


VILLAGE OF LANSING LANSING, ILLINOIS

CONSTRUCTION PLANS FOR LANSING MUNICIPAL AIRPORT

INSTALL RUNWAY 36 CATEGORY I LOCALIZER/DME INCLUDING
CABLING, EQUIPMENT SHELTER AND SITEWORK

EXP: 11-30-2005

David Bajwa
 6-30-2005

FINAL SUBMITTAL



ILLINOIS PROJECT: IGO-3482
A.I.P. PROJECT: 3-17-0121-B23

JUNE 22, 2005

DESIGN INFORMATION
 APPROACH CATEGORY B
 DESIGN GROUP II

LANSING MUNICIPAL AIRPORT
 TOWNSHIP: 36 NORTH BLOOM TOWNSHIP
 RANGE: 15 EAST (SECTION: 8 AND 17)
 COOK COUNTY OPPOSITE GLENWOOD-LANSING ROAD

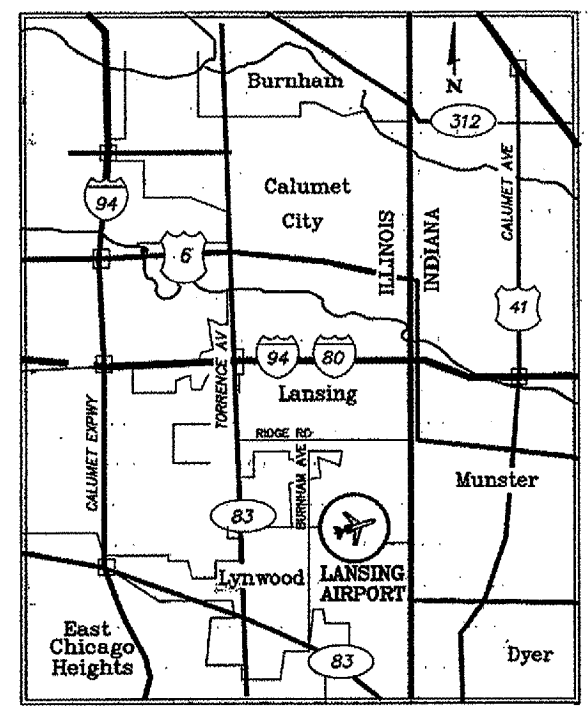
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 04297-03
 CRAWFORD, MURPHY & TILLY, INC.
 CONSULTING ENGINEERS
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 ■ EDWARDSVILLE, ILLINOIS
 ■ EAST ALTON, ILLINOIS
 ■ COLUMBUS, OHIO

 EXP: 11-30-05
 SUBMITTED BY *D. Kyle Peabody, P.E.*
 D. KYLE PEABODY, P.E.
 DATE 6-30-05

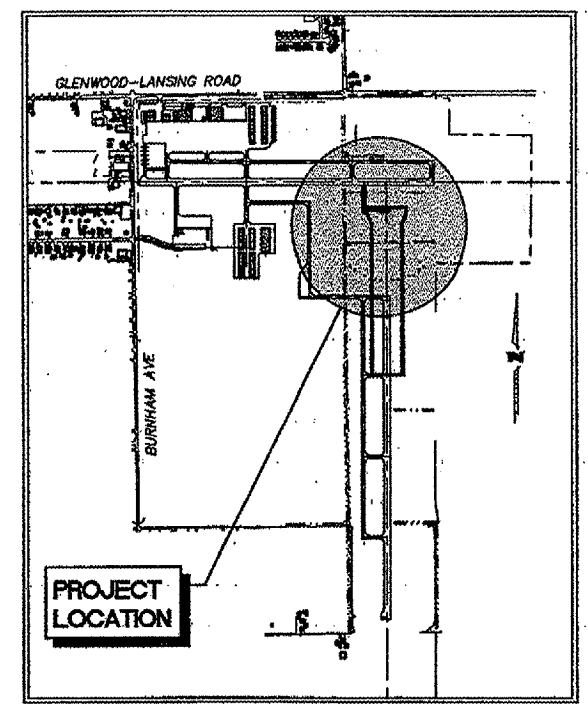
Lansing Municipal
airport
 APPROVED BY *Daniel Podgorski* MAYOR
 DANIEL PODGORSKI
 APPROVED BY *Robert R. Malkas* AIRPORT MANAGER
 ROBERT R. MALKAS
 DATE June 21, 2005

SUMMARY OF QUANTITIES

ITEM NUMBER	DESCRIPTION	UNIT	ESTIMATED QUANTITY	RECORD QUANTITY
AR108082	1/C #2 XLP-USE	LF	160	
AR110214	4" STEEL DUCT, DIRECT BURY	LF	60	
AR110315	6" STEEL DUCT, JACKED	LF	250	
AR110550	SPLIT DUCT	LF	36	
AR127410	LOCALIZER	LS	1	
AR127415	DME	LS	1	
AR127430	SHELTER BUILDING	EACH	1	
AR150510	ENGINEER'S FIELD OFFICE	LS	1	
AR152410	UNCLASSIFIED EXCAVATION	CY	375	
AR152441	ON-SITE BORROW	CY	225	
AR156510	SILT FENCE	LF	700	
AR156513	SEPARATION FABRIC	SY	795	
AR156531	EROSION CONTROL BLANKET	SY	1,000	
AR209606	CRUSHED AGG. BASE COURSE - 6"	SY	320	
AR209610	CRUSHED AGG. BASE COURSE - 10"	SY	475	
AR401610	BITUMINOUS SURFACE COURSE	TON	80	
AR602510	BITUMINOUS PRIME COAT	GAL	100	
AR701212	12" CMP	LF	24	
AR752212	METAL END SECTION 12"	EACH	2	
AR901510	SEEDING	ACRE	0.50	



LOCATION MAP



SITE PLAN

INDEX TO SHEETS

- COVER SHEET
- SITE PLAN AND PROJECT CONTROL PLAN
- SEQUENCE OF CONSTRUCTION PER AC 150/5370-2E (LATEST EDITION)
- SEQUENCE OF CONSTRUCTION GENERAL NOTES AND DETAILS
- STORMWATER POLLUTION PREVENTION PLAN AND DETAILS
- STORMWATER POLLUTION PREVENTION PLAN NOTES
- LOCALIZER/DME SITE DETAIL
- GRADING PLAN / TYPICAL SECTIONS
- LOCALIZER ANTENNA ARRAY FOUNDATION DETAILS
- DME MAST INSTALLATION DETAILS - SHEET 1
- DME MAST INSTALLATION DETAILS - SHEET 2
- 12' x 16' EQUIPMENT SHELTER LOCALIZER / DMEL
- LOCALIZER SHELTER EQUIPMENT LAYOUT - SHEET 1
- LOCALIZER SHELTER EQUIPMENT LAYOUT - SHEET 2
- NUMBERED LEGEND
- SHELTER BUILDING LIGHTNING PROTECTION / ELECTRICAL DETAILS
- ENVIRONMENTAL CONTROL SYSTEM DETAIL
- ENVIRONMENTAL CONTROL SYSTEM WIRING DIAGRAM

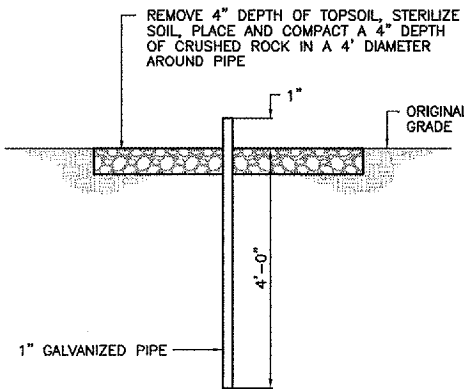
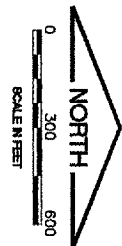
LEGEND

- ⊕ BM #1 BENCHMARK AND NO.
- EXISTING 16" DIA. PIPELINE
- - - EXISTING AIRPORT PROPERTY LINE

WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.

HORIZONTAL CONTROL

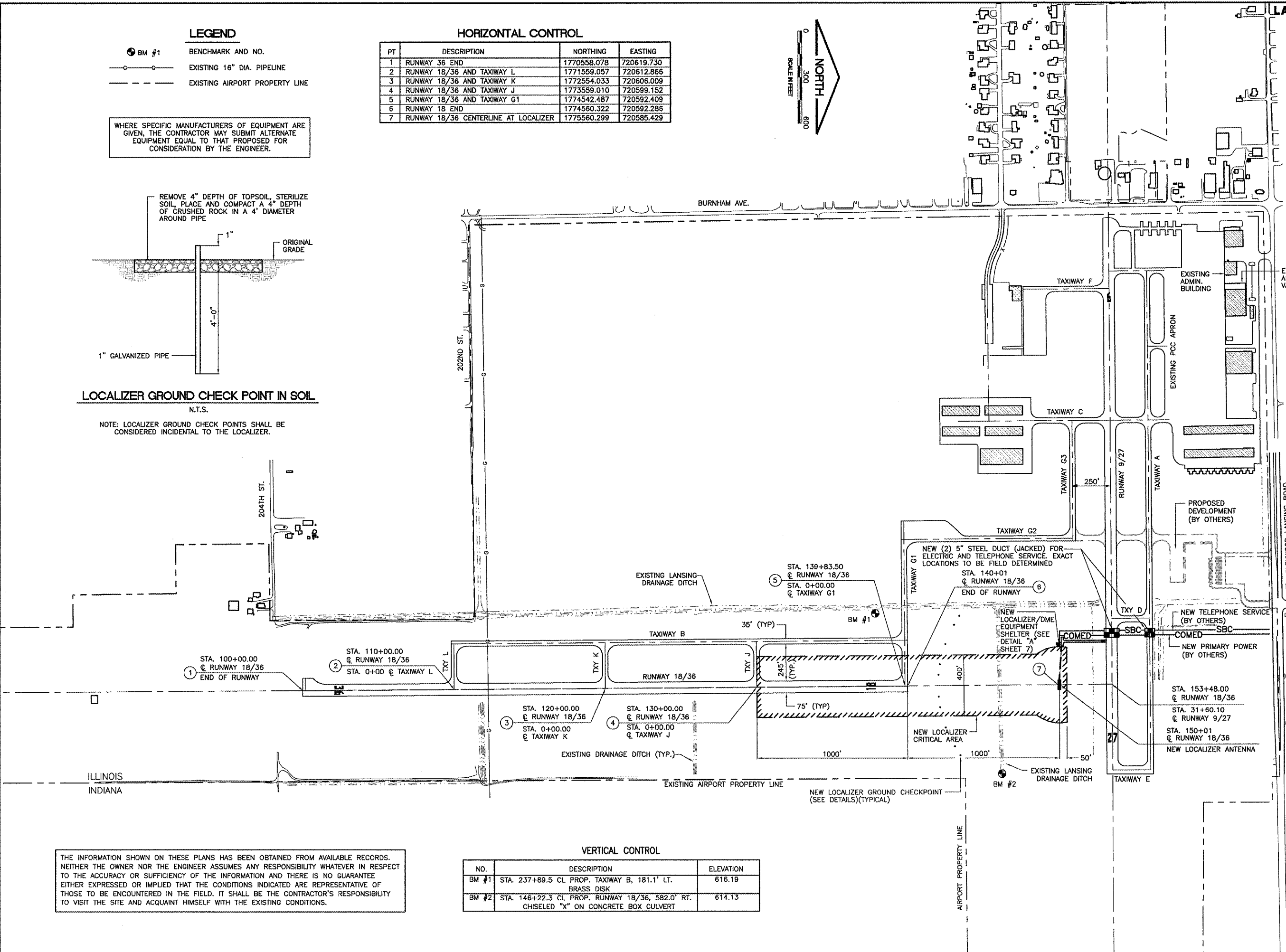
PT	DESCRIPTION	NORTHING	EASTING
1	RUNWAY 36 END	1770558.078	720619.730
2	RUNWAY 18/36 AND TAXIWAY L	1771559.057	720612.866
3	RUNWAY 18/36 AND TAXIWAY K	1772554.033	720606.009
4	RUNWAY 18/36 AND TAXIWAY J	1773559.010	720599.152
5	RUNWAY 18/36 AND TAXIWAY G1	1774542.487	720592.409
6	RUNWAY 18 END	1774580.322	720592.285
7	RUNWAY 18/36 CENTERLINE AT LOCALIZER	1775560.299	720585.429



LOCALIZER GROUND CHECK POINT IN SOIL

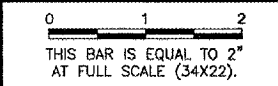
N.T.S.

NOTE: LOCALIZER GROUND CHECK POINTS SHALL BE CONSIDERED INCIDENTAL TO THE LOCALIZER.



REVISIONS

NUMBER	BY	DATE



**LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS**
**INSTALL RUNWAY 36 LOCALIZER
 SITE PLAN AND
 PROJECT CONTROL PLAN**

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DESIGN BY:	MJS
DRAWN BY:	JRO
CHECKED BY:	CAL
APPROVED BY:	
DATE:	06/22/05
JOB No:	04297-03

IL. PROJECT: IGQ-3482
 A.I.P. PROJECT: 3-17-0121-B23

VERTICAL CONTROL

NO.	DESCRIPTION	ELEVATION
BM #1	STA. 237+89.5 CL PROP. TAXIWAY B, 181.1' LT. BRASS DISK	616.19
BM #2	STA. 146+22.3 CL PROP. RUNWAY 18/36, 582.0' RT. CHISELED "X" ON CONCRETE BOX CULVERT	614.13

THE INFORMATION SHOWN ON THESE PLANS HAS BEEN OBTAINED FROM AVAILABLE RECORDS. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO THE ACCURACY OR SUFFICIENCY OF THE INFORMATION AND THERE IS NO GUARANTEE EITHER EXPRESSED OR IMPLIED THAT THE CONDITIONS INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE FIELD. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND ACQUAINT HIMSELF WITH THE EXISTING CONDITIONS.

ILLINOIS
 INDIANA

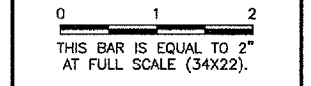
RUNWAY CLOSURE NOTES

1. IN ORDER TO MINIMIZE THE DISRUPTION TO AIR TRAFFIC AT THE LANSING MUNICIPAL AIRPORT, ALL WORK WITHIN RUNWAY 9/27 A.O.A. WILL REQUIRE A RUNWAY CLOSURE. THE CONTRACTOR SHALL BE ALLOWED A 14 CALENDAR DAY RUNWAY CLOSURE TO COMPLETE ALL WORK WITHIN RUNWAY 9/27 A.O.A. THE CONTRACTOR SHALL GIVE THE AIRPORT MANAGER A MINIMUM OF FIVE (5) WORKING DAYS ADVANCE NOTICE OF THE PLANNED RUNWAY CLOSURE.
2. CLOSED RUNWAY MARKERS SHALL BE PLACED PRIOR TO THE INITIATION OF WORK WITHIN THE A.O.A.
3. WORK SHALL BE EXPEDITED WITHIN THE AIR OPERATIONS AREAS AND AT THE END OF THE RUNWAY CLOSURE PERIOD. THESE AREAS SHALL BE SMOOTHLY GRADED TO ALLOW RUNWAY TO BE REOPENED TO THE SATISFACTION OF THE AIRPORT AND ENGINEER.
4. IF DURING RUNWAY CLOSURE AN EMERGENCY IS DECLARED, THE CONTRACTOR SHALL IMMEDIATELY CLEAR THE RUNWAY AND A.O.A. OF ALL VEHICLES, MEN AND EQUIPMENT AT NO ADDITIONAL COST TO THE CONTRACT.
5. SEE SEQUENCE OF CONSTRUCTION GENERAL NOTES AND DETAILS FOR OTHER LIMITATIONS ON CONSTRUCTION WITHIN AIRPORT OPERATIONS AREA (A.O.A.)
6. A TEMPORARY CLOSURE (7 A.M. - 4 P.M.) OF RUNWAY 18/36 WILL BE REQUIRED FOR LOCALIZER GROUND CHECK POINT INSTALLATION. THE AIRPORT MANAGER WILL BE GIVEN NO LESS THAN TWO (2) WORKING DAYS ADVANCE NOTICE OF RUNWAY 18/36 CLOSURE.

CONTRACTOR SHALL PLAN AND PERFORM HIS WORK SO AS NOT TO INTERFERE OR HINDER THE PROGRESS, WORK OR HAUL ROAD ACCESS OF OTHER CONTRACTORS (SEE SPECIAL PROVISIONS SECTION 30-05). THE PRIME CONTRACTOR WILL BE RESPONSIBLE TO COORDINATE CONSTRUCTION ACTIVITIES AND ACCESS BETWEEN ALL ON-SITE CONTRACTORS SUBCONTRACTORS. IT IS ANTICIPATED THE FOLLOWING PROJECTS MAY BE UNDER CONSTRUCTION CONCURRENTLY WITH THIS PROJECT:

- CONSTRUCT NORTH QUADRANT SITE WORK - PHASE 1;
 CONSTRUCT TAXIWAY G2 EXTENSION; GLENWOOD-LANSING ROAD INTERSECTION IMPROVEMENTS

REVISIONS		
NUMBER	BY	DATE



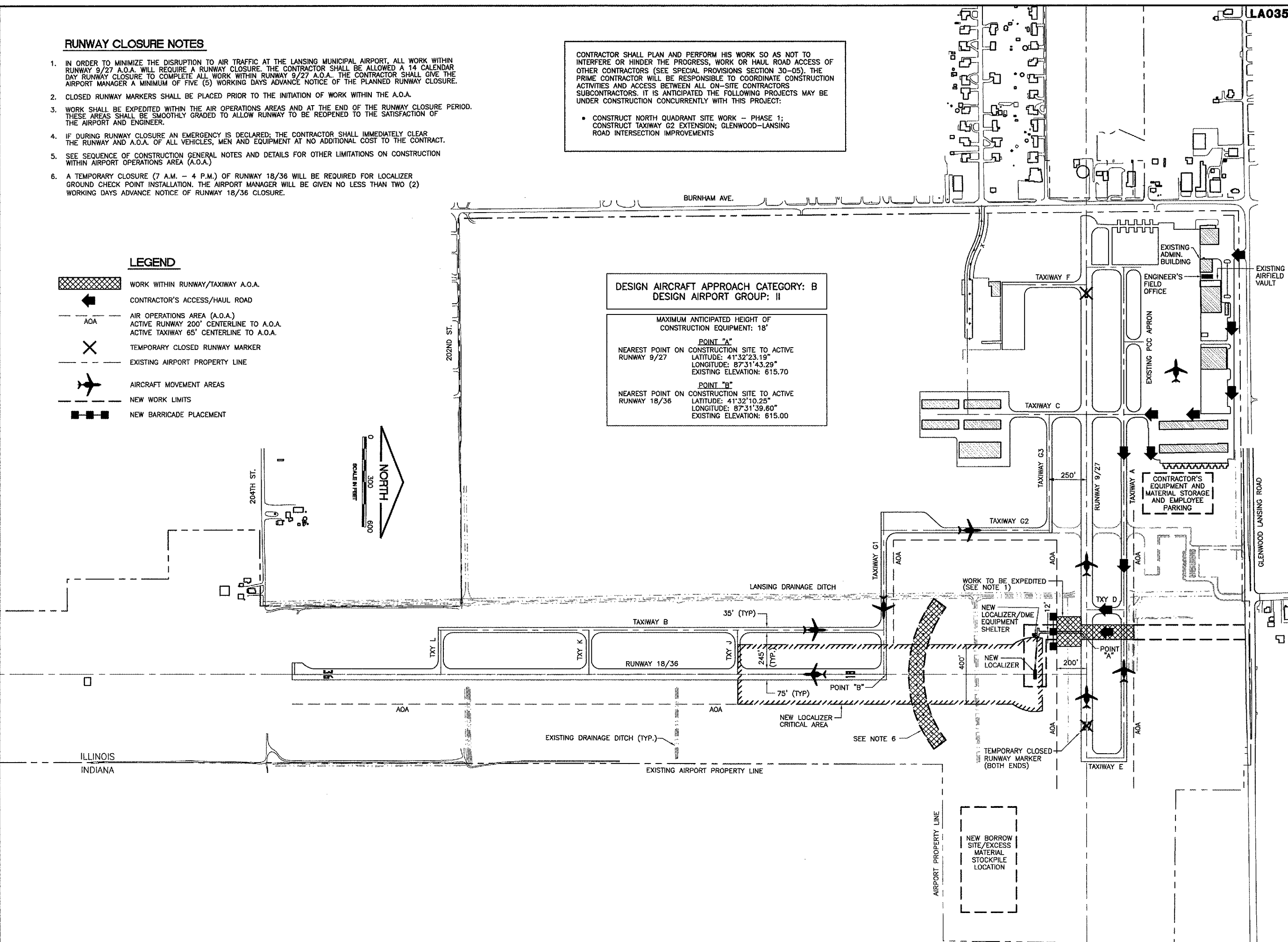
- LEGEND**
- WORK WITHIN RUNWAY/TAXIWAY A.O.A.
 - CONTRACTOR'S ACCESS/HAUL ROAD
 - AIR OPERATIONS AREA (A.O.A.)
 - ACTIVE RUNWAY 200' CENTERLINE TO A.O.A.
 - ACTIVE TAXIWAY 65' CENTERLINE TO A.O.A.
 - TEMPORARY CLOSED RUNWAY MARKER
 - EXISTING AIRPORT PROPERTY LINE
 - AIRCRAFT MOVEMENT AREAS
 - NEW WORK LIMITS
 - NEW BARRICADE PLACEMENT

DESIGN AIRCRAFT APPROACH CATEGORY: B
DESIGN AIRPORT GROUP: II

MAXIMUM ANTICIPATED HEIGHT OF CONSTRUCTION EQUIPMENT: 18'

POINT "A"
 NEAREST POINT ON CONSTRUCTION SITE TO ACTIVE RUNWAY 9/27
 LATITUDE: 41°32'23.19"
 LONGITUDE: 87°31'43.29"
 EXISTING ELEVATION: 615.70

