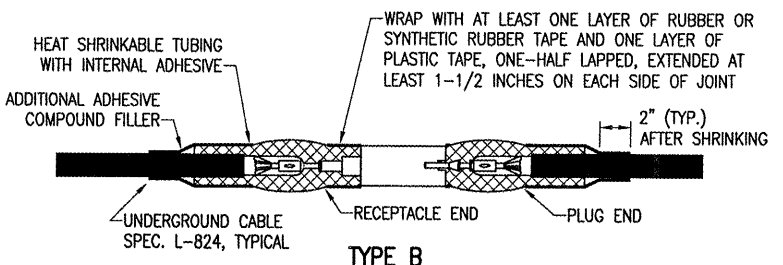
TAG DETAIL
(NOT TO SCALE)

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



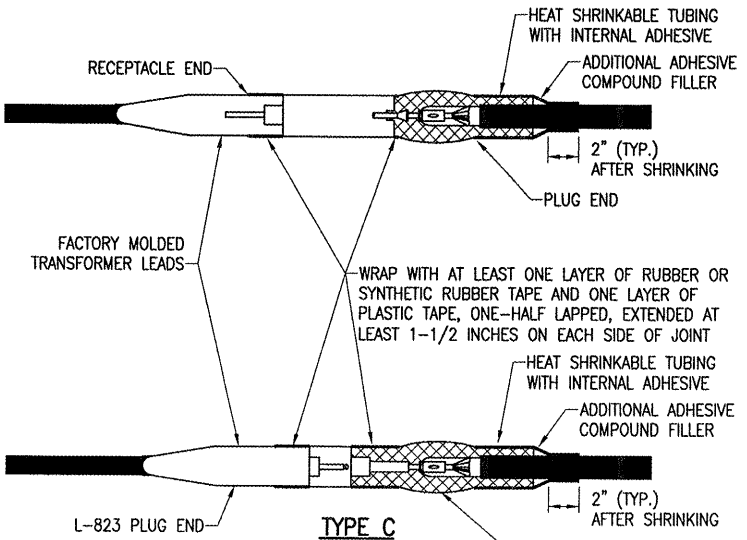
TYPE A

FOR SPLICES IN HOMERUNS FOR EXTENSIONS TO EXISTING CABLES ONLY



TYPE B

FOR SPLICES AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT

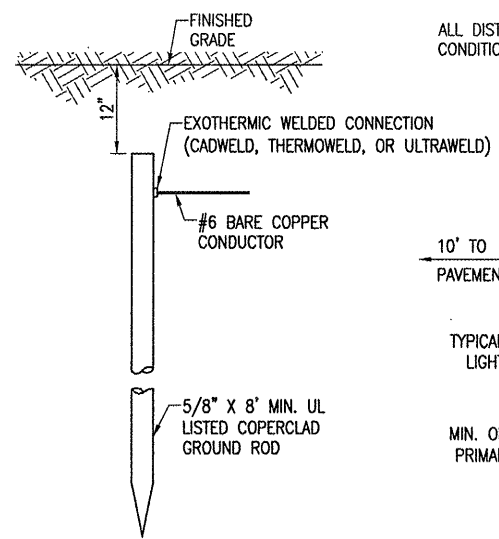


TYPE C

NOTES:
 SEE PROPOSED LIGHTING LAYOUT SHEET(S) FOR SPLICE TYPE.

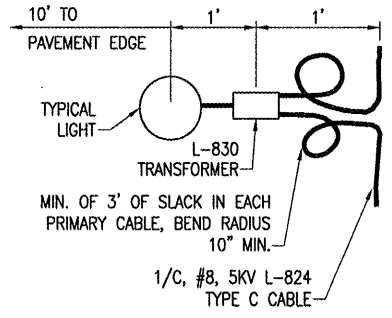
INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE.

CABLE SPLICES
(NOT TO SCALE)



CABLE TRENCHES
(NOT TO SCALE)

PER FAA AC 150/5340-30C DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, A SAFETY GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. A SAFETY GROUND SHALL BE INSTALLED AT EACH STAKE MOUNTED LIGHT AND EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. 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.



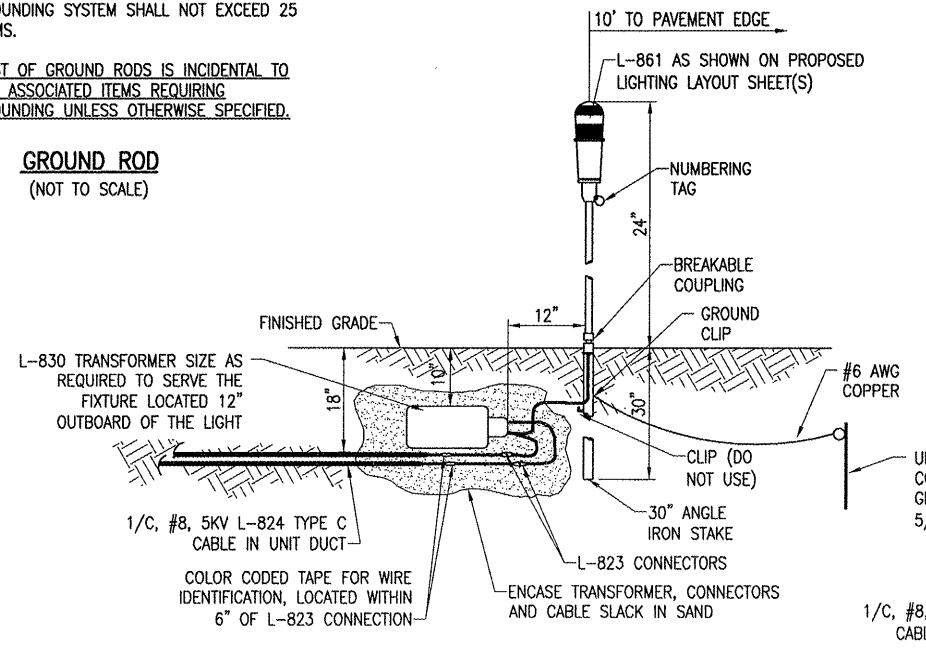
PLAN VIEW

NOTES:
 TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLAN.

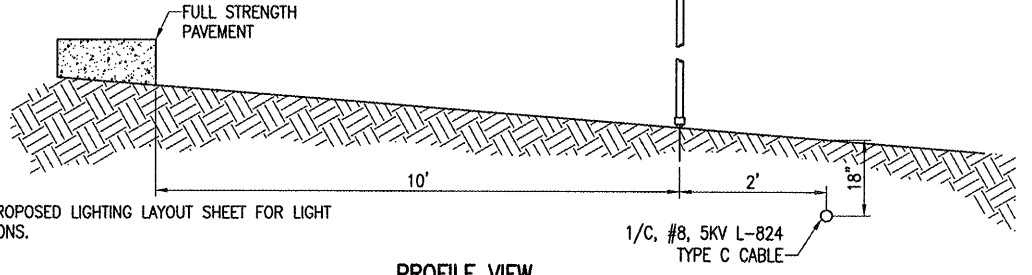
THE RESISTANCE TO GROUND OF THE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS.

COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.

GROUND ROD
(NOT TO SCALE)

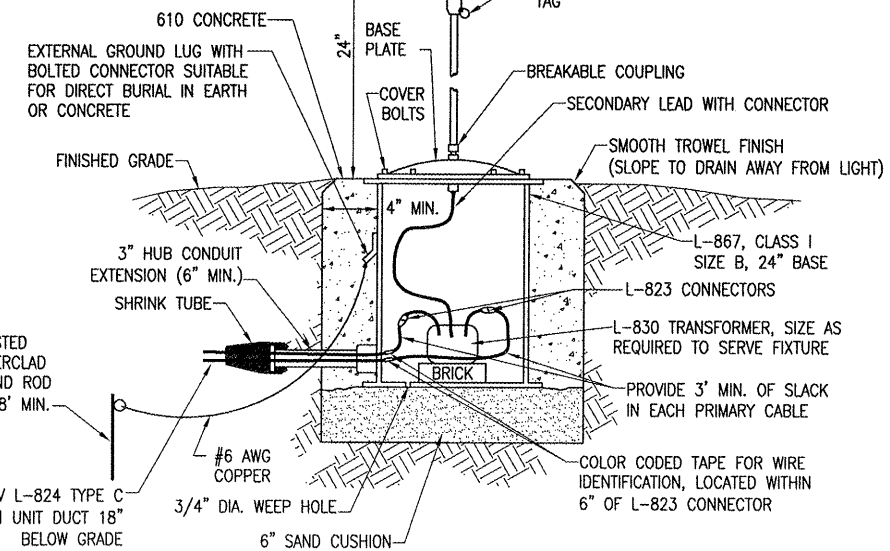


MEDIUM INTENSITY LIGHT - STAKE MOUNTED
(NOT TO SCALE)



PROFILE VIEW

LIGHT AND CABLE INSTALLATION DETAIL
(NOT TO SCALE)



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

BY	REVISION	DATE

MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS

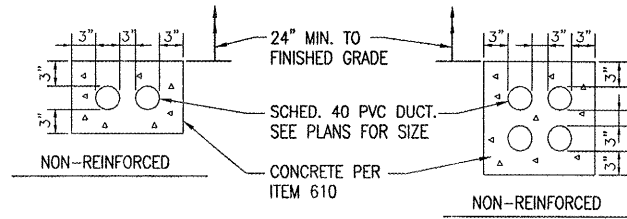
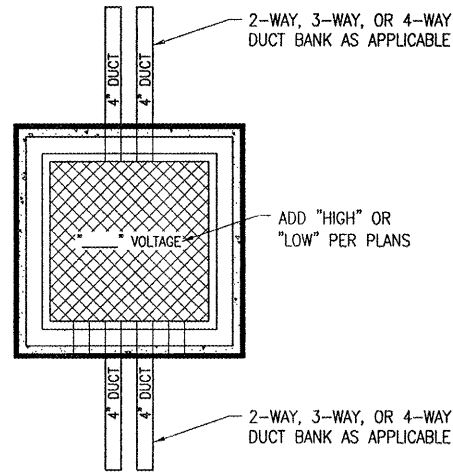
A.I.P. PROJ.: 3-17-0064-B16
 I.L. PROJ.: MGB-3798

REV.	Project No.	Revision	Scale	Date	LAYOUT	DRAWN	REVIEWED
01	08A0004D 0800	R-542ELE.DWG	NONE	04-11-08	KNL	01/24/08	
02					MV	01/24/08	
03					RAW	04/11/08	



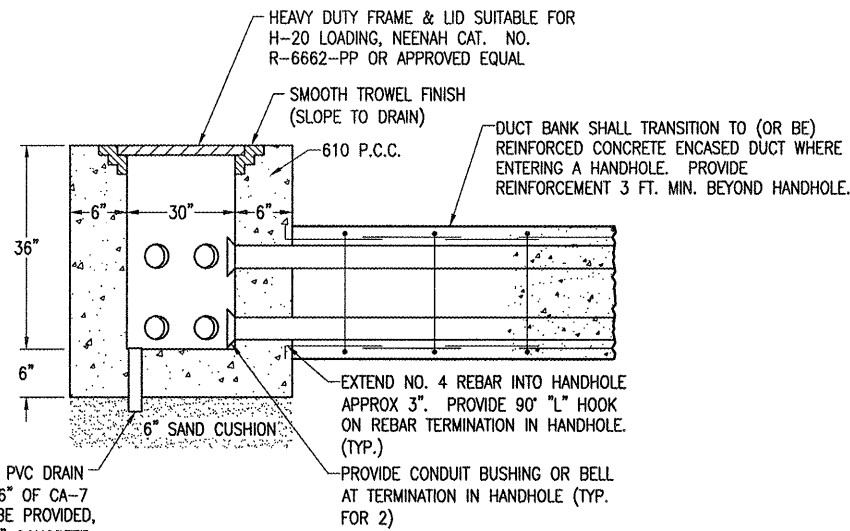
Hanson Professional Services Inc.
 1000 South Main Street
 Springfield, Illinois 62703-2886
 Offices Nationwide

CONSTRUCT
RAMP EXPANSION
PROPOSED
ELECTRICAL DETAILS
SHEET 2



- NOTES:**
- ALL DIMENSIONS ARE MINIMUM.
 - INCLUDE DUCT SPACERS AS MANUFACTURED BY UNDERGROUND DEVICES INC., TO MAINTAIN PROPER SEPARATION OF CONDUITS.

CONCRETE ENCASED DUCT DETAIL
(2-WAY & 4-WAY SHOWN)

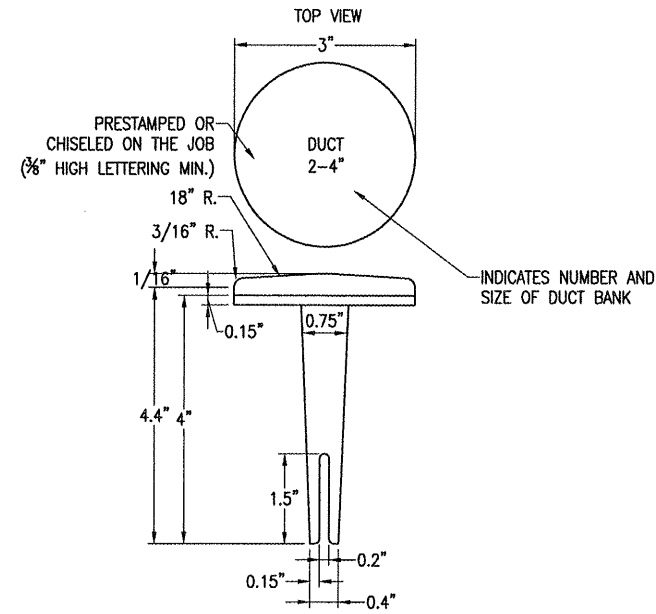


2" SCHED 40 PVC DRAIN PIPE. NOTE 6" OF CA-7 GRAVEL MAY BE PROVIDED, INSTEAD OF 6" CONCRETE FLOOR WITH DRAIN PIPE, AT CONTRACTORS OPTION.

- NOTE:**
- LIDS FOR LOW VOLTAGE HANDHOLES SHALL BE LABELED "LOW VOLTAGE". LIDS FOR HIGH VOLTAGE HANDHOLES SHALL BE LABELED "HIGH VOLTAGE". COORDINATE LETTERING WITH MFR.
 - HANDHOLE MAY BE CAST IN PLACE OR PRECAST.
 - SEE SPECIAL PROVISIONS.

