

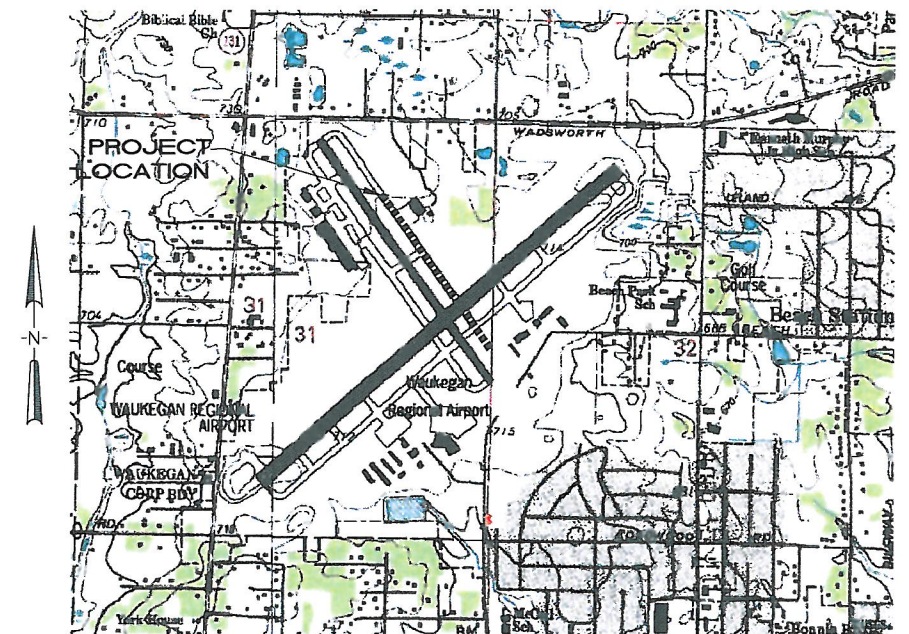
# CONSTRUCTION PLANS

# REHABILITATE TAXIWAY C AND ASSOCIATED EXIT TAXIWAYS, PHASE I

WAUKEGAN PORT DISTRICT  
WAUKEGAN REGIONAL AIRPORT (UGN)  
WAUKEGAN, LAKE COUNTY, ILLINOIS

AIP PROJECT NO. 3-17-0105-B54  
IDA PROJECT NO. UGN-4189

VICINITY MAP



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No.	Issue/Description	Sheets Changed	Date	By

Seal

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 HAUSMAN  
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 EXP. 11/30/13

Date of Plans: 16 Nov 12

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Date: 16 Nov 12

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Date: 19 Nov 2012

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**SUMMARY OF QUANTITIES**

ITEM NO.	DESCRIPTION	UNIT	AS BID	RECORD PAID
AR108158	1/C #8 5KV UG CABLE IN UD	LINEAR FOOT	9,130.0	
AR108960	REMOVE CABLE	LINEAR FOOT	5,045.0	
AR110551	EXTEND DUCT	LINEAR FOOT	148.0	
AR125410	MITL-STAKE MOUNTED	EACH	39.0	
AR125415	MITL-BASE MOUNTED	EACH	10.0	
AR125565	SPLICE CAN	EACH	5.0	
AR125966	RELOCATE SPLICE CAN	EACH	4.0	
AR125901	REMOVE STAKE MOUNTED LIGHT	EACH	48.0	
AR125902	REMOVE BASE MOUNTED LIGHT	EACH	5.0	
AR125964	RELOCATE TAXI GUIDANCE SIGN	EACH	4.0	
AR150510	ENGINEER'S FIELD OFFICE	LUMP SUM	1.0	
AR152410	UNCLASSIFIED EXCAVATION	CUBIC YARD	2,615.0	
AR156510	SILT FENCE	LINEAR FOOT	1,024.0	
AR156513	SEPARATION FABRIC	SQUARE YARD	4,072.0	
AR156520	INLET PROTECTION	EACH	18.0	
AR201661	CLEAN & SEAL BITUMINOUS CRACKS	LINEAR FOOT	3,810.0	
AR209611	CRUSHED AGG. BASE COURSE - 11"	SQUARE YARD	4,072.0	
AR401613	BIT. SURF. CSE.-METHOD I, SUPERPAVE	TON	2,380.0	
AR401650	BITUMINOUS PAVEMENT MILLING	SQUARE YARD	3,553.0	
AR401660	SAW & SEAL BIT. JOINTS	LINEAR FOOT	935.0	
AR401665	BITUMINOUS PAVEMENT SAWING	LINEAR FOOT	9,268.0	
AR401900	REMOVE BITUMINOUS PAVEMENT	SQUARE YARD	33.0	
AR401910	REMOVE & REPLACE BIT. PAVEMENT	SQUARE YARD	161.0	
AR403613	BIT. BASE CSE.-METHOD I, SUPERPAVE	TON	1,540.0	
AR403620	BITUMINUS BASE COURSE, LEVELING	TON	568.0	
AR501550	PCC PAVEMENT MILLING	SQUARE YARD	156.0	
AR602510	BITUMINOUS PRIME COAT	GALLONS	1,093.0	
AR603510	BITUMINOUS TACK COAT	GALLONS	4,054.0	
AR620520	PAVEMENT MARKING-WATERBORNE	SQUARE FOOT	8,395.0	
AR620525	PAVEMENT MARKING-BLACK BORDER	SQUARE FOOT	1,775.0	
AR705506	6" PERFORATED UNDERDRAIN	LINEAR FOOT	4,118.0	
AR705630	UNDERDRAIN INSPECTION HOLE	EACH	1.0	
AR705640	UNDERDRAIN CLEANOUT	EACH	14.0	
AR705900	REMOVE UNDERDRAIN	LINEAR FOOT	550.0	
AR705904	REMOVE UNDERDRAIN CLEANOUT	EACH	3.0	
AR705944	ADJUST UNDERDRAIN CLEANOUT	EACH	11.0	
AR800935	OFF PEAK WORK	LUMP SUM	1.0	
AR800938	CRACK CONTROL OVERLAY MATERIAL (8501)	SQUARE YARD	155.0	
AR800939	CRACK CONTROL REPAIR MATERIAL (8502)	SQUARE YARD	2,120.0	
AR800971	GRANULAR DRAINAGE SUBBASE - 8"	SQUARE YARD	4,072.0	
AR800972	BITUMINOUS SAND MIX - 2"	SQUARE YARD	1,538.0	
AR901510	SEEDING	ACRE	2.5	
AR904510	SODDING	SQUARE YARD	1,395.0	
AR905510	TOPSOILING (FROM ON SITE)	CUBIC YARD	750.0	
AR905520	TOPSOILING (FROM OFF SITE)	CUBIC YARD	480.0	
AR908510	MULCHING	ACRE	2.5	

PAYMENT WILL BE MADE UNDER THE ITEM NUMBERS, DESCRIPTIONS AND UNITS NOTED IN THE ABOVE TABLE IN ACCORDANCE WITH THE BASIS OF PAYMENT FOR EACH RESPECTIVE WORK ITEM NOTED IN THE SPECIAL PROVISIONS, COMPLETED AND ACCEPTED BY THE ENGINEER.

REVISION  
DATE

WAUKEGAN REGIONAL AIRPORT  
WAUKEGAN PORT DISTRICT  
3580 North McAtee Road  
Waukegan, Illinois 60087  
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Hanson No.	12A0085D	LAYOUT	LDH	10/29/12
Filename	02-INDEX AND_S00.DWG	DRAWN	LDH	10/29/12
Scale	N/A	REVIEWED	RWH	11/15/12
Date	NOVEMBER 16, 2012			

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Registration No. 184-001084  
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815 Commerce Drive, Suite 200  
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**SHEET INDEX AND SUMMARY OF QUANTITIES**

REHABILITATE TAXIWAY C AND ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54

REVISION	DATE

WAUKEGAN REGIONAL AIRPORT  
 WAUKEGAN PORT DISTRICT  
 3580 North McAfee Road  
 Waukegan, Illinois 60087  
 Telephone: 847.244.0066  
 Fax: 847.244.3813



Hanson No. 12A0085D	10/18/12
Filename 03-SITE-PLAN.DWG	LDH
Scale 1"=300'	10/18/12
Date NOVEMBER 16, 2012	LDH
LAYOUT	RWH
DRAWN	
REVIEWED	

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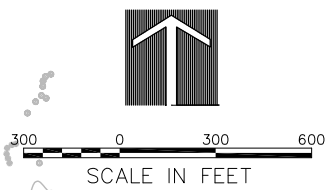
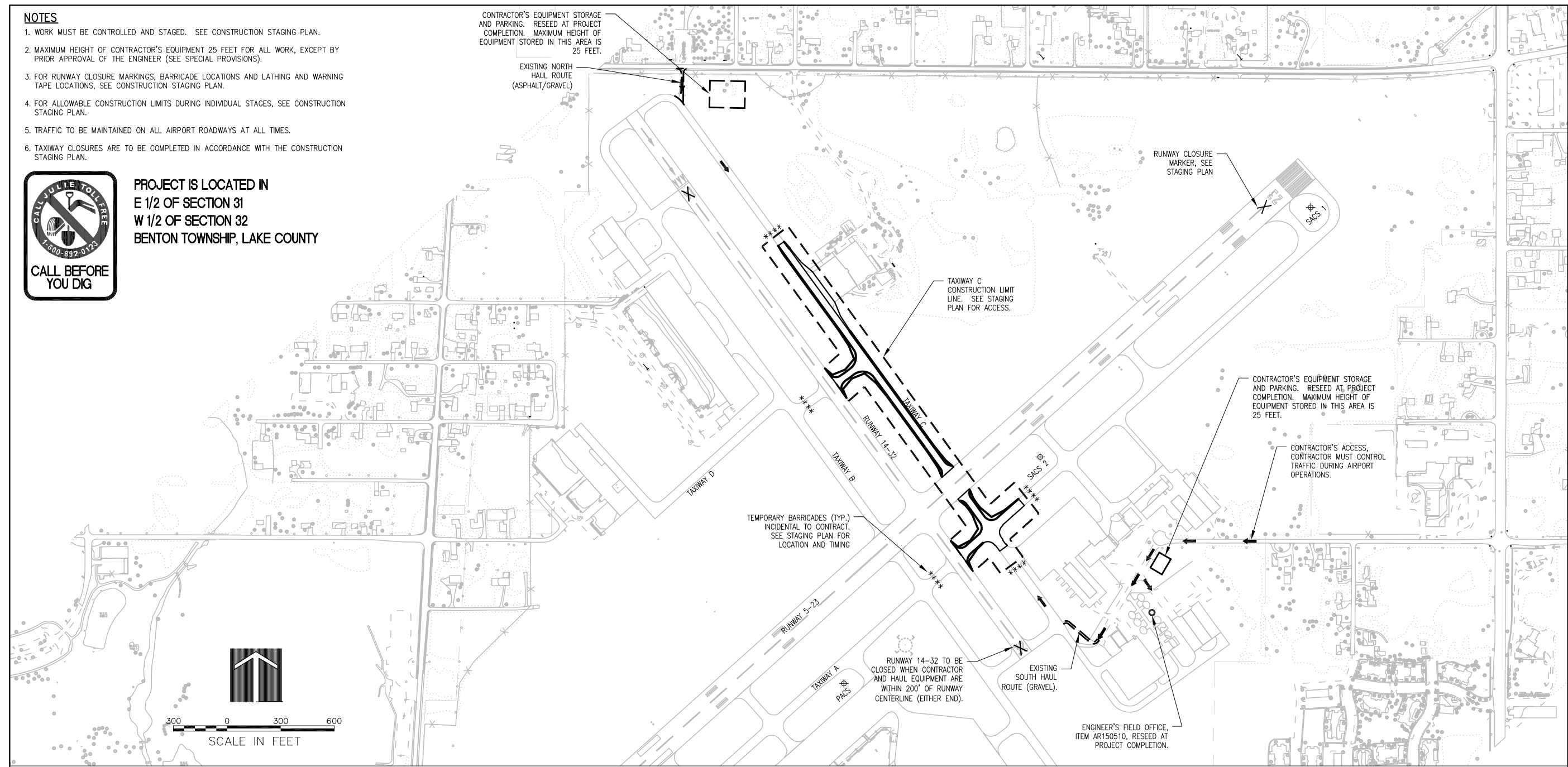
**SITE PLAN  
 AND GENERAL NOTES**

REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

- NOTES**
1. WORK MUST BE CONTROLLED AND STAGED. SEE CONSTRUCTION STAGING PLAN.
  2. MAXIMUM HEIGHT OF CONTRACTOR'S EQUIPMENT 25 FEET FOR ALL WORK, EXCEPT BY PRIOR APPROVAL OF THE ENGINEER (SEE SPECIAL PROVISIONS).
  3. FOR RUNWAY CLOSURE MARKINGS, BARRICADE LOCATIONS AND LATHING AND WARNING TAPE LOCATIONS, SEE CONSTRUCTION STAGING PLAN.
  4. FOR ALLOWABLE CONSTRUCTION LIMITS DURING INDIVIDUAL STAGES, SEE CONSTRUCTION STAGING PLAN.
  5. TRAFFIC TO BE MAINTAINED ON ALL AIRPORT ROADWAYS AT ALL TIMES.
  6. TAXIWAY CLOSURES ARE TO BE COMPLETED IN ACCORDANCE WITH THE CONSTRUCTION STAGING PLAN.



PROJECT IS LOCATED IN  
 E 1/2 OF SECTION 31  
 W 1/2 OF SECTION 32  
 BENTON TOWNSHIP, LAKE COUNTY



**GENERAL NOTES**

**PROJECT DESCRIPTION**  
 THIS PROJECT IS TO REHABILITATE TAXIWAY C AND ASSOCIATED EXIT TAXIWAYS AT WAUKEGAN REGIONAL AIRPORT, INCLUDING, AMONG OTHER INCIDENTAL WORK, THE FOLLOWING ITEMS:

- CRACK REPAIR AND PATCHING OF TAXIWAY PAVEMENTS
- WIDENING PAVEMENT TO 50' AND FILLETS AT RUNWAY 5-23, TAXIWAY A AND C2
- BITUMINOUS OVERLAY OF TAXIWAY PAVEMENTS
- REMOVAL AND INSTALLATION OF UNDERDRAINS
- REMOVAL AND INSTALLATION OF TAXIWAY EDGE LIGHTS AND RELOCATE GUIDANCE SIGNS
- REMARKING OF PAVEMENTS
- TOPSOILING, SODDING, SEEDING AND MULCHING

**PROTECTION OF EXISTING AIRPORT FACILITIES**  
 THE CONTRACTOR IS TO BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES AND LIGHTING EQUIPMENT; DRIVEWAY AND ROAD PAVEMENT AND SHOULDERS; RUNWAY, TAXIWAY AND APRON PAVEMENTS AND SHOULDERS; RUNWAY, TAXIWAY AND AIRPORT LIGHTING EQUIPMENT; AND SEEDED AND TURFED AREAS THAT ARE UTILIZED IN OR AFFECTED BY THE CONTRACTOR'S ACTIVITIES. ITEMS DAMAGED BY THE CONTRACTOR ARE TO BE REPAIRED AT CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF AIRPORT MANAGER AND THE OWNER'S REPRESENTATIVE.

IN ADDITION, WHEN CONDITIONS DICTATE OR AS DETERMINED BY THE AIRPORT MANAGER OR THE OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL BE REQUIRED TO USE A PICK-UP TYPE SWEEPER IN ALL ACTIVE CONSTRUCTION AIRFIELD PAVEMENT AREAS. THE CONTRACTOR WILL BE REQUIRED TO HAVE A SWEEPER AVAILABLE FOR USE AT ALL TIMES. THE COST OF SWEEPING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE FAA (SMO) THROUGH THE RESIDENT ENGINEER TO LOCATE ALL FAA CABLES ON THE PROJECT SITE. ALL FAA CABLES SHALL BE PROTECTED AT ALL TIMES.