POINT "B"
 NEAREST POINT ON CONSTRUCTION SITE TO ACTIVE RUNWAY 18/36
 LATITUDE: 41°32'10.25"
 LONGITUDE: 87°31'39.60"
 EXISTING ELEVATION: 615.00



**LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS**

**INSTALL RUNWAY 36 LOCALIZER
 SEQUENCE OF CONSTRUCTION
 PER AC 150/5370-2E (LATEST EDITION)**

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Lansing Municipal
airport

DESIGN BY:	MJS
DRAWN BY:	JRO
CHECKED BY:	CAL
APPROVED BY:	
DATE:	06/22/05
JOB No:	04297-03
IL PROJECT:	ICQ-3482
A.I.P. PROJECT:	3-17-0121-B23
SHEET	3 OF 18 SHEETS

GENERAL NOTES

- THE SUGGESTED SEQUENCE OF CONSTRUCTION SHOWN IS INTENDED TO ALLOW FOR THE ORDERLY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS WHILE MAINTAINING AIRCRAFT ACCESS AT ALL TIMES. THE PHASING SHOWN IS A SUGGESTED SEQUENCE OF CONSTRUCTION ONLY. THIS SEQUENCE MAY BE MODIFIED HOWEVER, ALTERNATE STAGING PLANS MUST MAINTAIN AIRPORT OPERATIONS TO THE SATISFACTION OF THE AIRPORT MANAGER AND RESIDENT ENGINEER AND BE APPROVED BY THE DIVISION OF AERONAUTICS AND FEDERAL AVIATION ADMINISTRATION.
- ALL OPERATIONS SHALL BE IN CONFORMANCE WITH AC 150/5370-2E (LATEST EDITION) SAFETY DURING CONSTRUCTION.
- CONTRACTOR'S EQUIPMENT SHALL BE STORED IN THE EQUIPMENT AND MATERIAL STORAGE AREA WHEN CONSTRUCTION IS NOT IN PROGRESS.
- THE AIRPORT MANAGER IN CONSULTATION WITH THE RESIDENT ENGINEER SHALL HAVE FINAL SAY IN THE APPROVAL OF THE CONSTRUCTION OPERATING SEQUENCE AS IT RELATES TO PEDESTRIAN, VEHICULAR AND AIRCRAFT SAFETY.
- ALL EXISTING PAVEMENTS, DRIVES OR ANY OTHER AREAS USED AS A HAUL ROAD OR STORAGE AREA BY THE CONTRACTOR SHALL BE RESTORED IN KIND TO THEIR PRE-CONSTRUCTION CONDITION OR TO THE SATISFACTION OF THE RESIDENT ENGINEER AND AIRPORT MANAGER. THE COST OF MAINTAINING, REPAIRING OR CONSTRUCTING THESE PAVEMENTS AND AREAS SHALL BE INCIDENTAL TO THE CONTRACT. EXISTING AREAS OUTSIDE THE PROJECT LIMITS WHICH ARE DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY HIM AT HIS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND THE AIRPORT MANAGER.
- THE CONTRACTOR SHALL KEEP ALL TRUCKS, EQUIPMENT AND MATERIALS OFF OF THE EXISTING TAXIWAYS, APRONS AND RUNWAYS OUTSIDE OF THE PROJECT LIMITS EXCEPT AS SHOWN OR WITH THE PRIOR PERMISSION OF THE ENGINEER.
- WORK PERFORMED BY THE CONTRACTOR OUTSIDE OF DAYLIGHT HOURS SHALL BE DONE UNDER SUFFICIENT ARTIFICIAL LIGHTING TO ALLOW FOR PROPER CONSTRUCTION METHODS AND INSPECTIONS. LIGHT SHALL CONSIST OF MOVABLE POLE MOUNTED FLOODLIGHTS AND/OR SPOTLIGHTS OF SUFFICIENT NUMBER TO ILLUMINATE THE WORK AREA. VEHICLE HEADLIGHTS WILL BE ALLOWED ONLY IN ADDITION TO OTHER LIGHTS MENTIONED ABOVE. LIGHTING SHALL BE AS APPROVED BY THE ENGINEER AND SHALL NOT BE USED IF THEY AFFECT FLIGHT SAFETY. CONTRACTOR'S WORK HOURS SHALL BE IN ACCORDANCE WITH LOCAL ORDINANCES.
- THE CONTRACTOR SHALL PROVIDE PORTABLE FLOOD LIGHTING FOR NIGHTTIME CONSTRUCTION. SUFFICIENT UNITS SHALL BE PROVIDED SO THAT WORK AREAS ARE ILLUMINATED TO A LEVEL OF FIVE HORIZONTAL FOOT CANDLES. THE LIGHTING LEVELS SHALL BE CALCULATED AND MEASURED IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE ILLUMINATION ENGINEERING SOCIETY. LIGHTS SHALL BE POSITIONED SO AS NOT TO INTERFERE WITH AIRPORT OPERATIONS.
- THE CONTRACTOR WILL BE REQUIRED TO HAVE A SWEEPER AVAILABLE FOR USE AT ALL TIMES. WHEN ACTIVE AIRFIELD PAVEMENTS ARE UTILIZED AS HAUL ROADS BY THE CONTRACTOR, MATERIAL TRACKED ON TO THE PAVEMENT SHALL BE CONTINUALLY REMOVED WITH SAID SWEEPER. THIS SWEEPING SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- MATERIALS REMOVED FROM THE PROJECT WILL BE DISPOSED OF OFF AIRPORT PROPERTY, UNLESS NOTED OTHERWISE.
- PAYMENT FOR TRAFFIC CONTROL INCLUDING, BUT NOT LIMITED TO BARRICADES, SIGNING, RUNWAY CLOSED MARKERS, AIR OPERATIONS AREA (A.O.A.) LATHE AND RIBBON, ETC. SHALL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. BARRICADES AT 10-FOOT CENTERS WITH ONE ORANGE FLAG (24" x 24") BETWEEN EACH SET OF BARRICADES SHALL BE PLACED AT THE LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. BARRICADES SHALL BE WEIGHTED TO PREVENT BLOWING OVER. BARRICADES SHALL HAVE A FLASHING RED LIGHT AND CONFORM TO IDOT STANDARD 702001, TYPE II. BARRICADE INSTALLATION WILL BE REQUIRED PRIOR TO ACCESS TO THE A.O.A. BY CONTRACTOR'S WORKERS, EQUIPMENT OR MATERIAL. SIGNS SHALL BE PLACED AT EACH TAXIWAY/RUNWAY CLOSURE LOCATION AND SHALL BE ATTACHED TO THE BARRICADES. EACH BARRICADE LOCATION SHALL CONSIST OF ONE "DO NOT ENTER" SIGN AND ONE "AIRCRAFT MOVEMENT AREA" SIGN. SIGNS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR SHALL CONTACT THE AIRPORT MANAGER (5) WORKING DAYS IN ADVANCE OF THE START OF CONSTRUCTION SO THAT THE APPROPRIATE NOTAMS MAY BE ISSUED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL CONSTRUCTION ACCESS GATES CLOSED DURING NON WORKING HOURS. THE CONTRACTOR SHALL PROVIDE A SIGN AT THE ACCESS GATE SAYING "AUTHORIZED PERSONNEL ONLY". THE CONTRACTOR SHALL CLOSE AND LOCK THE ACCESS GATE UPON LEAVING THE SITE. THROUGHOUT THE DURATION OF THE CONTRACT, ANY DAMAGES TO THE ACCESS ROAD, ACCESS GATE OR FENCING ADJACENT TO THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE RESIDENT ENGINEER. ALL COST RELATING TO CONTRACTOR'S ACCESS AND SECURITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR WILL BE REQUIRED TO PUT AIRPORT FLAGS AND HAVE BEACON LIGHTS ON ALL EQUIPMENT AT ALL TIMES DURING CONSTRUCTION. SEE FLAG DETAIL, THIS SHEET.
- IN THE CASE OF AN EMERGENCY, CONTRACTOR SHALL NOTIFY AIRPORT MANAGER AND THE ENGINEER IMMEDIATELY.
- DURING ADVERSE WEATHER, THE CONTRACTOR SHALL MAKE PROVISIONS FOR ACCESS TO THE WORK AT NO ADDITIONAL COST TO THE CONTRACT. NO EXTENSION OF CONTRACT TIME WILL BE CONSIDERED FOR DELAYS DUE TO LACK OF ADEQUATE ACCESS TO THE WORK.
- THE TALLEST PIECE OF CONSTRUCTION EQUIPMENT IS ANTICIPATED TO BE AN ASPHALT/STONE TRUCK WHICH HAS A MAXIMUM HEIGHT OF 18 FEET IN A DUMP POSITION.
- IF RUNWAY NUMERALS ARE PRESENT DURING CONSTRUCTION THEN CONTRACTOR SHALL PLACE CLOSED RUNWAY MARKER OVER NUMERALS AS DETAILED, OTHERWISE PLACE RUNWAY CLOSED MARKER IN TURF AT ENDS OF RUNWAY AS DETAILED.
- LANSING MUNICIPAL AIRPORT WILL BE IN OPERATION DURING THE CONSTRUCTION OF THIS PROJECT. COORDINATION OF WORK WITH THE AIRPORT IS MANDATORY SO AS TO MINIMIZE IMPACTS ON AIRPORT OPERATIONS.
- APPROXIMATE LOCATION OF HAUL ROUTES ON THE AIRPORT SITE ARE SHOWN ON THE GENERAL PROJECT LAYOUT AND THE PHASING PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE OFF-SITE HAUL ROUTES (STATE HIGHWAYS, COUNTY ROADS OR CITY STREETS) WITH THE APPROPRIATE OWNER WHO HAS JURISDICTION OVER THE AFFECTED ROUTE. ON-SITE ROADS USED AS HAUL ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THEIR ORIGINAL CONDITION UPON COMPLETION OF BEING USED AS A HAUL ROUTE. THE BEFORE AND AFTER CONDITION OF ON-SITE HAUL ROUTES SHALL BE JOINTLY INSPECTED AND DETERMINED BY THE CONTRACTOR AND THE ENGINEER. FENCING, DRAINAGE, GRADING AND OTHER MISCELLANEOUS CONSTRUCTION REQUIRED TO CONSTRUCT TEMPORARY HAUL ROUTES OR ACCESS POINTS ON THE AIRPORT WILL BE THE CONTRACTOR'S TOTAL RESPONSIBILITY AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE WORK. ALL ON-SITE ACCESS ROADS TO AIRPORT FACILITIES SHALL REMAIN OPEN AND MAINTAINED AT ALL TIMES.

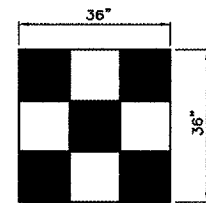
- MOBILIZATION/EQUIPMENT STORAGE AREA WILL BE MADE AVAILABLE FOR CONTRACTOR'S MOBILIZATION AND STORAGE AS SHOWN ON THE PLANS. THIS AREA SHALL BE RESTORED TO THE ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT AT THE CONTRACTOR'S EXPENSE.
- LOCATION OF KNOWN EXISTING AIRPORT UNDERGROUND CABLES ARE SHOWN ON THE PLANS AND MUST BE VERIFIED BY THE CONTRACTOR. REPAIR OF DAMAGED CABLE MUST BE STARTED IMMEDIATELY AND CONTINUED UNTIL COMPLETED. ALL SUCH REPAIRS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, OR AS DIRECTED BY THE OWNER OF THE CABLE, AND SHALL BE AT THE CONTRACTOR'S EXPENSE. IF FAA CABLES ARE DAMAGED, REPAIRS SHALL BE DONE FROM POINT TO POINT IN ACCORDANCE WITH FAA REQUIREMENTS AND IN THE PRESENCE OF A FAA REPRESENTATIVE. THE OWNER MAY ELECT TO HAVE THE REPAIR PERFORMED BY OTHERS IN WHICH CASE THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING THE INCURRED COSTS OF REPAIRS.
- COORDINATION MEETINGS - THE CONTRACTOR SHALL CONDUCT WEEKLY COORDINATION MEETINGS TO DISCUSS WORK AREAS AND SCHEDULING, ETC. WITH THE ENGINEER, AIRPORT OPERATIONS, FAA, AND OTHER APPROPRIATE OFFICIALS. MINUTES FROM THE WEEKLY MEETINGS SHALL BE PREPARED BY THE CONTRACTOR, FURNISHED TO ALL ATTENDEES PRIOR TO THE SUBSEQUENT MEETING, AND KEPT ON FILE AT THE FIELD OFFICE. THE COORDINATION MEETING COSTS SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
- THE CONTRACTOR SHALL PROVIDE THE PHONE NUMBERS OF THREE PERSONNEL, INCLUDING THE PROJECT SUPERINTENDENT, WHO MAY BE CONTACTED IN AN EMERGENCY. PERSONNEL SHALL BE ON CALL 24 HOURS PER DAY FOR MAINTAINING AIRPORT HAZARD LIGHTING AND BARRICADES.
- DRAINAGE MODIFICATIONS SHALL BE SEQUENCED TO PROVIDE POSITIVE DRAINAGE AT ALL TIMES AT NO ADDITIONAL COST TO THE CONTRACT. EXISTING LANSING DRAINAGE FLOWS SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
- VEHICLES AND EQUIPMENT SHALL NOT BE ALLOWED WITHIN 65' FROM ACTIVE TAXIWAYS AND 125' FROM ACTIVE RUNWAYS UNLESS OTHERWISE APPROVED BY THE AIRPORT MANAGER.
- CONTRACTOR SHALL STORE EQUIPMENT AND MATERIALS IN SUCH A MANNER AS NOT TO VIOLATE FEDERAL AVIATION ADMINISTRATION PART 77 SURFACES OR RUNWAY AND TAXIWAY SAFETY AREAS.
- ALL EXISTING TAXIWAY AND RUNWAY AIRFIELD LIGHTING CIRCUITS, FAA CABLES AND OTHER ELECTRICAL CABLES SHALL REMAIN IN SERVICE AT ALL TIMES. ALL EXISTING LIGHTING AND VAULT EQUIPMENT SHALL REMAIN IN SERVICE UNTIL PROPOSED IMPROVEMENTS ARE INSTALLED AND OPERATIONAL, UNLESS OTHERWISE APPROVED BY THE ENGINEER. ANY CABLES DAMAGED BY THE CONTRACTOR SHALL BE IMMEDIATELY REPAIRED AT HIS EXPENSE.
- COORDINATION BY THE CONTRACTOR WITH THE EXISTING UTILITIES SHALL BE COMPLETED BEFORE CONSTRUCTION IS STARTED. CONTRACTOR IS REFERRED TO SECTION 50-17 OF THE SPECIAL PROVISIONS FOR SPECIFIC REQUIREMENTS. THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON THE PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER OR THE DESIGN ENGINEER ASSUME ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED THAT THE LOCATIONS, SIZE AND TYPE MATERIAL OF EXISTING UNDERGROUND UTILITIES AS INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED DURING CONSTRUCTION. 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 COMPANY OF HIS OPERATIONAL PLANS. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DETAILED INFORMATION AND ASSISTANCE IN LOCATING UTILITIES. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY, THE RESIDENT ENGINEER AND THE AIRPORT DIRECTOR. ANY SUCH MAINS AND/OR SERVICES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED IMMEDIATELY AT HIS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND AIRPORT MANAGER.
- ALL AIRFIELD LIGHTING AND LIGHTING GUIDANCE SYSTEMS (NAVAIDS) LOCATED WITHIN AND IMMEDIATELY ADJACENT TO THE CONTRACTOR'S WORK ZONE SHALL BE CHECKED FOR OPERATIONAL CONDITION PRIOR TO THE DEPARTURE FROM THE AIRPORT WITH THE AIRPORT MAINTENANCE. ANY DEFICIENCIES IN THESE SYSTEMS DUE TO THE ACTS OF CONTRACTOR OR HIS SUBCONTRACTORS, SUPPLIERS OR CONSULTANTS SHALL BE REPAIRED IMMEDIATELY.

CONTRACTOR CROSSING AIR OPERATIONS AREA (A.O.A.)

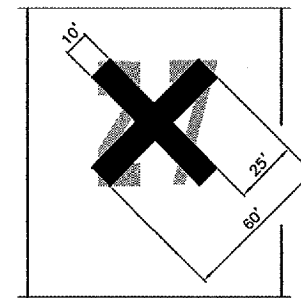
ANYTIME THE CONTRACTOR IS REQUIRED TO UTILIZE OR CROSS ACTIVE AIRFIELD PAVEMENTS FOR ACCESS TO AND FROM THE WORK ZONE, A FULL TIME CROSSING GUARD IN RADIO CONTACT WITH THE AIR TRAFFIC SHALL BE FURNISHED BY THE CONTRACTOR FOR MOVEMENTS OF VEHICLES OR EQUIPMENT TO AND FROM THE WORK ZONE. THE RADIO OPERATOR SHALL BE FAMILIAR WITH AIRPORT GROUND CONTROL PROCEDURES AND DEMONSTRATE KNOWLEDGE OF SAME TO THE AIRPORT. THE AIRPORT RESERVES THE RIGHT TO APPROVE THE CROSSING GUARDS. THE CONTRACTOR SHALL PROVIDE THEIR OWN RADIOS. THIS COST SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF MUNICIPAL FINES (\$500 PER OCCURRENCE) DUE TO AIRFIELD INCURSIONS BY HIS EMPLOYEES, SUBCONTRACTORS, SUPPLIERS, CONSULTANTS AND/OR AGENTS.

ANY PAVEMENT DAMAGED BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY HIM TO THE SATISFACTION OF THE RESIDENT ENGINEER AND AIRPORT MANAGER AT NO ADDITIONAL COST TO THE OWNER. PAVEMENT SHALL BE CONTINUALLY SWEEPED TO PROVIDE DEBRIS FREE SURFACE DURING ALL HAUL ROAD OPERATIONS. THIS COST SHALL NOT BE PAID SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

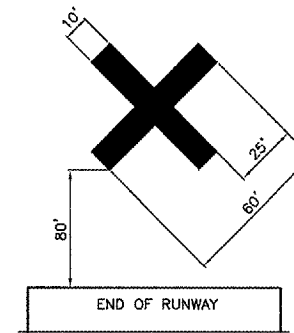
WORK WITHIN THE A.O.A. SHALL BE EXPEDITED. ANY DROP OFF SHALL BE ADEQUATELY LIGHTED, SIGNED AND BARRICADED. NO MATERIAL SHALL BE STOCKPILED WITHIN THE A.O.A. SHOULD IT BE NECESSARY FOR THE CONTRACTOR TO TEMPORARILY RELOCATE EQUIPMENT TO ALLOW AIRCRAFT TO PASS, THEY SHALL DO SO AT NO EXTRA COST TO THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AND AIRPORT MANAGER TWO (2) WORKING DAYS IN ADVANCE OF ANY PLANNED CONSTRUCTION WITHIN THESE LIMITS.



CONSTRUCTION EQUIPMENT AND TRUCK SIGNAL FLAG
NOT TO SCALE



ON PAVEMENT CLOSED RUNWAY MARKER DETAIL
NO SCALE



OFF PAVEMENT CLOSED RUNWAY MARKER DETAIL
NO SCALE

CLOSED RUNWAY MARKER DETAIL NOTES

- CLOSED RUNWAY MARKERS SHALL BE YELLOW.
- MARKERS SHALL BE MATERIAL APPROVED BY THE ENGINEER.
- CONTRACTOR SHALL MAINTAIN AND RELOCATE MARKERS AS SHOWN ON THE PLANS OR AS NEEDED TO FACILITATE CONSTRUCTION.
- MARKERS ON PAVEMENT SHALL BE PLACED OVER EXISTING RUNWAY NUMERALS AS SHOWN.
- COST OF FURNISHING, INSTALLING, MAINTAINING AND REMOVING MARKERS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- DURING VARIOUS PHASES OF WORK, IT WILL BE NECESSARY TO CLOSE RUNWAYS TO AIR TRAFFIC ON A TEMPORARY BASIS AS COORDINATED WITH THE AIRPORT AND TOWER PERSONNEL. THE CONTRACTOR SHALL MARK THE RUNWAYS TO BE CLOSED BY PLACING A YELLOW CROSS AT THE LOCATION AND DIMENSIONS DETAILED ON THIS SHEET. THE CROSSES ARE SHOWN ON THE RESPECTIVE RUNWAYS ACCORDING TO THE VARIOUS PHASES OF WORK AS DELINEATED IN THE SUGGESTED SEQUENCE OF CONSTRUCTION.

LIMITATIONS ON CONSTRUCTION WITHIN AIRPORT OPERATIONS AREA (A.O.A.)

RUNWAYS:

ANY WORK WITHIN 200' OF THE CENTERLINE OF AN ACTIVE RUNWAY SHALL EITHER BE DONE ON WEEKENDS, OFF-PEAK DAYTIME OR NIGHTTIME HOURS, LOCAL TIME AS SHOWN ON THE SEQUENCE OF CONSTRUCTION PLAN SHEETS. ON ANY DAY WHEN CONSTRUCTION IS WITHIN 200' OF THE CENTERLINE OF THE RUNWAY, THE RUNWAY SHALL BE CLOSED. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AND AIRPORT MANAGER TWO (2) WORKING DAYS IN ADVANCE OF ANY PLANNED CONSTRUCTION WITHIN THESE LIMITS. STEEL PLATES IF NECESSARY SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR TO COVER ANY OPEN TRENCHES OR EXCAVATION WITHIN THE A.O.A. IF DURING RUNWAY CLOSURE AN EMERGENCY IS DECLARED, THE CONTRACTOR SHALL IMMEDIATELY CLEAR THE RUNWAY OF ALL VEHICLES, MEN AND EQUIPMENT.