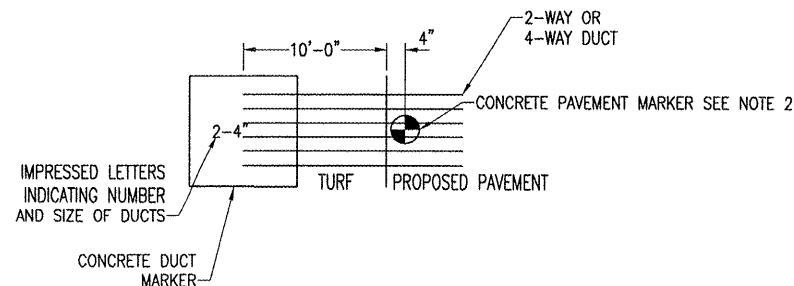
THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND 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.



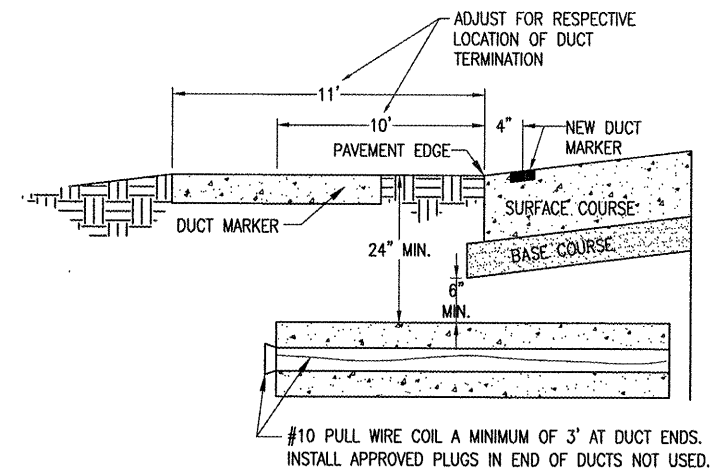
BITUMINOUS PAVEMENT DUCT MARKERS
"NOT TO SCALE"

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

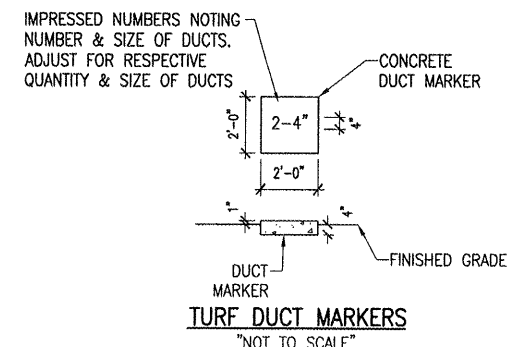
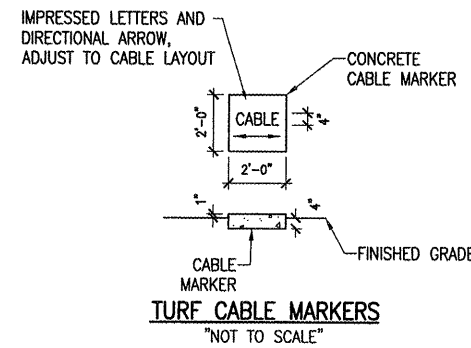


DUCT MARKER DETAIL
"NOT TO SCALE"

- NOTES:**
- 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.
 - 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 INFORMED AS DESCRIBED IN NOTE 4.
 - CABLE MARKERS SHALL BE PLACED AT CHANGES OF DIRECTION AND APPROXIMATELY EVERY 200' ALONG CABLE RUNS.
 - 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.



UNDERGROUND ELECTRICAL DUCT
"NOT TO SCALE"



DATE	REVISION	BY

MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS
A.I.P. PROJ.: 3-17-0064-B16
IL PROJ.: M08-3788

Proj. No. 08A0004D_0800	Scale NONE	Date 04-11-08
File Name E-501.DWG	Scale NONE	Date 04-11-08
LAYOUT	KNL	07/24/08
DRAWN	WV	07/24/08
REVIEWED	RAW	04/11/08




CONSTRUCT RAMP EXPANSION
PROPOSED ELECTRICAL DETAILS
SHEET 3

GENERAL NOTES

1. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
2. CONTRACTOR SHALL KEEP A COPY OF THE LATEST NEC IN FORCE ON SITE AT ALL TIMES DURING CONSTRUCTION FOR USE AS A REFERENCE.
3. CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER.
4. THE CONTRACTOR SHALL ASCERTAIN THAT ALL LIGHTING SYSTEM COMPONENTS FURNISHED BY HIM, INCLUDING FAA APPROVED EQUIPMENT, ARE COMPATIBLE IN ALL RESPECTS WITH EACH OTHER AND THE REMAINDER OF THE NEW/EXISTING SYSTEM. ANY NONCOMPATIBLE COMPONENTS FURNISHED BY THIS CONTRACTOR SHALL BE REPLACED BY HIM AT NO ADDITIONAL COST TO THE AIRPORT SPONSOR WITH A SIMILAR UNIT, APPROVED BY THE ENGINEER (DIFFERENT MODEL OR DIFFERENT MANUFACTURER) THAT IS COMPATIBLE WITH THE REMAINDER OF THE AIRPORT LIGHTING SYSTEM.
5. IN CASE THE CONTRACTOR ELECTS TO FURNISH AND INSTALL AIRPORT LIGHTING EQUIPMENT REQUIRING ADDITIONAL WIRING, TRANSFORMERS, ADAPTORS, MOUNTINGS, ETC., TO THOSE SHOWN ON THE DRAWINGS AND/OR LISTED IN THE SPECIFICATION, ANY COST FOR THESE ITEMS SHALL BE INCIDENTAL TO THE EQUIPMENT COST.
6. THE CONTRACTOR INSTALLED EQUIPMENT (INCLUDING FAA APPROVED) SHALL NOT GENERATE ANY ELECTROMAGNETIC INTERFERENCE IN THE EXISTING AND/OR NEW COMMUNICATIONS, WEATHER, AIR NAVIGATION, AND AIR TRAFFIC CONTROL EQUIPMENT. ANY EQUIPMENT GENERATING SUCH INTERFERENCE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST WITH THE EQUIPMENT MEETING THE APPLICABLE SPECIFICATIONS AND NOT GENERATING ANY INTERFERENCE.
7. WHEN A SPECIFIC TYPE, STYLE, CLASS, ETC. OF FAA APPROVED EQUIPMENT IS SPECIFIED ONLY THAT TYPE, STYLE, CLASS, WILL BE ACCEPTABLE, EVEN THOUGH EQUIPMENT OF OTHER TYPES STYLES, CLASSES, ETC. MAY BE APPROVED.
8. ANY AND ALL INSTRUCTIONS FROM THE ENGINEER TO THE CONTRACTOR REGARDING CHANGES IN OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS SHALL BE IN WRITING WITH COPIES SENT TO THE AIRPORT SPONSOR AND THE FAA FIELD OFFICE (ADO/AFO). THE CONTRACTOR SHALL NOT ACCEPT ANY VERBAL INSTRUCTIONS FROM THE RESIDENT ENGINEER REGARDING ANY CHANGES FROM THE PLANS AND SPECIFICATIONS.
9. A MINIMUM OF THREE COPIES OF THE INSTRUCTION BOOK SHALL BE SUPPLIED WITH EACH DIFFERENT TYPE OF EQUIPMENT. THE BOOKS DESCRIBING A MORE SOPHISTICATED TYPE OF EQUIPMENT, SUCH AS REGULATORS, PAPI, REIL, ETC. AS A MINIMUM SHALL CONTAIN THE FOLLOWING:
 - A. A DETAILED DESCRIPTION OF THE OVERALL EQUIPMENT AND ITS INDIVIDUAL COMPONENTS.
 - B. THEORY OF OPERATION INCLUDING THE FUNCTION OF EACH COMPONENT.
 - C. INSTALLATION INSTRUCTION.
 - D. START-UP INSTRUCTIONS.
 - E. PREVENTATIVE MAINTENANCE REQUIREMENTS.
 - F. CHART FOR TROUBLE-SHOOTING.
 - G. COMPLETE POWER AND CONTROL DETAILED WIRING DIAGRAM(S), SHOWING EACH CONDUCTOR/CONNECTION/COMPONENT - "BLACK" BOXES ARE NOT ACCEPTABLE. THE DIAGRAM OF THE NARRATIVE SHALL SHOW VOLTAGE/CURRENTS/WAVE SHAPES AT STRATEGIC LOCATIONS TO BE USED WHEN CHECKING AND/OR TROUBLE-SHOOTING THE EQUIPMENT. WHEN THE EQUIPMENT HAS SEVERAL MODES OF OPERATION, SUCH AS SEVERAL BRIGHTNESS STEPS, THESE PARAMETERS SHALL BE INDICATED FOR ALL DIFFERENT MODES.
 - H. PARTS LIST WHICH WILL INCLUDE ALL MAJOR AND MINOR COMPONENTS SUCH AS RESISTORS, DIODES, ETC. IT SHALL INCLUDE A COMPLETE NOMENCLATURE OF EACH COMPONENT AND, IF APPLICABLE, THE NAME OF ITS MANUFACTURER AND THE CATALOG NUMBER.
 - I. SAFETY INSTRUCTIONS.