**CONTRACTOR'S ACCESS AND TEMPORARY FACILITIES**

CONTRACTOR'S ACCESS TO THE PROJECT WHEN ON AIRPORT PROPERTY IS SHOWN ON THIS SHEET. CONTRACTOR'S ACCESS TO THE AIRPORT ITSELF IS TO BE PROVIDED BY PUBLIC RIGHTS-OF-WAY. THE CONTRACTOR IS TO SECURE ALL NECESSARY PERMITS FOR THE USE OF ANY PUBLIC RIGHTS-OF-WAY AND IS TO MAINTAIN TRAFFIC ON THESE PUBLIC ROADS AT ALL TIMES, WITH THE COSTS OF PERMITTING, CLEANING AND REPAIRING OF PAVEMENT DAMAGED BY CONTRACTOR'S ACTIVITIES INCIDENTAL TO THE CONTRACT. USE OF AND REPAIRS TO ANY PUBLIC FACILITIES ARE TO BE COMPLETED TO THE SATISFACTION OF THE FACILITY'S OWNER.

THE CONTRACTOR IS TO PROVIDE TEMPORARY CONSTRUCTION ROADS WITHIN THE CONSTRUCTION LIMIT LINES AS MAY BE REQUIRED BY HIS ACTIVITIES. HEAVY VEHICLES SHALL NOT CROSS EXISTING PAVEMENT SURFACES EXCEPT AS APPROVED BY THE AIRPORT MANAGER AND THE OWNER'S REPRESENTATIVE. ANY DAMAGE TO PAVEMENTS THAT MAY OCCUR BY THE CONTRACTOR'S ACTIVITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE AIRPORT MANAGER AND THE OWNER'S REPRESENTATIVE.

THE CONTRACTOR IS TO PROVIDE AN EQUIPMENT, STORAGE AND PARKING AREA AT THE LOCATIONS SHOWN ON THIS SHEET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE ACCESS ROADS AND THE STORAGE AREA DURING CONSTRUCTION AND TO RESTORE THE AREAS AT PROJECT COMPLETION TO CONDITIONS SUITABLE TO THE AIRPORT MANAGER AND THE OWNER'S REPRESENTATIVE. AT THE AIRPORT MANAGER'S DISCRETION, THE TEMPORARY FACILITIES MAY REMAIN, BUT THEY MUST BE LEFT IN CONDITIONS SUITABLE TO THE AIRPORT MANAGER. THE COST OF PROVIDING, MAINTAINING AND RESTORING THE TEMPORARY FACILITIES IS INCIDENTAL TO THE CONTRACT.

**RESPONSIBILITY FOR EXISTING UTILITIES**  
 THE LOCATION, SIZE AND/OR TYPE OF MATERIAL OF EXISTING UNDERGROUND OR OVERHEAD UTILITIES AS MAY BE INDICATED ON THESE CONSTRUCTION PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE PROJECT ENGINEER HAVE INDEPENDENTLY VERIFIED THIS INFORMATION AND NEITHER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, SUFFICIENCY OR COMPLETENESS OF THE INFORMATION AND GIVE NO EXPRESSED OR IMPLIED GUARANTEE THAT ANY CONDITIONS INDICATED ARE REPRESENTATIVE OF ACTUAL CONDITIONS TO BE ENCOUNTERED.

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 ALL UTILITY COMPANIES AND AGENCIES OF HIS CONSTRUCTION PLANS AND SHALL OBTAIN FROM EACH PARTY DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF ALL UTILITIES AND THE WORKING SCHEDULE OF ANY REMOVALS OR ADJUSTMENTS REQUIRED OF THE UTILITY. THE CONTRACTOR SHALL CONTACT J.JULIE (PHONE 800-892-0123), TO ASSIST IN THE ABOVE.

THE CONTRACTOR SHALL PROTECT ANY FACILITIES TO THE SATISFACTION OF THE UTILITY OR OWNING-AGENCY WITH THE COST OF ANY REQUIRED PROTECTION TO BE INCIDENTAL TO THE CONTRACT. IN THE EVENT A UTILITY LINE OR SERVICE IS UNEXPECTEDLY ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE AND THE UTILITY COMPANY OR AGENCY OF JURISDICTION. ANY SUCH UTILITIES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO SERVICE IMMEDIATELY.

**AIRPORT SECURITY**  
 THE CONTRACTOR IS TO COORDINATE GATE SECURITY, THROUGH THE RESIDENT ENGINEER, WITH THE AIRPORT MANAGEMENT. AIRPORT SECURITY SHALL BE MAINTAINED AT ALL TIMES.

**EXISTING CONTROL POINTS**

PACS:	N 2095587.482
	E 1109729.492
	ELEV. 705.1
SACS 1	N 2098251.587
	E 1112341.241
	ELEV. 717.6
SACS 2	N 2096854.703
	E 1110827.340
	ELEV. 709.1

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**CONSTRUCTION AND SAFETY NOTES**

**SEQUENCE OF CONSTRUCTION**

TO MINIMIZE DISRUPTIONS TO AIRPORT OPERATIONS, CONSTRUCTION OPERATIONS MUST BE CONTROLLED THROUGHOUT THE PROJECT'S DURATION AND WORK MUST BE COMPLETED EXPEDITIOUSLY. THE CONTRACTOR SHALL EXPEDITE WORK AT THOSE STAGES WHEN ACTIVE RUNWAYS, TAXIWAYS, APRONS, ROADWAYS OR PARKING LOTS MUST BE CLOSED TO MINIMIZE THE LENGTH OF TIME THAT AIRPORT OPERATIONS ARE RESTRICTED. A CONSTRUCTION STAGING PLAN DETAILING THE SEQUENCING OF THE CONTRACTOR'S WORK THROUGHOUT THE PROJECT IS INCLUDED IN THE PLANS. THE CONTRACTOR SHALL PROVIDE HIS WRITTEN ACCEPTANCE OF THE PROJECT CONSTRUCTION STAGING PLAN AT THE PRE-CONSTRUCTION CONFERENCE. ANY AND ALL CHANGES TO THE CONSTRUCTION STAGING PLAN THAT MAY BE REQUESTED BY THE CONTRACTOR MUST BE APPROVED BY THE PROJECT ENGINEER AND THE AIRPORT OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT ADVANCE NOTICE OF ANY PROPOSED STAGING CHANGE TO PERMIT CONSIDERATION AND APPROVAL BY THE PROJECT ENGINEER AND THE AIRPORT OWNER. THE CONTRACTOR SHALL NOT BE ENTITLED ANY EXTRA COMPENSATION NOR EXTENSION TO THE CONTRACT TIME BECAUSE OF A STAGING CHANGE REQUEST NOR FOR ANY TIME NECESSARY IN RECEIVING THE REQUIRED APPROVALS.

**LATHING AND WARNING TAPE**

THE PROJECT WILL REQUIRE THE PLACEMENT OF LATHING AND WARNING TAPE TO DELINEATE THE CONSTRUCTION AREA. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE, PLACE AND MAINTAIN LATHING AND WARNING TAPE SHOWN ON DETAIL A, THIS SHEET, AND AS DIRECTED BY THE RESIDENT ENGINEER AND THE AIRPORT OWNER. THE CONTRACTOR WILL FURNISH, PLACE, MAINTAIN AND RELOCATE THE LATHING AND WARNING TAPE AS REQUIRED. THE COST OF THESE ITEMS, AND THEIR MAINTENANCE, IS TO BE INCIDENTAL TO THE CONTRACT.

**RUNWAY CLOSURE**

RUNWAY 14-32 MUST BE CLOSED TO AIR TRAFFIC WHEN CONTRACTOR ACTIVITIES ARE WITHIN 200 FEET OF THE RUNWAY 14-32 CENTERLINE. RUNWAY 5-23 MUST BE CLOSED TO AIR TRAFFIC WHEN CONTRACTOR ACTIVITIES ARE WITHIN 250 FEET OF THE RUNWAY 5-23 CENTERLINE. AT NO TIME SHALL BOTH RUNWAYS BE CLOSED SIMULTANEOUSLY, UNLESS APPROVED BY THE RESIDENT ENGINEER AND AIRPORT OWNER AFTER 5 DAYS ADVANCE NOTICE.

THE PROJECT WILL REQUIRE THE PLACEMENT OF RUNWAY CLOSURE MARKERS; SEE SHEET 3, AND DETAIL C, THIS SHEET. TO MINIMIZE DISRUPTION TO AIRCRAFT OPERATIONS ASSOCIATED WITH THE RUNWAY CLOSURE, CONSTRUCTION WORK MUST BE COMPLETED EXPEDITIOUSLY. RUNWAY CLOSINGS SHALL ONLY BE PERMITTED BY PRIOR AUTHORIZATION OF THE RESIDENT ENGINEER AND THE AIRPORT OWNER.

THE CONTRACTOR WILL INSTALL, OPERATE, MAINTAIN AND REMOVE LIGHTED RUNWAY CLOSURE MARKERS AS SPECIFIED IN THE DETAIL, THIS SHEET. IF NECESSARY FOR EMERGENCIES OR EXTENDED MAINTENANCE OF THE LIGHTED MARKER EQUIPMENT BY THE CONTRACTOR, THE CONTRACTOR WILL TEMPORARILY USE PRE-MANUFACTURED, VINYL MARKERS TO BE FURNISHED TO THE CONTRACTOR BY THE OWNER. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL, RELOCATE AND MAINTAIN RUNWAY CLOSURE MARKERS AT THE LOCATIONS SHOWN IN THE PLAN, AND AS DIRECTED BY THE RESIDENT ENGINEER AND AIRPORT OWNER. THE COST OF PLACING AND RELOCATING THESE ITEMS, AND THEIR OPERATION AND MAINTENANCE, IS TO BE INCIDENTAL TO THE CONTRACT.

THE AIRPORT OWNER WILL DE-ENERGIZE AIRPORT/RUNWAY NAVAIDS, AND AIRFIELD LIGHTING POWER AND CONTROL CIRCUITS WHEN THE RUNWAY IS CLOSED.

**TEMPORARY BARRICADES ON AIRFIELD**

THE PROJECT WILL REQUIRE THE PLACEMENT OF BARRICADES TO DELINEATE PORTIONS OF THE CONSTRUCTION AREA AND FOR TEMPORARY CLOSURES OF ACTIVE TAXIWAYS AND APRONS. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO FURNISH, PLACE AND MAINTAIN BARRICADES AS SHOWN IN DETAIL B, THIS SHEET, AND AS DIRECTED BY THE RESIDENT ENGINEER AND AIRPORT OWNER. THE COST OF THESE ITEMS, AND THEIR MAINTENANCE, IS TO BE INCIDENTAL TO THE CONTRACT. ANY WORK THAT REQUIRES PORTIONS OF AN ACTIVE TAXIWAY OR APRON TO BE CLOSED MUST BE COMPLETED EXPEDITIOUSLY TO MINIMIZE DISRUPTION TO AIRCRAFT OPERATIONS.

**VEHICULAR TRAFFIC CONTROL**

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND PLACE ROAD WARNING SIGNS AND BARRICADES ON THE EXISTING ROADWAYS PRIOR TO THE START OF CONSTRUCTION IN THE VICINITY. THE CONTRACTOR SHALL PROVIDE, INSTALL AND RELOCATE THE ITEMS AS REQUIRED. THE COST OF THIS WORK IS TO BE INCIDENTAL TO THE CONTRACT.

CONTRACTOR SHALL PROVIDE, INSTALL AND REMOVE ALL TRAFFIC CONTROL ITEMS WHEN CONSTRUCTION ACTIVITIES ARE WITHIN 15 FEET OF AN ACTIVE ROADWAY EDGE OR AS REQUIRED BY THE SITE PLAN. COST OF THIS WORK IS TO BE INCIDENTAL TO THE CONTRACT.

**AIRFIELD OPERATIONAL SAFETY DURING CONSTRUCTION**

ALL CONSTRUCTION TRAFFIC AND PERSONNEL SHALL REMAIN WITHIN THE CONSTRUCTION LIMIT LINE SHOWN ON THE STAGING PLAN FOR THE STAGE CURRENTLY UNDER CONSTRUCTION. CONTRACTOR'S PERSONNEL AND EQUIPMENT MUST REMAIN AT LEAST 200 FEET FROM THE CENTERLINE OF ACTIVE RUNWAY 14-32 AND 250 FEET FROM ACTIVE RUNWAY 5-23, 1000 FEET FROM THE END OF ACTIVE RUNWAYS, 65.5 FEET FROM THE CENTERLINE OF ACTIVE CATEGORY II TAXIWAYS AND 93 FEET FROM THE CENTERLINE OF ACTIVE CATEGORY III TAXIWAYS, 44.5 FEET FROM T-HANGAR TAXILANES AND 10 FEET FROM THE EDGE OF ACTIVE APRONS.

WHEN IT IS NECESSARY FOR CONSTRUCTION VEHICLES TO OPERATE ON OR WITHIN THESE LIMITS, THE RUNWAY, TAXIWAYS OR APRON MUST BE CLOSED. WHEN HAUL VEHICLES ARE PERMITTED TO CROSS ACTIVE TAXIWAYS, THE CONTRACTOR WILL PROVIDE POSITIVE CONTROL OF CONSTRUCTION VEHICLES USING RADIO-EQUIPPED FLAGGERS. CONTRACTOR SHALL ESTABLISH AND MAINTAIN RADIO CONTACT WITH AIR TRAFFIC CONTROL TOWER (ATCT) IN ACCORDANCE WITH ATCT REQUIREMENTS. ALL CONTRACTOR'S EQUIPMENT USED IN ACTIVE AIRPORT OPERATIONS AREAS SHALL BE EQUIPPED WITH A FAA-STANDARD FLAG, AS REFERENCED IN FAA AC 150/5370-2, CURRENT ISSUE. AIRCRAFT SHALL HAVE THE RIGHT-OF-WAY. CONSTRUCTION VEHICLES SHALL NOT CROSS AN ACTIVE RUNWAY. THE COST OF ALL TRAFFIC CONTROL, BOTH WITHIN AND OUTSIDE OF AIRPORT OPERATIONS AREAS, IS TO BE INCIDENTAL TO THE CONTRACT.

WHEN NOT IN USE AND DURING NONWORKING HOURS, CONTRACTOR'S EQUIPMENT SHALL BE PARKED WITHIN THE CONTRACTOR'S EQUIPMENT STORAGE AND PARKING AREAS. THE EQUIPMENT STORAGE AND PARKING AREAS ARE TO BE LOCATED AS SHOWN ON THE STAGING PLAN. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE CONSTRUCTION ENTRANCE IN GOOD CONDITION. THE COST OF MAINTAINING THE CONSTRUCTION ENTRANCE IS TO BE INCIDENTAL TO THE CONTRACT.

AT NO TIME SHALL THE CONTRACTOR OPERATE OR PARK EQUIPMENT SO AS TO OBSTRUCT AN ACTIVE RUNWAY APPROACH SURFACE.