TAXIWAYS / TAXILANES / APRONS:

CONSTRUCTION WILL BE ALLOWED UP TO THE EDGE OF PAVEMENTS WITHOUT CLOSURE ON A LIMITED BASIS. WORK WITHIN THE A.O.A. SHALL BE EXPEDITED. ANY DROP OFF SHALL BE ADEQUATELY LIGHTED, SIGNED AND BARRICADED. NO MATERIAL SHALL BE STOCKPILED WITHIN THE A.O.A. SHOULD IT BE NECESSARY FOR THE CONTRACTOR TO TEMPORARILY RELOCATE EQUIPMENT TO ALLOW AIRCRAFT TO PASS, THEY SHALL DO SO AT NO EXTRA COST TO THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AND AIRPORT MANAGER TWO (2) WORKING DAYS IN ADVANCE OF ANY PLANNED CONSTRUCTION WITHIN THESE LIMITS.

NOTE - ALL PHASES

ALL EXISTING TAXIWAY AND RUNWAY AIRFIELD LIGHTING CIRCUITS, FAA CABLES AND OTHER AIRPORT ELECTRICAL CABLES SHALL REMAIN IN SERVICE UNTIL REPLACED AS ACCEPTABLE TO THE RESIDENT ENGINEER. ALL TEMPORARY CABLING AND SPLICING NECESSARY TO KEEP THE CIRCUITS IN OPERATION SHALL BE CONSIDERED INCIDENTAL TO CONTRACT.

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REVISIONS

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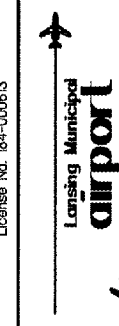
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LANSING MUNICIPAL AIRPORT
LANSING, ILLINOIS

INSTALL RUNWAY 36 LOCALIZER
SEQUENCE OF CONSTRUCTION
GENERAL NOTES AND DETAILS



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DESIGN BY: ARM
DRAWN BY: JRO
CHECKED BY: ARM

APPROVED BY:
DATE: 06/22/05
JOB No: 04297-03

IL PROJECT: IGQ-3482
A.I.P. PROJECT: 3-17-0121-B23

CONSTRUCTION NOTES FOR SILT FENCE

1. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" MIN. AND FOLDED.
2. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. MAINTENANCE, WHICH INCLUDES THE REPLACEMENT OF DAMAGED FENCE, SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE EROSION CONTROL FENCE.
3. SILT FENCE SHALL BE INSTALLED PER STORM WATER POLLUTION PREVENTION PLAN OR AS DIRECTED BY THE ENGINEER.


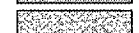
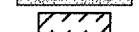
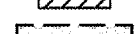

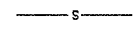
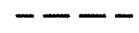
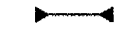
SEE NRCS STANDARD DRAWING NO. IL-530 EROSION BLANKET PLAN (INCLUDED IN SPECIAL PROVISIONS) FOR INSTALLATION DETAIL AND NOTES

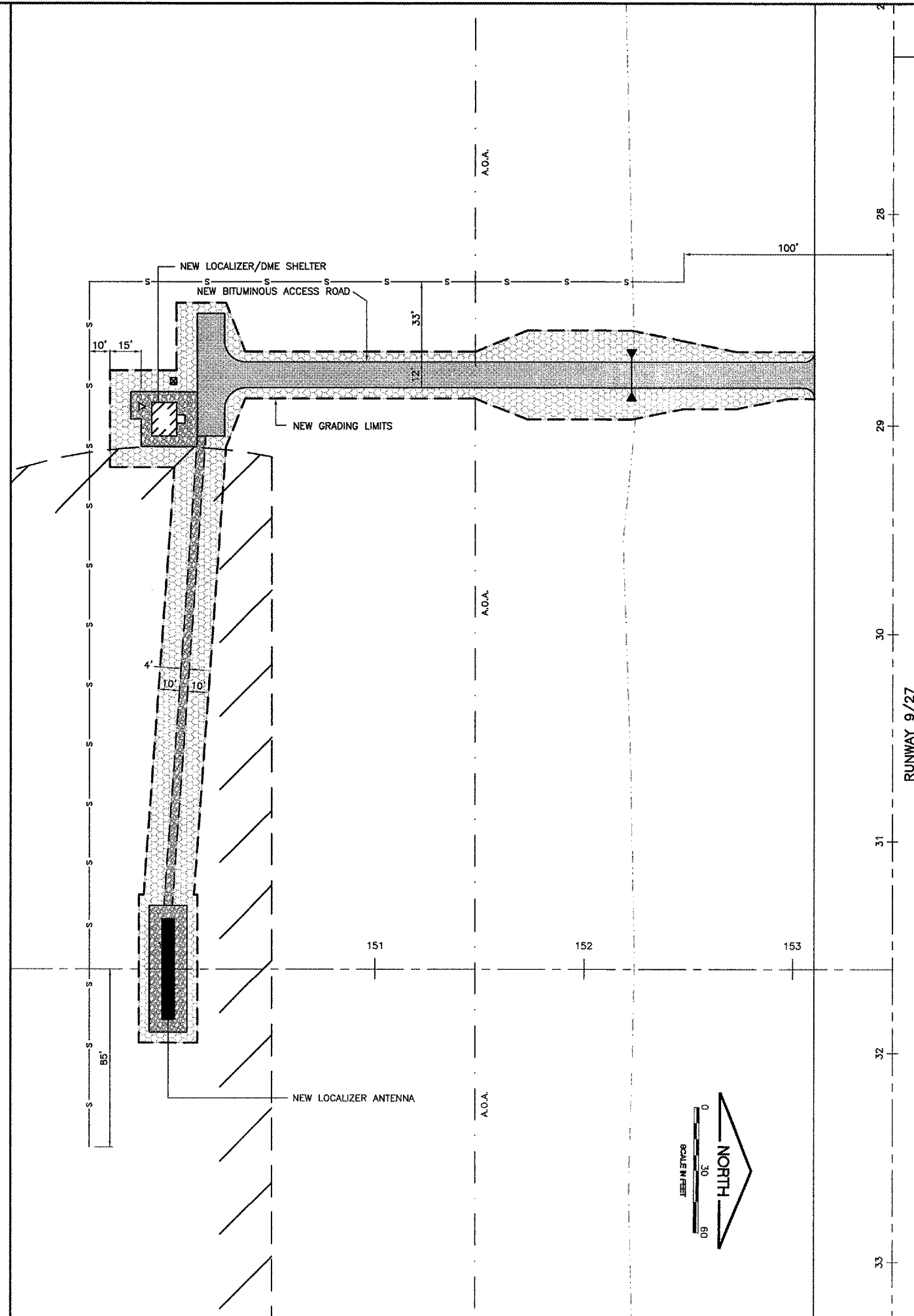
SEE NRCS STANDARD DRAWING NO. IL-620 SILT FENCE PLAN (INCLUDED IN SPECIAL PROVISIONS) FOR INSTALLATION DETAIL AND ADDITIONAL NOTES

GENERAL NOTES

1. ALL PROJECT AREAS, INCLUDING STOCKPILES, ABANDONED HAUL ROADS AND STAGING AREAS, AS SHOWN ON THE PLANS, SHALL HAVE 4 INCHES OF TOPSOIL PLACED AND BE SEEDED AND BLANKETED IN ACCORDANCE WITH THE SPECIFICATIONS. AREAS DISTURBED OUTSIDE THE PROJECT LIMITS WILL BE SEEDED AND BLANKETED BY THE CONTRACTOR AT HIS COST AND RESTORED TO ORIGINAL CONDITIONS.
2. FOR MORE INFORMATION, SEE STORMWATER POLLUTION PREVENTION NOTES ON SHEET 6 AND DETAILS INCLUDED IN SPECIAL PROVISIONS.
3. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH 1/2" RAIN EVENT.
4. THE CONTRACTOR SHALL HAVE A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN ON THE SITE AT ALL TIMES.

LEGEND

-  NEW BITUMINOUS PAVEMENT
-  NEW AGGREGATE PAD/WALKWAY
-  NEW LOCALIZER SHELTER BUILDING
-  NEW SEED (901) AND EROSION CONTROL BLANKET (156)
-  NEW SILT FENCE
-  NEW GRADING LIMITS
-  NEW CULVERT AND END SECTION
-  EXISTING AIR OPERATION LINE (A.O.A.)



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**LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS**

**INSTALL RUNWAY 36 LOCALIZER
 STORMWATER POLLUTION PREVENTION
 PLAN AND DETAILS**

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Lansing Municipal
airport

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 APPROVED BY:
 DATE: 06/22/05
 JOB No: 04297-03
 I.L. PROJECT: IGQ-3482
 A.I.P. PROJECT: 3-17-0121-B23
 SHEET 5 OF 18 SHEETS

STORM WATER POLLUTION PREVENTION PLAN

THE FOLLOWING PLAN IS ESTABLISHED AND INCORPORATED IN THE PROJECT TO DIRECT THE CONTRACTOR IN THE PLACEMENT OF TEMPORARY EROSION CONTROL SYSTEMS AND TO PROVIDE A STORM WATER POLLUTION PREVENTION PLAN FOR COMPLIANCE WITH NPDES.

THE PURPOSE OF THIS PLAN IS TO MINIMIZE EROSION WITHIN THE CONSTRUCTION SITE AND TO LIMIT SEDIMENTS FROM LEAVING THE SITE BY UTILIZING PROPER TEMPORARY EROSION CONTROL SYSTEMS AND PROVIDING GROUND COVER WITHIN A REASONABLE AMOUNT OF TIME.

CERTAIN EROSION CONTROL FACILITIES SHALL BE INSTALLED BY THE CONTRACTOR AT THE BEGINNING OF CONSTRUCTION. OTHER ITEMS SHALL BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER ON A CASE BY CASE SITUATION DEPENDING ON THE CONTRACTOR'S SEQUENCE OF ACTIVITIES, TIME OF YEAR, AND EXPECTED WEATHER CONDITIONS.

THE CONTRACTOR SHALL INSTALL PERMANENT EROSION CONTROL SYSTEMS AND SEEDING WITHIN A TIMEFRAME SPECIFIED HEREIN AND AS DIRECTED BY THE ENGINEER, THEREFORE MINIMIZING THE AMOUNT OF AREA SUSCEPTIBLE TO EROSION AND REDUCING THE AMOUNT OF TEMPORARY SEEDING, WHICH WILL BE THE CONTRACTOR'S COST. THE ENGINEER WILL DETERMINE IF ANY TEMPORARY EROSION CONTROL SYSTEMS SHOWN IN THE PLAN CAN BE DELETED AND IF ANY ADDITIONAL TEMPORARY EROSION CONTROL SYSTEMS, WHICH ARE NOT INCLUDED IN THIS PLAN, SHALL BE ADDED. THE CONTRACTOR SHALL PERFORM ALL WORK AS DIRECTED BY THE ENGINEER AND AS SHOWN ON THE PLANS.

SITE DESCRIPTION

THE FOLLOWING IS A DESCRIPTION OF THE CONSTRUCTION ACTIVITY WHICH IS THE SUBJECT OF THIS PLAN:

THIS PROJECT CONSISTS OF CONSTRUCTING A CATEGORY 1 LOCALIZER/DME AT THE LANSING MUNICIPAL AIRPORT. THE PROJECT INCLUDES EXCAVATION, EMBANKMENT, DRAINAGE, PAVING, SHELTER ERECTION, VARIOUS ELECTRICAL IMPROVEMENTS AND OTHER MISCELLANEOUS CONSTRUCTION WORK.

THE FOLLOWING IS A DESCRIPTION OF THE INTENDED SEQUENCE OF MAJOR ACTIVITIES WHICH WILL DISTURB SOILS FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE, SUCH AS EXCAVATION AND GRADING:

1. EXCAVATION, EMBANKMENT AND DRAINAGE WILL BE COMPLETED WITHIN THE PROJECT LIMITS TO PROVIDE ACCESS TO THE LOCALIZER SITE
2. PLACEMENT, MAINTENANCE, REMOVAL AND PROPER CLEAN-UP OF TEMPORARY EROSION CONTROL, SUCH AS PERIMETER SILT FENCE AND INLET PROTECTION.
3. PAVEMENT CONSTRUCTION.
4. ELECTRICAL IMPROVEMENTS AND SHELTER ERECTION.
5. FINAL GRADING AND OTHER MISCELLANEOUS ITEMS.
6. PLACEMENT OF PERMANENT EROSION CONTROL, SUCH AS SEEDING AND MULCHING.

AREA OF CONSTRUCTION SITE

THE TOTAL AREA OF THE CONSTRUCTION SITE IS ESTIMATED TO BE 0.8 ACRES OF WHICH 0.8 ACRES WILL BE DISTURBED BY EXCAVATION, GRADING AND OTHER ACTIVITIES.

OTHER REPORTS, STUDIES AND PLANS WHICH AID IN THE DEVELOPMENT OF THE STORM WATER POLLUTION PREVENTION PLAN AS REFERENCED DOCUMENTS:

1. INFORMATION ON THE TERRAIN WITHIN THE SITE WAS OBTAINED FROM TOPOGRAPHIC SURVEYS THAT WERE UTILIZED FOR THE DEVELOPMENT OF THE PROPOSED TEMPORARY EROSION CONTROL SYSTEMS.
2. PROJECT PLAN DOCUMENTS, SPECIFICATION AND SPECIAL PROVISIONS, AND PLAN DRAWINGS INDICATING DRAINAGE PATTERNS AND APPROXIMATE SLOPES ANTICIPATED AFTER GRADING ACTIVITIES WERE UTILIZED FOR THE PROPOSED PLACEMENT OF THE TEMPORARY EROSION CONTROL SYSTEMS.

DRAINAGE TRIBUTARIES AND SENSITIVE AREAS RECEIVING RUNOFF FROM THIS CONSTRUCTION SITE:

THE CONSTRUCTION SITE DRAINS INTO THE LANSING DRAINAGE DITCH THROUGH OVERLAND FLOW.

SEDIMENTATION AND EROSION CONTROL NOTES

THE WILL/SOUTH COOK SOIL AND WATER CONSERVATION DISTRICT (SWCD) IS RESPONSIBLE FOR CONDUCTING SITE VISITS AND VERIFYING THAT THE PRACTICES ARE WORKING PROPERLY AND DETERMINE IF ADDITIONAL PRACTICES ARE NEEDED FOR BETTER SOIL EROSION AND SEDIMENT CONTROL. IF ADDITIONAL PRACTICES ARE DEEMED NECESSARY BY THE SWCD THE CONTRACTOR WILL IMPLEMENT THE PRACTICES IN A TIMELY MANNER. THE ADDITIONAL PRACTICES (IF REQUIRED) SHALL BE COORDINATED WITH THE RESIDENT ENGINEER BEFORE WORK BEGINS.

THE WILL/SOUTH COOK SOIL AND WATER CONSERVATION DISTRICT MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITIES, AND ONE WEEK PRIOR TO FINAL INSPECTION.

THE SOIL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSPECTED WEEKLY AND AFTER 1/2 INCH OF RAIN OR MORE BY THE RESIDENT ENGINEER.

ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE REFERENCED FROM THE ILLINOIS URBAN MANUAL.

THE DRAWINGS, SPECIFICATIONS AND SPECIAL PROVISIONS WILL ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE ATTAINABLE AND DISTURBED PORTIONS OF THE SITE WILL BE STABILIZED. STABILIZATION PRACTICES INCLUDE SEEDING AND MULCHING AS DIRECTED BY THE ENGINEER. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

AS SOON AS REASONABLE ACCESS IS AVAILABLE TO ALL LOCATIONS WHERE WATER DRAINS AWAY FROM THE PROJECT, INLET PROTECTION AND PERIMETER SILT FENCE SHALL BE INSTALLED AS CALLED OUT IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

THIS PLAN HAS BEEN PREPARED TO COMPLY WITH THE PROVISIONS OF THE NPDES PERMIT NUMBER ILR10, ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY FOR STORM WATER DISCHARGES FROM CONSTRUCTION SITE ACTIVITIES.

DESCRIPTION OF STABILIZATION PRACTICES DURING CONSTRUCTION:

DURING CONSTRUCTION, AREAS OUTSIDE THE CONSTRUCTION LIMITS AS OUTLINED PREVIOUSLY HEREIN SHALL BE PROTECTED. THE CONTRACTOR SHALL NOT USE THIS AREA FOR STAGING (EXCEPT AS DESCRIBED ON THE PLANS AND DIRECTED BY THE ENGINEER), PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.

1. WITHIN THE CONSTRUCTION LIMITS, AREAS WHICH MAY BE SUSCEPTIBLE TO EROSION AS DETERMINED BY THE ENGINEER SHALL REMAIN UNDISTURBED UNTIL FULL SCALE CONSTRUCTION IS UNDERWAY TO PREVENT UNNECESSARY SOIL EROSION.
2. EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED, AT THE CONTRACTORS EXPENSE, IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN DAYS.
3. AS CONSTRUCTION PROCEEDS, THE CONTRACTOR SHALL INSTITUTE THE FOLLOWING AS DIRECTED BY THE ENGINEER:
 - A. PLACE TEMPORARY EROSION CONTROL FACILITIES AT LOCATIONS SHOWN ON THE PLANS.
 - B. CONSTRUCT DITCHES AND PROVIDE TEMPORARY EROSION CONTROL SYSTEMS.
 - C. BUILD NECESSARY EMBANKMENT AT CULVERT/STORM SEWER LOCATIONS AND THEN EXCAVATE AND PLACE PIPE.
 - D. EXCAVATED AREAS AND EMBANKMENT AREAS SHALL BE PERMANENTLY SEEDED IMMEDIATELY AFTER FINAL GRADING. IF NOT, THEY SHALL BE TEMPORARILY SEEDED, AT THE CONTRACTOR'S COST, IF NO CONSTRUCTION ACTIVITY IN THE AREA IS PLANNED FOR SEVEN DAYS.
4. CONSTRUCTION EQUIPMENT SHALL BE STORED AND FUELED ONLY AT DESIGNATED LOCATIONS. ALL NECESSARY MEASURES SHALL BE TAKEN TO CONTAIN ANY FUEL OR POLLUTANT IN ACCORDANCE WITH EPA WATER QUALITY REGULATIONS. LEAKING EQUIPMENT OR SUPPLIES SHALL BE IMMEDIATELY REPAIRED OR REMOVED FROM THE SITE.
5. SEDIMENT COLLECTED DURING CONSTRUCTION OF THE VARIOUS TEMPORARY EROSION CONTROL SYSTEMS SHALL BE DISPOSED OF ON SITE ON A REGULAR BASIS AS DIRECTED BY THE ENGINEER. THE COST OF THIS MAINTENANCE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR UNCLASSIFIED EXCAVATION AND EROSION CONTROL ITEMS.
6. THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AFTER USE IS NO LONGER NEEDED OR NO LONGER FUNCTIONING. THE COST OF THIS REMOVAL SHALL BE INCLUDED IN THE UNIT BID PRICE FOR VARIOUS TEMPORARY EROSION CONTROL PAY ITEMS.

DESCRIPTION OF STRUCTURAL PRACTICES AFTER FINAL GRADING:

TEMPORARY EROSION CONTROL SYSTEMS SHALL BE LEFT IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY AND ALL PROPOSED TURF AREAS ARE SEEDED AND ESTABLISHED.

ONCE PERMANENT EROSION CONTROL SYSTEMS AS PROPOSED IN THE PLANS ARE FUNCTIONAL AND ESTABLISHED, TEMPORARY ITEMS SHALL BE REMOVED, CLEANED UP, AND DISTURBED TURF RESEEDED.

MAINTENANCE AFTER CONSTRUCTION

CONSTRUCTION IS COMPLETE AFTER FINAL ACCEPTANCE BY THE ILLINOIS DIVISION OF AERONAUTICS. MAINTENANCE UP TO THIS DATE WILL BE REQUIRED BY THE CONTRACTOR.