POWER AND CONTROL NOTES

1. PROVIDE LEGEND PLATES FOR ALL ELECTRICAL EQUIPMENT TO IDENTIFY FUNCTION, CIRCUIT VOLTAGE AND PHASE. WHERE THE EQUIPMENT CONTAINS FUSES, ALSO IDENTIFY THE FUSE OR FUSE LINK AMPERE RATING. WHERE THE EQUIPMENT DOES NOT HAVE SUFFICIENT AREA TO INSTALL LEGEND PLATES, THE LEGEND PLATES SHALL BE INSTALLED ON THE WALL NEXT TO THE UNIT. LEGEND PLATES SHALL BE WEATHERPROOF ENGRAVED PLASTIC OR PHENOLIC MATERIAL, 1/4" HIGH BLACK LETTERS ON A WHITE BACKGROUND UNLESS NOTED OTHERWISE. SECURE WITH WEATHERPROOF ADHESIVE AND MACHINE SCREWS. FURNISH ADDITIONAL LEGEND PLATES WHERE REQUIRED BY CODE, FOR ADDITIONAL EQUIPMENT, AS DETAILED HEREIN ON THE PLANS, AND AS NOTED IN THE SPECIAL PROVISION SPECIFICATIONS.
2. COLOR CODE ALL PHASE WIRING BY THE USE OF COLORED WIRE INSULATION AND/OR COLORED TAPE. WHERE TAPE IS USED, THE WIRE INSULATION SHALL BE BLACK. BLACK AND RED SHALL BE USED FOR SINGLE-PHASE, THREE WIRE SYSTEMS AND BLACK, RED AND BLUE SHALL BE USED FOR THREE-PHASE SYSTEMS. NEUTRAL CONDUCTORS, SIZE NO. 6 AWG OR SMALLER, SHALL BE IDENTIFIED BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH. NEUTRAL CONDUCTORS LARGER THAN NO. 6 AWG SHALL BE IDENTIFIED EITHER BY A CONTINUOUS WHITE OR NATURAL GRAY OUTER FINISH ALONG ITS ENTIRE LENGTH OR BY THE USE OF WHITE TAPE AT ITS TERMINATIONS AND INSIDE ACCESSIBLE WIREWAYS. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR SIZES (AWG OR KCML).
3. ALL BRANCH CIRCUIT CONDUCTORS CONNECTED TO A PARTICULAR PHASE SHALL BE IDENTIFIED WITH THE SAME COLOR. THE COLOR CODING SHALL BE EXTENDED TO THE POINT OF UTILIZATION.
4. IN CONTROL WIRING THE SAME COLOR SHALL BE USED THROUGHOUT THE SYSTEM FOR THE SAME FUNCTION, SUCH AS 10%, 30%, 100% BRIGHTNESS CONTROL, ETC.
5. LOW VOLTAGE (600 V.) AND HIGH VOLTAGE (5000 V.) CONDUCTORS SHALL BE INSTALLED IN SEPARATE WIREWAYS.
6. NEATLY LACE WIRING IN DISTRIBUTION PANELS, WIREWAYS, SWITCHES AND JUNCTION/PULL BOXES.
7. THE MINIMUM SIZE OF PULL/JUNCTION BOXES, REGARDLESS OF THE QUANTITY AND SIZE OF THE CONDUCTORS SHOWN, SHALL BE AS FOLLOWS:
 - A. IN STRAIGHT PULLS THE LENGTH OF THE BOX SHALL NOT BE LESS THAN EIGHT TIMES THE TRADE DIAMETER OF THE LARGER CONDUIT. THE TOTAL AREA (INCLUDING THE CONDUIT CROSS-SECTIONAL AREA) OF A BOX END SHALL BE AT LEAST 3 TIMES GREATER THAN THE TOTAL TRADE CROSS-SECTIONAL AREA OF THE CONDUITS TERMINATING AT THE END.
 - B. IN ANGLE PULLS OR 'U' PULLS THE DISTANCE BETWEEN EACH CONDUIT ENTRY INSIDE THE BOX AND THE OPPOSITE WALL OF THE BOX SHALL NOT BE LESS THAN SIX (6) TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT. THIS DISTANCE SHALL BE INCREASED FOR ADDITIONAL ENTRIES BY THE AMOUNT OF THE SUM OF THE DIAMETERS OF ALL OTHER CONDUIT ENTRIES ON THE SAME WALL AS THE BOX. THE DISTANCE BETWEEN CONDUIT ENTRIES ENCLOSING THE SAME CONDUCTOR SHALL NOT BE LESS THAN SIX TIMES THE TRADE DIAMETER OF THE LARGEST CONDUIT.
8. A RUN OF CONDUIT BETWEEN TERMINATIONS AT EQUIPMENT ENCLOSURES, SQUARE DUCTS AND PULL/JUNCTION BOXES, SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL), INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE TERMINATIONS, CAST, CONDUIT TYPE OUTLETS SHALL NOT BE TREATED AS PULL/JUNCTION BOXES.
9. EQUIPMENT CABINETS SHALL NOT BE USED AS PULL/JUNCTION BOXES. ONLY WIRING TERMINATING AT THE EQUIPMENT SHALL BE BROUGHT INTO THESE ENCLOSURES.
10. SPLICES AND JUNCTION POINTS SHALL BE PERMITTED ONLY IN JUNCTION BOXES, DUCTS EQUIPPED WITH REMOVABLE COVERS, AND AT EASILY ACCESSIBLE LOCATIONS.
11. CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL(S) SHALL BE THERMAL-MAGNETIC MOLDED CASE, PERMANENT TRIP WITH 100 AMPERE, MINIMUM FRAME.
12. DUAL LUGS SHALL BE USED WHERE TWO (2) WIRES, SIZE NO. 6 OR LARGER, ARE TO BE CONNECTED TO THE SAME TERMINAL.
13. ALL INTERIOR WALL MOUNTED EQUIPMENT ENCLOSURES SHALL BE MOUNTED ON HOT DIPPED GALVANIZED STEEL STRUT SUPPORT, OR STAINLESS STEEL STRUT SUPPORT, WITH CORROSION RESISTANT HARDWARE.
14. SUPPORT FOR EXTERIOR MOUNTED EQUIPMENT SHALL USE HOT DIPPED GALVANIZED STEEL STRUT SUPPORT OR STAINLESS STEEL STRUT SUPPORT WITH STAINLESS STEEL HARDWARE. PROVIDE ZINC RICH PAINT APPLIED TO FIELD CUTS OF GALVANIZED STEEL SUPPORT TO MINIMIZE THE POTENTIAL FOR CORROSION PER THE RESPECTIVE STRUT SUPPORT MANUFACTURER'S RECOMMENDATIONS.
15. CONDUITS FOR ELECTRIC SERVICE ENTRANCE AND FEEDERS SHALL BE AS DETAILED HEREIN ON THE PLANS. WHERE GALVANIZED RIGID STEEL CONDUIT IS SPECIFIED IT SHALL HAVE THREADED FITTINGS. SET SCREW TYPE FITTINGS WILL NOT BE ACCEPTABLE. CONDUITS FOR UNDERGROUND APPLICATIONS SHALL BE AS DETAILED HEREIN. CONDUITS FOR GROUNDING ELECTRODE CONDUCTORS OR INDIVIDUAL GROUNDING CONDUCTORS SHALL BE SCHEDULE 40 OR SCHEDULE 80 PVC.
16. PROVIDE LIQUID TIGHT FLEXIBLE METAL CONDUIT AT CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION OR WHERE FLEXIBILITY IS REQUIRED. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6, SUITABLE FOR GROUNDING, SUNLIGHT RESISTANT, AND RESISTANT TO OIL, GASOLINE, AND GREASE. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO MOTORS, TRANSFORMERS, & CONSTANT CURRENT REGULATORS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. DO NOT INSTALL LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS NOT U.L. LISTED.
17. UNLESS OTHERWISE SHOWN, ALL EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE LINES OF THE STRUCTURE.
18. ALL STEEL CONDUITS, FITTINGS, NUTS, BOLTS, ETC. SHALL BE GALVANIZED.
19. USE CONDUIT BUSHINGS AT EACH CONDUIT TERMINATION. WHERE NO. 4 AWG OR LARGER UNDERGROUND WIRE IS INSTALLED, USE INSULATED BUSHINGS.
20. USE DOUBLE LOCK NUTS AT EACH CONDUIT TERMINATION.
21. WRAP ALL PRIMARY AND SECONDARY POWER TRANSFORMER CONNECTIONS WITH SUFFICIENT LAYERS OF INSULATING TAPE (3M SCOTCH 23 ALL-VOLTAGE SPLICING TAPE, 3M SCOTCH 130C LINERLESS RUBBER SPLICING TAPE, OR APPROVED EQUAL) AND COVER WITH VINYL ELECTRICAL TAPE (3M SCOTCH 88 VINYL ELECTRICAL TAPE OR APPROVED EQUAL) FOR FULL VALUE OF CABLE INSULATION VOLTAGE.
22. UNLESS OTHERWISE NOTED, ALL SINGLE CONDUCTOR CONTROL WIRING SHALL BE NO. 12 AWG. COPPER MINIMUM.
23. THE FOLLOWING SHALL APPLY TO RELAY/CONTACTOR PANELS/ENCLOSURES:
 - A. FOR INTERIOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 12 (DUST TIGHT) ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. FOR EXTERIOR/OUTDOOR LOCATIONS ALL COMPONENTS SHALL BE MOUNTED IN NEMA 4X STAINLESS STEEL ENCLOSURE(S) WITH VERTICALLY HINGED COVERS. ALL CONDUIT ENTRIES INTO NEMA 4, 4X ENCLOSURES SHALL HAVE NEMA 4 HUBS LISTED SUITABLE FOR THE RESPECTIVE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING OF THE ENCLOSURE.
 - B. THE ENCLOSURE(S) SHALL HAVE AMPLE SPACE FOR THE CIRCUIT COMPONENTS, TERMINAL BLOCKS AND INCOMING AND INTERNAL WIRING.
 - C. ALL CONTROL CONDUCTOR TERMINATIONS SHALL BE OF THE OPEN-EYE CONNECTOR/SCREW TYPE. SOLDERED CLOSED-EYE TERMINATIONS, OR TERMINATIONS WITHOUT CONNECTORS ARE NOT ACCEPTABLE.
 - D. WHEN THE ENCLOSURE COVER IS OPENED, ALL CIRCUIT COMPONENTS, WIRING AND TERMINALS SHALL BE EXPOSED AND ACCESSIBLE WITHOUT REMOVAL OF ANY PANELS, COVERS, ETC., EXCEPT THOSE COVERING HIGH VOLTAGE COMPONENTS.
 - E. ACCESS TO, OR REMOVAL OF A CIRCUIT COMPONENT OR TERMINAL BLOCK WILL NOT REQUIRE THE REMOVAL OF ANY OTHER CIRCUIT COMPONENT OR TERMINAL BLOCK.
 - F. EACH CIRCUIT COMPONENT SHALL BE CLEARLY IDENTIFIED INDICATING ITS CORRESPONDING NUMBER SHOWN ON THE DRAWINGS AND ITS FUNCTION.
 - G. A COMPLETE WIRING DIAGRAM SHALL BE MOUNTED ON THE INSIDE OF THE COVER. THE DIAGRAM SHALL REPRESENT EACH CONDUCTOR BY A SEPARATE LINE.
 - H. THE DIAGRAM SHALL IDENTIFY EACH CIRCUIT COMPONENT AN NUMBERING AND COLOR OF EACH TERMINAL CONDUCTOR AND TERMINAL.
 - I. ALL WIRING SHALL BE NEATLY TRAINED AND LACED.
 - J. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
24. FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH METER SOCKET, SERVICE DISCONNECT, SAFETY SWITCH, CUTOUT, PANELBOARD, & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION".

DATE	REVISION						
<p>MACOMB MUNICIPAL AIRPORT MACOMB, ILLINOIS</p> <p style="font-size: small;">A.I.P. PROJ.: 3-17-0064-B16 IL PROJ.: MGB-3798</p>							
ILL. Project No. 08A0004D_0800 Elevation E-002.DWG Scale NONE Date 04-11-08	LAYOUT DRAWN KNL 01/24/08 REVIEWED MW 01/24/08 RAW 04/11/08	 <p style="font-size: x-small;">Hanson Professional Services Inc. 1525 South State Street Springfield, Illinois 62703-2888 Offices Nationwide</p>					
<p>CONSTRUCT RAMP EXPANSION</p>				<p>ELECTRICAL NOTES SHEET 1</p>			
<p style="font-size: 2em; font-weight: bold;">19</p> <p style="font-size: x-small;">19 of 32 sheets</p>							

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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. 17.
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. 17.
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 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.

GROUNDING NOTES FOR AIRFIELD LIGHTING

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 IN DETAIL "B" ON SHEET NO. 16.
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.

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.

DATE	REVISION	BY

**MACOMB MUNICIPAL AIRPORT
MACOMB, ILLINOIS**

IL PROJ.: MOB-3798 A.I.P. PROJ.: 3-17-0064-B16

FILE PROJECT No. 08A0004D_0800	FILE NAME E-003.DWG	SCALE NONE	DATE 04-11-08
LAYOUT	KNL	01/24/08	01/24/08
DRAWN	MV	01/24/08	01/24/08
REVIEWED	RAW	04/11/08	04/11/08



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**CONSTRUCT
RAMP EXPANSION**

**ELECTRICAL NOTES
SHEET 2**

APR 25, 2008 10:30 AM WALLE00723
L:\AIRPORTS\MACOMB\08A0004\DESIGN\CADD\SHEETS\E-003.DWG - Work

ELECTRICAL LEGEND - ONE-LINE DIAGRAM	
	CABLE TERMINATOR/LUG
	TRANSFORMER
	DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	CIRCUIT BREAKER
	THERMAL MAGNETIC CIRCUIT BREAKER
	FUSE
	TRANSIENT VOLTAGE SURGE SUPPRESSOR OR SURGE PROTECTOR DEVICE
	GROUND - GROUND ROD, GROUNDING ELECTRODE, OR AT EARTH POTENTIAL
	INDICATING LIGHT
	MOTOR
	LOAD, MOTOR, # = HORSEPOWER
	ELECTRIC UTILITY METER BASE
	JUNCTION BOX WITH SPLICE
	EQUIPMENT, XXX = DEVICE DESCRIPTION
	GROUND BUS OR TERMINAL
	NEUTRAL BUS
	PANELBOARD WITH MAIN LUGS
	PANELBOARD WITH MAIN BREAKER
	FUSE PANEL WITH MAIN FUSE PULLOUT
	DUPLEX RECEPTACLE 120V SINGLE PHASE GROUNDING TYPE
	CONTROL STATION
	TRANSFER SWITCH
	ENGINE GENERATOR SET

ELECTRICAL LEGEND - SCHEMATIC	
	NORMALLY OPEN (N.O.) CONTACT
	NORMALLY CLOSED (N.C.) CONTACT
	STARTER COIL, * = STARTER NUMBER
	OVERLOAD RELAY CONTACT
	CONTROL RELAY, * = CONTROL RELAY NUMBER
	RELAY, * = RELAY NUMBER
	TOGGLE SWITCH / 2 POSITION SWITCH
	2-POSITION SELECTOR SWITCH
	3-POSITION SELECTOR SWITCH (H-O-A SHOWN)
	2 POLE DISCONNECT SWITCH
	3 POLE DISCONNECT SWITCH
	PHOTOCELL
	TERMINAL BLOCK, * = TERMINAL NUMBER
	DEVICE TERMINAL, * = DEVICE TERMINAL NUMBER
	INTERNAL PANEL WIRING
	FIELD WIRING
	FUSE
	GROUND BUS OR TERMINAL
	NEUTRAL BUS
	GROUND, GROUND ROD, GROUND BUS
	INDUSTRIAL CONTROL RELAY OR LIGHTING CONTACTOR
	S1 CUTOUT HANDLE REMOVED
	S1 CUTOUT HANDLE INSERTED
	N.O. THERMAL SWITCH
	N.C. THERMAL SWITCH
	L-830 SERIES ISOLATION TRANSFORMER

ELECTRICAL ABBREVIATIONS	
A.F.F.	ABOVE FINISHED FLOOR
A, AMP	AMPERES
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CR	CONTROL RELAY
CU	COPPER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EP	EXPLOSION PROOF
ES	EMERGENCY STOP
ETL	INTERTEK - ELECTRICAL TESTING LABS
ETM	ELAPSE TIME METER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRSC	GALVANIZED RIGID STEEL CONDUIT
HID	HIGH INTENSITY DISCHARGE
HOA	HAND OFF AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
J	JUNCTION BOX
KVA	KILOVOLT AMPERE(S)
KW	KILOWATTS
LC	LIGHTING CONTACTOR
LTFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT (UL LISTED)
LTG	LIGHTING
LP	LIGHTING PANEL
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCM	THOUSAND CIRCUULAR MIL
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	METAL HALIDE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE (NFPA 70)
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OHE	OVERHEAD ELECTRIC
OL	OVERLOAD

ELECTRICAL ABBREVIATIONS (CONTINUED)	
PB	PULL BOX
PC	PHOTO CELL
PDB	POWER DISTRIBUTION BLOCK
PNL	PANEL
RCPT	RECEPTACLE
R	RELAY
S	STARTER
SPD	SURGE PROTECTION DEVICE
SPST	SINGLE POLE SINGLE THROW
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UL	UNDERWRITER'S LABORATORIES
V	VOLTS
W/	WITH
W/O	WITHOUT
WP	WEATHER PROOF
XFER	TRANSFER
XFMR	TRANSFORMER

AIRPORT EQUIPMENT/FACILITY ABBREVIATIONS	
ASOS	AUTOMATED SURFACE OBSERVING SYSTEM
ATCT	AIR TRAFFIC CONTROL TOWER
AWOS	AUTOMATED WEATHER OBSERVING SYSTEM
CCR	CONSTANT CURRENT REGULATOR
DME	DISTANCE MEASURING EQUIPMENT
FAR	FEDERAL AVIATION REGULATION
GS	GLIDE SLOPE FACILITY
HIRL	HIGH INTENSITY RUNWAY LIGHT
ILS	INSTRUMENT LANDING SYSTEM
IM	INNER MARKER
LIR	LOW IMPACT-RESISTANT
LOC	LOCALIZER FACILITY
MALS	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM
MALSR	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATING LIGHTS
MIRL	MEDIUM INTENSITY RUNWAY LIGHT
MITL	MEDIUM INTENSITY TAXIWAY LIGHT
NDB	NON-DIRECTIONAL BEACON
PAPI	PRECISION APPROACH PATH INDICATOR
PLASI	PULSE LIGHT APPROACH SLOPE INDICATOR
RAIL	RUNWAY ALIGNMENT INDICATING LIGHTS
REIL	RUNWAY END IDENTIFIER LIGHT
RVR	RUNWAY VISUAL RANGE
VADI	VISUAL APPROACH DESCENT INDICATOR
VASI	VISUAL APPROACH SLOPE INDICATOR
VOR	VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE FACILITY
WC	WIND CONE

NOTES:

- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- CONTRACTOR SHALL COORDINATE WORK AND ANY POWER OUTAGES WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER.
- COLOR CODE PHASE AND NEUTRAL CONDUCTOR INSULATION FOR NO. 6 AWG OR SMALLER. PROVIDE COLORED INSULATION OR COLORED MARKING TAPE FOR PHASE AND NEUTRAL CONDUCTORS FOR NO. 4 AWG AND LARGER. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR AWG AND/OR KCMIL TO COMPLY WITH NEC 250.119. NEUTRAL CONDUCTORS SHALL HAVE WHITE COLORED INSULATION FOR NO. 6 AWG AND SMALLER TO MEET THE REQUIREMENTS OF NEC 200.6. STANDARD COLORS FOR POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

120/240 VAC, 1 PHASE, 3 WIRE	
PHASE A	BLACK
PHASE B	RED
NEUTRAL	WHITE
GROUND	GREEN
- SEE RESPECTIVE SITE PLANS FOR SITE LEGEND INFORMATION.
- LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR GROUNDING. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. EXTERNAL BONDING JUMPERS USED WITH CCR INSTALLATIONS SHALL BE #6 AWG COPPER (MINIMUM). DO NOT INSTALL LTFMC THAT IS NOT UL LISTED.