OPEN TRENCHES, EXCAVATIONS AND STOCKPILED MATERIAL AT THE CONSTRUCTION SITE SHALL BE DELINEATED WITH THE USE OF BARRICADES DURING HOURS OF RESTRICTED VISIBILITY AND/OR DARKNESS. NO OPEN TRENCHES SHALL BE ALLOWED WITHIN THE RUNWAY SAFETY AREA (RSA) OR THE TAXIWAY SAFETY AREA (TSA) OVER NIGHT. THE RSA IS DEFINED AS 75 FEET FROM THE RUNWAY 14-32 CENTERLINE AND 300 FEET FROM THE END OF RUNWAY 14-32 AND 250 FEET FROM THE RUNWAY 5-23 CENTERLINE AND 1000 FEET FROM THE END OF RUNWAY 5-23. THE TSA IS MEASURED AT 39.5 FEET FROM THE CATEGORY II TAXIWAY CENTERLINE AND 59 FEET FROM THE CATEGORY III CENTERLINE. THE CONTRACTOR SHALL HAVE STEEL PLATES ON-SITE TO ALLOW FOR THE RAPID COVERING OF TRENCHES IN THE EVENT OF UNEXPECTED WORK STOPPAGES FOR WEATHER OR AIRPORT EMERGENCIES.

BEFORE REOPENING TEMPORARILY CLOSED RUNWAYS, TAXIWAYS OR ROADWAYS, THE CONTRACTOR SHALL INSPECT AND CLEAN, AS NECESSARY, THE PAVEMENT TO ASSURE THAT NO MATERIALS OR OBJECTS THAT MAY DAMAGE AIRCRAFT OR VEHICLES REMAIN. ANY REQUIRED CLEANING SHALL BE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND AIRPORT OWNER AND IS INCIDENTAL TO THE CONTRACT.

ALL CONTRACTOR EQUIPMENT IS LIMITED TO A HEIGHT OF 25 FEET.

**NOTIFICATIONS BY CONTRACTOR**

THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AND AIRPORT OWNER 5 DAYS IN ADVANCE OF THE CONTRACTOR'S CLOSING OF ACTIVE RUNWAYS, TAXIWAYS AND APRONS. THE DATE, TIME AND SCHEDULED DURATION OF THE CLOSING MUST BE APPROVED BY THE RESIDENT ENGINEER AND THE AIRPORT OWNER. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AND AIRPORT OWNER 72 HOURS IN ADVANCE OF THE CONTRACTOR'S CLOSING OF OTHER ACTIVE ROADWAYS, AIRFIELD OR ROADWAY LIGHTING CIRCUITS, OR OTHER AIRPORT FACILITIES.

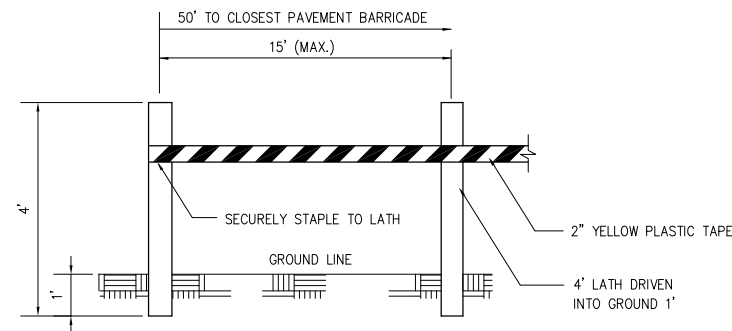
**CONTRACTOR'S USE OF SITE**

THE CONTRACTOR SHALL NOT OPERATE WITHIN, ENCROACH UPON OR OBSTRUCT AIRPORT OPERATIONAL AREAS, INCLUDING ACTIVE RUNWAY, TAXIWAYS AND APRON SAFETY AREAS, OBJECT AND OBSTACLE FREE ZONES, RUNWAY PROTECTION ZONES AND AIRPORT IMAGINARY SURFACES AS DEFINED IN FEDERAL AVIATION REGULATIONS (FAR) PART 77, "OBJECTS AFFECTING NAVIGABLE AIRSPACE".

THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF THE WORK AREA PRIOR TO BEGINNING WORK AT A NEW LOCATION.

**UTILITY OUTAGES AND SHUTDOWNS**

THE CONTRACTOR SHALL PROVIDE 72 HOURS PRIOR NOTICE OF ANY OUTAGES OR SHUTDOWNS TO THE OWNER AND THE AGENCY OWNING THE AFFECTED UTILITY. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY CONNECTIONS OR OTHER MEASURES AS MAY BE REQUIRED TO MAINTAIN SERVICE AS MAY BE REQUIRED BY THE OWNING AGENCY AT NO COST TO THE OWNER.



MATERIALS ARE TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION. COST OF MATERIALS, INSTALLATION, RELOCATION AND MAINTENANCE OF LATHING AND WARNING TAPE IS TO BE INCIDENTAL TO THE CONTRACT.

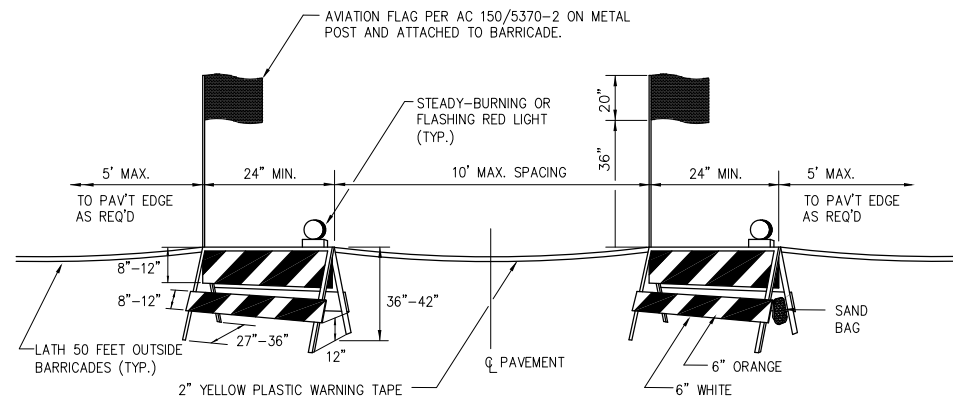
**DETAIL A**  
**LATHING AND WARNING TAPE**  
NTS



**NOTES**

1. THE LIGHTED RUNWAY CLOSURE MARKERS WILL BE FURNISHED BY THE AIRPORT OWNER TO THE CONTRACTOR FOR THE CONTRACTOR'S USE. THE COST OF PLACING, OPERATING, MAINTAINING AND REMOVING THE LIGHTED RUNWAY CLOSURE MARKERS WILL BE INCIDENTAL TO THE CONTRACT.
2. THE LIGHTED MARKERS SHALL BE PLACED OVER THE RUNWAY NUMERALS AS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.
3. LIGHTED MARKERS SHALL BE SECURED FROM WIND EFFECTS BY THE CONTRACTOR AS RECOMMENDED BY THE MANUFACTURER.
4. THE LIGHTED MARKERS SHALL BE IN PLACE AND OPERATING WHENEVER THE RUNWAY IS CLOSED AND REMOVED WHEN THE RUNWAY IS RE-OPENED.
5. SHOULD IT BE NECESSARY FOR THE CONTRACTOR TO TEMPORARILY REMOVE THE LIGHTED MARKERS FROM SERVICE, SUCH INTERRUPTION SHALL BE DURING DAYLIGHT CONDITIONS ONLY. THE LIGHTED MARKER SHALL BE REPLACED WITH OWNER-SUPPLIED VINYL MARKERS, WHICH SHALL BE PLACED, SECURED AND REMOVED BY THE CONTRACTOR AS DIRECTED BY THE RESIDENT ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN ITEM AR800964.

**LIGHTED RUNWAY CLOSURE MARKER**



BARRICADES ARE TO BE OF IDOT TYPE I. A STEADY-BURNING OR FLASHING RED LIGHT FACING PASSING TRAFFIC IS TO BE MOUNTED ABOVE THE TOP OF EACH BARRICADE FRAME. THE BARRICADE IS TO BE STABILIZED FROM WIND BY SANDBAGS PLACED ON THE FRAME OR OTHER METHODS APPROVED BY THE RESIDENT ENGINEER. NO PART OF THE REFLECTORIZED PORTION OF THE BARRICADE IS TO BE OBSTRUCTED IN ANY MANNER. COST OF FURNISHING, INSTALLING, RELOCATING, MAINTAINING AND REMOVING BARRICADES IS TO BE INCIDENTAL TO THE CONTRACT.

**DETAIL C**  
**PAVEMENT BARRICADES**  
NTS

REVISION

DATE

WAUKEGAN REGIONAL AIRPORT  
WAUKEGAN PORT DISTRICT  
3580 North McAtee Road  
Waukegan, Illinois 60087  
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Hanson No.	12A0085D				
Filename	04-SAFETY NOTES.DWG				
Scale	N/A				
Date	NOVEMBER 16, 2012				
LAYOUT	LDH	10/9/12			
DRAWN	LDH	10/9/12			
REVIEWED	RMH	11/15/12			

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**CONSTRUCTION SAFETY**  
**NOTES AND DETAILS**

**REHABILITATE TAXIWAY C AND**  
**ASSOCIATED EXIT TAXIWAYS, PHASE 1**  
IDA No. UGN-4189 AIP No. 3-r17-0105-B54

REVISION	DATE

WAUKEGAN REGIONAL AIRPORT  
 WAUKEGAN PORT DISTRICT  
 3580 North McAfee Road  
 Waukegan, Illinois 60087  
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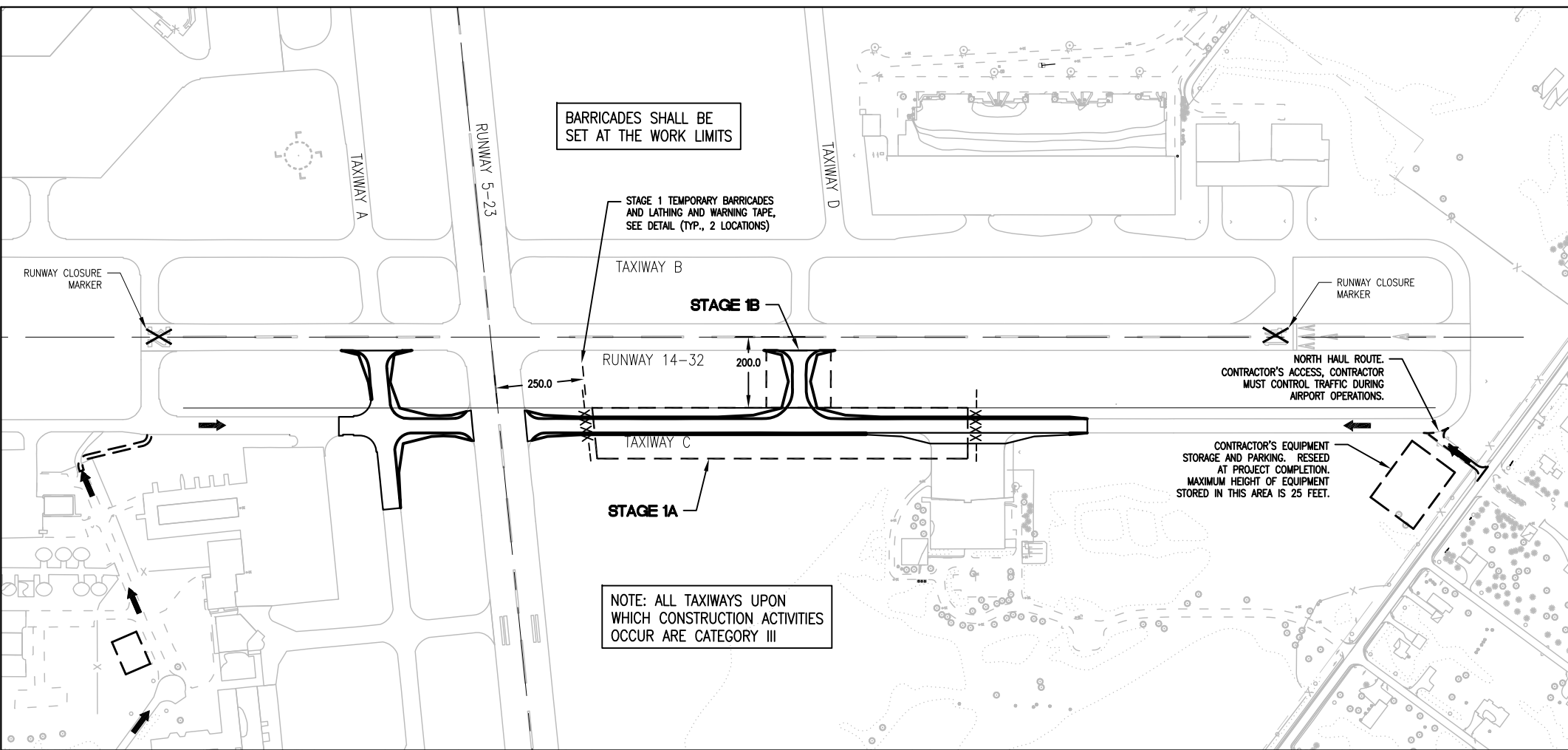
Revision No.	Description	Date	By	Check
1	12A0085D	NOVEMBER 16, 2012	LDH	RWH
2	05-STAGING PLAN 1.DWG	6/26/12	LDH	RWH
3	1"=200'	6/26/12	LDH	RWH
4	NOVEMBER 16, 2012	11/15/12	LDH	RWH

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STAGING PLAN  
 STAGE 1 AND 2  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

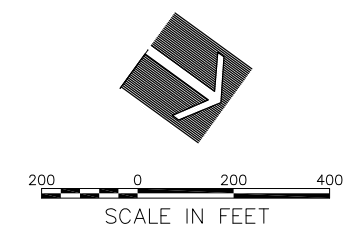
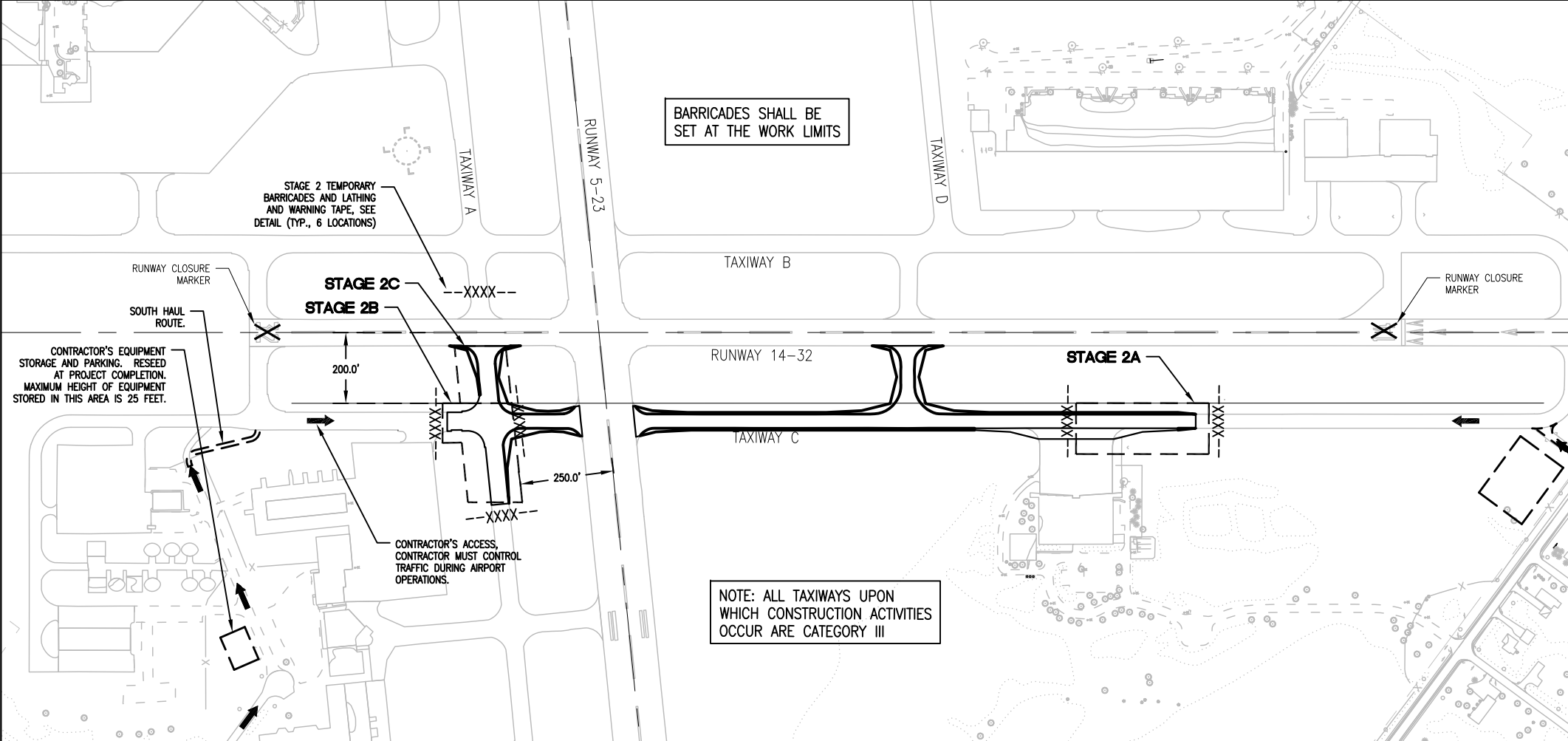
### STAGE 1A AND 1B