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**LANSING MUNICIPAL AIRPORT
LANSING, ILLINOIS**

**INSTALL RUNWAY 36 LOCALIZER
STORM WATER POLLUTION PREVENTION
PLAN NOTES**

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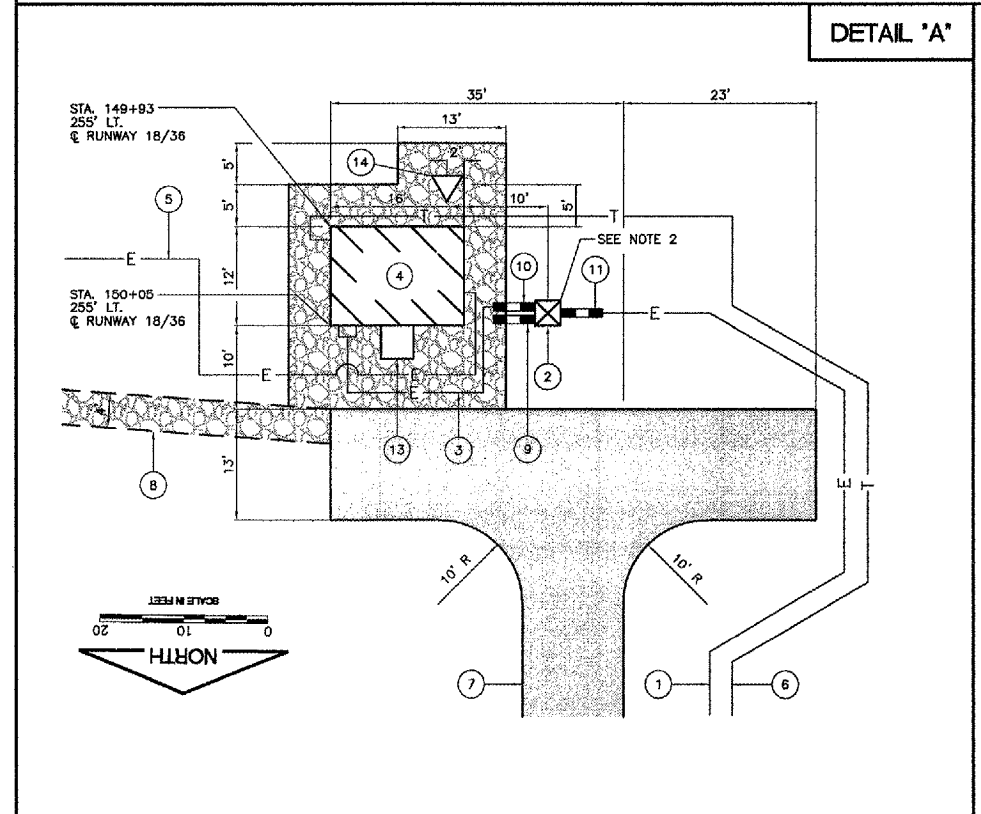
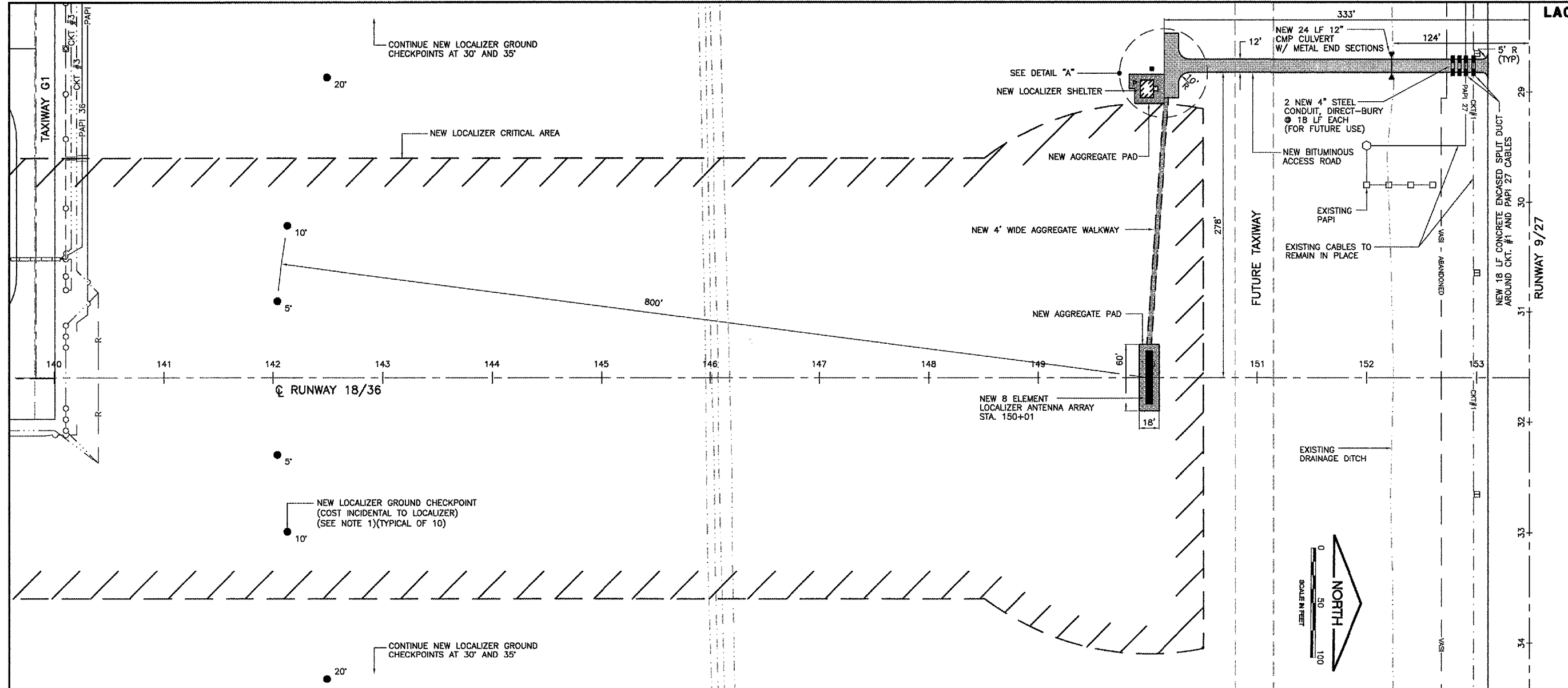
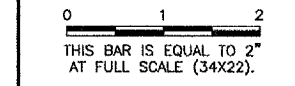
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CHECKED BY: ARM
APPROVED BY:
DATE: 06/22/05
JOB No: 04297-03

IL PROJECT: IGQ-3482
A.I.P. PROJECT: 3-17-0121-B23

SHEET 6 OF 18 SHEETS

REVISIONS		
NUMBER	BY	DATE



NOTES

- LOCALIZER GROUND CHECKPOINTS ARE SHOWN IN 800' RADIUS FROM CENTER POINT OF THE ANTENNA ARRAY. THE EXACT DISTANCE SHALL BE AS RECOMMENDED BY THE ILS MANUFACTURER.
- CONTRACTOR SHALL INSTALL CONCRETE PAD, CONDUITS AND GROUNDING ELECTRODES FOR THE TRANSFORMER PER UTILITY COMPANY REQUIREMENTS. COST INCIDENTAL TO EQUIPMENT SHELTER.
- WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.
- TO ENSURE CONFORMANCE TO SPECIFICATIONS, AN FAA REPRESENTATIVE MAY VISIT THE SITE AT ANY TIME.

NUMBERED LEGEND

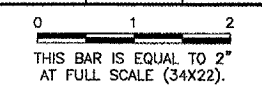
- COMED UNDERGROUND PRIMARY CABLE (BY OTHERS).
- COMED 25KVA PAD-MOUNTED TRANSFORMER, PRIMARY TO 120/240V, SINGLE PHASE (BY OTHERS) SEE NOTE 1.
- 3-1/2" TYPE U.S.E. POWER CABLES FROM UTILITY TRANSFORMER TO UTILITY METER.
- 12'x18' LOCALIZER EQUIPMENT SHELTER (SEE SHEET 12).
- LOCALIZER CABLES TO LOCALIZER ANTENNA FOUNDATION. (5-1/2 HELIAX CABLES, 1-12 PR#19 CONTROL, 3-1/2" TYPE U.S.E. POWER, 1#2 BARE COPPER WIRE AND 1#1/0 BARE COUNTERPOISE CABLE.)
- TELEPHONE CABLES TO BE FURNISHED AND INSTALLED BY SERVING TELEPHONE COMPANY (SBC). CONTRACTOR SHALL COORDINATE SUCH INSTALLATION WITH SBC PRIOR TO CABLE INSTALLATION.
- NEW BITUMINOUS ACCESS ROAD/TURNAROUND AREA.
- 4' WIDE CRUSHED STONE WALKWAY TO LOCALIZER ANTENNA (6" THICK).
- 4" GRS CONDUIT (SPARE), EXTENDED AND CAPPED MIN. 5' AWAY FROM TRANSFORMER PAD.
- 4" GRS CONDUIT FOR ITEM 3 EXTENDED MIN. 5' AWAY FROM TRANSFORMER PAD.
- 4" GRS CONDUIT EXTENDED MIN. 5' AWAY FROM TRANSFORMER PAD FOR ITEM 1.
- UTILITY METER AND METER BASE. METER TO BE SUPPLIED BY UTILITY COMPANY AND BASE TO BE FURNISHED & INSTALLED BY CONTRACTOR PER UTILITY REQUIREMENTS.
- 4'x4'x6" CONCRETE PAD.
- NEW DME ANTENNA.

**LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS
 INSTALL RUNWAY 36 LOCALIZER
 LOCALIZER/DME SITE DETAIL**

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**LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS**

INSTALL RUNWAY 36 LOCALIZER

**GRADING PLAN/
 TYPICAL SECTIONS**

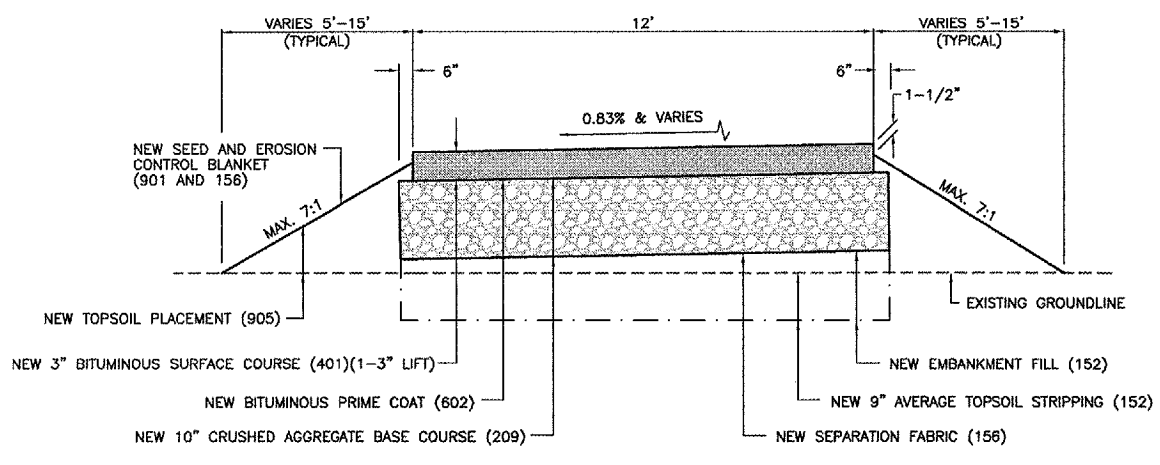
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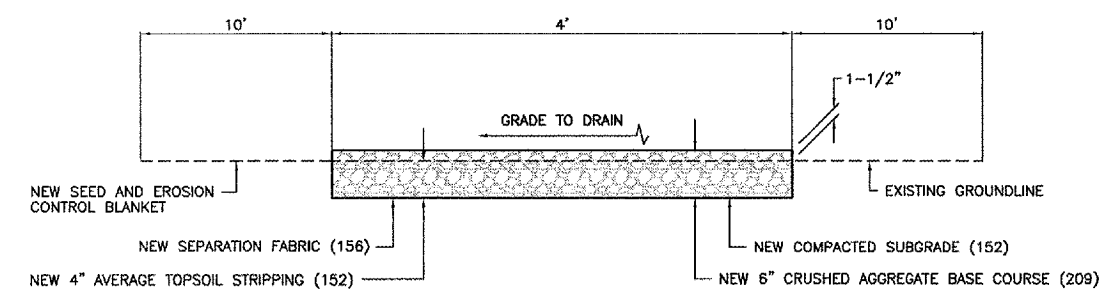
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A.I.P. PROJECT:	3-17-0121-823

SHEET 8 OF 18 SHEETS



BITUMINOUS ACCESS ROAD - TYPICAL SECTION
 N.T.S.



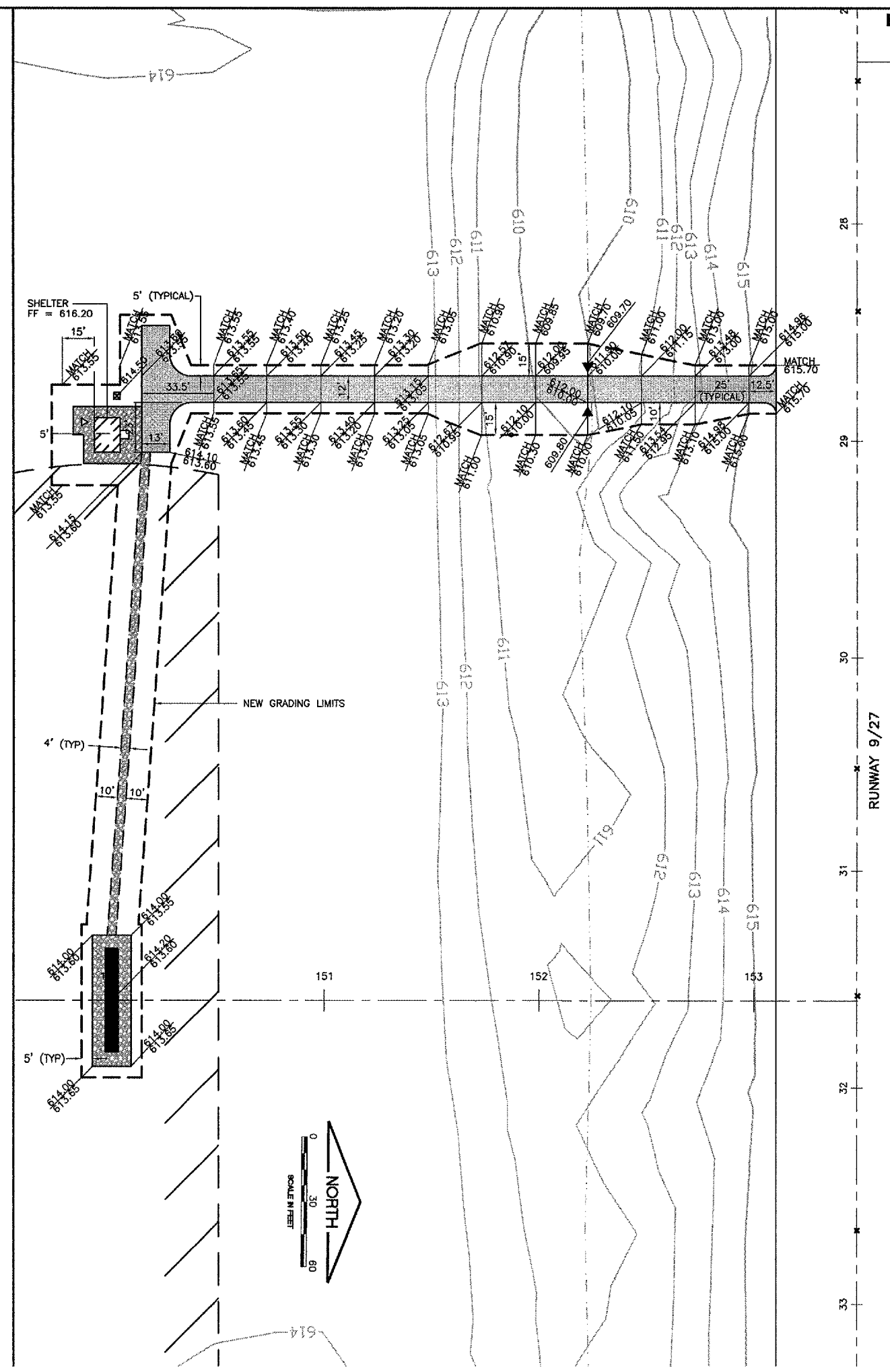
AGGREGATE WALKWAY - TYPICAL SECTION
 N.T.S.

NOTES

1. THE APPROXIMATE LOCATION OF THE NEW BORROW SITE/EXCESS MATERIAL STOCKPILE IS SHOWN ON SHEET 3. THE CONTRACTOR SHALL COORDINATE EXACT LOCATIONS WITH THE RESIDENT ENGINEER AND AIRPORT.
2. UNCLASSIFIED EXCAVATION IS THE SUM OF TOPSOIL STRIPPING AND UNCLASSIFIED EXCAVATION AND IS TO BE PAID FOR UNDER AR152410 IN ITS INITIAL POSITION.
3. TOPSOIL PLACEMENT AND EMBANKMENT FILL ARE INCIDENTAL TO UNCLASSIFIED EXCAVATION/ON-SITE BORROW. NO SEPARATE PAYMENT WILL BE MADE FOR TOPSOIL PLACEMENT OR EMBANKMENT FILL.

LEGEND

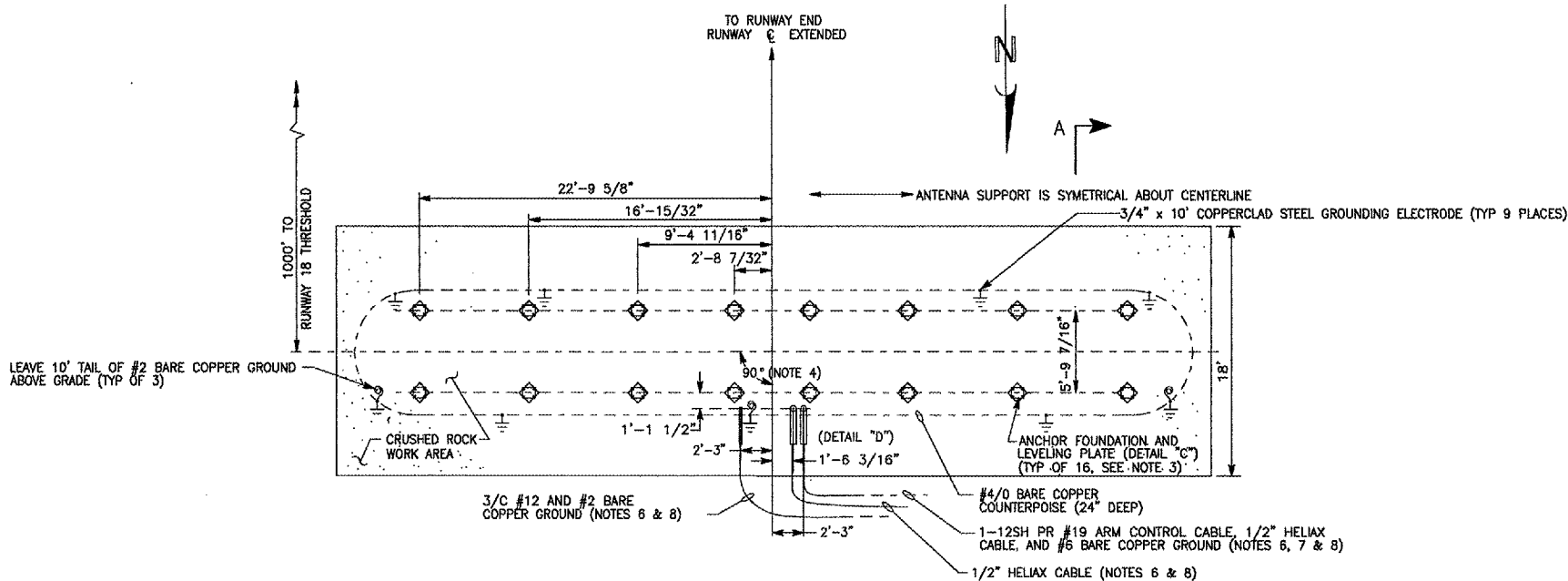
- NEW END SECTION
- NEW LOCALIZER SHELTER
- NEW BITUMINOUS PAVEMENT
- NEW AGGREGATE PAD/WALKWAY
- NEW ELEVATION (613.60)
PROPOSED ELEVATION (613.45)
- NEW GRADING LIMITS
- EXISTING CONTOUR



RUNWAY 9/27

NOTES

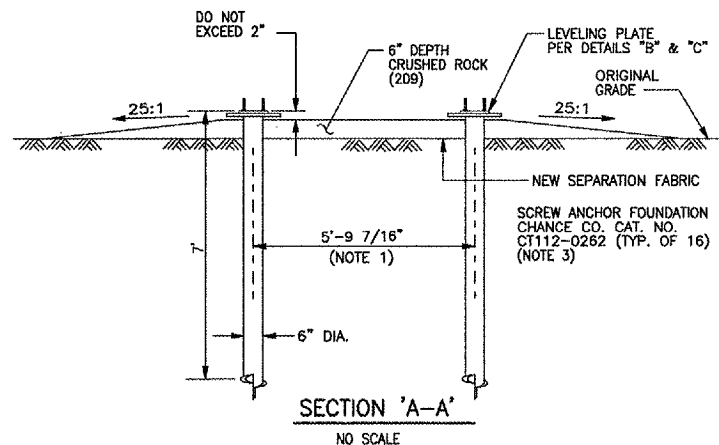
1. LOCATE SCREW ANCHOR FOUNDATIONS WITHIN ± 2" OF DIMENSIONS SHOWN. WELD LEVELING PLATE TO EACH FOUNDATION TOP AFTER LOCATING PLATE CENTER WITHIN ± 1/8" OF DIMENSIONS SHOWN.
2. ALL DIMENSIONS FOR STEEL FABRICATION ARE ± 1/16". STUDS INSTALLED BY 'STUD WELDING' PROCESS ARE AN ALTERNATIVE TO BOLTS AS SHOWN. LEVELING PLATES ARE GALVANIZED AFTER FABRICATION. FIELD WELDS SHALL BE TOUCHED UP WITH ZINC-RICH PRIMER.
3. ALL SCREW ANCHOR FOUNDATION TOPS SHALL BE INSTALLED TO THE SAME ELEVATION WITHIN 1/8" MAXIMUM TOTAL VARIATION. ANCHORS SHALL NOT BE BACKED OUT TO ACHIEVE THIS TOLERANCE.
4. ALIGN MAJOR AXIS OF ANTENNA ARRAY PERPENDICULAR TO RUNWAY CENTERLINE WITHIN +/-.005". ARRAY CENTER MUST BE WITHIN +/-.3" OF RUNWAY CENTERLINE.
5. AREA AROUND CONDUITS TO BE BACK FILLED LOOSELY TO ALLOW FOR ALIGNMENT OF CONDUIT WITH ANTENNA DISTRIBUTION UNIT
6. POWER, CONTROL, AND HELIAX CABLES ORIGINATE FROM LOCALIZER EQUIPMENT SHELTER. SEE SHEETS 7, 12, 13, 14 AND 15 FOR SITE LAYOUT. SEE SHEETS 12-15 (4 SHEETS) FOR EQUIPMENT SHELTER DETAILS.
7. LEAVE 6' TAILS OF BOTH POWER AND CONTROL CABLES AT THE ANTENNA ARRAY END.
8. LEAVE 3' TAIL OF HELIAX CABLES AT ANTENNA ARRAY END.
9. WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.



LOCALIZER ANCHOR FOUNDATION LAYOUT

PLAN

NO SCALE
 ALL CABLE SHOWN SHALL BE CONSIDERED INCIDENTAL TO THE LOCALIZER.