BY					
DATE					
MACOMB MUNICIPAL AIRPORT MACOMB, ILLINOIS					
IL PROJ.: 3-17-0064-B16					
HEL Project No.	08A0004D.0800	E-001.DWG			
Revision		NONE			
Scale		04-11-08			
Date					
LAYOUT		KNL	01/24/08		
DRAWN		MV	01/24/08		
REVIEWED		RAW	04/11/08		
HANSON Hanson Professional Services Inc. 1526 South Sixth Street Springfield, Illinois 62703-2886 Offices Nationwide					
CONSTRUCT RAMP EXPANSION			ELECTRICAL LEGEND AND ABBREVIATIONS		
21 21 of 32 sheets					

NOTES

- ALL VAULT WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- ALL EQUIPMENT AND MATERIALS SHOWN NOT LABELED AS EXISTING ARE NEW.
- HIGH VOLTAGE & LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME WIREWAY, CONDUIT, DUCT, JUNCTION BOX, MANHOLE, OR HANDHOLE.
- LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR GROUNDING. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. DO NOT INSTALL LTFMC THAT IS NOT UL LISTED.
- VAULT WORK SHALL BE PAID FOR UNDER ITEM AR109200.
- ALL EXISTING CIRCUIT BREAKERS REMOVED FROM THE PANELBOARD SHALL REMAIN AIRPORT PROPERTY.
- LOW VOLTAGE AIRFIELD CABLES AND CABLE IN UNIT DUCT SHALL HAVE COLOR CODED INSULATION AS FOLLOWS:

120 VAC CIRCUITS

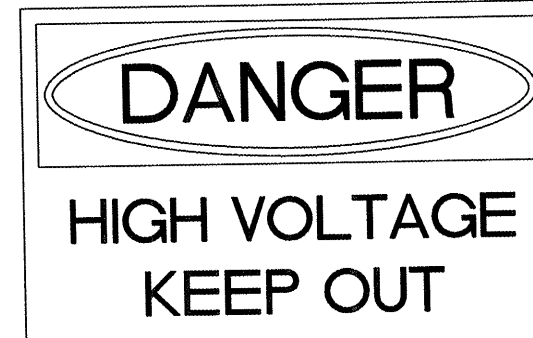
PHASE A	BLACK
PHASE B	RED OR BLACK WITH RED TAPE
NEUTRAL	WHITE
GROUND	GREEN

240 VAC CIRCUITS

PHASE A	BLACK
PHASE B	RED
GROUND	GREEN

480 VAC CIRCUITS (480 VAC LINE TO NEUTRAL)

HOT	BLACK WITH BROWN TAPE
NEUTRAL	WHITE OR GRAY
GROUND	GREEN



PROVIDE WEATHERPROOF WARNING SIGN ON VAULT TRANSCLOSURE EXTERIOR DOORS (4 TOTAL) LABELED "DANGER - HIGH VOLTAGE - KEEP OUT" PER THE REQUIREMENTS OF NEC 110.34 (C).

DATE	REVISION

BY: _____
 DATE: _____
 REVISION: _____
 DATE: _____
 DATE: _____
 DATE: _____

MACOMB MUNICIPAL AIRPORT
 MACOMB, ILLINOIS

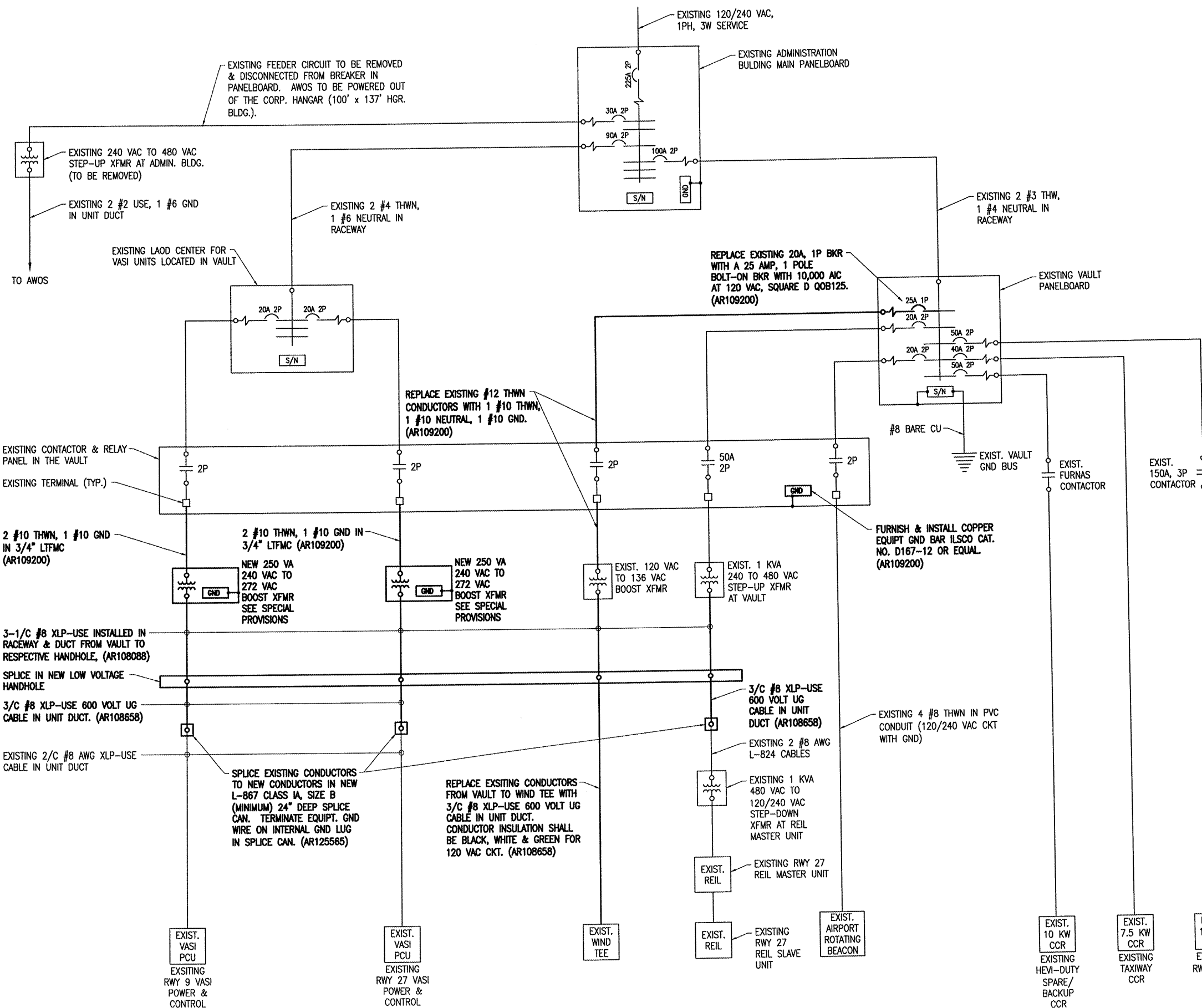
HEL Project No.	08A0004D_0800
Element	E-601.DWG
Scale	NONE
Date	04-11-08
LAYOUT	KNL 04/08/08
DRAWN	WV 04/08/08
REVIEWED	RAW 04/11/08



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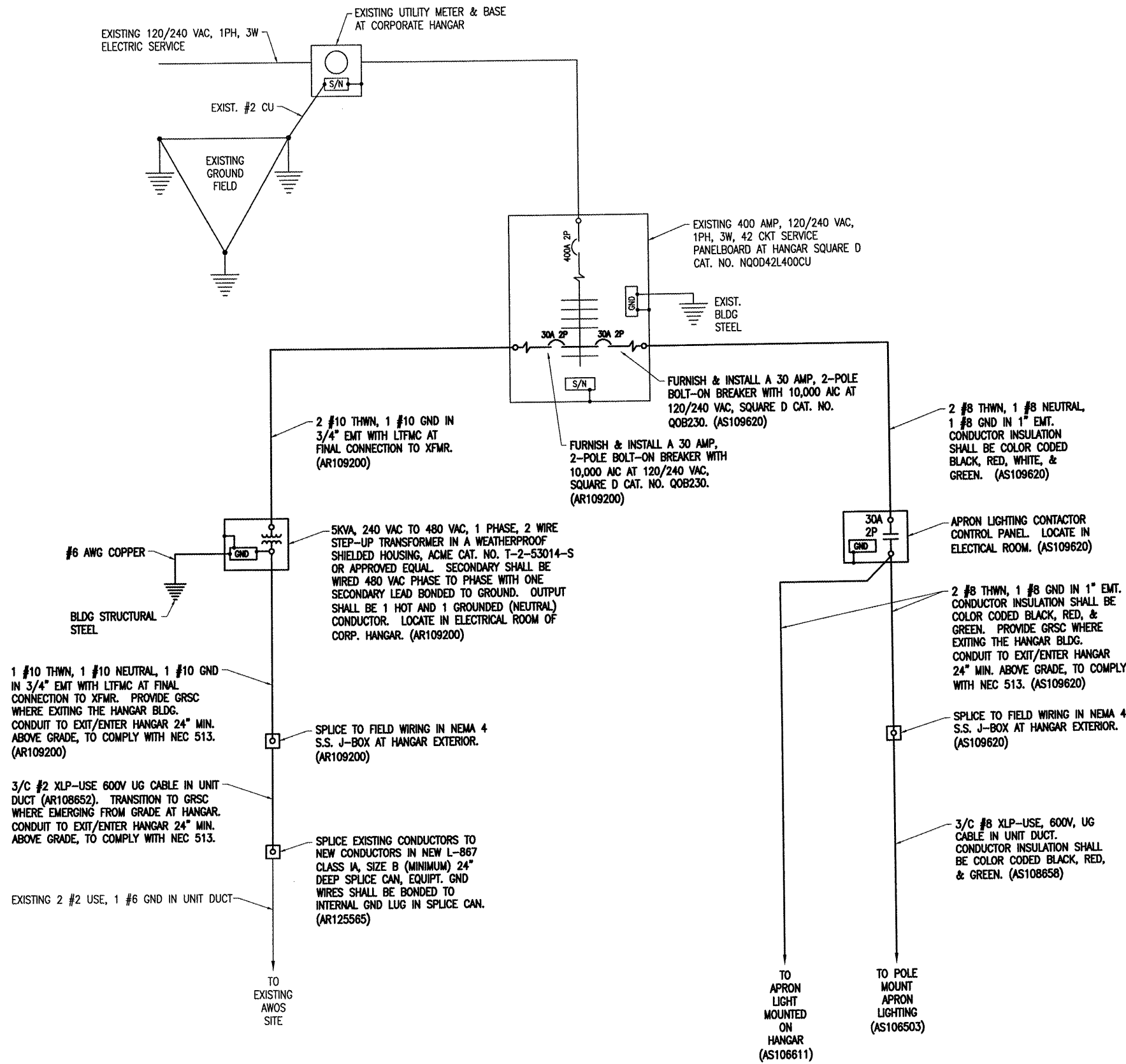
CONSTRUCT
 RAMP EXPANSION

VAULT & AIRFIELD
 ELECTRICAL
 ONE LINE DIAGRAM



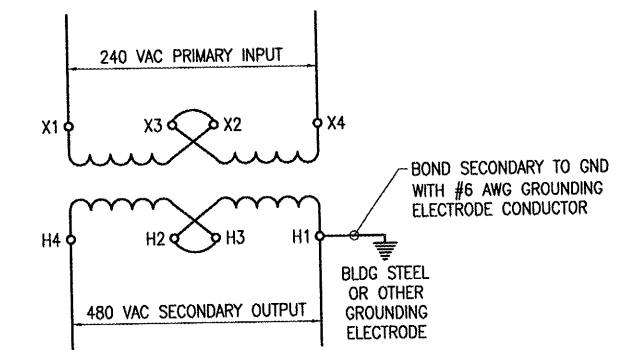
APR 25, 2008 10:34 AM WALLE00723 I:\AIRPORTS\MACOMB\08A0004\DESIGN\CADD\SHEETS\E-601.DWG - Work

VAULT & AIRFIELD ELECTRICAL ONE LINE DIAGRAM



NOTES

- ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT).
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATIONS WHICH VOID THE U.L. LISTING, ETL LISTING, (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- PER NEC 513 THE ENTIRE AREA OF THE HANGAR INCLUDING ANY ADJACENT AND COMMUNICATING AREAS NOT SUITABLE CUT OFF FROM THE HANGAR, SHALL BE CLASSIFIED AS A CLASS I, DIVISION 2 HAZARDOUS LOCATION UP TO A LEVEL 18 INCHES ABOVE THE FLOOR. AREAS IN THE VICINITY OF AIRCRAFT ARE ALSO CLASSIFIED AS HAZARDOUS AS DEFINED BY NEC 513. ALL ELECTRICAL INSTALLATIONS IN CLASSIFIED HAZARDOUS LOCATIONS SHALL BE AVOIDED UNLESS SPECIFICALLY APPROVED FOR SUCH LOCATIONS AND INSTALLED IN CONFORMANCE WITH NEC 500, 501, AND 513 AS WELL AS ANY OTHER APPLICABLE CODES AND REQUIREMENTS
- ALL EQUIPMENT AND MATERIALS SHOWN NOT LABELED AS EXISTING ARE NEW.
- LTFMC DENOTES LIQUID TIGHT FLEXIBLE METAL CONDUIT UL LISTED, SUNLIGHT RESISTANT, & SUITABLE FOR GROUNDING. LIQUID TIGHT FLEXIBLE METAL CONDUIT AND ASSOCIATED FITTINGS SHALL BE U.L. LISTED TO MEET THE REQUIREMENTS OF NEC 350.6. LIQUID TIGHT FLEXIBLE METAL CONDUIT THAT IS USED FOR FLEXIBILITY (INCLUDING CONNECTIONS TO CCR'S & TRANSFORMERS) SHALL REQUIRE AN EXTERNAL BONDING JUMPER OR INTERNAL EQUIPMENT GROUNDING CONDUCTOR PER NEC 350.60. DO NOT INSTALL LTFMC THAT IS NOT UL LISTED.