- NOTES:**
- ALL CONTRACTOR ACTIVITIES SHALL TAKE PLACE WITHIN CONSTRUCTION LIMIT LINES AS SHOWN.
  - ALL CONSTRUCTION EQUIPMENT WILL BE LIMITED TO A HEIGHT OF 25 FEET UNLESS PRIOR APPROVAL GIVEN BY THE ENGINEER.
  - CONTRACTOR'S EQUIPMENT MAY NOT DISRUPT FLIGHT OPERATIONS ON RUNWAY 5-23 AT ANY TIME.
  - **RUNWAY 14-32 MUST BE CLOSED WHEN WORKING WITHIN 200 OF THE RUNWAY CENTERLINE, STAGE 1B. ALL WORK IN THIS STAGE SHALL BE COMPLETED EXPEDITIOUSLY.**
  - SEE CONSTRUCTION AND SAFETY NOTES, SHEET 4.
- THE FOLLOWING ITEMS ARE TO BE COMPLETED IN STAGE 1:**
- CRACK SEALING WITHIN STAGE 1 LIMITS
  - PARTIAL AND FULL DEPTH PAVEMENT REPAIRS WITHIN STAGE 1 LIMITS
  - REPLACE EDGE LIGHTS AND RELOCATE SIGNS WITHIN STAGE 1 LIMITS
  - REMOVE AND INSTALL UNDERDRAIN WITHIN STAGE 1 LIMITS
  - PLACE AGGREGATE BASE AND BASE COURSE WITHIN STAGE 1 LIMITS

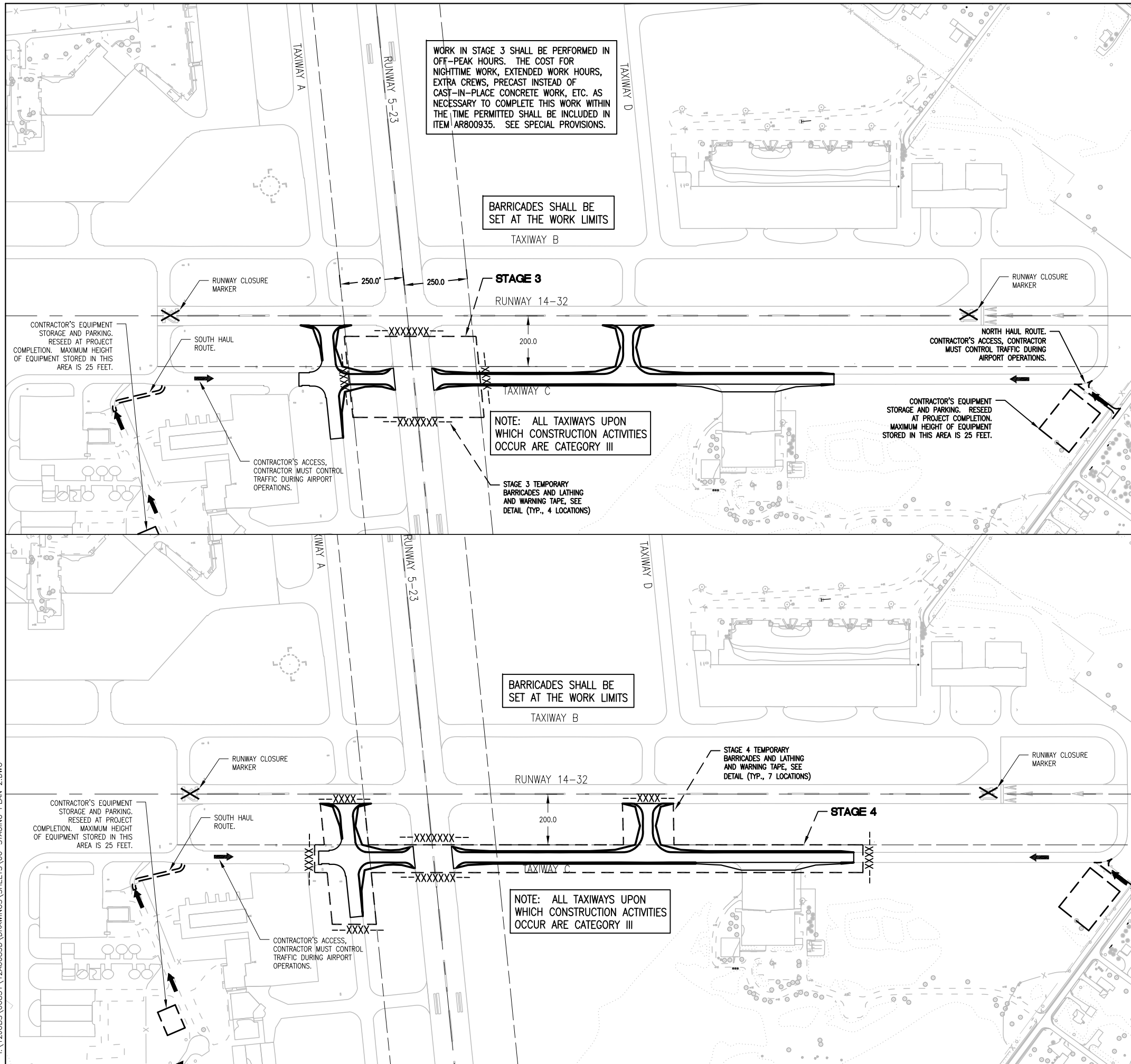


### STAGE 2A AND 2B

- NOTES:**
- ALL CONTRACTOR ACTIVITIES SHALL TAKE PLACE WITHIN CONSTRUCTION LIMIT LINES AS SHOWN.
  - ALL CONSTRUCTION EQUIPMENT WILL BE LIMITED TO A HEIGHT OF 25 FEET UNLESS PRIOR APPROVAL GIVEN BY THE ENGINEER.
  - CONTRACTOR'S EQUIPMENT MAY NOT DISRUPT FLIGHT OPERATIONS ON RUNWAY 5-23 AT ANY TIME.
  - **RUNWAY 14-32 MUST BE CLOSED WHEN WORKING WITHIN 200 OF THE RUNWAY CENTERLINE, STAGE 2C. ALL WORK IN THIS STAGE SHALL BE COMPLETED EXPEDITIOUSLY.**
  - SEE CONSTRUCTION AND SAFETY NOTES, SHEET 4.
- THE FOLLOWING ITEMS ARE TO BE COMPLETED IN STAGE 2:**
- CRACK SEALING WITHIN STAGE 2 LIMITS
  - PARTIAL AND FULL DEPTH PAVEMENT REPAIRS WITHIN STAGE 2 LIMITS
  - REPLACE EDGE LIGHTS AND RELOCATE SIGNS WITHIN STAGE 2 LIMITS
  - REMOVE AND INSTALL UNDERDRAIN WITHIN STAGE 2 LIMITS
  - PLACE AGGREGATE BASE AND BASE COURSE WITHIN STAGE 2 LIMITS



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**STAGE 3**

- NOTES:**
- ALL CONTRACTOR ACTIVITIES SHALL TAKE PLACE WITHIN CONSTRUCTION LIMIT LINES AS SHOWN.
  - ALL CONSTRUCTION EQUIPMENT WILL BE LIMITED TO A HEIGHT OF 25 FEET UNLESS PRIOR APPROVAL GIVEN BY THE ENGINEER.
  - ALL WORK WITHIN 200 FEET OF RUNWAY 14-32 AND 250 FEET OF RUNWAY 5-23 MUST BE COMPLETED EXPEDITIOUSLY.
  - ALL CONTRACTOR ACTIVITIES IN THIS STAGE SHALL TAKE PLACE OVERNIGHT, BETWEEN THE HOURS OF 9 P.M. AND 6 A.M., AS TO MINIMIZE THE DISRUPTION TO THE AIRPORT.
  - AT THE END OF THE WORK PERIOD, THE CONTRACTOR IS REQUIRED TO OPEN ALL TAXIWAYS UP TO AIR TRAFFIC AND REMOVE ALL EQUIPMENT FROM THE WORK AREA (93' FROM TAXIWAY CENTERLINE, 400' FROM RUNWAY CENTERLINE). THE MAXIMUM DROP IN PAVEMENT BETWEEN OLD AND NEW PAVEMENTS AND ADJACENT GROUND SHALL BE 3 INCHES. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE TAXIWAY SAFETY AREA (59' FROM CENTERLINE) AND RUNWAY SAFETY AREA (250' FROM CENTERLINE) TO CONDITIONS ACCEPTABLE TO THE CONSTRUCTION MANAGER AT THE END OF EACH WORK PERIOD. THE CONTRACTOR MAY USE STEEL PLATES AS NECESSARY TO COVER OPEN AREAS WITHIN THE TAXIWAY SAFETY AREA. OWNER SHALL BE GIVEN 5 DAYS ADVANCE NOTICE OF THE FIRST SCHEDULED CLOSURE PERIOD.
  - THIS WORK SHALL BE LIMITED TO 6 WORKING DAYS.
  - RUNWAY 14-32 SHALL NOT BE CLOSED CONCURRENT WITH RUNWAY 5-23.
  - STAGE 3 WORK CAN BE PERFORMED CONCURRENT WITH OTHER STAGES SO LONG AS THE PERFORMANCE TIME REQUIREMENTS ARE MET.
  - SEE CONSTRUCTION AND SAFETY NOTES, SHEET 4.
- THE FOLLOWING ITEMS ARE TO BE COMPLETED IN STAGE 3:**
- CRACK SEALING WITHIN STAGE 3 LIMITS
  - PARTIAL AND FULL DEPTH PAVEMENT REPAIRS WITHIN STAGE 3 LIMITS
  - REPLACE EDGE LIGHTS AND RELOCATE SIGNS WITHIN STAGE 3 LIMITS
  - REMOVE AND INSTALL UNDERDRAIN WITHIN STAGE 3 LIMITS
  - PLACEMENT OF AGGREGATE BASE AND BASE COURSE WITHIN STAGE 3 LIMITS

**STAGE 4**

- NOTES:**
- ALL CONTRACTOR ACTIVITIES SHALL TAKE PLACE WITHIN CONSTRUCTION LIMIT LINES AS SHOWN.
  - ALL CONSTRUCTION EQUIPMENT WILL BE LIMITED TO A HEIGHT OF 25 FEET UNLESS PRIOR APPROVAL GIVEN BY THE ENGINEER.
  - ALL WORK WITHIN 200 FEET OF RUNWAY 14-32 AND 250 FEET OF RUNWAY 5-23 MUST BE COMPLETED EXPEDITIOUSLY.
  - CONTRACTOR SHALL SCHEDULE AND FURNISH SURFACE COURSE PLACEMENT, MARKING AND LANDSCAPING IN SUCH A MANNER THAT ONE RUNWAY AND IS OPEN AT ALL TIMES. MAXIMUM TIME PERIOD FOR RUNWAY 5-23 CLOSURE IS 4 HOURS PER DAY.
  - THIS WORK SHALL BE LIMITED TO 5 WORKING DAYS.
  - SEE CONSTRUCTION AND SAFETY NOTES, SHEET 4.
- THE FOLLOWING ITEMS ARE TO BE COMPLETED IN STAGE 4:**
- ALTERNATELY OPEN AND CLOSE RUNWAY 14-32 AND 5-23 (NO SIMULTANEOUS CLOSINGS) IN ACCORDANCE WITH CONSTRUCTION AND SAFETY NOTES.
  - PLACE SURFACE COURSE WITHIN STAGE 4 LIMITS
  - MARKING OF PAVEMENTS WITHIN STAGE 4 LIMITS
  - TOPSOILING, SEEDING AND MULCHING WITHIN STAGE 4 LIMITS

REVISION	DATE

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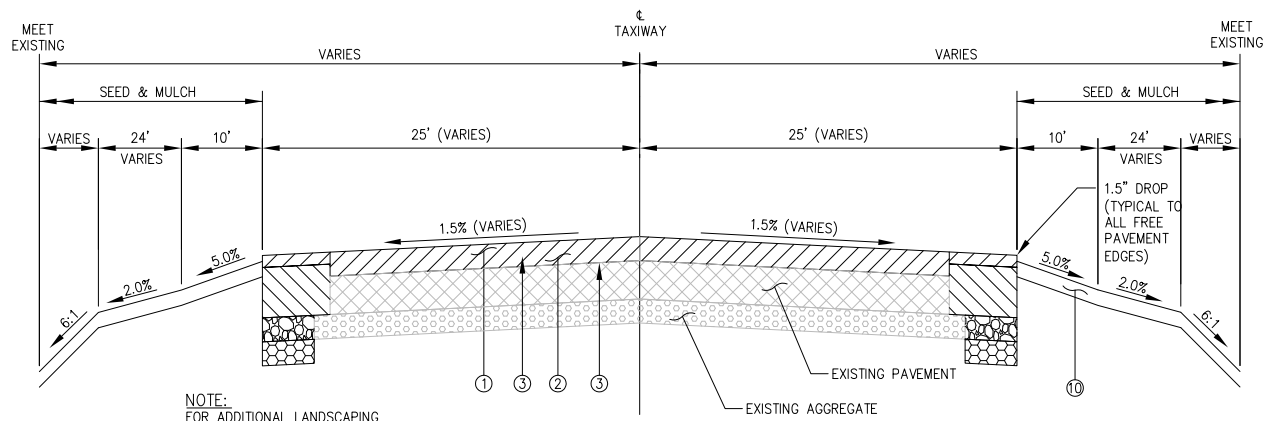


Hanson No. 12A0085D	LDH	6/26/12
Filename 06-STAGING PLAN 2.DWG	LDH	6/26/12
Scale 1"=200'	RMH	11/15/12
Date NOVEMBER 16, 2012		
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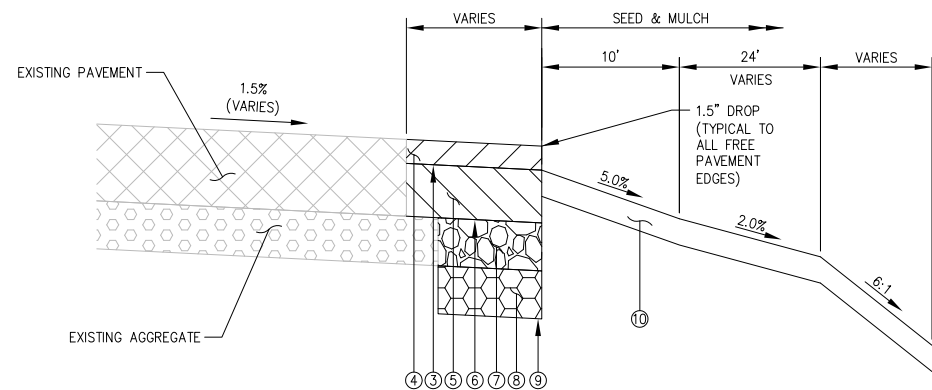
**STAGING PLAN**  
**STAGE 3 AND 4**  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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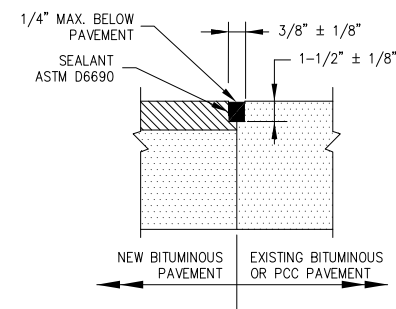
NOTE:  
FOR ADDITIONAL LANDSCAPING  
INFORMATION, SEE LANDSCAPING PLAN.