SECTION 'A-A'

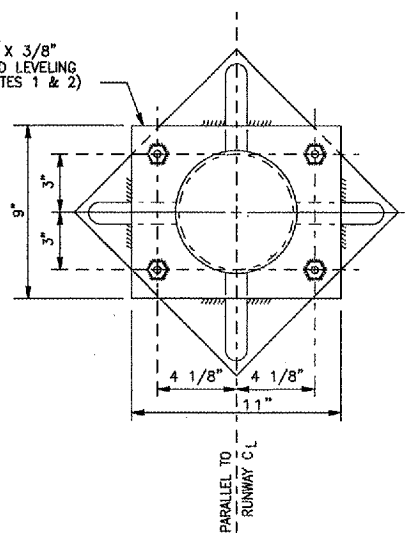
NO SCALE

SITE LAYOUT

LOCALIZER ANTENNA ARRAY COORDINATES:

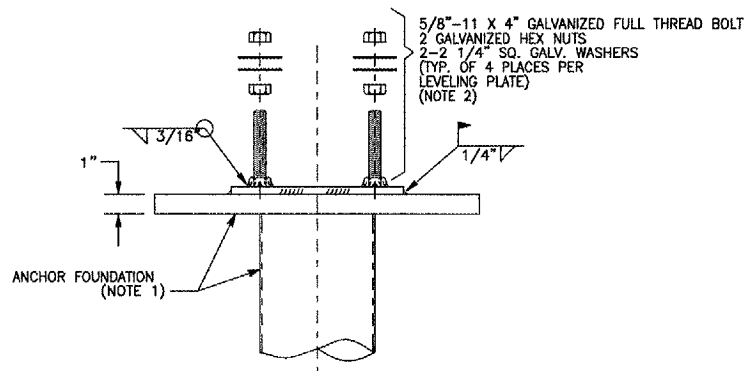
LATITUDE: 41°32'20.60"
 LONGITUDE: 87°31'39.21"
 ELEVATION: 614.00'
 (FINISH GRADE AT LOCALIZER SITE)
 NAD 83 COORDINATES

FABRICATE
 11" X 9" X 3/8"
 GALVANIZED LEVELING
 PLATE (NOTES 1 & 2)



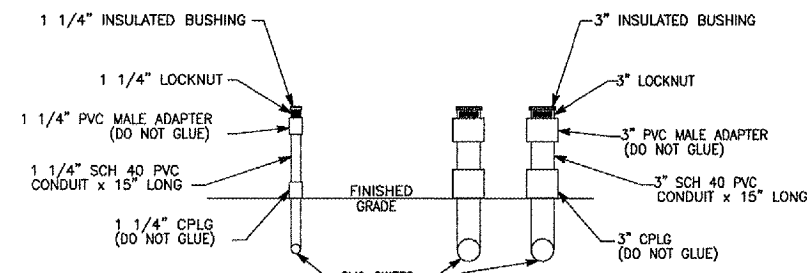
DETAIL "C"
LEVELING PLATE

(TYP. OF 16)
 NO SCALE



DETAIL "B"
LEVELING BOLT

NO SCALE



DETAIL "D"
DISTRIBUTION UNIT CONDUIT DETAILS

NO SCALE

REVISIONS

NUMBER	BY	DATE

0 1 2
 THIS BAR IS EQUAL TO 2"
 AT FULL SCALE (34X22).

LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS

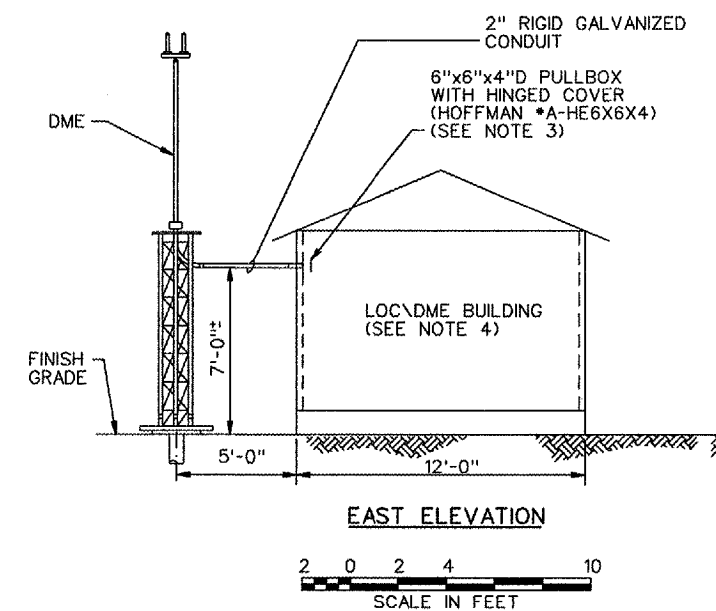
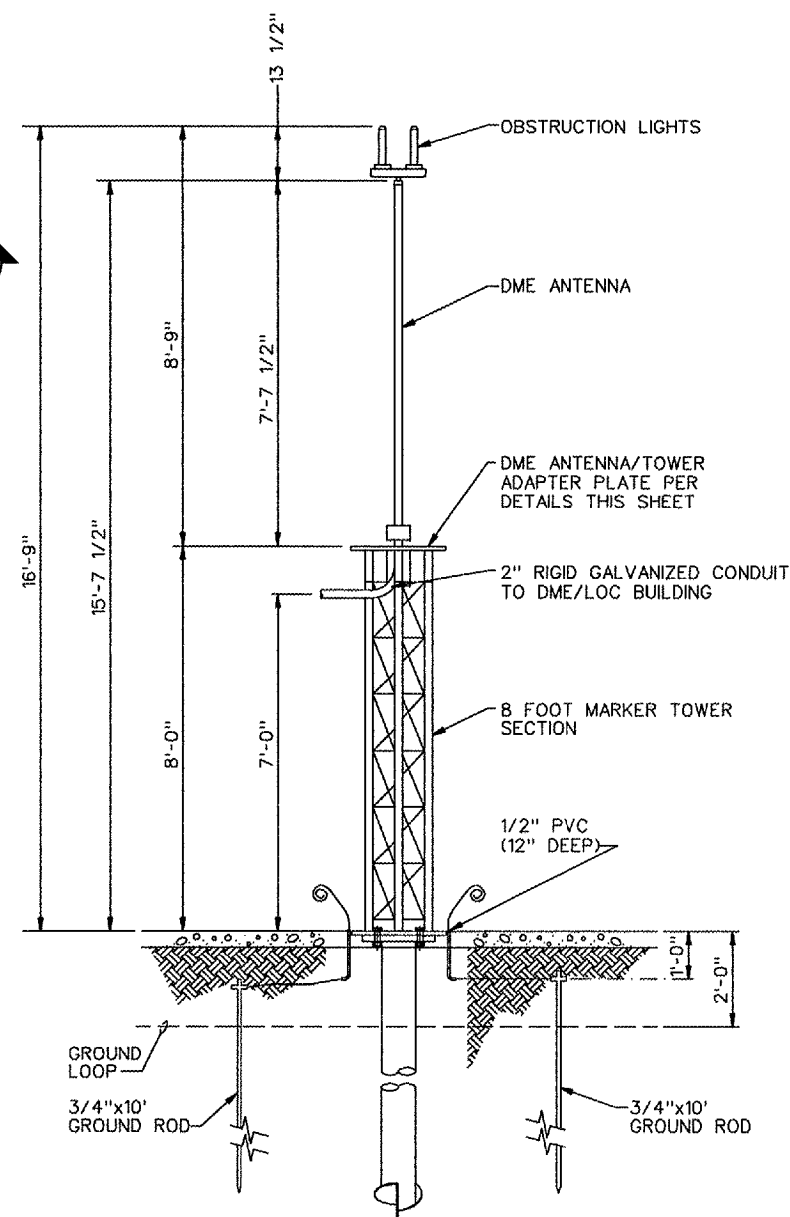
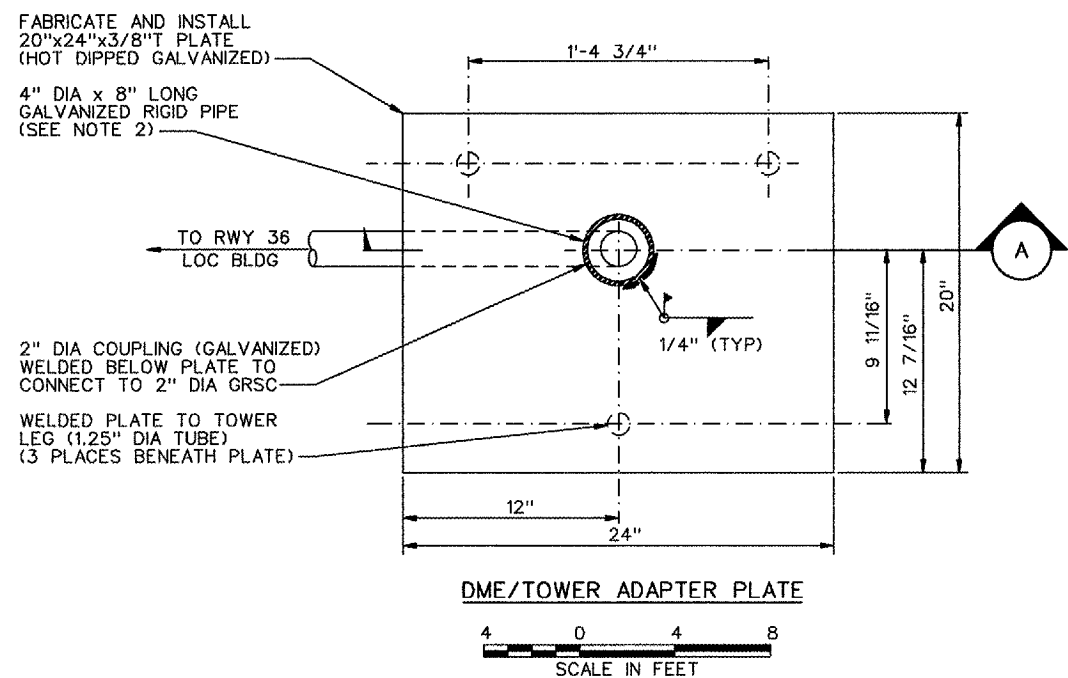
INSTALL RUNWAY 36 LOCALIZER
 LOCALIZER ANTENNA ARRAY
 FOUNDATION DETAIL

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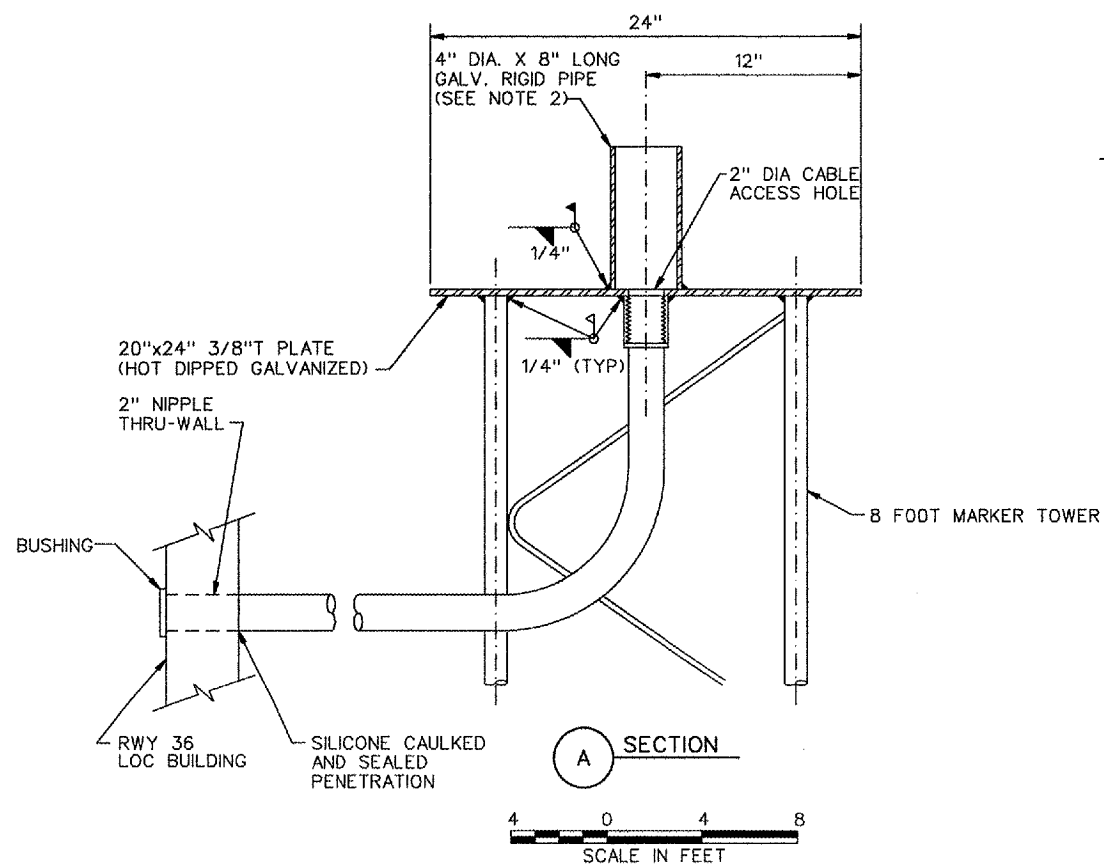
DESIGN BY:	AB
DRAWN BY:	JRO
CHECKED BY:	AB
APPROVED BY:	
DATE:	06/22/05
JOB No:	04297-03
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A.I.P. PROJECT:	3-17-0121-B23

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NUMBER	BY	DATE

0 1 2
 THIS BAR IS EQUAL TO 2"
 AT FULL SCALE (34X22).



DME COORDINATES
 LATITUDE: 41°32'20.006" N (NAD 83)
 LONGITUDE: 87°31'43.107" W (NAD 83)
 ELEVATION: 630.00 MSL (TOP OF ANTENNA)



NOTES:

- ALL DIMENSIONS FOR STEEL FABRICATION ARE 1/16". PLATE SHALL BE GALVANIZED AFTER FABRICATION. FIELD WELDS SHALL BE TOUCHED UP WITH ZINC RICH COMPOUND.
- ACCESS 2" DIA. ACCESS HOLE TO ACCEPT CONNECTION TO 2" DIA. GALVANIZED COUPLING/CONDUIT.
- HOLE WITH RUBBER GROMMET ON EAST SIDE OF PULLBOX TO ACCEPT 3/C SJO CORD. INSTALL PULLBOX IMMEDIATELY EAST OF NIPPLE THRU-WALL.
- SEE SHEET 7 FOR EQUIPMENT LAYOUT IN PLAN VIEW.
- WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.

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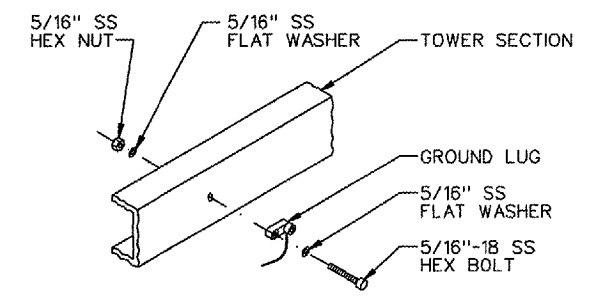
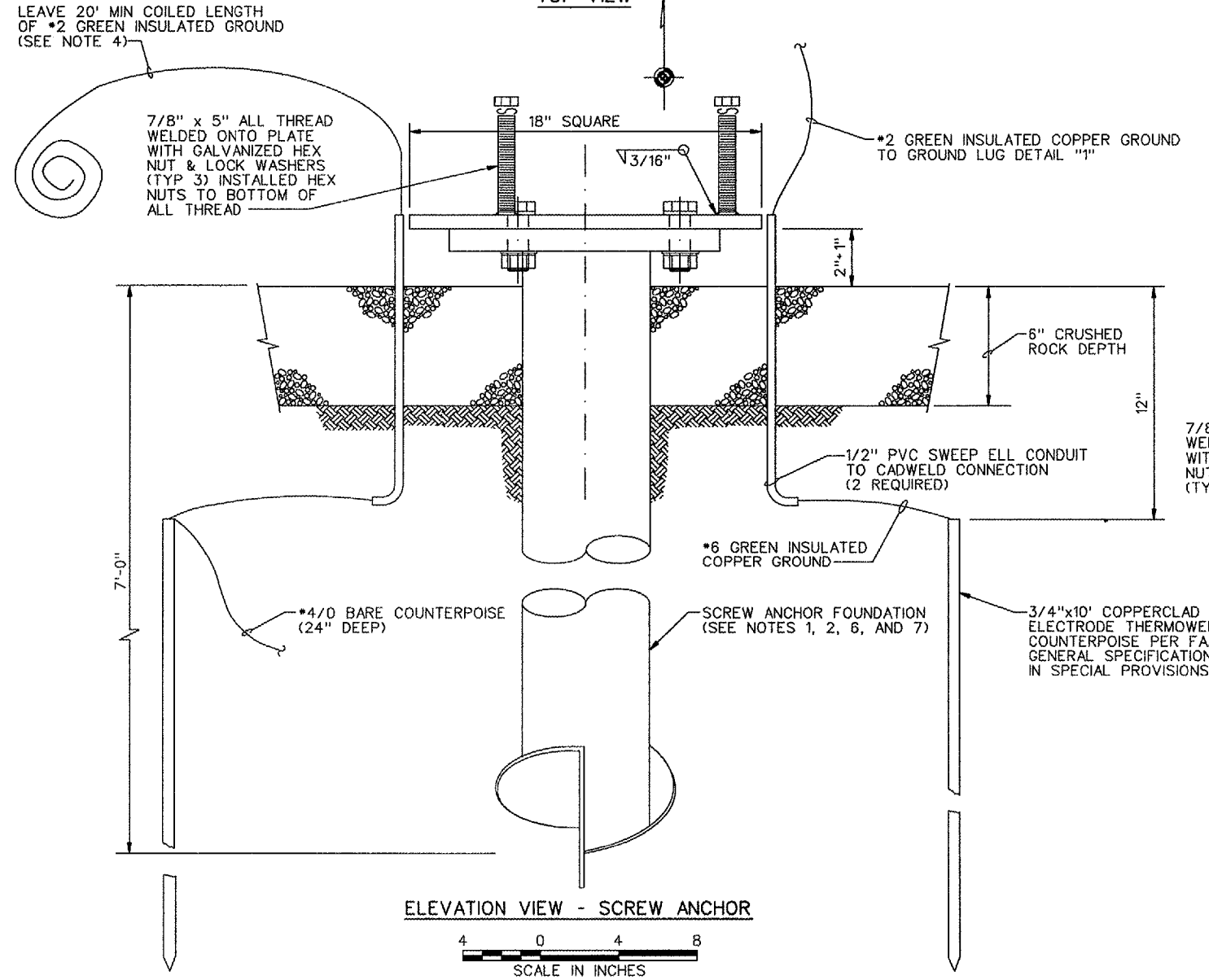
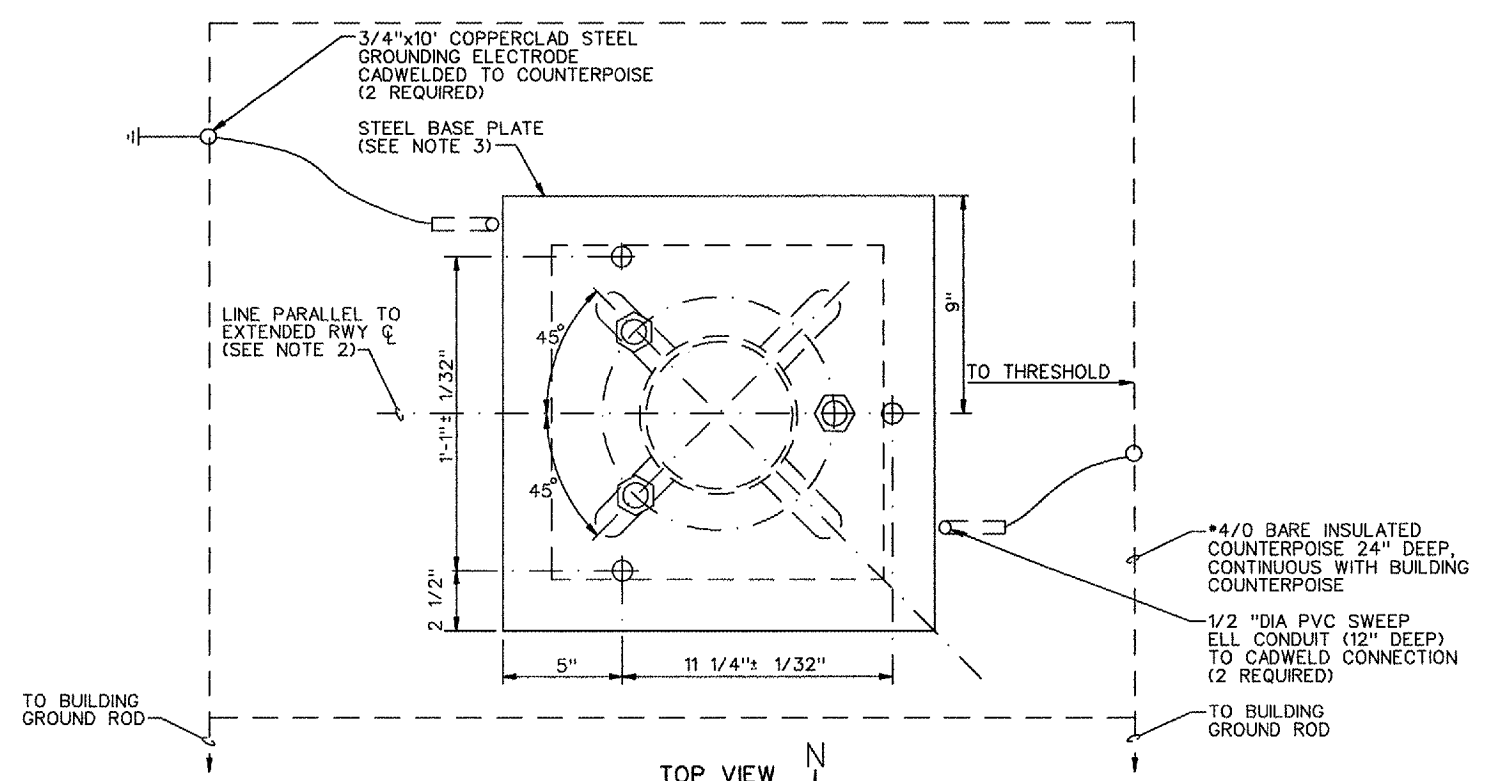
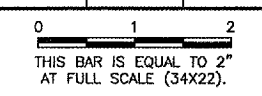
Lansing Municipal
airport