NOTES: CONFIRM WIRING WITH RESPECTIVE TRANSFORMER MFR.

240 VAC TO 480 VAC STEP UP TRANSFORMER CONNECTION DIAGRAM FOR ACME T-2-53014-S TRANSFORMER

WORK SHOWN ON THIS SHEET FOR THE AWOS POWER IS FOR BASE BID. WORK SHOWN ON THIS SHEET FOR THE APRON LIGHTING IS FOR BID ALTERNATE NO. 1

MB026

BY	
REVISION	
DATE	

MACOMB MUNICIPAL AIRPORT
 MACOMB, ILLINOIS

A.I.P. PROJ.: 3-17-0064-B16
 I.L. PROJ.: MOB-3798

HEL Project No.	08A0004D_0800
Filename	E-602.DWG
Scale	NONE
Date	04-11-08
LAYOUT	KNL 04/08/08
DRAWN	MV 04/08/08
REVIEWED	RAW 04/11/08

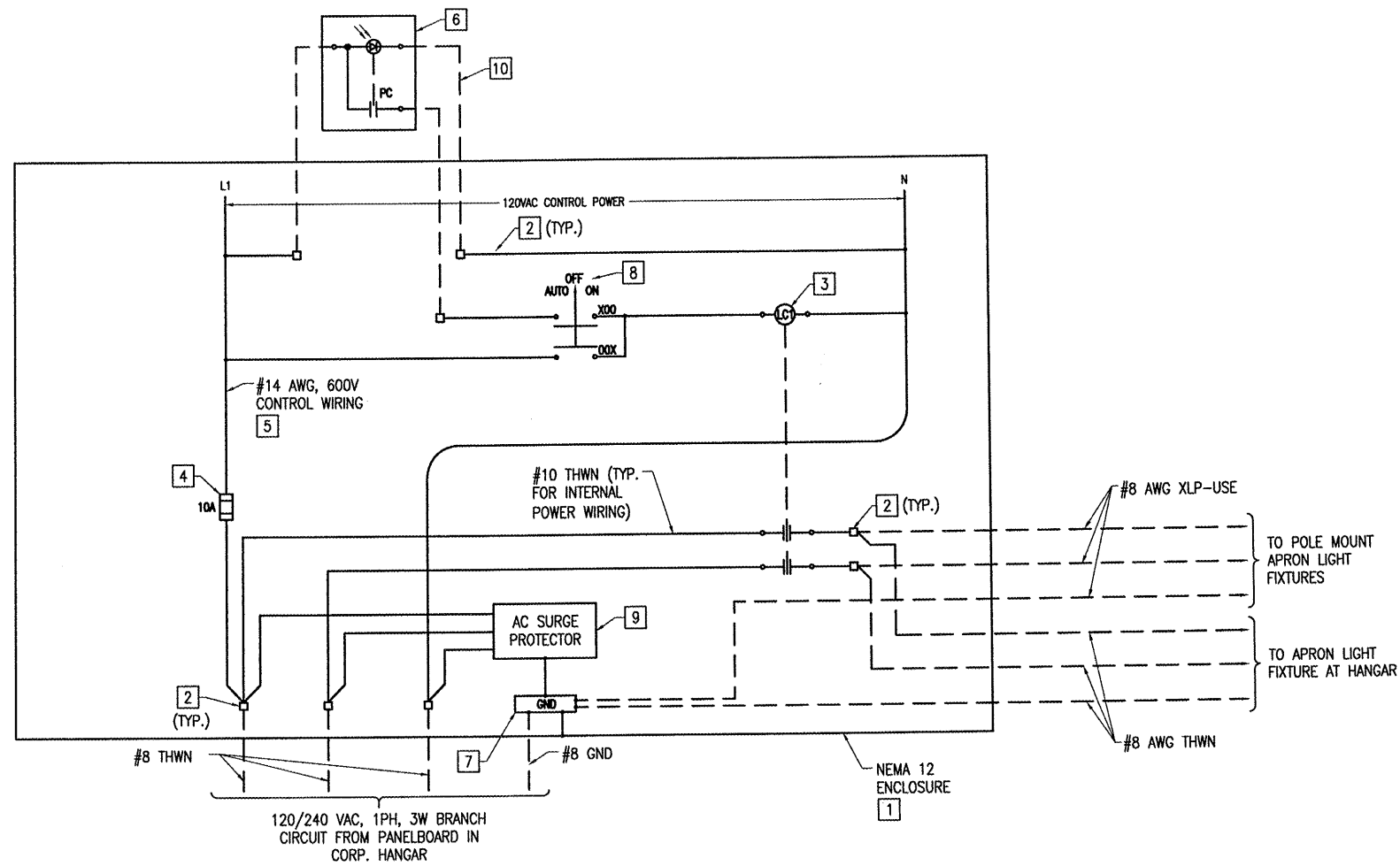


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CONSTRUCT
 RAMP EXPANSION

ELECTRICAL ONE LINE
 DIAGRAM FOR APRON
 LIGHTING & AWOS

ELECTRICAL ONE LINE DIAGRAM FOR APRON LIGHTING & AWOS



APRON LIGHTING CONTROLLER

NOTES:

1. LIGHTING CONTROLLER SHALL BE PAID FOR UNDER ITEM AS109620 LIGHTING CONTROL SYSTEM.

KEYED NOTES:

- 1 UL LISTED NEMA 12 PAINTED STEEL CONTROL PANEL ENCLOSURE WITH HINGED COVER ADEQUATELY SIZED TO HOLD THE RESPECTIVE COMPONENTS AND EQUIPMENT. INCLUDE LEGEND PLATES LABELED "APRON LIGHTING CONTROLLER", "120/240 VAC, 1 PHASE, 3 WIRE", AND "CAUTION DISCONNECT POWER BEFORE SERVICING". LEGEND PLATES SHALL BE WEATHERPROOF AND ABRASION RESISTANT PHENOLIC MATERIALS. LETTERING SHALL BE BLACK ON WHITE BACKGROUND, UNLESS OTHERWISE NOTED.
- 2 TERMINAL BLOCKS FOR POWER & CONTROL WIRING SHALL BE 600 VOLT, WITH AMPERAGE RATINGS IN CONFORMANCE WITH NEC TABLE 310-16 USING 75 DEGREE C WIRE FOR THE RESPECTIVE WIRE LUG RANGE, BOX LUG TYPE, SQUARE D CLASS 9080, TYPE GC6, OR APPROVED EQUAL.
- 3 LIGHTING CONTACTOR: LIGHTING CONTACTOR SHALL BE 30 AMP, 2-POLE, ELECTRICALLY HELD CONTACTOR SUITABLE OF FOR LIGHTING LOADS, WITH 120 VAC, 60 HZ COIL, SQUARE D CLASS 8903, TYPE SMO1V02, OR APPROVED EQUAL.
- 4 FUSING FOR CONTROL WIRING SHALL BE 10 AMP, 600 VAC, BUSSMANN CATALOG FNQ-R-10, OR APPROVED EQUAL, WITH FUSE BLOCKS, WITH BOX LUG TERMINALS, SIZED AS REQUIRED FOR THE RESPECTIVE APPLICATION. INCLUDE HARDWARE FOR MOUNTING. PROVIDE ONE BOX (5 MINIMUM QUANTITY) OF EACH TYPE AND SIZE OF FUSE, UPON COMPLETION OF THE JOB FOR USE AS SPARES.
- 5 CONTROL WIRING SHALL BE SIZED AS REQUIRED PER NEC MINIMUM #14 AWG TYPE MTW, THW, OR THWN COPPER.
- 6 PHOTOCELL RATED 2000 WATTS AT 120 VAC, WITH OFF DELAY, AND -40 DEGREE C TO 60 DEGREE C OPERATING TEMPERATURE RANGE, TORK MODEL NO. 2101, INTERMATIC MODEL K4121M, OR APPROVED EQUAL. PROVIDE MOUNTING HARDWARE, JUNCTION BOX AND WATERTIGHT HUBS FOR INTERFACE TO THE LIGHTING CONTROLLER ENCLOSURE. PHOTOCELL SHALL BE MOUNTED JUST ABOVE ROOF LEVEL OF RESPECTIVE BUILDING WHERE CONTROL PANEL IS INSTALLED. PHOTOCELL SHALL FACE NORTH. ADJUST LOCATION WHERE APPLICABLE FOR PROPER OPERATION.
- 7 EQUIPMENT GROUNDING BAR: PROVIDE A GROUNDING BAR MOUNTED AND BONDED INSIDE THE PANEL ENCLOSURE, ADEQUATELY SIZED TO ACCOMMODATE ALL GROUND CONDUCTORS TO OR FROM THE LIGHTING CONTROLLER, ILSCO CAT. NO. D167-4 OR APPROVED EQUAL.
- 8 THREE-POSITION MAINTAINED "HAND-OFF-AUTO" SELECTOR SWITCH, HEAVY DUTY, WATERTIGHT/OIL TIGHT (NEMA 4/13), SQUARE D CLASS 9001, TYPE KS43FBH13 OR APPROVED EQUAL. INCLUDE LEGEND PLATE LABELED "AUTO-OFF-ON". MOUNT SELECTOR SWITCH ON PANEL DOOR.
- 9 AC SURGE PROTECTOR, UL 1449 SECOND EDITION LISTED, SURGE CURRENT RATING OF 40KA, SUITABLE FOR USE ON A 120/240 VAC, 1 PHSE, 3 WIRE SYSTEM WITH LED INDICATING OPERATIONAL STATUS, JOSLYN MODEL 1265-21, SQUARE D CAT. NO. TYS120XR40S OR APPROVED EQUAL. INCLUDE MOUNTING BRACKET.
- 10 PHOTOCELL WIRING SHALL BE 2 #14 THWN, 1 #14 NEUTRAL IN 3/4" GRSC. PROVIDE WATER SEAL OR DRAIN FITTING FOR CONDUIT TO PREVENT WATER ACCUMULATION IN PANEL ENCLOSURE.

WORK SHOWN ON THIS SHEET IS FOR BID ALTERNATE NO. 1

BY	REVISION	DATE

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MACOMB, ILLINOIS

A.I.P. PROJ.: 3-17-0064-B16
IL PROJ.: MOB-3798

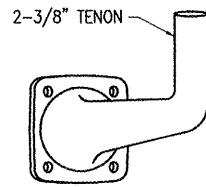
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Filename	E-603.DWG	DRAWN	WV	04/08/08
Scale	NONE	REVIEWED	RAW	04/11/08
Date	04-11-08			



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CONSTRUCT
RAMP EXPANSION

PROPOSED
APRON LIGHTING
CONTROLLER



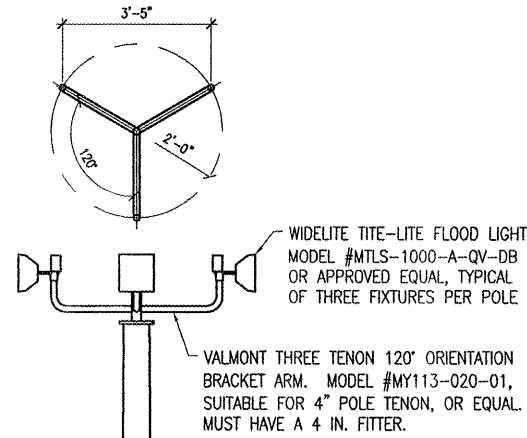
WALL MOUNT NOTES

1. INCLUDE WEATHERPROOF BOX AND ALL MOUNTING HARDWARE FOR PROPER INSTALLATION & SUPPORT OF APRON LIGHT FIXTURE.
2. APRON LIGHT FIXTURE FOR WALL MOUNT APPLICATION SHALL BE THE SAME MANUFACTURER & MODEL NUMBER AS THE POLE MOUNT FIXTURES (WIDELITE TITE-LITE FLOOD LIGHT MODEL MTL5-1000-A-QV-DB, OR APPROVED EQUAL).

WALL MOUNTING BRACKET FOR TYPE A ASSEMBLY - 1 FIXTURE (APRON LIGHT)

SCALE: NONE

WORK SHOWN ON THIS SHEET IS FOR BID ALTERNATE NO. 1

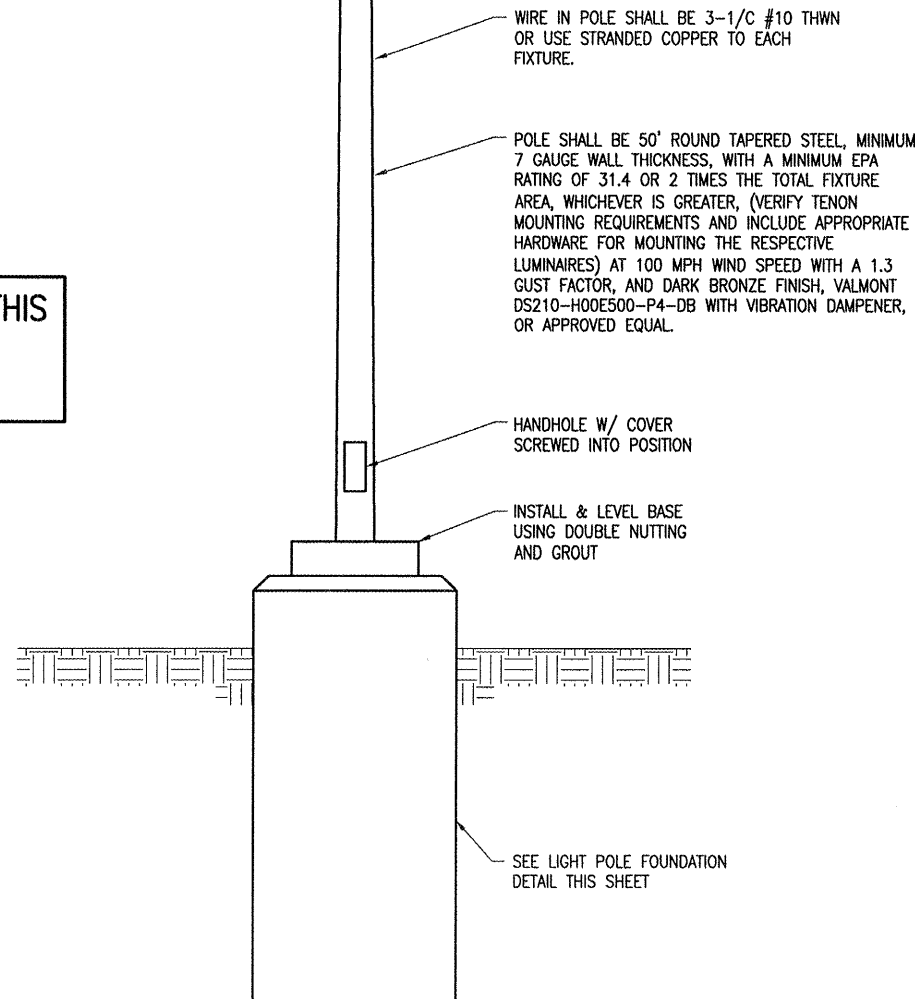


WIDELITE TITE-LITE FLOOD LIGHT MODEL #MTLS-1000-A-QV-DB OR APPROVED EQUAL, TYPICAL OF THREE FIXTURES PER POLE

VALMONT THREE TENON 120° ORIENTATION BRACKET ARM. MODEL #MY113-020-01, SUITABLE FOR 4" POLE TENON, OR EQUAL. MUST HAVE A 4 IN. FITTER.