TAXIWAY OVERLAY TYPICAL SECTION



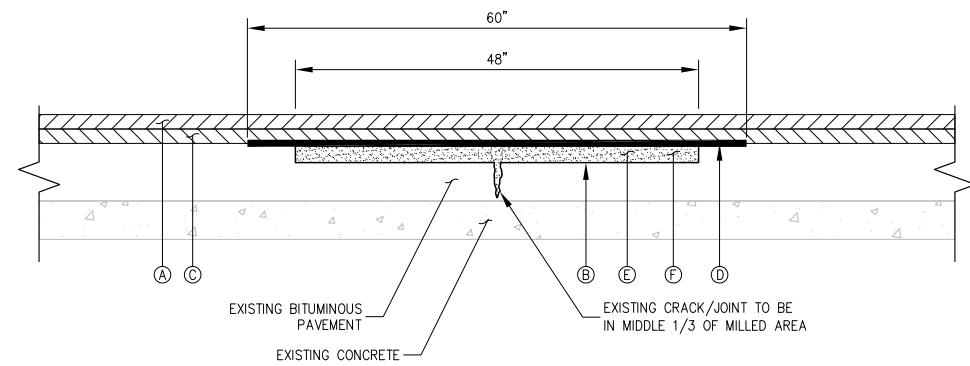
NEW PAVEMENT SECTION

PAVEMENT LEGEND	
①	PROPOSED 2.0 INCH (NOMINAL) BITUMINOUS SURFACE COURSE, ITEM AR401613.
②	PROPOSED BITUMINOUS BASE COURSE LEVELING, ITEM AR403620 (WHERE APPLICABLE).
③	PROPOSED BITUMINOUS TACK COAT, ITEM AR603510.
④	PROPOSED 2.0 INCH BITUMINOUS SURFACE COURSE, ITEM AR401613.
⑤	PROPOSED 7.0 INCH BITUMINOUS BASE COURSE, ITEM AR403613.
⑥	PROPOSED BITUMINOUS PRIME COAT, ITEM AR602510.
⑦	PROPOSED 11" CRUSHED AGGREGATE BASE COURSE, ITEM AR2096011.
⑧	PROPOSED 8" GRANULAR DRAINAGE SUBBASE, ITEM AR800971.
⑨	PROPOSED SEPARATION FABRIC, ITEM AR156513.
⑩	PROPOSED TOPSOIL, ITEM AR905510 AND AR905520. SEEDING AND MULCHING AREAS, ITEMS AR901510 AND AR908510. SODDING, ITEM AR904510.



NOTE:  
ALL BITUMINOUS/BITUMINOUS AND BITUMINOUS/PCC JOINT SEALING TO BE PAID UNDER SAW AND SEAL BITUMINOUS JOINTS, ITEM AR401660.

BITUMINOUS/BITUMINOUS OR BITUMINOUS/PCC SEAL

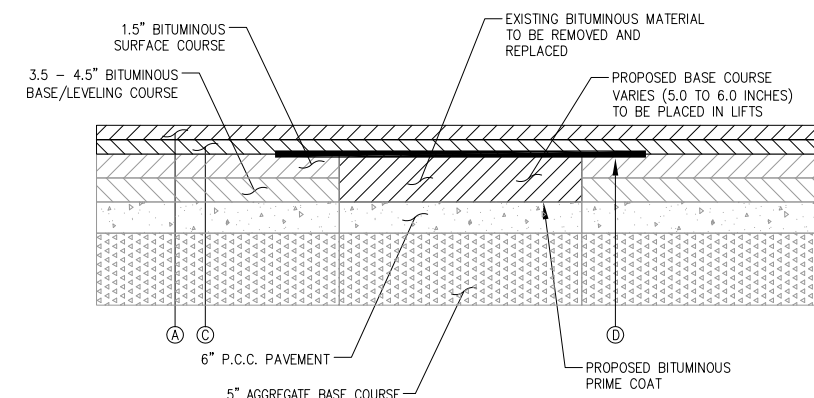


NOTES:

- TACK COAT SHALL BE APPLIED TO MILLED SURFACE OUTSIDE OF CRACK CONTROL MATERIAL.
- CRACK CONTROL MATERIAL SHALL OVERLAP BITUMINOUS SAND MIX 6" EACH SIDE.
- BITUMINOUS PAVEMENT SAWING TO BE PAID FOR AS ITEM AR401665.

TYPICAL SECTION - PARTIAL DEPTH BITUMINOUS REPAIR  
TYPE C

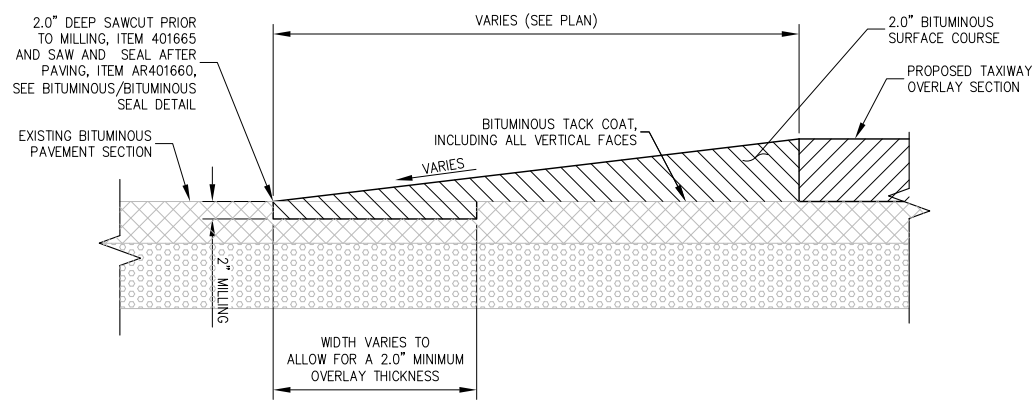
REPAIR LEGEND	
(A)	PROPOSED OVERLAY
(B)	PROPOSED BITUMINOUS TACK COAT, ITEM AR603510.
(C)	PROPOSED OVERLAY
(D)	CRACK CONTROL MATERIAL (60" WIDE), ITEM AR800939.
(E)	BITUMINOUS SAND MIX - 2 INCH, ITEM AR800972.
(F)	PAVEMENT MILLING, ITEM AR401650.



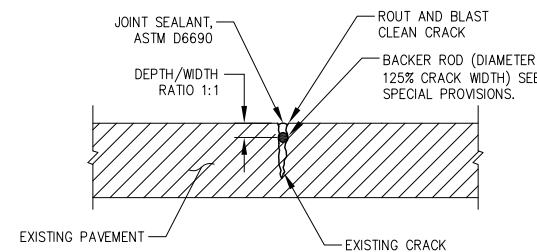
NOTES

- TACK COAT TO BE PLACED BETWEEN LIFTS OF BASE COURSE.
- CRACK CONTROL MATERIAL SHALL OVERLAP BITUMINOUS PATCH 6" EACH SIDE.
- BITUMINOUS PAVEMENT SAWING TO BE PAID UNDER ITEM AR401665.
- WHERE WIDTH IS GREATER THAN 60-INCHES, THE CRACK CONTROL MATERIAL SHALL BE OVERLAPED BY 12-INCHES. THE OVERLAP SHALL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN THE COST FOR CRACK CONTROL MATERIAL.

BITUMINOUS PAVEMENT REMOVAL/REPLACEMENT/REPAIR  
TYPE D



BITUMINOUS TAPER DETAIL



CLEAN AND SEAL CRACKS  
TYPE B

REVISION	DATE

WAUKEGAN REGIONAL AIRPORT  
WAUKEGAN PORT DISTRICT  
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TYPICAL SECTIONS  
AND PAVEMENT DETAILS  
REHABILITATE TAXIWAY C AND  
ASSOCIATED EXT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54

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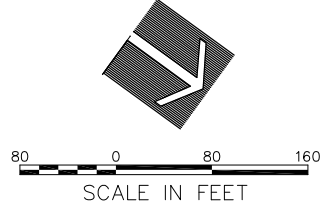
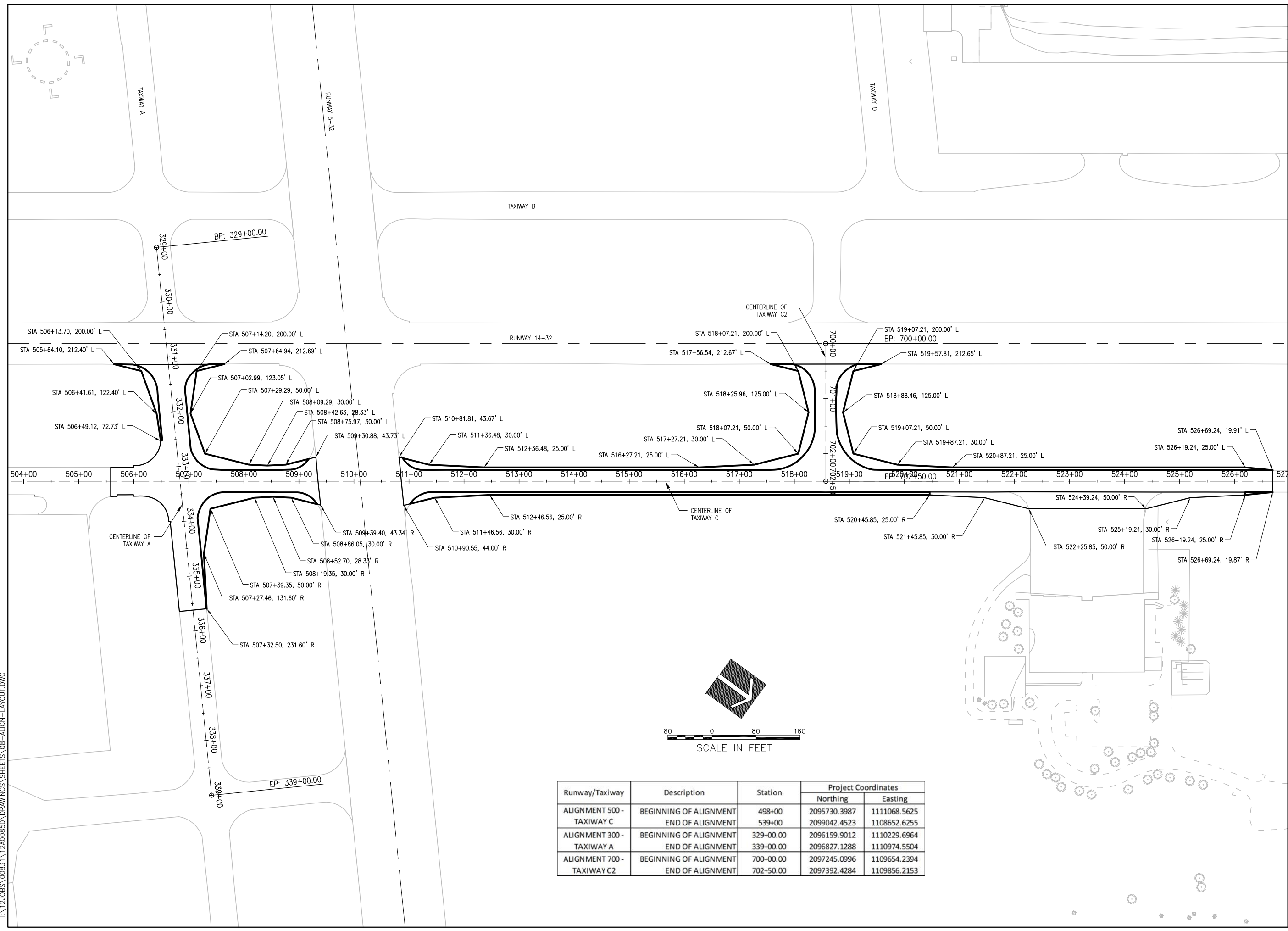


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Filename 08-ALIGN-LAYOUT.DWG	LDH
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**PAVEMENT LAYOUT  
 AND ALIGNMENT DATA**  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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Runway/Taxiway	Description	Station	Project Coordinates	
			Northing	Easting
ALIGNMENT 500 - TAXIWAY C	BEGINNING OF ALIGNMENT	498+00	2095730.3987	1111068.5625
	END OF ALIGNMENT	539+00	2099042.4523	1108652.6255
ALIGNMENT 300 - TAXIWAY A	BEGINNING OF ALIGNMENT	329+00.00	2096159.9012	1110229.6964
	END OF ALIGNMENT	339+00.00	2096827.1288	1110974.5504
ALIGNMENT 700 - TAXIWAY C2	BEGINNING OF ALIGNMENT	700+00.00	2097245.0996	1109654.2394
	END OF ALIGNMENT	702+50.00	2097392.4284	1109856.2153



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Hanson No. 12A0085D	10/12/12
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**REMOVAL PLAN**  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4789 AIP No. 3-17-0105-B54

THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE 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 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 OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION, PHONE: 1-800-892-0123. CONTACT THE FAA (FEDERAL AVIATION ADMINISTRATION) FOR ASSISTANCE IN LOCATING FAA CABLES AND UTILITIES. LOCATION OF FAA POWER CONTROL, AND COMMUNICATION CABLES SHALL BE COORDINATED WITH AND/OR LOCATED BY THE FAA. CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVE GROUND UTILITIES.