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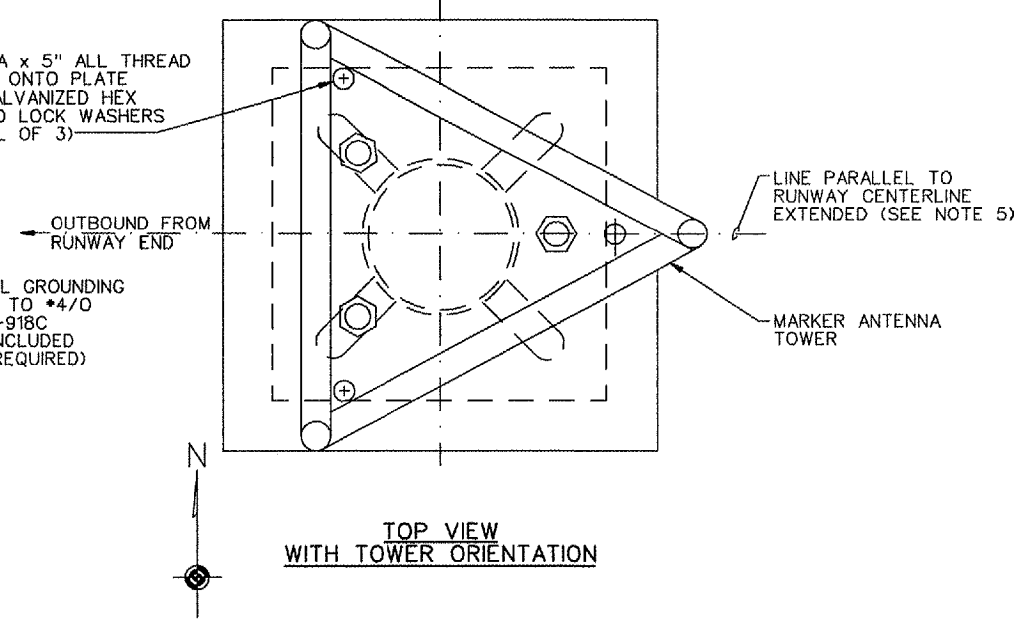
NOTES:

1. SCREW ANCHOR SHALL BE A.B. CHANCE COMPANY CAT NO CT112-0262. SEE FAA-GL-918D (INCLUDED IN SPECIAL PROVISIONS) GENERAL SPECIFICATIONS FOR INSTALLATION INSTRUCTIONS AND SOURCE INFORMATION.
2. ANCHOR SHALL BE ORIENTED WITH RUNWAY CENTERLINE AS SHOWN IN TOP VIEW.
3. BASE PLATE SHALL BE HOT-DIPPED 3/8" x 18" x 18", BOLTED TO SCREW ANCHOR TOP PLATE WITH (3) HOT-DIPPED GALV 7/8" x 3" STRUCTURAL BOLTS WITH NUTS AND LOCK WASHERS ON A 9 1/2" DIA BOLT CIRCLE, ORIENTED AS SHOWN. ONE BOLT HOLE IS TO BE FIELD DRILLED WHILE THE OTHER 2 MOUNTING BOLTS CAN USE THE EXISTING ANCHOR SLOTS.
4. THE #2 GREEN INSULATED GROUND WIRE SHALL BE 187*1,000' AND 59,500 CM. NO STRAND OF THE CABLE SHALL BE SMALLER THAN #17 AWG.
5. ORIENTATION OF THE TOWER AS SHOWN.
6. WHEN DRIVING ANCHOR FOUNDATIONS, THE CONTRACTOR SHALL CHECK PLUMBNESS WITH A VERTICAL LEVEL ON SIDES OF THE SHAFT. MAINTAIN PLUMB WITHIN 1/8" PER FOOT OF THE SHAFT LENGTH. SEE SPECIFICATIONS FAA-GL-918C (INCLUDED IN SPECIAL PROVISIONS) FOR ADDITIONAL INSTRUCTIONS.
7. SCREW-IN-ANCHOR FOUNDATIONS SHALL BE INSTALLED WITHIN 2" OF DESIGN LOCATION.
8. WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.

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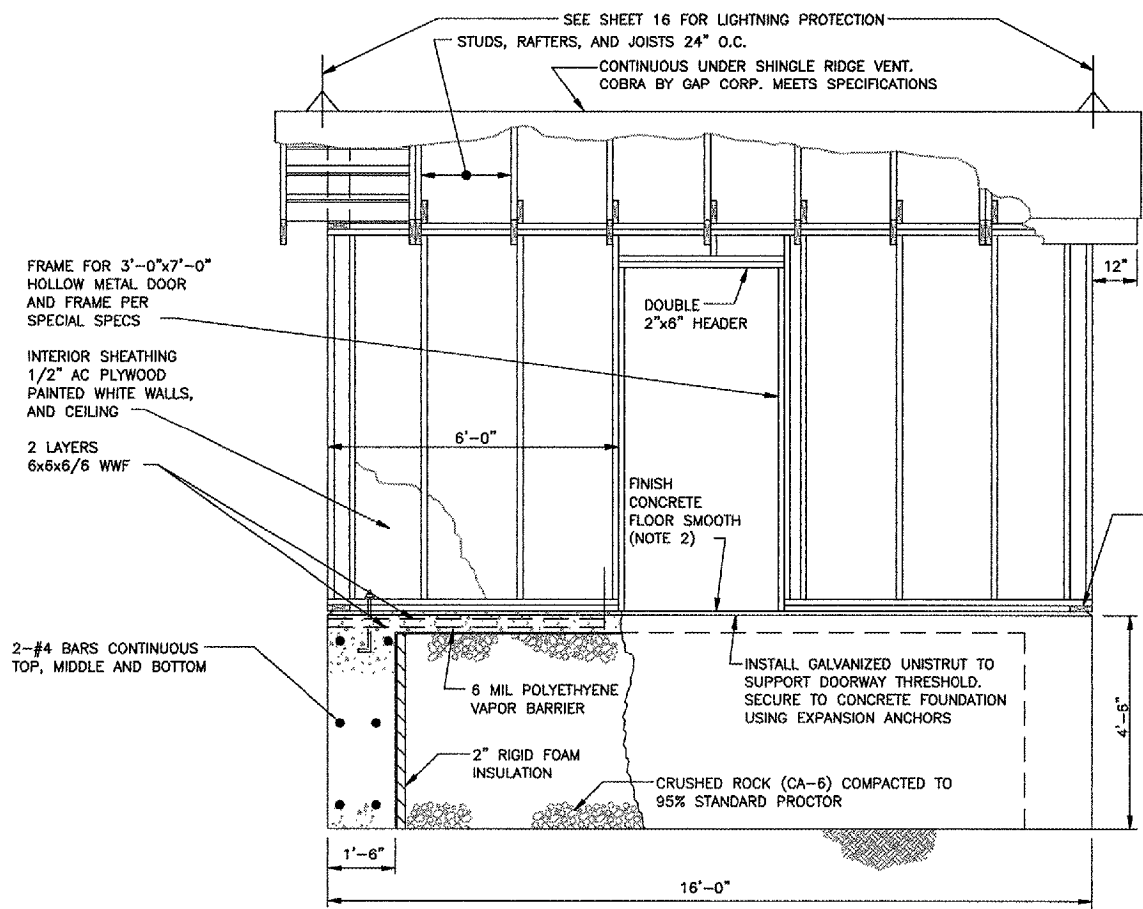
1 DETAIL
SCALE: NONE



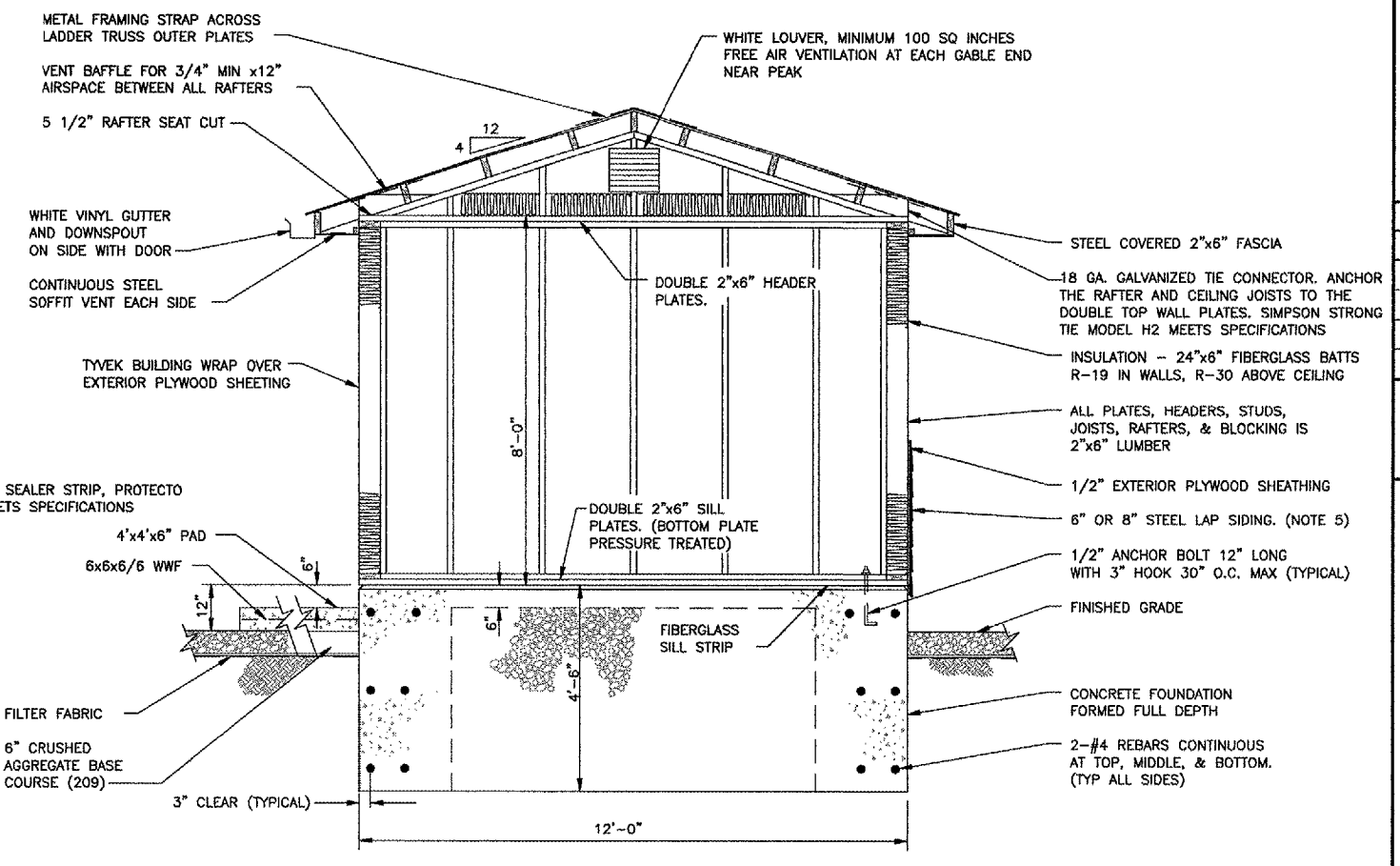
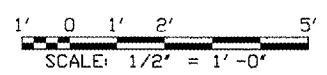
**LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS
 INSTALL RUNWAY 36 LOCALIZER
 DME MAST INSTALLATION DETAILS -
 SHEET 2**

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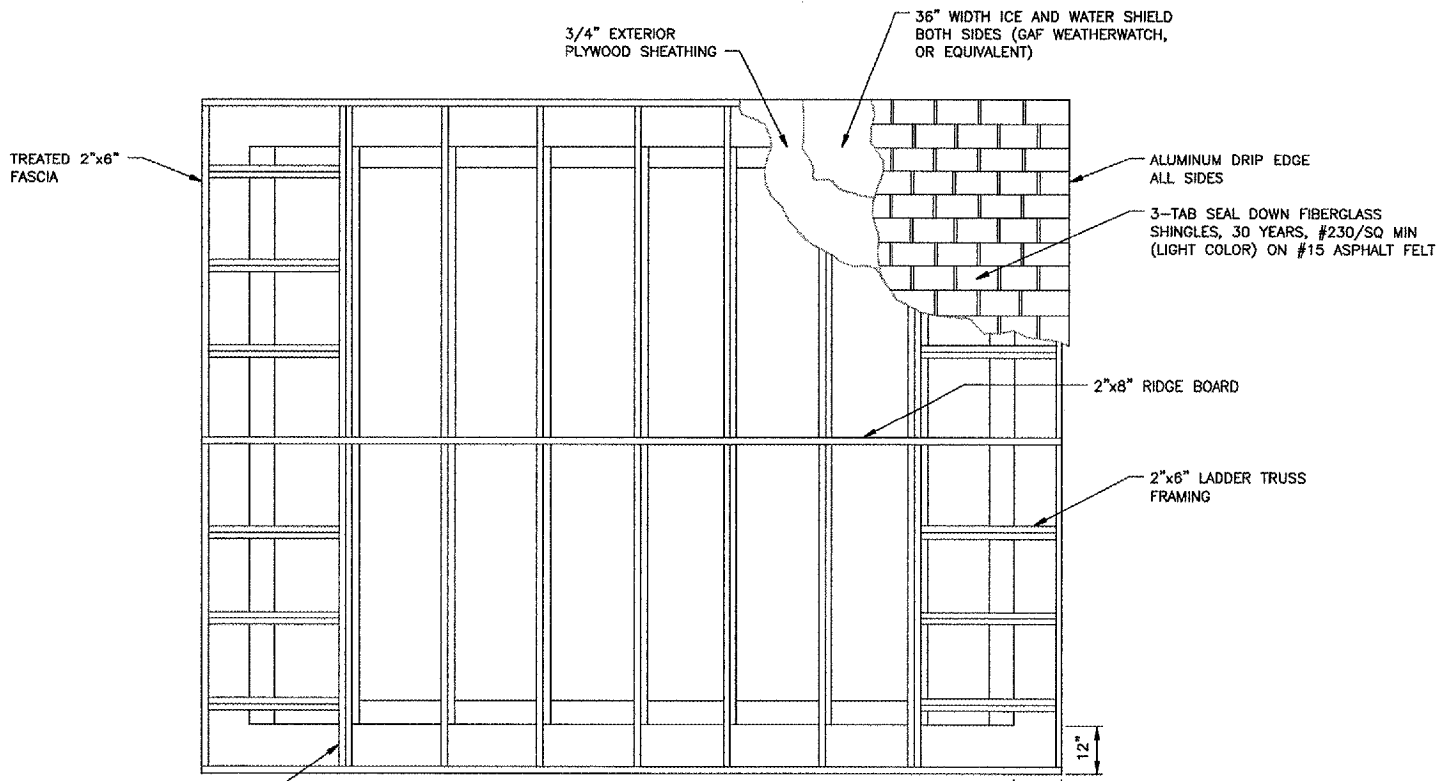
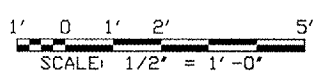
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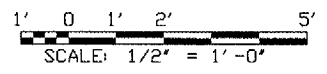
FRONT ELEVATION



SIDE ELEVATION



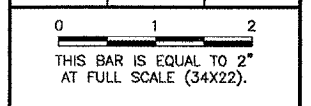
ROOF PLAN



- NOTES:**
1. THE FLOOR ELEVATION SHALL BE 12 INCHES ABOVE FINISHED GRADE.
 2. THE FOUNDATION SHALL BE FORMED SUCH THAT THE DOOR THRESHOLD IS FULLY SUPPORTED BY THE FOUNDATION.
 3. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR FRAMING REQUIREMENTS FOR THRU-WALL HVAC UNIT. MAINTAIN 18" MIN. FROM BOTTOM OF UNIT TO FINISHED GRADE.
 4. THE RESILIENT FLOORING MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH SPECIFICATION FAA-GL-918C, PARAGRAPH 13E.6 (INCLUDED IN SPECIAL PROVISIONS).
 5. THE WHITE STEEL SIDING MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH SPECIFICATION FAA-GL-918C, PARAGRAPH 13E.8 (INCLUDED IN SPECIAL PROVISIONS).
 6. SEE SPECIFICATION FAA-GL-918C SECTION 13E FOR SHELTER CONSTRUCTION SPECIFICATIONS (INCLUDED IN SPECIAL PROVISIONS).
 7. WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.

REVISIONS

NUMBER	BY	DATE



**LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS**

INSTALL RUNWAY 36 LOCALIZER

**12'x16' EQUIPMENT SHELTER
 LOCALIZER/DMEL**

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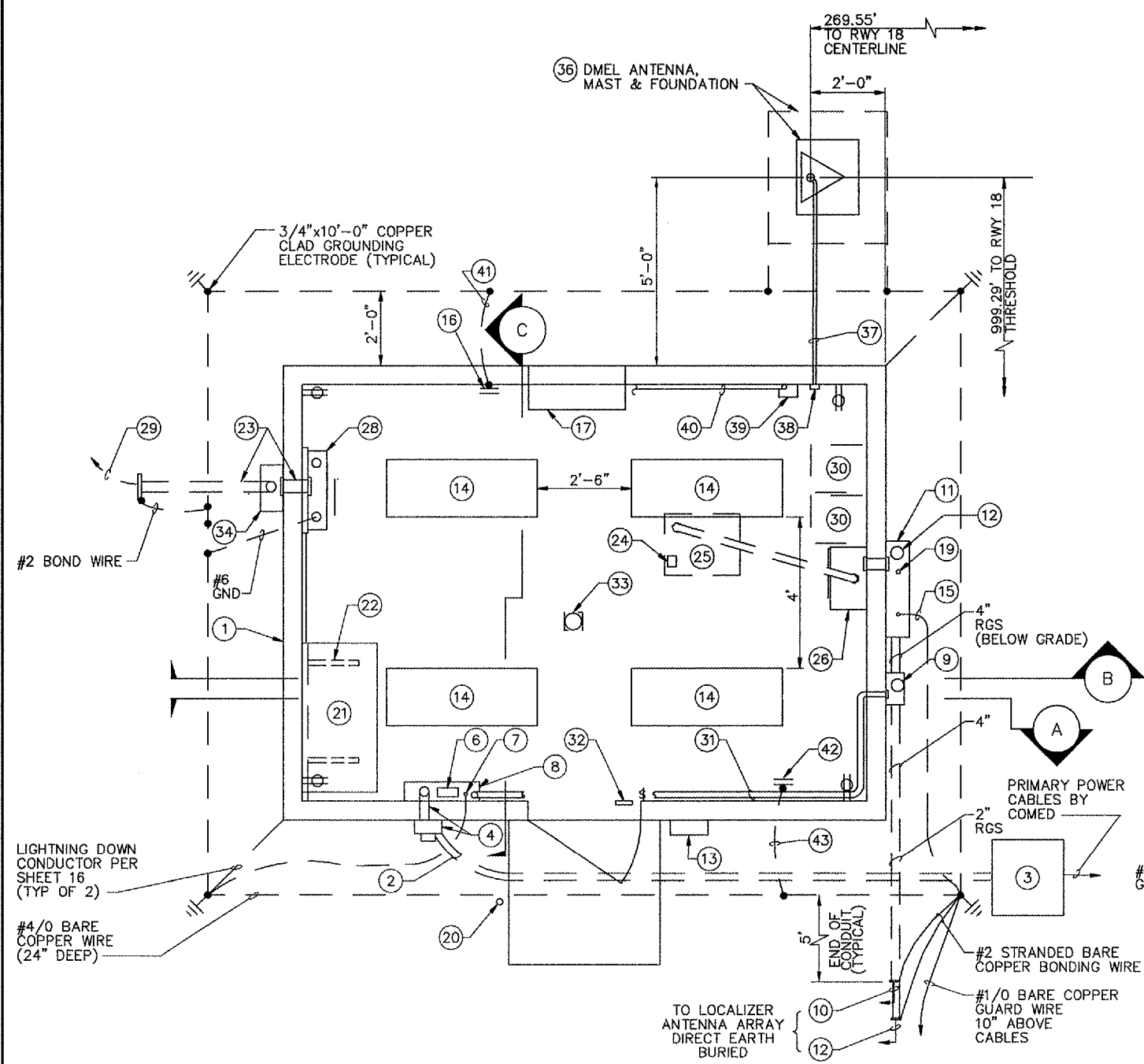
NOTES

1. FOR NUMBERED LEGEND AND NOTES SEE SHEET 15.
2. SECTION (B) AND (C) ARE SHOWN ON SHEET 14.
3. WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.