ANCHOR BOLTS NOTES:

1. ANCHOR SYSTEMS SHALL BE SUPPLIED BY THE POLE MANUFACTURER.
2. REQ'D. ANCHOR BOLT PROJECTION SHALL BE VERIFIED BY CONTRACTOR PRIOR TO PLACING.
3. COORDINATE ANCHOR BOLTS INTO FOUNDATION FOR PROPER ORIENTATION OF LIGHT FIXTURES.



WIRE IN POLE SHALL BE 3-1/C #10 THWN OR USE STRANDED COPPER TO EACH FIXTURE.

POLE SHALL BE 50' ROUND TAPERED STEEL, MINIMUM 7 GAUGE WALL THICKNESS, WITH A MINIMUM EPA RATING OF 31.4 OR 2 TIMES THE TOTAL FIXTURE AREA, WHICHEVER IS GREATER, (VERIFY TENON MOUNTING REQUIREMENTS AND INCLUDE APPROPRIATE HARDWARE FOR MOUNTING THE RESPECTIVE LUMINAIRES) AT 100 MPH WIND SPEED WITH A 1.3 GUST FACTOR, AND DARK BRONZE FINISH, VALMONT DS210-H00E500-P4-DB WITH VIBRATION DAMPENERS, OR APPROVED EQUAL.

HANDHOLE W/ COVER SCREWED INTO POSITION

INSTALL & LEVEL BASE USING DOUBLE NUTTING AND GROUT

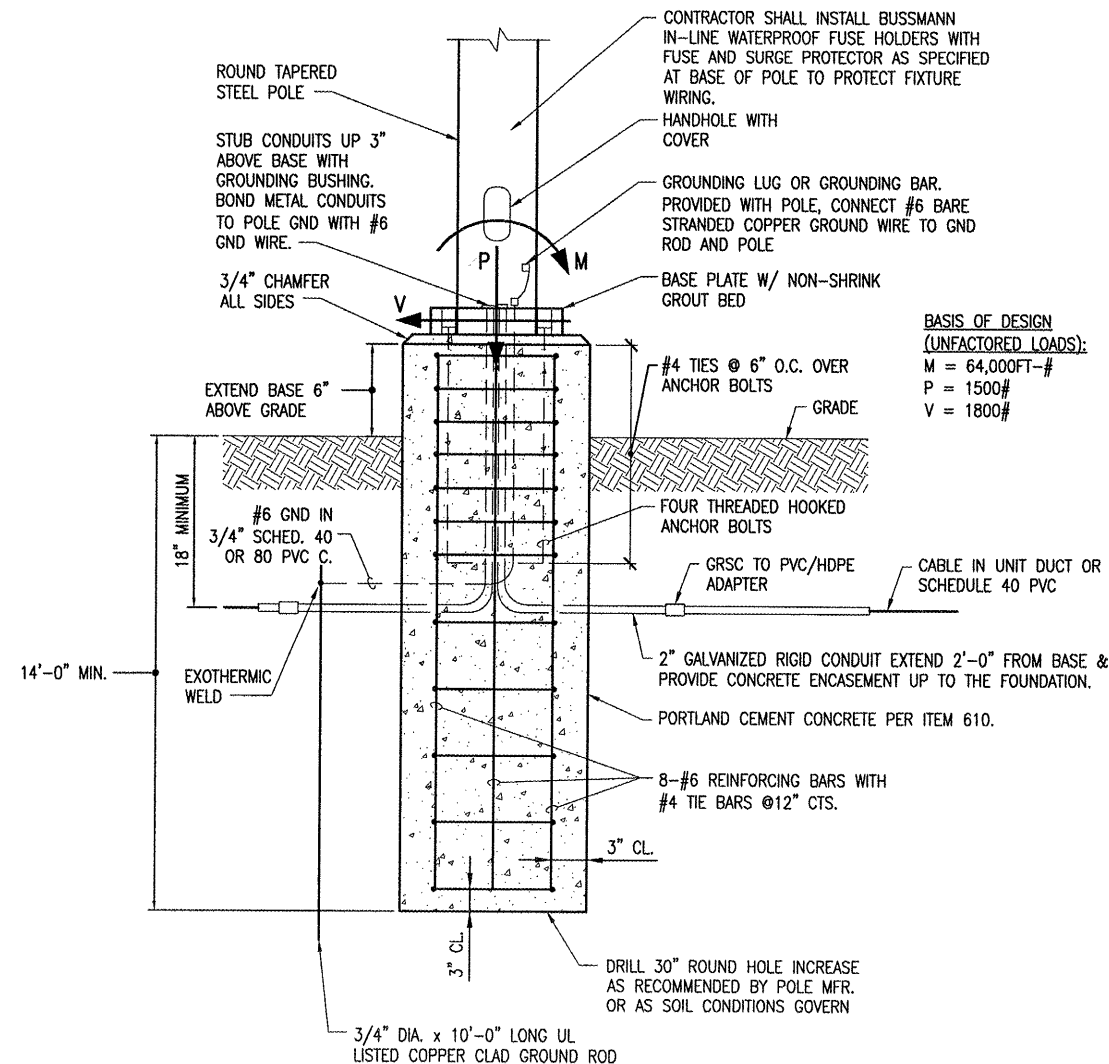
SEE LIGHT POLE FOUNDATION DETAIL THIS SHEET

APRON LIGHT POLE W/ TRIPLE FIXTURE DETAIL

SCALE: NONE

LIGHTING NOTES

1. IN ALL AREAS WHERE THERE IS A CONGESTION OF BURIED CABLE OR WHERE THE PROPOSED DUCT CROSSES AN EXISTING CABLE, THE CONTRACTOR WILL BE REQUIRED TO HAND DIG THE PROPOSED DUCT INTO PLACE.
2. THE PROPOSED APRON LIGHTS SHALL BE CONSTRUCTED AT THE LOCATIONS SHOWN ON THE PROPOSED ELECTRICAL PLAN AND IN ACCORDANCE WITH THE SPECIFICATIONS.
3. FOR ALTERNATE FIXTURES TO BE CONSIDERED PROVIDE SCALED PLAN VIEW TYPE POINT BY POINT FOOT CANDLE CALCULATIONS INDICATING THE FOLLOWING VARIABLES:
AVERAGE FOOT CANDLES
MAXIMUM/MINIMUM FOOT CANDLES
AVERAGE/MINIMUM FOOT CANDLES
ALSO PROVIDE FULL WRITTEN SPECIFICATION AND WARRANTY INFORMATION.
4. AIM FIXTURES WITH OWNER & RESIDENT ENGINEER PRESENT TO ACHIEVE BEST LIGHTING LAYOUT.
5. APRON LIGHT POLE WITH 3 FIXTURES WILL BE PAID FOR UNDER ITEM AS106503 - APRON LIGHT POLE W/TRIPLE FIXTURE PER EACH.
6. WALL MOUNT APRON LIGHT WILL BE PAID FOR UNDER ITEM AS106611 TYPE A ASSEMBLY - 1 FIXTURE PER EACH.



ROUND TAPERED STEEL POLE
STUB CONDUITS UP 3" ABOVE BASE WITH GROUNDING BUSHING. BOND METAL CONDUITS TO POLE GND WITH #6 GND WIRE.
3/4" CHAMFER ALL SIDES
CONTRACTOR SHALL INSTALL BUSSMANN IN-LINE WATERPROOF FUSE HOLDERS WITH FUSE AND SURGE PROTECTOR AS SPECIFIED AT BASE OF POLE TO PROTECT FIXTURE WIRING.
HANDHOLE WITH COVER
GROUNDING LUG OR GROUNDING BAR. PROVIDED WITH POLE, CONNECT #6 BARE STRANDED COPPER GROUND WIRE TO GND ROD AND POLE
BASE PLATE W/ NON-SHRINK GROUT BED

BASIS OF DESIGN (UNFACTORED LOADS):
M = 64,000FT-#
P = 1500#
V = 1800#

EXTEND BASE 6" ABOVE GRADE
#4 TIES @ 6" O.C. OVER ANCHOR BOLTS
GRADE
FOUR THREADED HOOKED ANCHOR BOLTS
GRSC TO PVC/HDPE ADAPTER
CABLE IN UNIT DUCT OR SCHEDULE 40 PVC
2" GALVANIZED RIGID CONDUIT EXTEND 2'-0" FROM BASE & PROVIDE CONCRETE ENCASEMENT UP TO THE FOUNDATION.
PORTLAND CEMENT CONCRETE PER ITEM 610.
8-#6 REINFORCING BARS WITH #4 TIE BARS @12" CTS.
3" CL.
3" CL.
DRILL 30" ROUND HOLE INCREASE AS RECOMMENDED BY POLE MFR. OR AS SOIL CONDITIONS GOVERN
3/4" DIA. x 10'-0" LONG UL LISTED COPPER CLAD GROUND ROD

LIGHT POLE FOUNDATION DETAIL

SCALE: NONE

BY	REVISION	DATE

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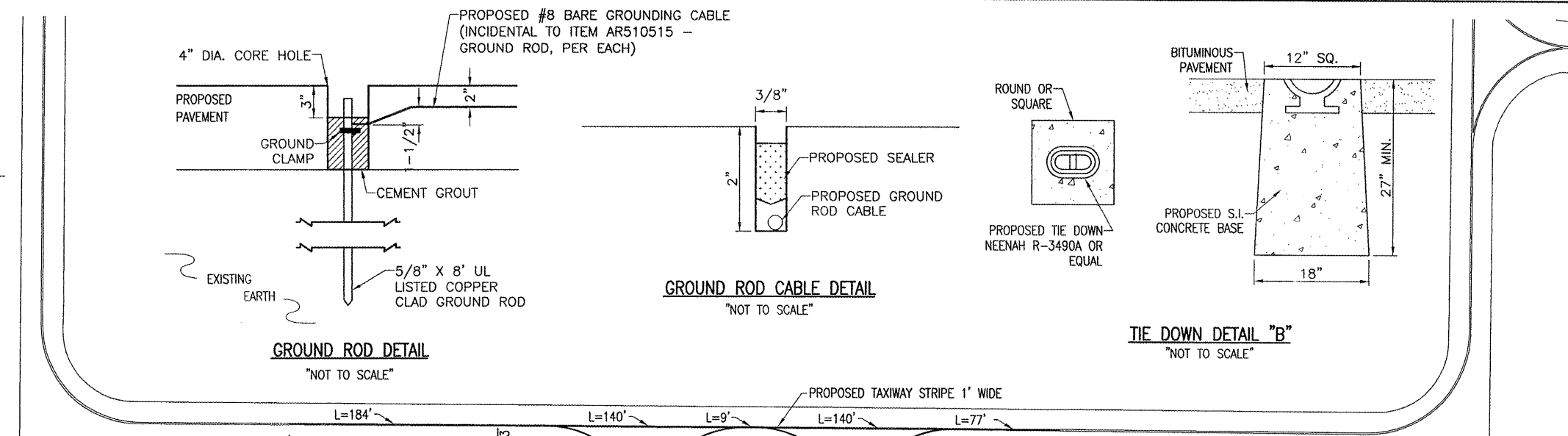
A.I.P. PROJ.: 3-17-0064-B16
IL PROJ.: MGB-3798