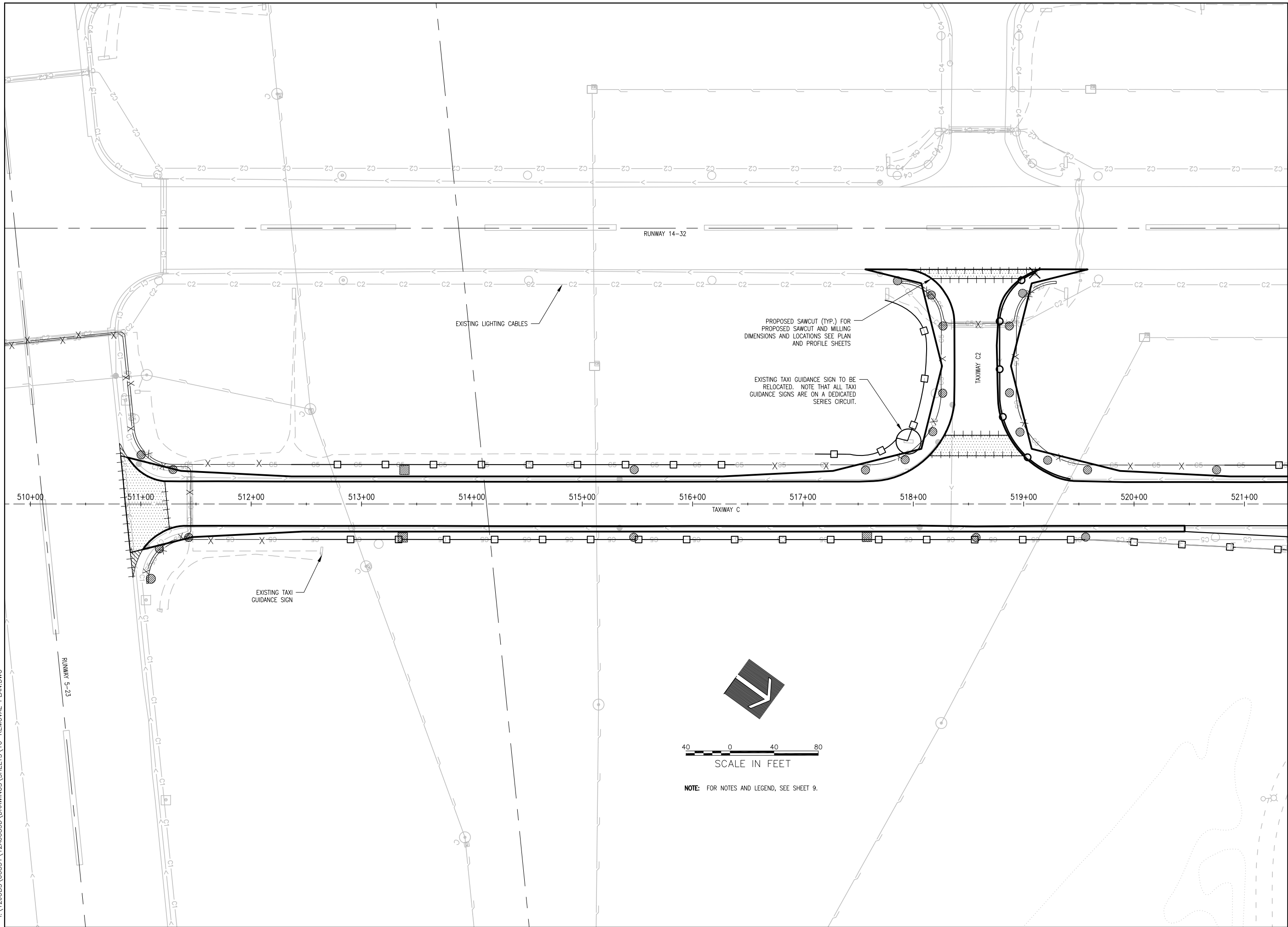
- AIRFIELD LIGHTING REMOVAL/RELOCATION NOTES**
- ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR/MANAGER. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & 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).
  - CONTRACTOR SHALL EXAMINE THE SITE TO DETERMINE THE EXTENT OF THE WORK. CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS. CONTRACTOR SHALL FIELD VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES PRIOR TO REMOVING OR DISCONNECTING THE RESPECTIVE AIRFIELD LIGHTING, NAVAIDS, OR OTHER DEVICE.
  - CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF FAA AC NO. 150/5370-2F (OR MOST CURRENT ISSUE) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".
  - CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70E - STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
  - THE EXISTING AIRFIELD (RUNWAY & TAXIWAY) LIGHTS AND THEIR ISOLATION TRANSFORMERS DESIGNATED FOR REMOVAL SHALL BE REMOVED AND TURNED OVER TO THE AIRPORT MANAGER.
  - ALL EXISTING RUNWAY/TAXIWAY LIGHTS THAT ARE DESIGNATED FOR RELOCATION SHALL BE DISCONNECTED AND CAREFULLY REMOVED BY THE CONTRACTOR AS NOT TO DAMAGE THE LIGHT. THE LIGHT ASSEMBLY AND ISOLATION TRANSFORMER SHALL BE RELOCATED AND INSTALLED IN THE LOCATIONS SHOWN.
  - THE EXISTING TAXI GUIDANCE SIGNS THAT ARE DESIGNATED FOR RELOCATION SHALL BE DISCONNECTED AND CAREFULLY REMOVED BY THE CONTRACTOR AS NOT TO DAMAGE EACH SIGN. EACH SIGN ASSEMBLY AND ISOLATION TRANSFORMER SHALL BE RELOCATED AND INSTALLED IN THE LOCATION SHOWN. THE EXISTING FOUNDATIONS SHALL BE REMOVED & DISPOSED OF OFF THE AIRPORT SITE.
  - THE CONTRACTOR IS ENCOURAGED TO INSPECT EACH EXISTING LIGHT AND SIGN PRIOR TO RELOCATION AND IDENTIFY TO THE RESIDENT ENGINEER ANY DAMAGED OR INOPERATING PARTS. ONCE THE EXISTING LIGHT AND/OR SIGN IS REMOVED, THE CONTRACTOR IS RESPONSIBLE FOR DAMAGE DURING THE RELOCATION. ALL LIGHTS AND SIGNS SHALL BE REINSTALLED IN PROPER WORKING ORDER, OR REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE.
  - THE EXISTING AIRFIELD LIGHTING CABLES ASSOCIATED WITH AIRFIELD LIGHTING REMOVAL SHALL BE ABANDONED IN PLACE UNLESS IT CONFLICTS WITH THE INSTALLATION OF A PROPOSED LIGHT OR CABLE, PAVEMENT, OR OTHER WORK, THEN IT SHALL BE REMOVED AT NO ADDITIONAL COST TO THE CONTRACT.
  - ALL ABOVEGROUND JUMPERS SHALL BE IN A DUCT WITH ALL CONNECTIONS SEALED. THE CONTRACTOR SHALL SECURE, IDENTIFY AND PLACE ALL TEMPORARY EXPOSED WIRING IN CONDUIT, DUCT, OR UNIT DUCT TO PREVENT ELECTROCUTION AND FIRE IGNITION SOURCES AS PER THE REQUIREMENTS OF FAA 150/5370-2F, "OPERATION SAFETY ON AIRPORTS DURING CONSTRUCTION", PART 218, B(L)(f).
  - THE CONTRACTOR IS REQUIRED TO FILL IN ALL HOLES AND DEPRESSIONS RESULTING FROM THE LIGHT, SIGN, AND/OR BASE REMOVAL WITH EARTH MATERIAL. THE AREAS SHALL BE COMPACTED TO PREVENT FUTURE SETTLEMENT AND FERTILIZED, SEEDED, AND MULCHED IN ACCORDANCE WITH ITEMS 901 AND 908 RESPECTIVELY.
  - NO CONNECTION TO AN ACTIVE LIGHTING CIRCUIT WILL BE BROKEN UNTIL THE CIRCUIT HAS BEEN TURNED OFF IN ACCORDANCE WITH NOTE 1.



- LEGEND:**
- +++++ SAWCUT
  - ABANDON CABLE
  - x- REMOVE CABLE
  - ⊗ REMOVE TAXIWAY LIGHT
  - EXITING TAXI GUIDANCE SIGN TO BE RELOCATED
  - REMOVE UNDERDRAIN
  - ⊗ REMOVE UNDERDRAIN STRUCTURE
  - ▨ REMOVE PAVEMENT
  - ▨ PROPOSED 2" BITUMINOUS MILL
  - ▨ PROPOSED 3" PCC MILL

NOTE: SEE SHEET 8 FOR ALIGNMENT DATA TABLE.





NOTE: FOR NOTES AND LEGEND, SEE SHEET 9.

REVISION	DATE

WAUKEGAN REGIONAL AIRPORT  
 WAUKEGAN PORT DISTRICT  
 3580 North McAfee Road  
 Waukegan, Illinois 60087  
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Revision No.	Revision Description	Drawn	Checked	Reviewed	Date
12A0085D	10-REMOVAL PLAN.DWG	LDH	LDH	RMH	10/12/12
1	1"=40'	LDH	LDH	RMH	10/12/12
2	NOVEMBER 16, 2012	LDH	LDH	RMH	11/15/12

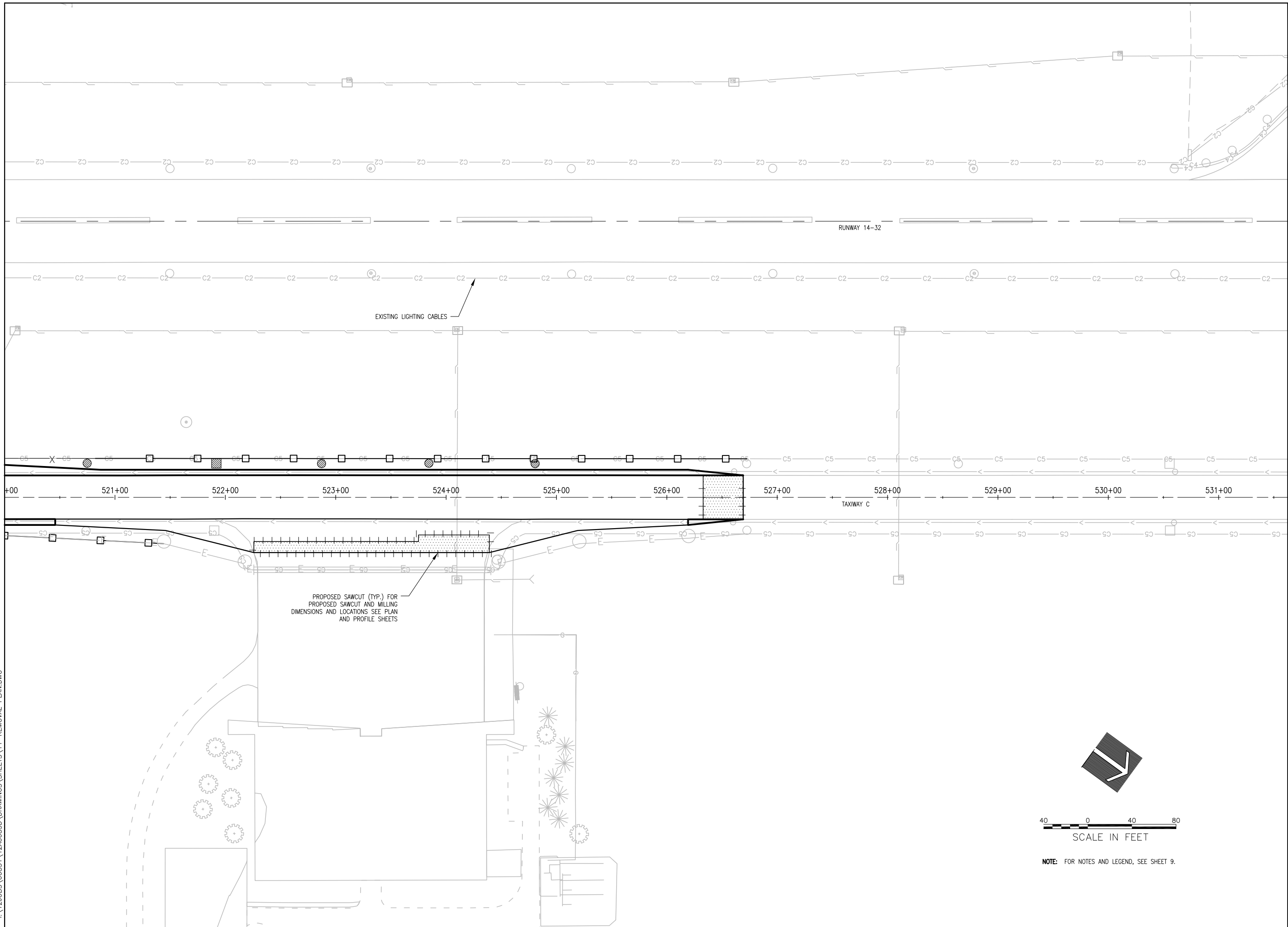


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REMOVAL PLAN

REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4789 AIP No. 3-17-0105-B54

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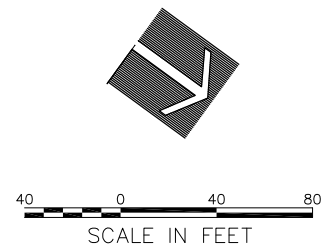


EXISTING LIGHTING CABLES

PROPOSED SAWCUT (TYP.) FOR PROPOSED SAWCUT AND MILLING DIMENSIONS AND LOCATIONS SEE PLAN AND PROFILE SHEETS

RUNWAY 14-32

TAXIWAY C



NOTE: FOR NOTES AND LEGEND, SEE SHEET 9.

WA066

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Hanson No.	12A0085D
Filename	11-REMOVAL PLAN.DWG
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 IDA No. UGN-4789 AIP No. 3-17-0105-B54

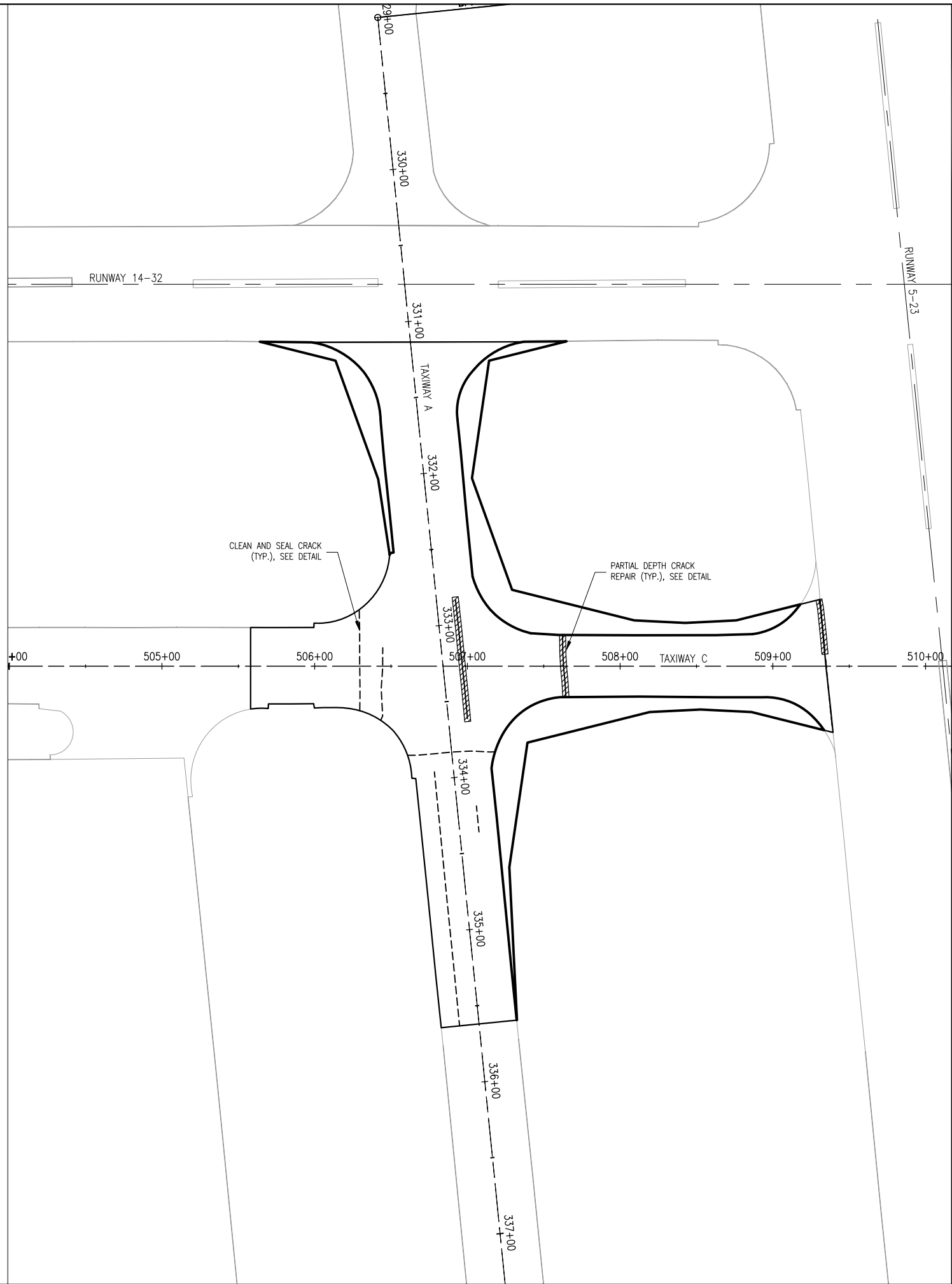


**NOTES:**

1. COORDINATE REPAIR WITH RESIDENT ENGINEER.
2. FOR CRACK REPAIR DETAILS, SEE SHEET 7.
3. FOR ALIGNMENT DATA TABLE, SEE SHEET 8.
4. FOR REMOVE AND REPLACE BITUMINOUS PAVEMENT, PAVEMENT SHALL BE REMOVED TO 2.0 FEET OUTSIDE OF REPAIR AREA.