REVISIONS

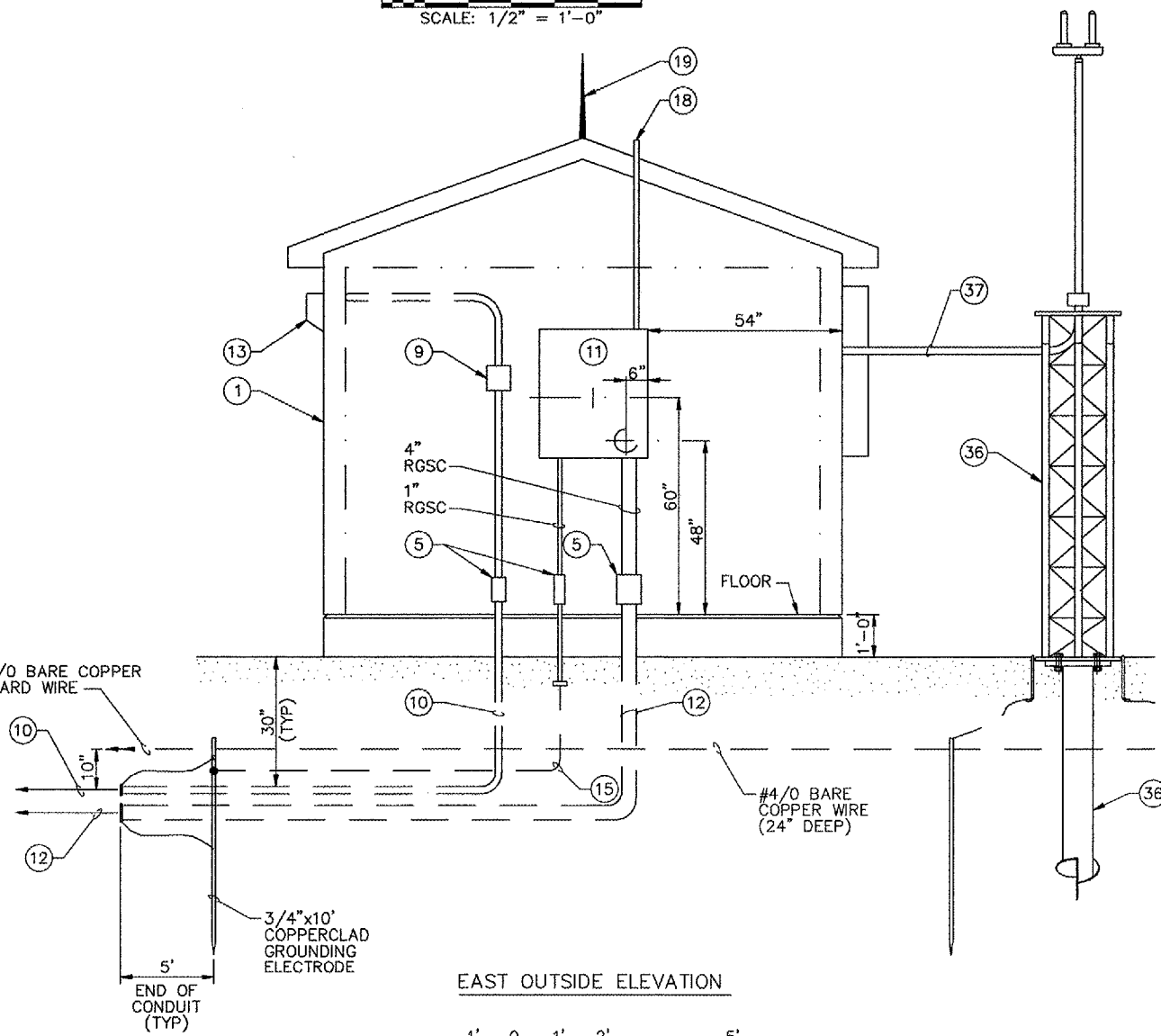
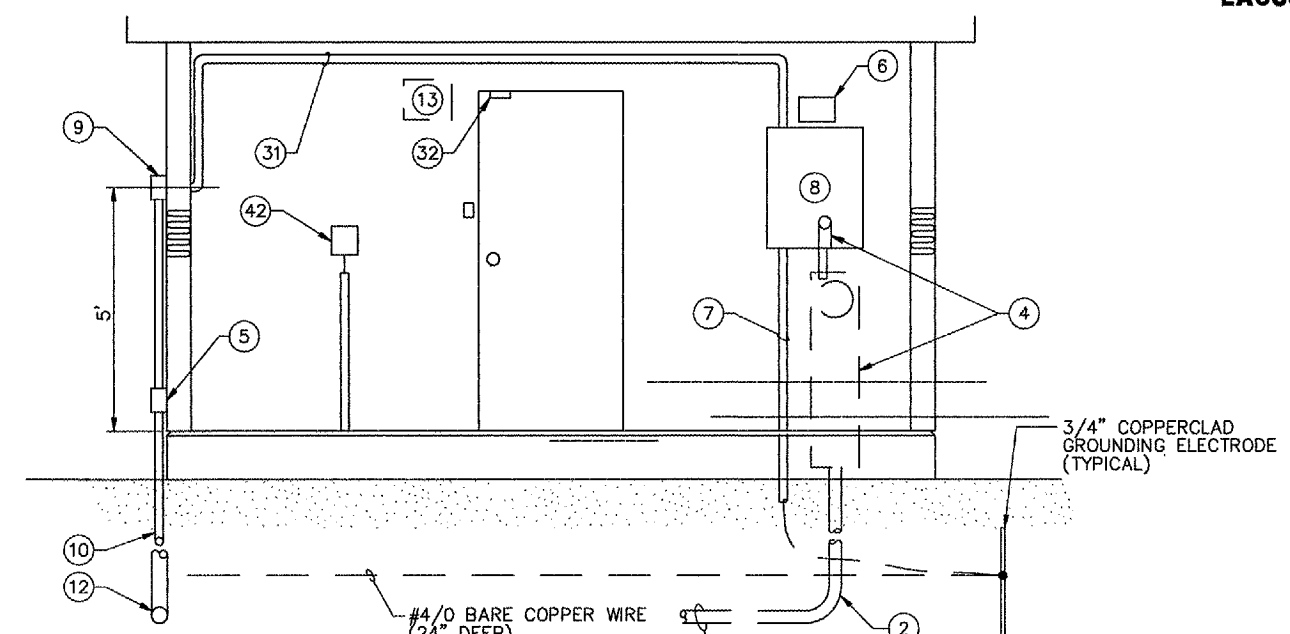
NUMBER	BY	DATE

0 1 2
 THIS BAR IS EQUAL TO 2'
 AT FULL SCALE (34X22).



PLAN-ELECTRICAL LAYOUT

1' 0 1' 2' 5'
 SCALE: 1/2" = 1'-0"



EAST OUTSIDE ELEVATION

1' 0 1' 2' 5'
 SCALE: 1/2" = 1'-0"

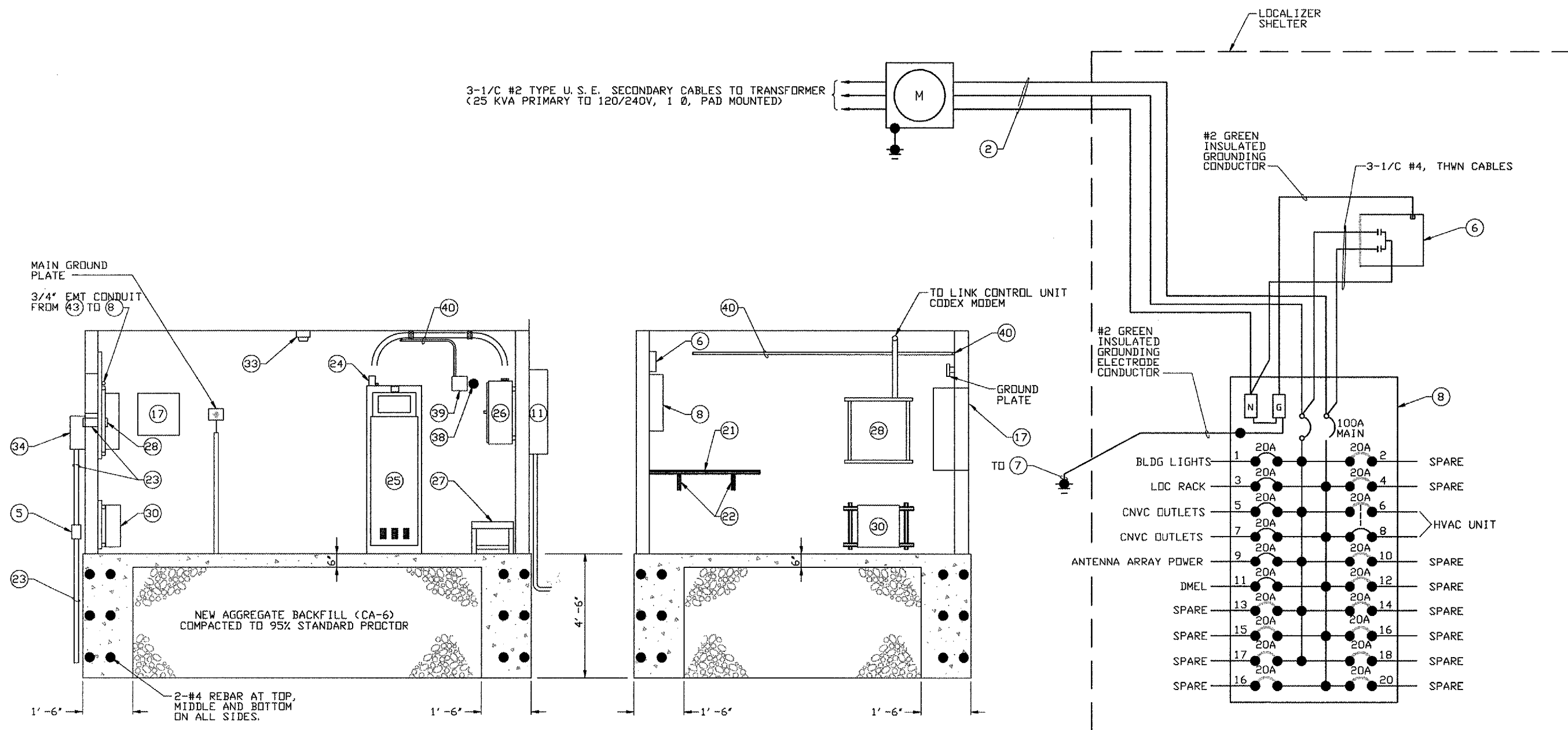
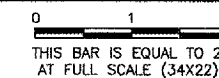
LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS
 INSTALL RUNWAY 36 LOCALIZER
 LOCALIZER SHELTER
 EQUIPMENT LAYOUT - SHEET 1

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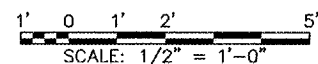
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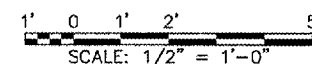
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NUMBER	BY	DATE



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



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



1 DETAIL - POWER PANEL
 SCALE: NONE

WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.

LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS
 INSTALL RUNWAY 36 LOCALIZER
 LOCALIZER SHELTER EQUIPMENT
 LAYOUT - SHEET 2

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NUMBERED LEGEND

- ① CONCRETE FOUNDATION AND 12"x18" EQUIPMENT SHELTER, PER SHEET 13.
- ② 3-1/C #2 TYPE U.S.E. 120/240V, SINGLE-PHASE SECONDARY INCOMING POWER CABLES IN CONTINUOUS 2" RIGID CONDUIT FROM TRANSFORMER TO METER BASE ④. CONDUIT AND SECONDARY CABLES BY CONTRACTOR.
- ③ 25KVA TRANSFORMER WITH PRIMARY CABLE TO IT (BY COMED).
- ④ METER BASE AND TROUGH WITH 1.5" NIPPLE THROUGH WALL BEHIND METER BASE, 3-1/C #2 TYPE XLP-USE POWER CABLES FROM METER TO ⑧. THE METER SHALL BE BY COMED.
- ⑤ GALVANIZED RIGID STEEL FROST HEAVE COUPLINGS (APPLETON) WITH 8" MIN TRAVEL AND BONDING JUMPERS. (TYPICAL)
- ⑥ SURGE SUPPRESSOR LIGHTNING PROTECTION CORP. #LPC 20206-7, WITH 2 UL-RATED 60-A CLASS J TIME DELAY FUSES HAVING 200 KAIC INTERRUPTING CAPACITY.
- ⑦ 1-#2 GREEN GROUNDING ELECTRODE CONDUCTOR FROM ⑧ IN 1" GALVANIZED RIGID STEEL CONDUIT WITH SWEEP ELBOW. CONTRACTOR SHALL LOOP THROUGH GROUNDING BUSHING AT EACH END OF CONDUIT.
- ⑧ POWER PANEL, SQUARE "D" CAT. NO. NQ0D20M100CU IN NEMA 1 ENCLOSURE WITH BOLT ON BREAKERS. SEE DETAIL "1" ON SHEET 14.
- ⑨ POWER INTERFACE JB, 6"x6"x4" NEMA 3R, HOFFMAN CATALOG NUMBER A-6R64 WITH 2" NIPPLE THROUGH WALL.
- ⑩ 3-1/C #12 TYPE U.S.E. POWER CABLES AND 1-#2 BARE GROUND IN 2" DIA GALVANIZED RIGID STEEL CONDUIT TO 5' BEYOND THE COUNTERPOISE TO LOCALIZER ANTENNA. SEE SHEET 13.
- ⑪ 36"x30"x12" R.F. AND CONTROL INTERFACE BOX, NEMA 3R, HOFFMAN CATALOG NUMBER A-36R3012 WITH A 2 1/2" NIPPLE THROUGH WALL. (SEE NOTE 2)
- ⑫ 2-1/2" HELIAX CABLES (ANDREW CORP. #LDF4-50A) AND 1-12 PR #19 SHIELDED CONTROL CABLE IN 4" DIA GALVANIZED RIGID STEEL CONDUIT TO 5' BEYOND THE COUNTERPOISE, THEN BY DIRECT BURIAL TO LOCALIZER ANTENNA. SEE SHEETS 13 AND 16.
- ⑬ OUTDOOR LIGHTING FIXTURE, 50W. HIGH PRESSURE SODIUM, HOLOPHANE, CATALOG NUMBER WP2A050HP12GRP WITH PHOTO CONTROL AND MOTION DETECTOR.
- ⑭ LIGHT FIXTURE, FLUORESCENT, SURFACE MOUNT, 120V, 2-36W BULBS, GUTH CATALOG NUMBER ACR6596, WITH G.E. NUMBER 89G635 RF SUPPRESSOR AND LOW TEMPERATURE STARTERS.
- ⑮ ILS EQUIPMENT GROUND CONDUCTOR, 1-#2 GREEN WITH YELLOW STRIPES. LEAVE 15' TAIL IN ⑪ AND RUN DIRECTLY TO GROUND ELECTRODE.
- ⑯ 12"x6"x1/4" COPPER MAIN GROUND PLATE (SEE NOTE 8).
- ⑰ WALL MOUNTED ENVIRONMENTAL CONTROL UNIT, 11,100 BTUH AIR CONDITIONER, 3.6KW HEATSTRIP, BARD CATALOG #WA121-A03EX4XXJ WITH SUPPLY AND RETURN GRILL AND 2-STAGE HEATING/COOLING THERMOSTAT.
- ⑱ FLIGHT CHECK ANTENNA SUPPORT, 1 1/4" RIGID GALVANIZED CONDUIT, CAP END. FOR USE BY OTHERS. THE TOP OF THIS ANTENNA SUPPORT SHALL BE 12" ABOVE THE ELEVATION OF THE SHELTER ROOF PEAK. THE ANTENNA SUPPORT SHALL HAVE A DOUBLE BEND TO AVOID PENETRATING THE ROOF. THE ANTENNA SUPPORT SHALL BE CLAMPED TO THE FASCIA AT THE END OF THE ROOF.
- ⑲ INSTALL COMPLETE LIGHTNING PROTECTION PER SHEET 16.
- ⑳ 2" GALVANIZED RIGID STEEL PIPE DOOR STOP TO 4' BELOW GRADE. PIPE SHALL HAVE A LATCHING HOOK AND DOOR SHALL HAVE AN EYEBOLT.
- ㉑ 2'x4'x3/4" PLYWOOD TYPE AC BENCH TOP. SET TABLE TOP SO THAT IT DOES NOT INTERFERE WITH OPERATION OF ⑧.
- ㉒ BENCH SUPPORT BRACKETS, UNISTRUT CATALOG NUMBER P2499 (RIGHT & LEFT) - 1 EACH MOUNT THESE TO OTHER UNISTRUT MOUNTED ON THE WALL.
- ㉓ 2" RIGID GALVANIZED CONDUIT FROM ⑳ TO ㉔ TO 5' BEYOND UNDERGROUND COUNTERPOISE. AFTER THIS ALL CABLES DIRECT EARTH BURIED.
- ㉔ RACK CONVENIENCE OUTLET.
- ㉕ LOCALIZER RACK.
- ㉖ LOCALIZER JUNCTION BOX.
- ㉗ BATTERY RACK.
- ㉘ RMM CONTROL JUNCTION BOX, 24"x24"x6.62" NEMA 1, HOFFMAN CAT. NO. "A-24N24ALP" WITH TERMINAL STRIPS PER FAA SPECIFICATION FAA-GL-918C, PARAGRAPH 16A.19.
- ㉙ TELCO SERVICE (BY SBC).
- ㉚ ERMM BATTERY BACK-UP ASSEMBLY.
- ㉛ 1 1/2" EMT CONDUIT FROM ㉜ TO ㉝ WITH 3-1/C #12 TYPE USE POWER CABLES AND #2 BARE.
- ㉜ DOOR SENSOR.
- ㉝ SMOKE DETECTOR.
- ㉞ 16"x12"x6" NEMA 3R JUNCTION BOX, HOFFMAN #A-16R126HCR.
- ㉟ NOT USED.
- ㊱ DMEL ANTENNA FOUNDATION AND MAST AND OBSTRUCTION LIGHTS.
- ㊲ 2" RIGID GALVANIZED CONDUIT 7' ABOVE GRADE.
- ㊳ 2" NIPPLE THRU WALL WITH BUSHING.
- ㊴ 6"x6"x4" D PULLBOX WITH HINGED COVER (HOFFMAN #A-HE6 X 6 X 4)(SEE NOTE 6).
- ㊵ 3/4" DIA EMT TO ㊶ CONTAINING A 3/8" NYLON PULL STRING.
- ㊶ (2) 500 KCMIL GREEN GROUND CABLES. EXOTHERMIC WELDED TO EARTH ELECTRODE SYSTEM (EES) AND ATTACHED TO MAIN GROUND PLATE WITH DOUBLE BOLT CRIMPED LUGS.
- ㊷ 12"x6"x1/4" COPPER MULTI-POINT GROUND PLATE (SEE NOTE 9).
- ㊸ (1) 500 KCMIL GREEN/ORANGE GROUND CABLE. EXOTHERMIC WELDED TO EARTH ELECTRODE SYSTEM (EES) AND ATTACHED TO MULTI-POINT GROUND PLATE WITH DOUBLE BOLT CRIMPED LUG.

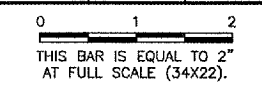
NOTES

1. ALL CONDUIT, RECEPTACLES, LIGHT FIXTURES, HEATER, POWER PANEL, AND ENVIRONMENTAL PANEL SHALL BE SURFACE MOUNTED.
2. ALL WALL PENETRATIONS SHALL BE CAULKED WITH SILICONE CAULK.
3. 15' CABLE TAILS OF 12 PR #19 SHIELDED CONTROL CABLE AND 5' TAILS OF 1/2" HELIAX (ANDREW CORP #LDF4-50A) CABLES INSIDE THE CONTROL BOX FOR TERMINATION BY OTHERS.
4. THE CONTRACTOR SHALL LEAVE 15' OF 12 PR #19 SHIELDED CONTROL CABLE AT ANTENNA ARRAY END AND IN THE SHELTER'S RF JUNCTION BOX. THE CONTRACTOR SHALL INSTALL A SEPARATE STRIP OF BLOCKS FOR EACH CABLE. THE TERMINAL BLOCKS SHALL BE MINIATURE STYLE (1/4" O.C.) NYLON BLOCKS WITH TUBULAR CONDUCTOR CLAMPS. APPROVED FOR THIS PURPOSE ARE BUCHANAN CATALOG NUMBER 15 VINYL MARKING STRIP WITH CATALOG NUMBER 16 NYLON HOLDING PLUGS. OTHER BLOCKS, AND ACCESSORIES REQUIRE CATALOG CUTS, AND RESIDENT ENGINEER'S APPROVAL BEFORE PROCUREMENT.
5. ALL RIGID GALVANIZED STEEL UNDERGROUND CONDUIT, EXCEPT FOR GROUNDING ELECTRODE CONDUIT SHALL EXTEND 5'-0" MINIMUM BEYOND THE BUILDING'S COUNTERPOISE. AFTER THIS POINT, CABLES SHALL BE DIRECT EARTH BURIED UNLESS OTHERWISE DESIGNATED.
6. PROVIDE HOLE WITH RUBBER GROMMET ON WEST SIDE OF PULL BOX TO ACCEPT 3/8" S/D CORD. INSTALL PULL BOX IMMEDIATELY EAST OF NIPPLE THRU WALL.
7. THE CONTRACTOR SHALL COORDINATE WITH COMED AND SBC REGARDING INSTALLATION OF UTILITY SERVICE AND THE COST SHALL BE INCIDENTAL TO THE CONTRACT.
8. GROUND PLATE SHALL BE STANDOFF MOUNTED WITH CLEAR PLASTIC COVER WITH GREEN STRIPES AROUND PERIMETER AND LABELED "MAIN GROUND PLATE".
9. MULTI-POINT GROUND PLATE SHALL BE STANDOFF MOUNTED WITH CLEAR PLASTIC COVER WITH GREEN/ORANGE STRIPES AROUND PERIMETER AND LABELED "MULTI-POINT GROUND PLATE".

WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.