Project No.	08A0004D_0800	DATE	04/10/08
Revision	E-502.DWG	DATE	04/10/08
Scale	NONE	DATE	04/11/08
Date	04-11-08	LAYOUT	KNL
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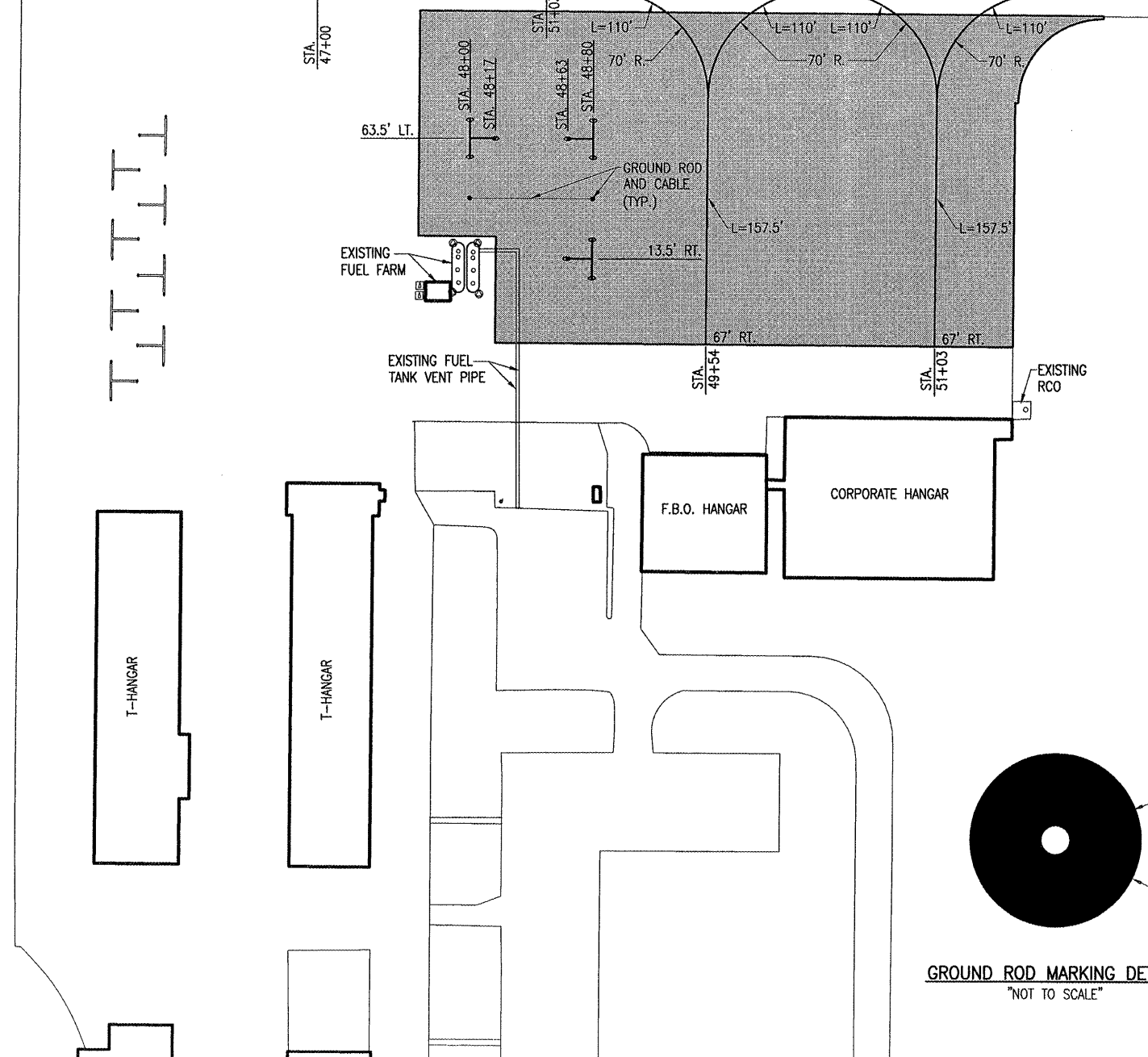
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CONSTRUCT
RAMP EXPANSION
APRON LIGHTING
DETAILS



LEGEND

[Symbol]	EXISTING PAVEMENT
[Symbol]	PROPOSED IMPROVEMENTS
[Symbol]	EXISTING BUILDING
[Symbol]	EXISTING UNDERGROUND FUEL TANK
[Symbol]	EXISTING MARKING
[Symbol]	PROPOSED MARKING
[Symbol]	EXISTING BEACON
[Symbol]	EXISTING FUEL PUMP
[Symbol]	EXISTING FUEL MONITORING WELL
[Symbol]	EXISTING WIND TEE
[Symbol]	PROPOSED TIE-DOWN



620-PAVEMENT MARKING-WATERBORNE NOTES

THE PAVEMENT MARKING-WATERBORNE (620) SHALL BE PLACED IN ACCORDANCE WITH ITEM 620 "PAVEMENT MARKING" AS STATED ON PAGE 77 OF THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JULY 1, 2004.

THIS ITEM SHALL CONSIST OF TAXIWAY CENTERLINE, GROUND ROD, AND TIEDOWN MARKING IN ACCORDANCE WITH THESE SPECIFICATIONS AND AT THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS. ALL MARKING WILL BE YELLOW IN COLOR WITH A 6-IN BLACK BORDER. THE PROPOSED PAVEMENT MARKING WILL BE APPLIED IN TWO APPLICATIONS.

ANY MATERIAL DELIVERED THAT FAILS TO MEET THE SPECIFICATIONS SHALL BE DISPOSED OF BY THE VENDOR AND IMMEDIATELY REPLACED WITH ACCEPTABLE MATERIAL ENTIRELY AT THE VENDOR'S EXPENSE, INCLUDING HANDLING AND TRANSPORTATION CHARGES.

ALL CURING COMPOUND WILL BE CLEANED FROM CONCRETE PAVEMENT PRIOR TO APPLYING PAINT. NO EXCEPTIONS.

ALL PROPOSED MARKING WILL BE COMPLETED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION PLANS.

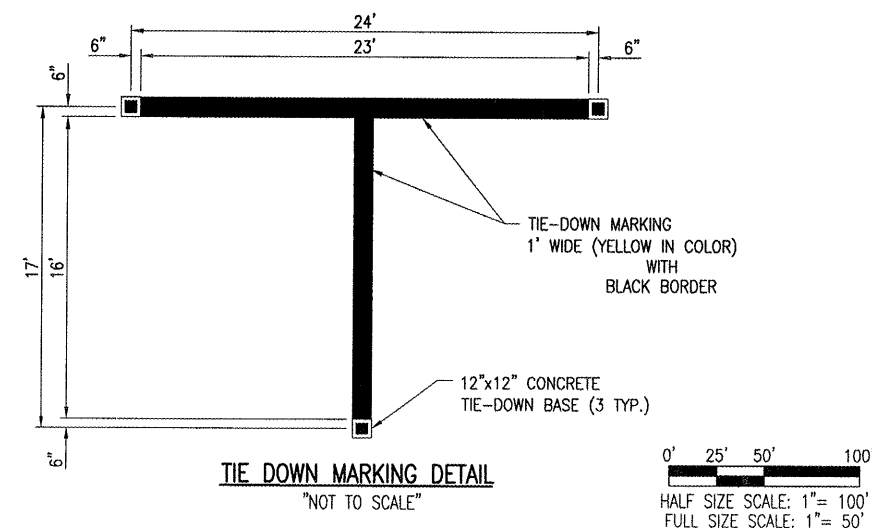
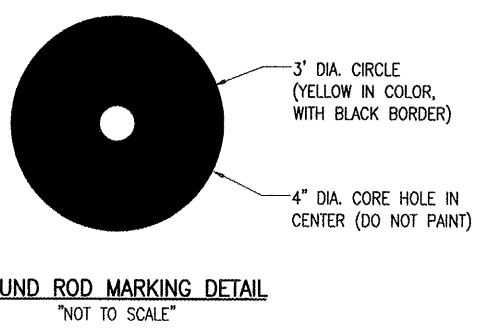
GLASS BEADS SHALL BE REQUIRED ONLY ON THE SECOND APPLICATION OF YELLOW MARKING.

CUT-OFF SHEETS WILL BE REQUIRED TO INSURE STRAIGHT EDGES.

THE PROPOSED MARKING WILL BE PAID FOR UNDER ITEM:
 AR620520 PAVEMENT MARKING-WATERBORNE ___ PER S.F.
 AR620525 PAVEMENT MARKING-BLACK BORDER ___ PER S.F.

PAVEMENT MARKING QUANTITIES

WORK ITEM	YELLOW AREA	BLACK AREA	AS-BUILT YELLOW	AS-BUILT BLACK
TAXIWAY CENTERLINE STRIPE	1305	1307		
GROUND ROD MARKING	14	11		
TIEDOWN MARKING	117	116		
TOTAL	1,436	1,434		



BY: _____

REVISION: _____

DATE: _____

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IL PROJ.: MGB-3798 A.I.P. PROJ.: 3-17-0064-B16

FILE: Project No. 08A0004D_0800
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DRAWN	BAK	03/11/08
REVIEWED	CAH	04/24/08

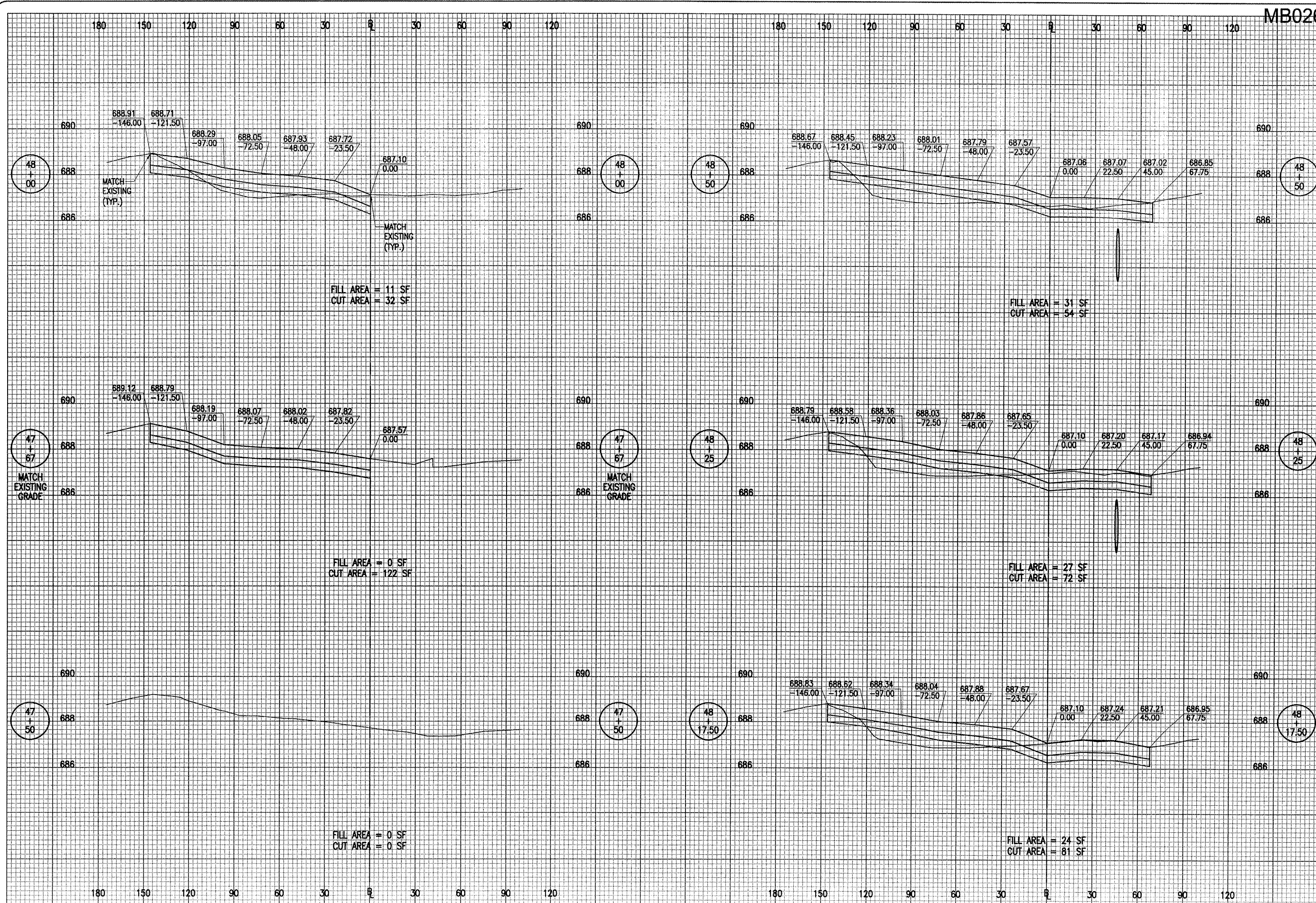
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CONSTRUCT RAMP EXPANSION

PROPOSED MARKING PLAN

26
 26 of 32 sheets

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MB026

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 I.L. PROJ.: MGB-3798

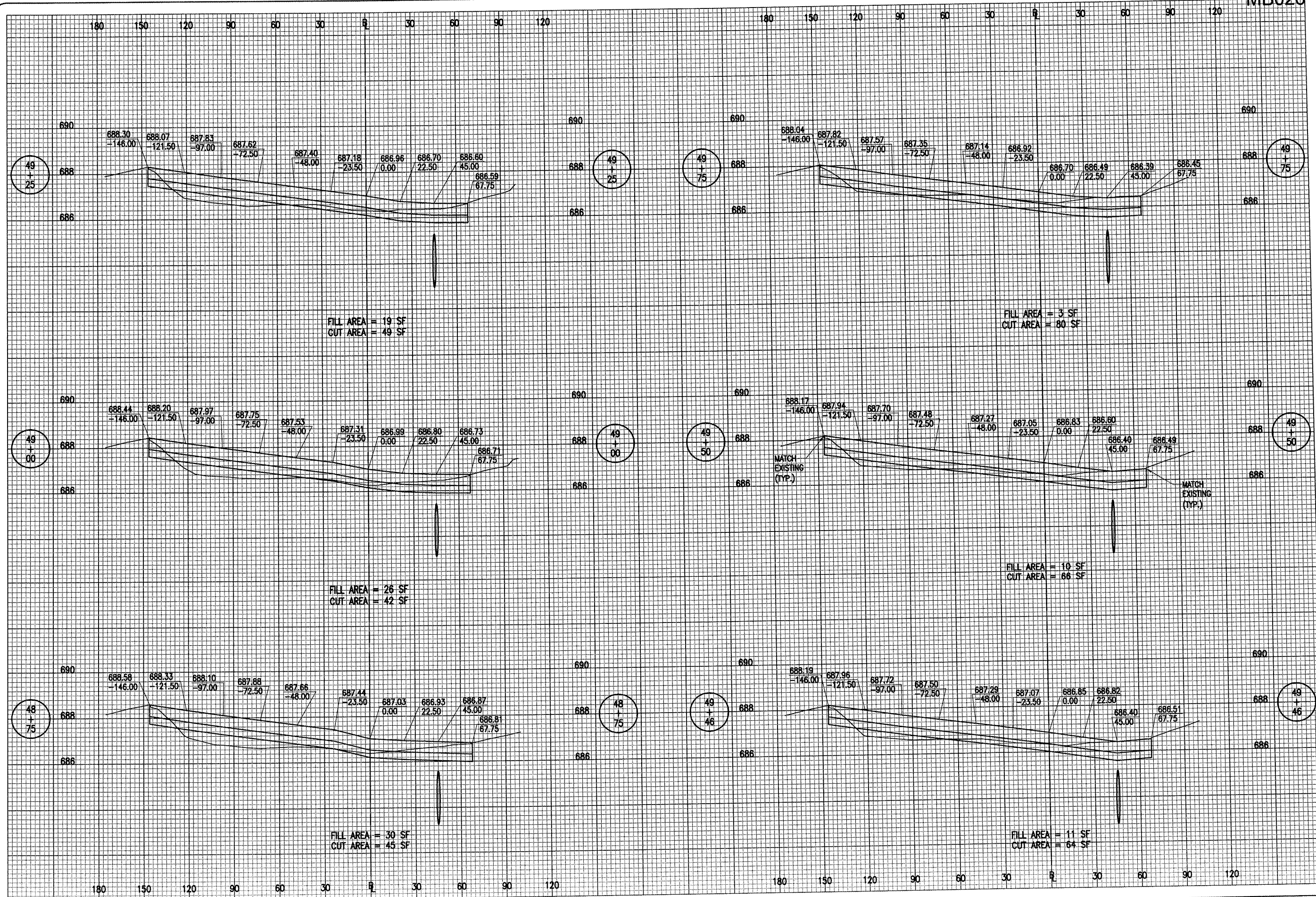
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DATE: 03/31/08		