**LEGEND**

- CLEAN AND SEAL TYPE B CRACK
- PARTIAL DEPTH REPAIR, TYPE C CRACK
- REMOVE AND REPLACE BITUMINOUS PAVEMENT, TYPE D CRACK



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Filename	12-CRACK_REPAIR_PLAN.DWG
Scale	1"=40'
Date	NOVEMBER 16, 2012
LAYOUT	LDH 09/19/12
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**CRACK REPAIR PLAN**  
**STA 504+00 TO 510+00**  
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 ASSOCIATED EXT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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Scale 1"=40'	Date NOVEMBER 16, 2012	DRAWN KMS 09/19/12
		REVIEWED RMH 11/15/12



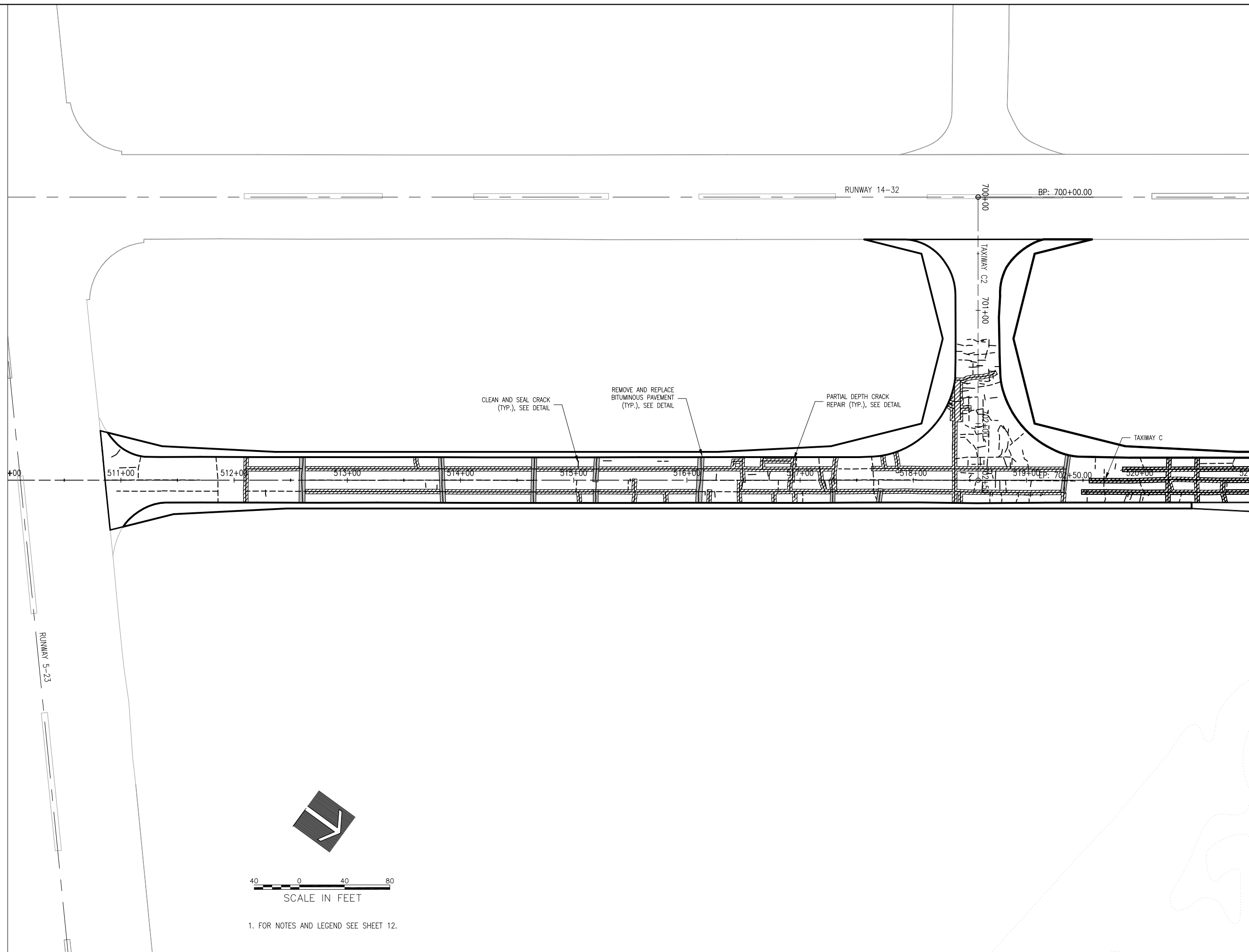
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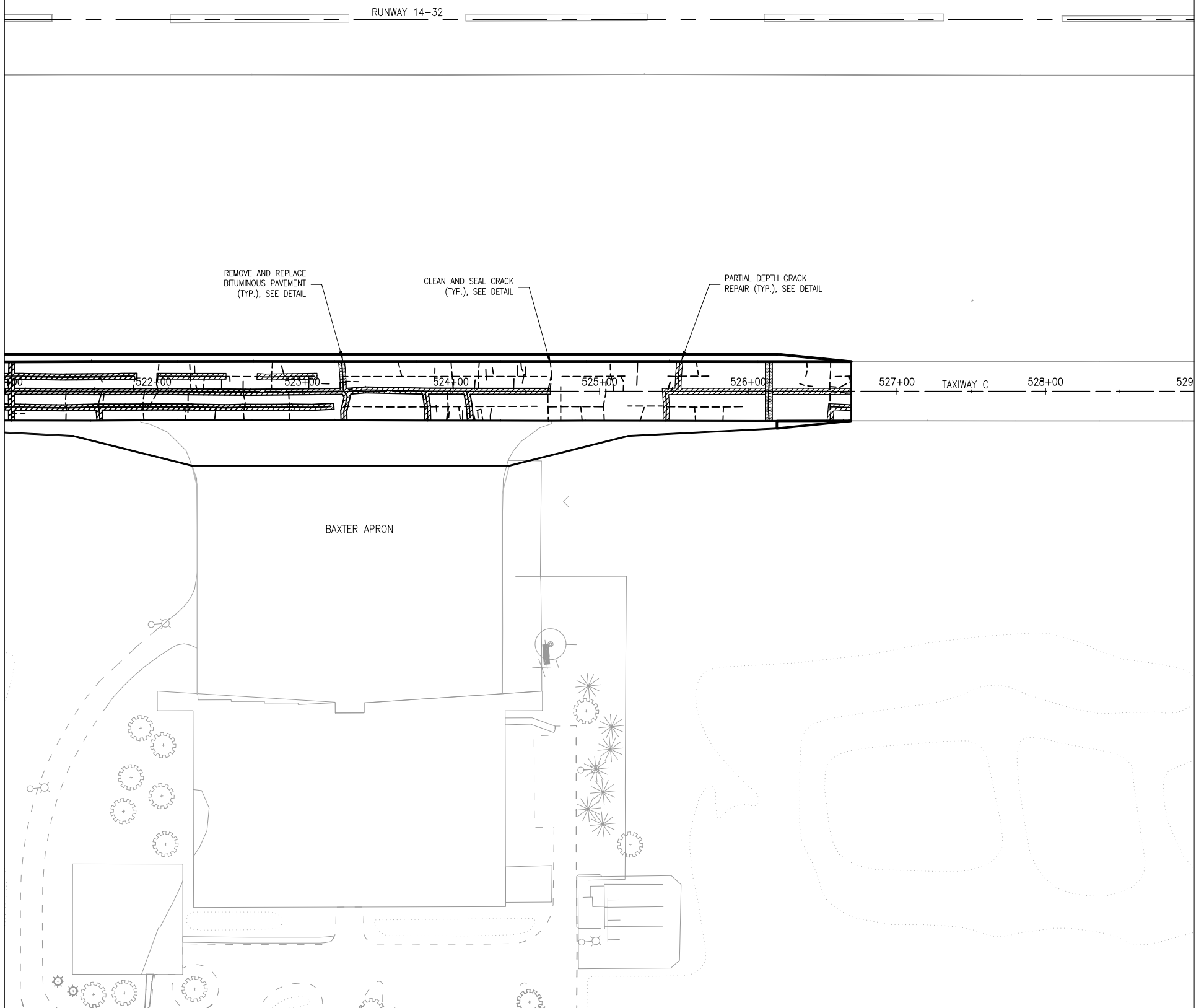
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REHABILITATE TAXIWAY C AND  
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IDA No. UGN-4189 AIP No. 3-17-0105-B54

13

13 of 57 sheets





DATE	REVISION

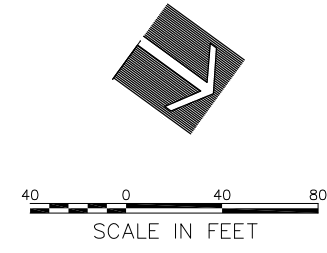
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CRACK REPAIR PLAN  
 STA 521+00 TO 529+00  
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 IDA No. UGN-4189 AIP No. 3-17-0105-B54



1. FOR NOTES AND LEGEND SEE SHEET 12.

REVISION	DATE

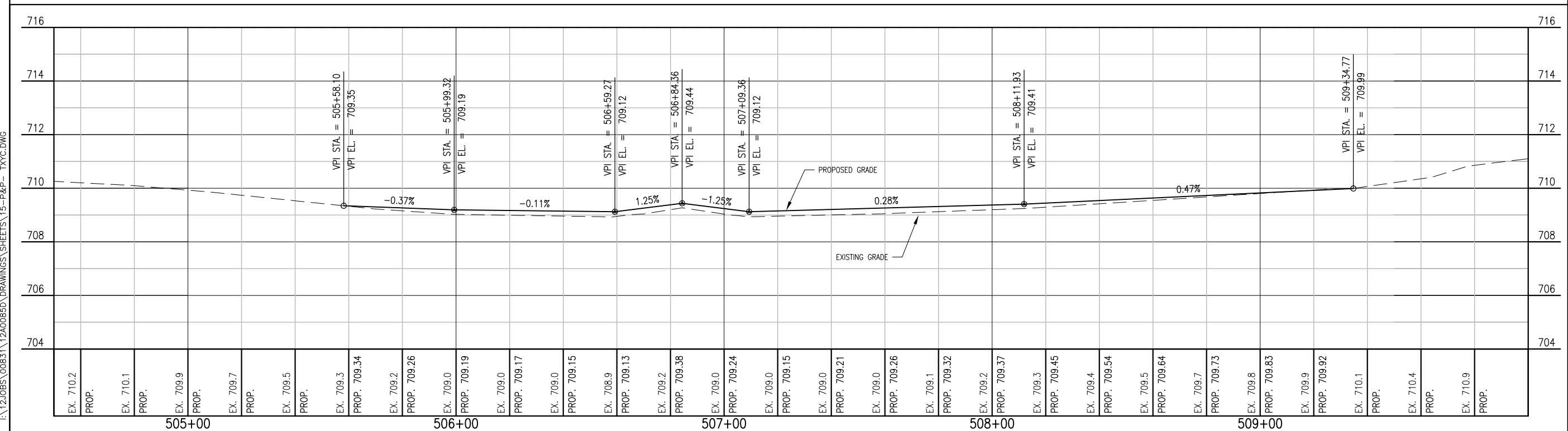
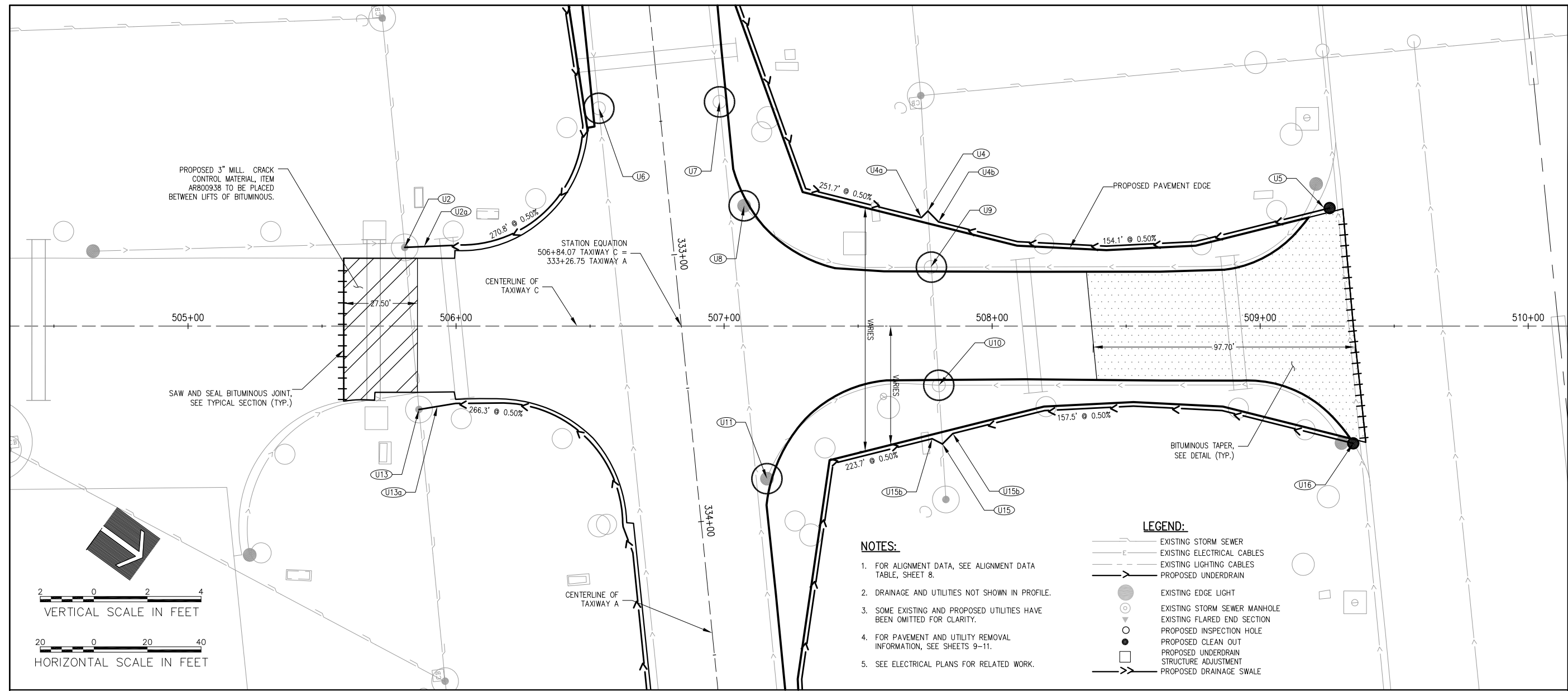
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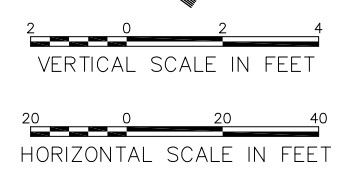
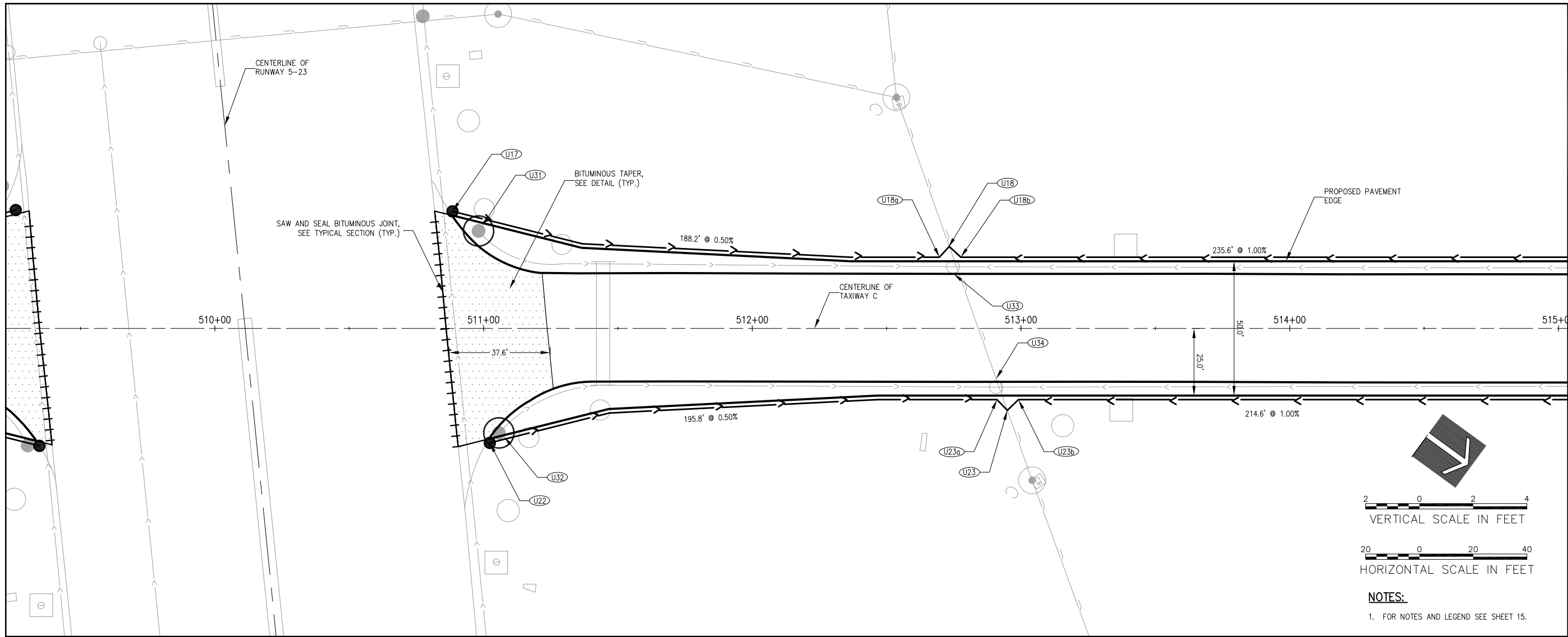
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 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