REVISIONS

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LANSING MUNICIPAL AIRPORT
LANSING, ILLINOIS
INSTALL RUNWAY 36 LOCALIZER
NUMBERED LEGEND

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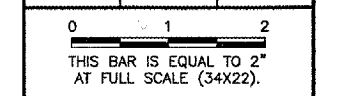


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**LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS**

INSTALL RUNWAY 36 LOCALIZER

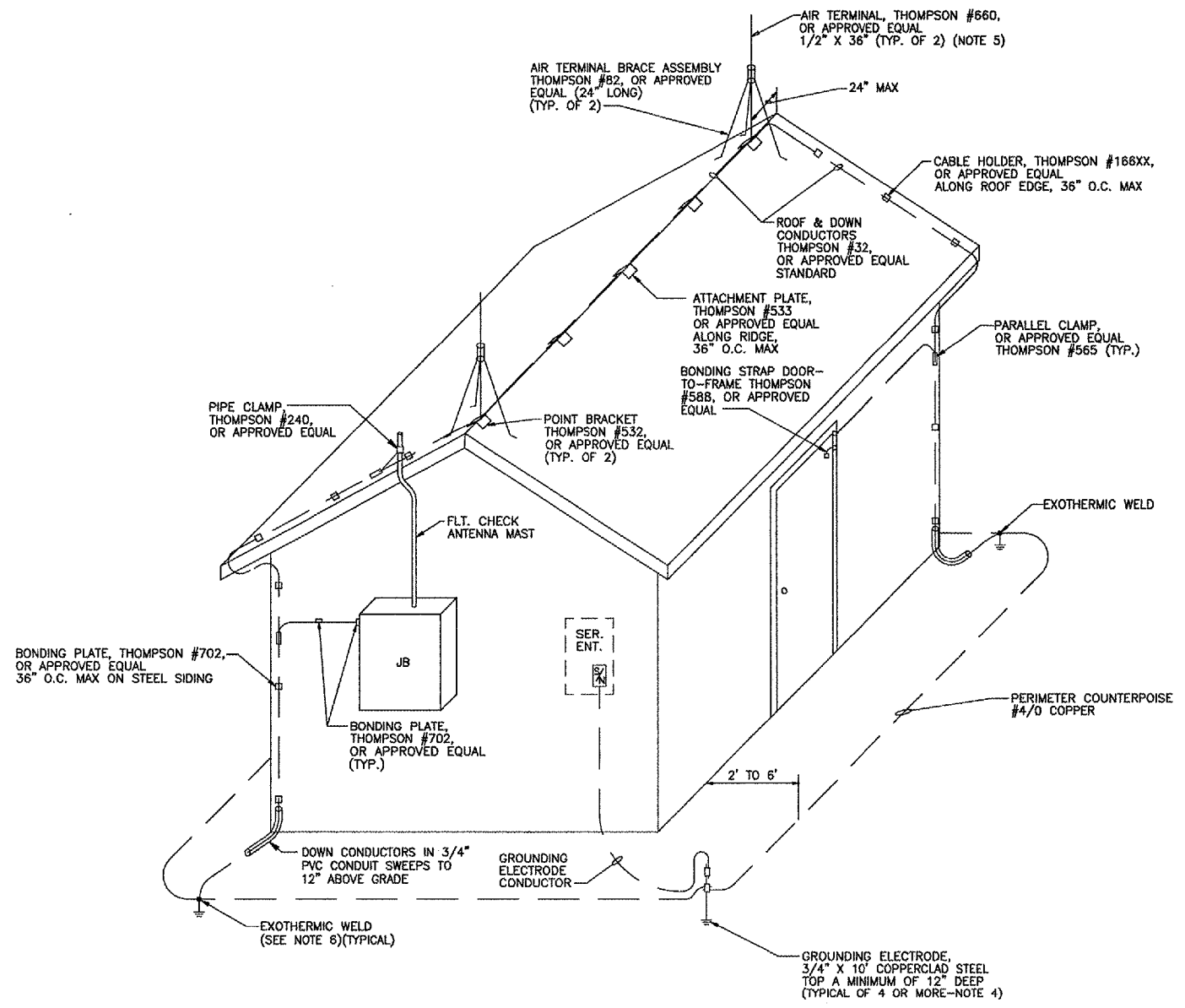
**SHELTER BUILDING LIGHTING
 PROTECTION/ELECTRICAL DETAILS**

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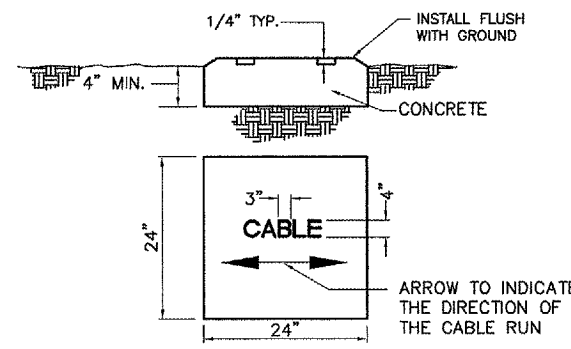
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airport

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SHEET 16 OF 18 SHEETS	



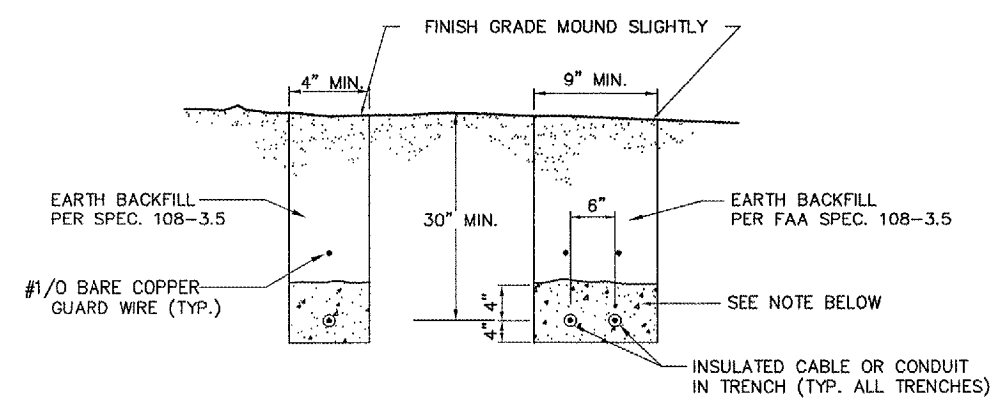
- NOTES:**
1. ALL CLAMPS AND BONDING DEVICES SHALL BE BRONZE, ALL CABLES AND STRAPS SHALL BE COPPER, AND ALL BOLTS, SCREWS, & FASTENING HARDWARE SHALL BE BRONZE OR BRASS UNLESS OTHERWISE SHOWN.
 2. BOND ENVIRONMENTAL CONTROL UNIT, FLT. CHECK ANT. MAST, DOOR FRAME, JUNCTION BOXES, & ANY MISC. EXTERIOR METAL OBJECTS TO DOWN CONDUCTORS WITH MIN. #6 BARE - THOMPSON #14X OR #509X, OR APPROVED EQUAL.
 3. NO CONDUCTOR SHALL BE BENT TO LESS THAN AN 8" RADIUS NOR SHALL BE BENT TO LESS THAN A 90° INCLUDED ANGLE.
 4. WHERE FACILITIES HAVE AN ANTENNA(S) WITHIN 20' OF THE BUILDING, THE PERIMETER COUNTERPOISE SHALL SURROUND THE BUILDING AND ANTENNA(S), WITH TWO ADDITIONAL GROUNDING ELECTRODES PROVIDED PER ANTENNA.
 5. BUILDINGS WITH FLAT ROOFS REQUIRE AN AIR TERMINAL AT EACH CORNER AND A PERIMETER ROOF CONDUCTOR (THOMPSON #32, OR APPROVED EQUAL) CONNECTING ALL TERMINALS IN PLACE OF RIDGE TERMINAL AND CONDUCTOR AS SHOWN.
 6. LIGHTING DOWN CONDUCTORS SHALL BE EXOTHERMICALLY WELDED TO 4/0 GROUND CONDUCTOR PRIOR TO ENTERING THE GROUND.

WHERE SPECIFIC MANUFACTURERS OF EQUIPMENT ARE GIVEN, THE CONTRACTOR MAY SUBMIT ALTERNATE EQUIPMENT EQUAL TO THAT PROPOSED FOR CONSIDERATION BY THE ENGINEER.



- NOTES:**
1. CABLE MARKERS SHALL BE INSTALLED AT ALL BENDS AND EVERY 200' ALONG THE CABLE RUN.
 2. ITEM 610 CONCRETE SHALL BE USED.
 3. ALL EXPOSED EDGES SHALL BE EDGED WITH A 1/4" RADIUS TOOL.
 4. THE COST OF FURNISHING AND INSTALLING NEW MARKERS SHALL BE INCIDENTAL TO THE ASSOCIATED CABLE ITEMS.
 5. 0.049 CU. YD. CONCRETE PER MARKER.

CABLE AND DUCT MARKER (TURF AREA)



SINGLE CABLE MULTIPLE CABLES

ELECTRICAL TRENCH DETAIL - TURF AREA

NOT TO SCALE

NOTE:
 IF BACKHOE OR COMPARABLE EQUIPMENT USED, SAND BACKFILL (IDOT FA-1 OR FA-2) SHALL BE REQUIRED. IF TRENCHER USED CABLE TAPE SHALL BE INCLUDED TO DELINEATE CABLE. COST OF FINE AGGREGATE OR TAPE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CABLE.

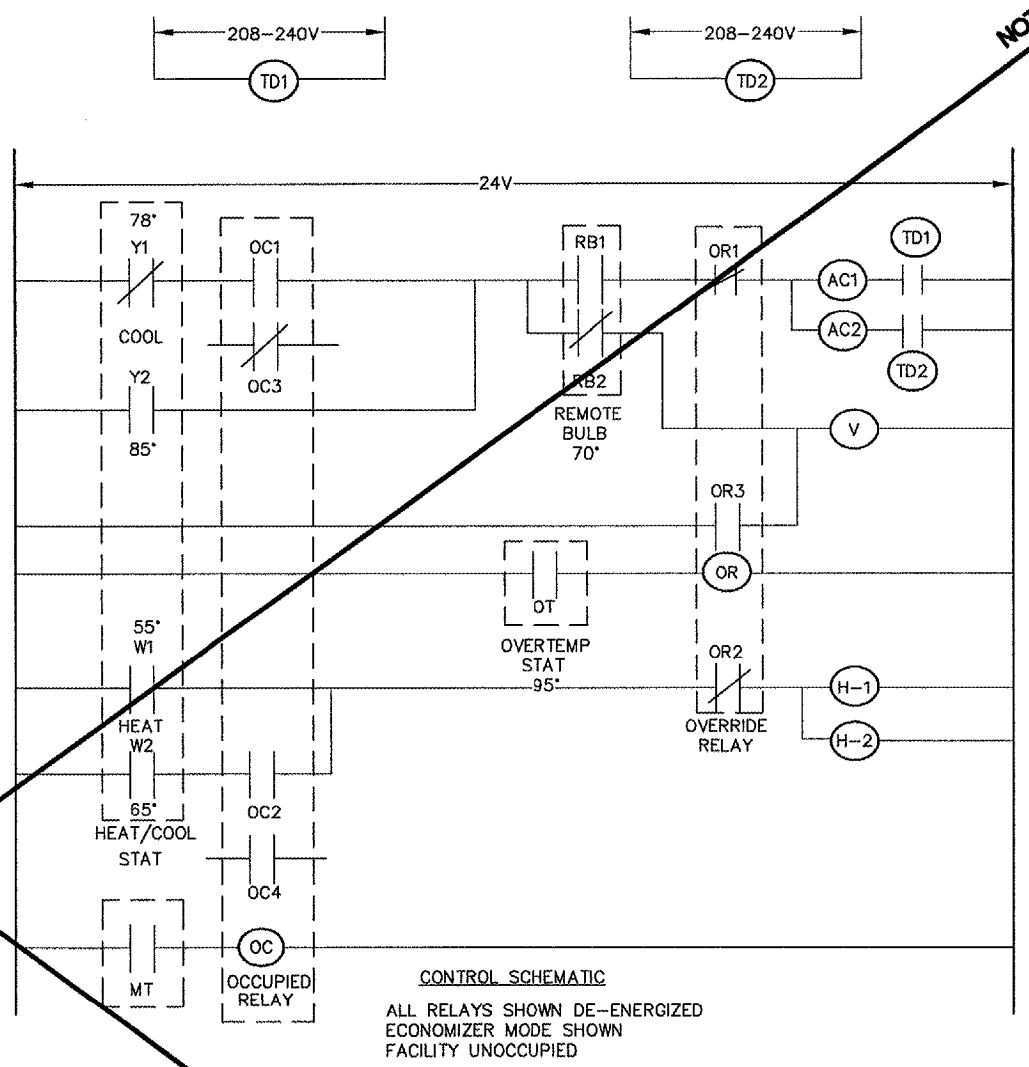
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LEGEND

- | | | | |
|-------|-------|--|----------------------|
| (AC2) | (AC1) | AIR CONDITIONER CONTACTOR COIL | } WITH 240V CONTACTS |
| (V) | (V) | VENT FAN CONTACTOR COIL | |
| (H2) | (H1) | HEATER CONTACTOR COIL | } |
| (OR) | (OR) | OVERRIDE RELAY COIL | |
| (OC) | (OC) | OCCUPIED RELAY COIL | } |
| (TD1) | (TD1) | A/C UNIT NO. 1 TIME DELAY COIL | |
| (TD2) | (TD2) | A/C UNIT NO. 2 TIME DELAY COIL | } |
| Y1 | Y1 | COOLING SENSOR (OCCUPIED) (A/C OR ECONOMIZER) HEAT/COOL STAT | |
| | | COOLING SENSOR (UNOCCUPIED) (ECONOMIZER ONLY) HEAT/COOL STAT | } |
| Y2 | Y2 | COOLING SENSOR (UNOCCUPIED) (A/C ONLY) HEAT/COOL STAT | |
| W1 | W1 | HEATING SENSOR (UNOCCUPIED) HEAT/COOL STAT | } |
| W2 | W2 | HEATING SENSOR (OCCUPIED) HEAT/COOL STAT | |
| MT | MT | 60 MIN. MANUAL TIMER CONTACT | } |
| RB1 | RB1 | AIR CONDITIONING CONTACT/REMOTE BULB STAT | |
| RB2 | RB2 | ECONOMIZER CONTACT/REMOTE BULB STAT | } |
| OT | OT | OVERTEMPERATURE STAT CONTACT | |
| OR1 | OR1 | AIR CONDITIONING OVERRIDE RELAY CONTACT | } OVERRIDE RELAY |
| OR2 | OR2 | HEATING OVERRIDE CONTACT | |
| OR3 | OR3 | VENT FAN CONTACT | } |
| OC1 | OC1 | OCCUPIED COOLING CONTACT | |
| OC2 | OC2 | OCCUPIED HEATING CONTACT | } OCCUPIED RELAY |
| OC3 | OC3 | - | |
| OC4 | OC4 | - | } |
| TD1 | TD1 | TIME DELAY RELAY CONTACT | |
| TD2 | TD2 | TIME DELAY RELAY CONTACT | |

PARTS LIST

- HEAT/COOL ACCUSTAT-PSG INDUSTRIES LMS-AH22 WITH 55', 65', 78', AND 85' SENSORS
- REMOTE BULB STAT-HONEYWELL MODEL T675A-1565 (0' - 100')
- OVERTEMPSTAT-HONEYWELL MODEL T631C1020 (70' - 140')
- OVERRIDE AND OCCUPIED RELAYS- RELAY IDEC RY4S-U24VAC SOCKET IDEC SY4S-05
- A/C, HEATER AND VENT FAN CONTACTORS HONEYWELL PART NO. R8243B1005
- TRANSFORMER, DONGAN PART NO. 33-100K(120/24)V 100VA
- TIME DELAY RELAY-SCANTIMER MODEL A208220 (15 - 600 SEC.)
- MANUAL 60 MIN. TIMER DAYTON PART NO. 6X546A
-
- OIL TIGHT JIC BOX-HOFFMAN PART NO. A-1614CH WITH PANEL PART NO. A-16P14
- TERMINAL BLOCK, DIRECT MOUNT, SQUARE D, TYPE GK-6 CLASS 9080, SOLDERLESS BOX LUG SCREW TYPE
- FUSE HOLDER-BUSSMANN PART NO. H J M - H H



CONTROL CENTER SCHEMATIC

SEQUENCE OF OPERATION

(UNOCCUPIED):
AIR CONDITIONER: AIR CONDITIONER WILL CYCLE ON DEMAND OF Y2 COOL SENSOR OF HEAT/COOL STAT WHEN OUTSIDE TEMPERATURE IS ABOVE REMOTE BULB SETTING.
VENT FAN (ECONOMIZE MODE): VENT FAN WILL CYCLE ON DEMAND OF Y1 COOL SENSOR OF HEAT/COOL STAT WHEN OUTSIDE TEMPERATURE IS BELOW REMOTE BULB SETTING. AIR CONDITIONERS AND HEATER ARE DE-ENERGIZED.
HEATER: HEATER WILL CYCLE ON DEMAND OF W1 HEAT SENSOR OF HEAT/COOL STAT. AIR CONDITIONERS AND VENT FAN ARE DE-ENERGIZED.
(OCCUPIED-TIMER ENGAGED):
AIR CONDITIONER OR VENT FAN (ECONOMIZER): WILL CYCLE ON DEMAND OF Y1 AS IN UNOCCUPIED.
HEATER : WILL CYCLE ON DEMAND OF W2 AS DESCRIBED IN (UNOCCUPIED).
OVERTEMPERATURE: WHEN INSIDE TEMPERATURE RISES ABOVE THE OVERTEMP STAT SETTING, VENT FAN SHALL CYCLE OUT UNTIL OVERTEMP IS SATISFIED. OVERRIDE RELAY SHALL LOCK OUT HEATERS AND AIR CONDITIONERS.

REVISIONS

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0 1 2
 THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).

LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS

INSTALL RUNWAY 36 LOCALIZER

ENVIRONMENTAL CONTROL SYSTEM DETAIL

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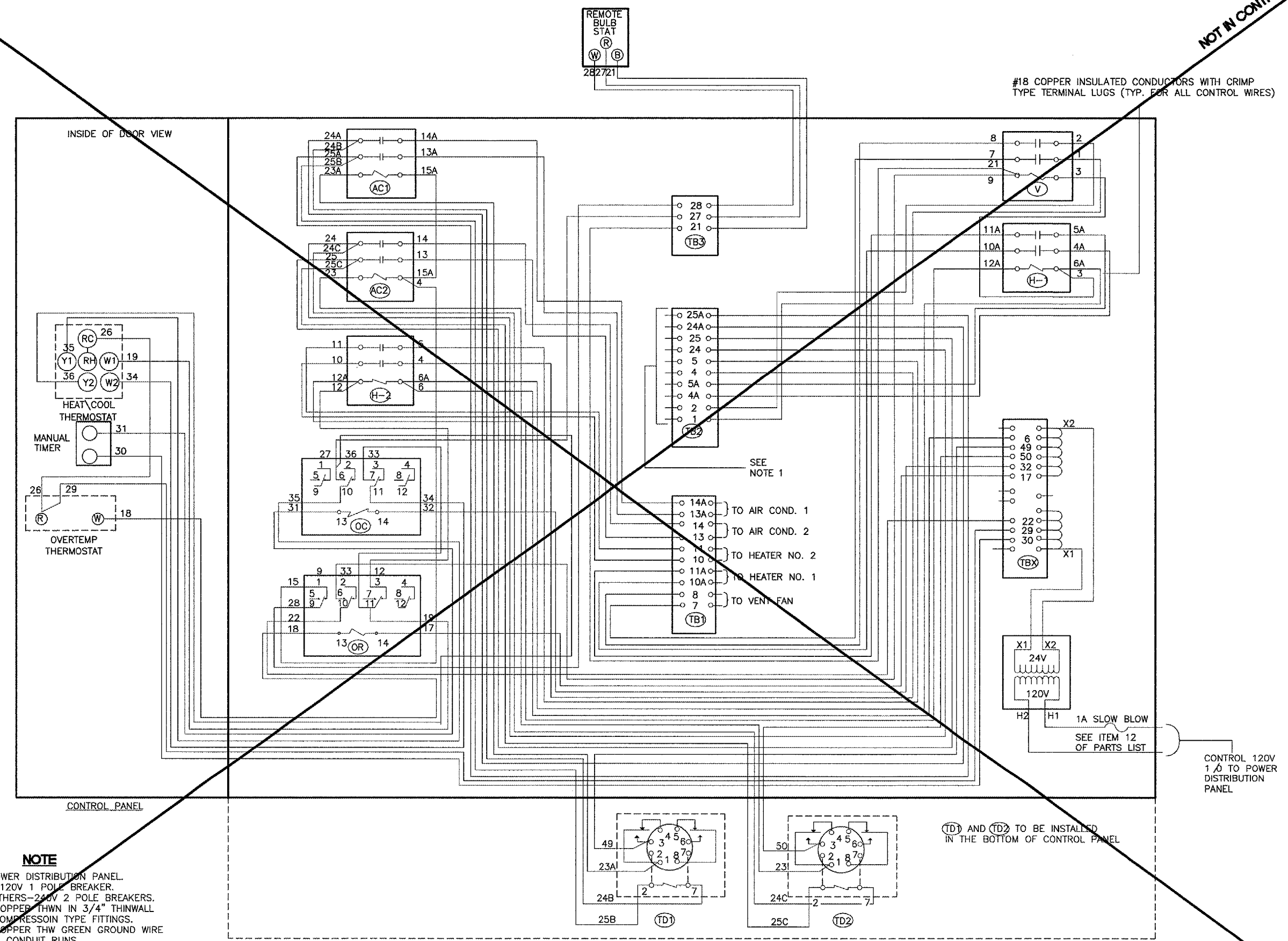
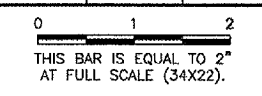
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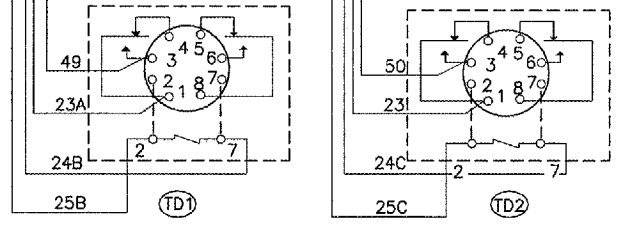
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NOTE
 1. TO POWER DISTRIBUTION PANEL.
 VENT-120V 1 POLE BREAKER.
 ALL OTHERS-240V 2 POLE BREAKERS.
 #10 COPPER THWN IN 3/4" THINWALL
 EMT COMPRESSOIN TYPE FITTINGS.
 #12 COPPER THW GREEN GROUND WIRE
 IN ALL CONDUIT RUNS.



LANSING MUNICIPAL AIRPORT
 LANSING, ILLINOIS
 INSTALL RUNWAY 36 LOCALIZER
 ENVIRONMENTAL CONTROL SYSTEM
 WIRING DIAGRAM

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