CONSTRUCT
 RAMP EXPANSION
 PROPOSED CROSS-SECTIONS
 FOR RAMP EXPANSION
 STA. 47+50 TO STA. 48+50

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MB026



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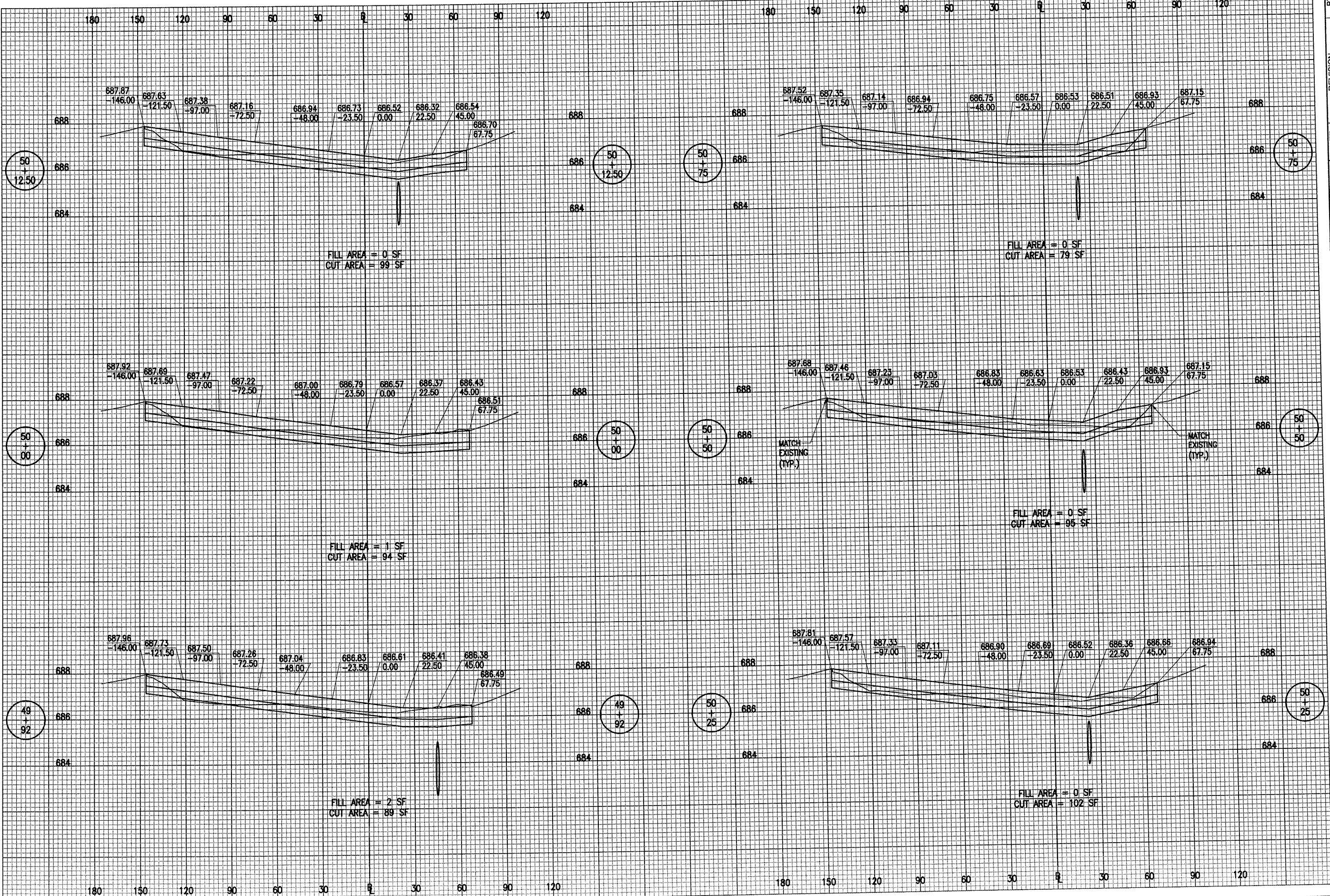
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Element: R-302-RAMP.DWG	DPE	03/31/08
Scale: H. 1" = 30' V. 1" = 2'	CAH	04/24/08
Date: 03/31/08	REVIEWED	



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**CONSTRUCT
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 PROPOSED CROSS-SECTIONS
 FOR RAMP EXPANSION
 STA. 48+75 TO STA. 49+75



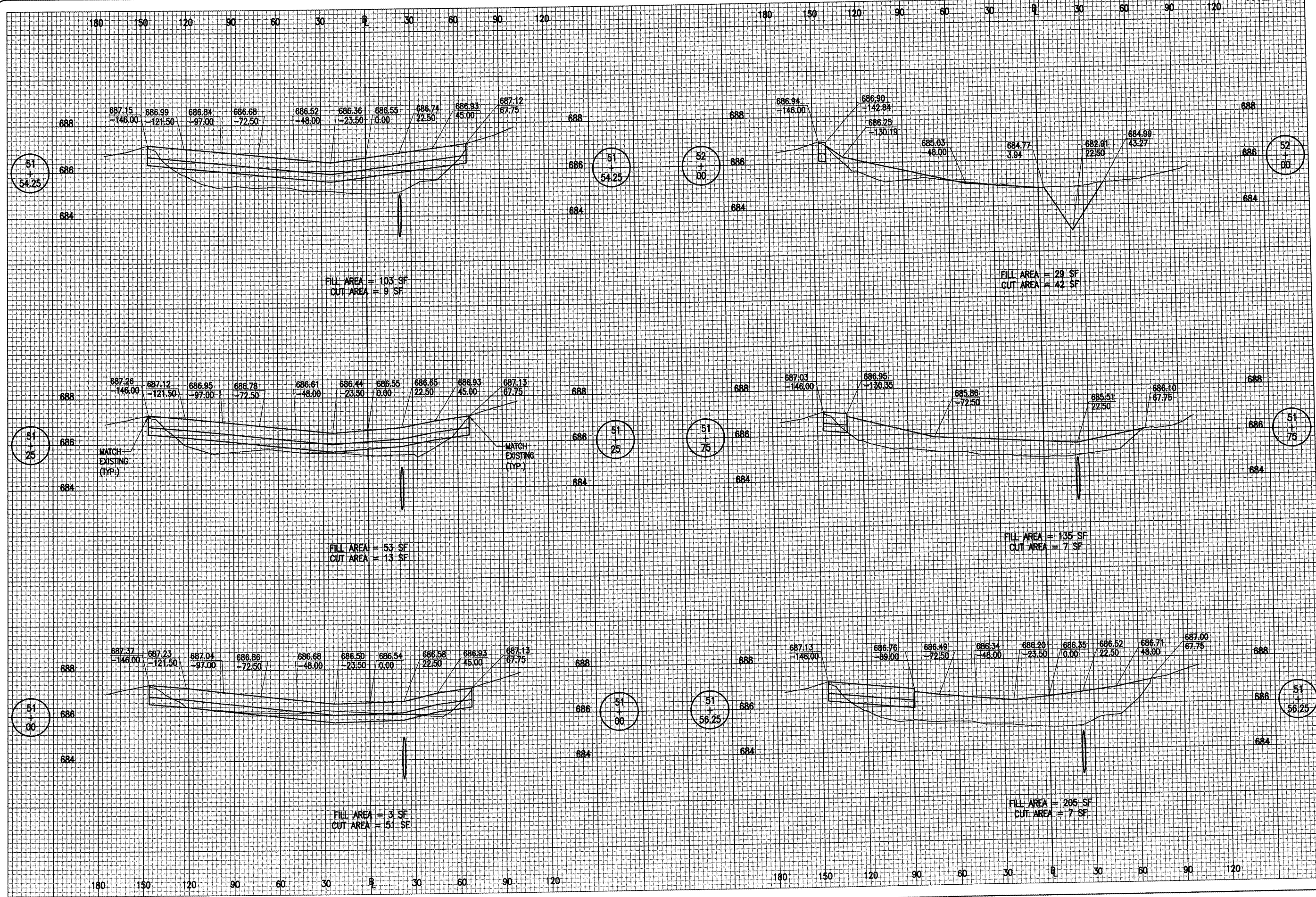
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 MACOMB, ILLINOIS
 A.I.P. PROJ.: 3-17-0064-B16
 I.L. PROJ.: MCB-3798

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Date	03/31/08
LAYOUT	RAW 03/31/08
DRAWN	DPE 03/31/08
REVIEWED	CAH 04/24/08



CONSTRUCT RAMP EXPANSION
 PROPOSED CROSS-SECTIONS
 FOR RAMP EXPANSION
 STA. 49+92 TO STA. 50+75



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IL PROJ.: MOB-3798 A.I.P. PROJ.: 3-17-0064-B16

ILL. Project No. 08A0004D_0800 Filename: R-304-RAMP.DWG Scale: H: 1" = 30' V: 1" = 2' Date: 03/31/08	LAYOUT DRAWN REVIEWED	RAW DPE CAH	03/31/08 03/31/08 04/24/08
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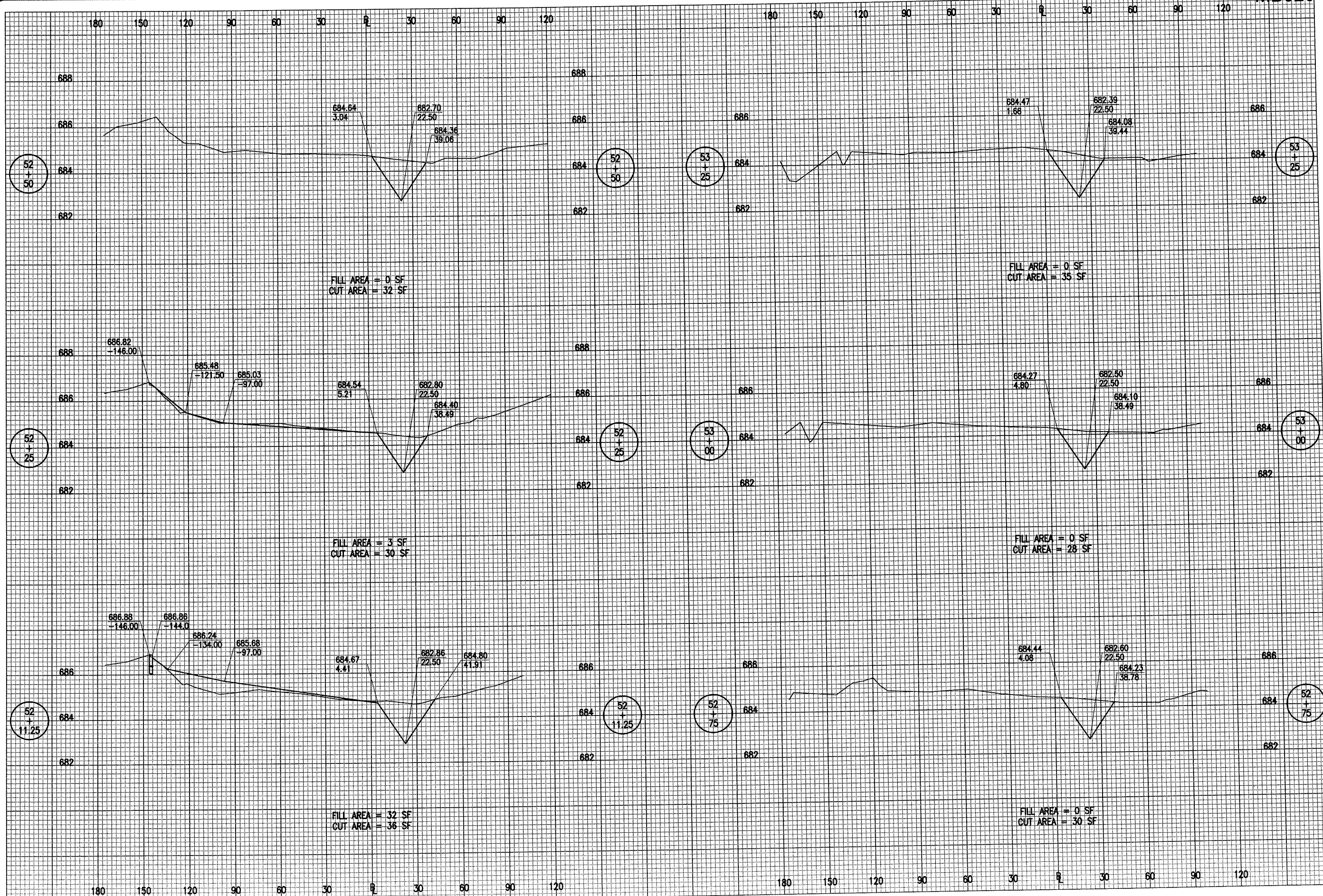


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 PROPOSED CROSS-SECTIONS
 FOR RAMP EXPANSION
 STA. 51+00 TO STA. 52+00

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MB026



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IL PROJ.: MCB-3798 A.I.P. PROJ.: 3-17-0064-B16

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Flare No. R-305-RAMP.DWG	DPE	03/31/08
Scale H. 1" = 30' V. 1" = 2'	CAH	04/24/08
Date 03/31/08		



**CONSTRUCT
 RAMP EXPANSION**

PROPOSED CROSS-SECTIONS
 FOR RAMP EXPANSION
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MB026



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 MACOMB, ILLINOIS**

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Date: 03/31/08	



**CONSTRUCT
 RAMP EXPANSION**

PROPOSED CROSS-SECTIONS
 FOR RAMP EXPANSION
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