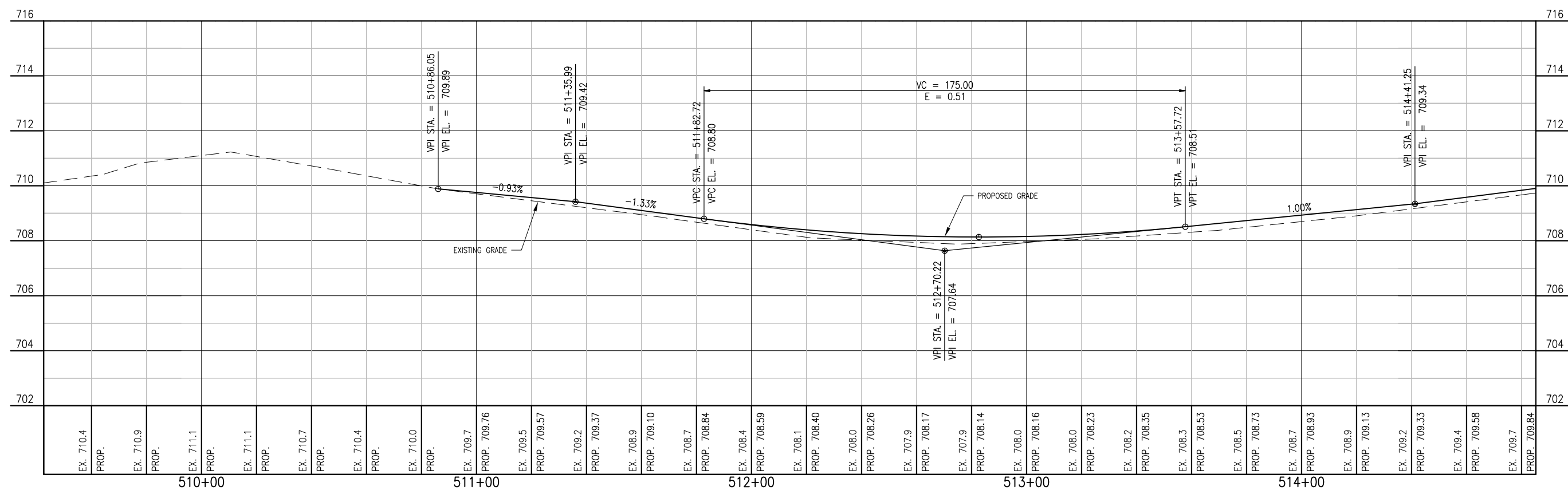


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**NOTES:**  
 1. FOR NOTES AND LEGEND SEE SHEET 15.



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<p>Hanson No. 12A0085D          Filename 16-P&amp;P-TXVC.DWG          Scale 1"=20'          Date NOVEMBER 16, 2012</p>	<p>LDH 10/04/12          KMS 10/04/12          RMH 11/15/12</p>
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<p><b>16</b>          16 of 57 sheets</p>	



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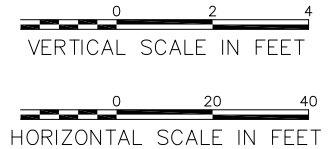
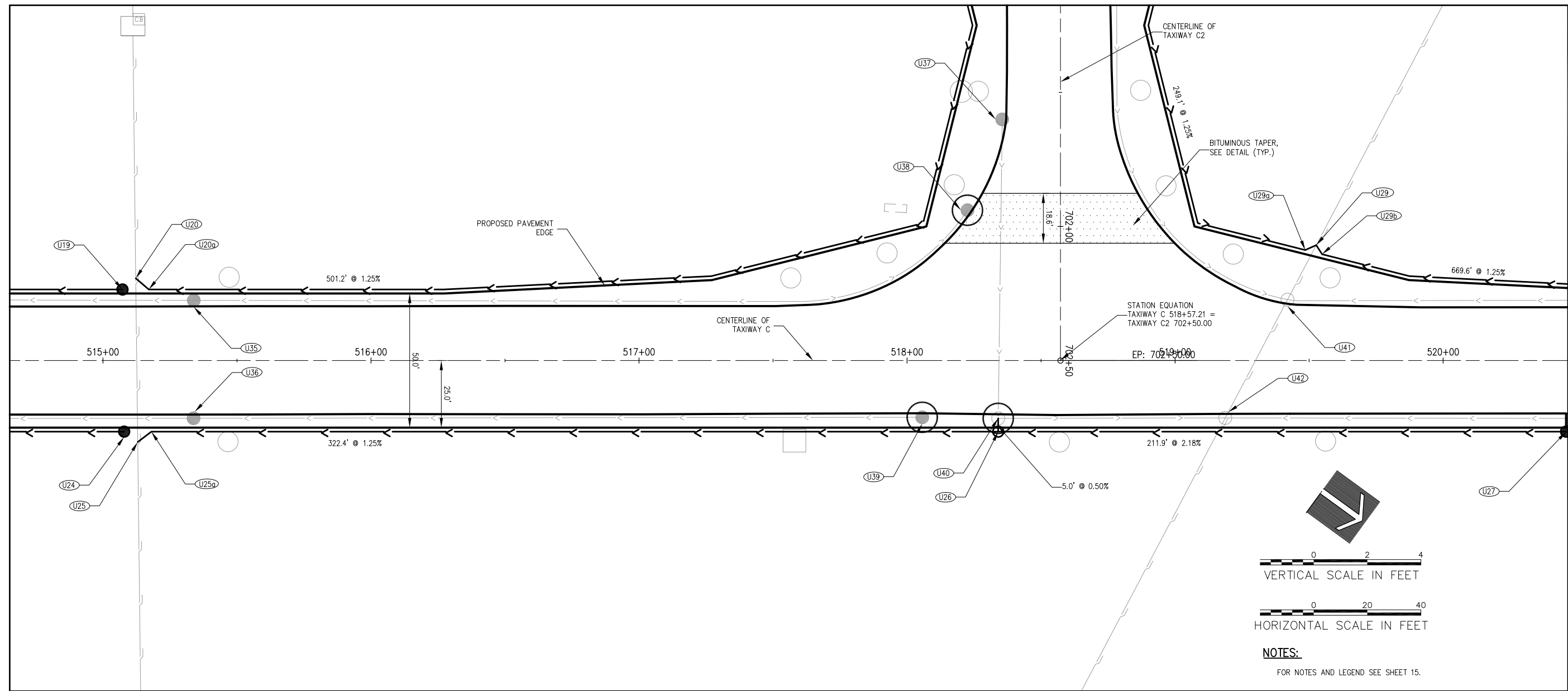


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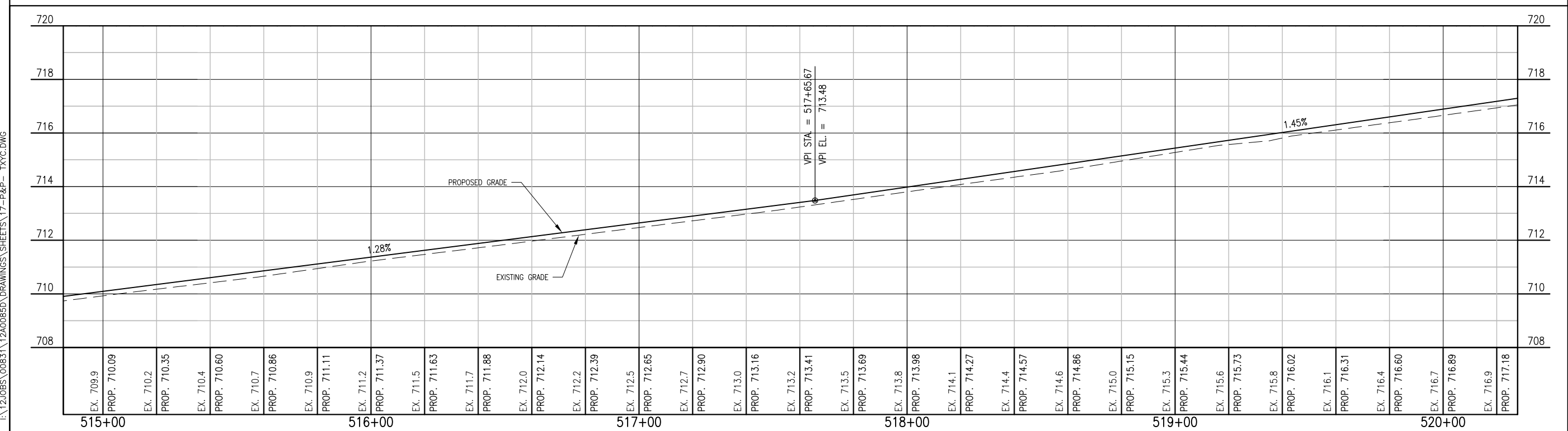
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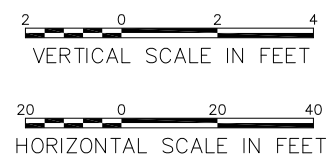
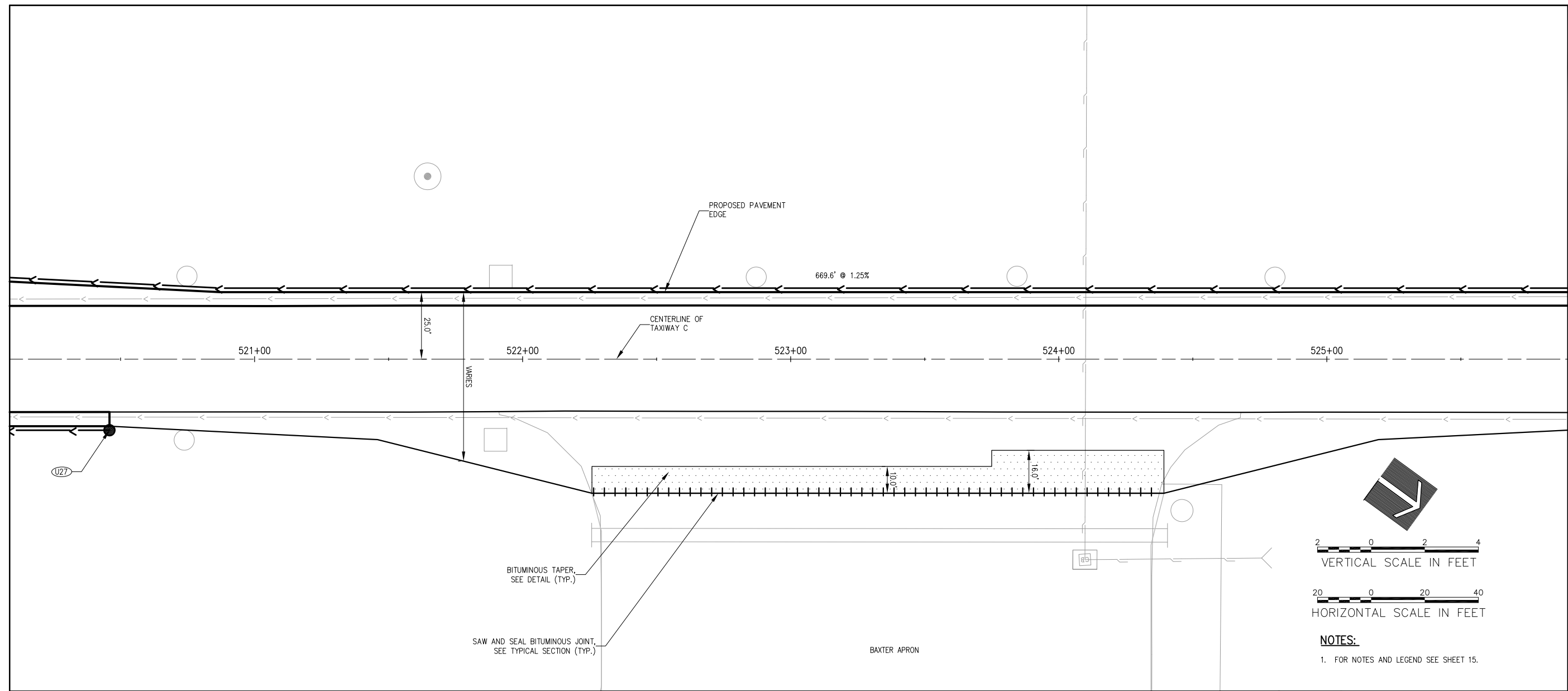
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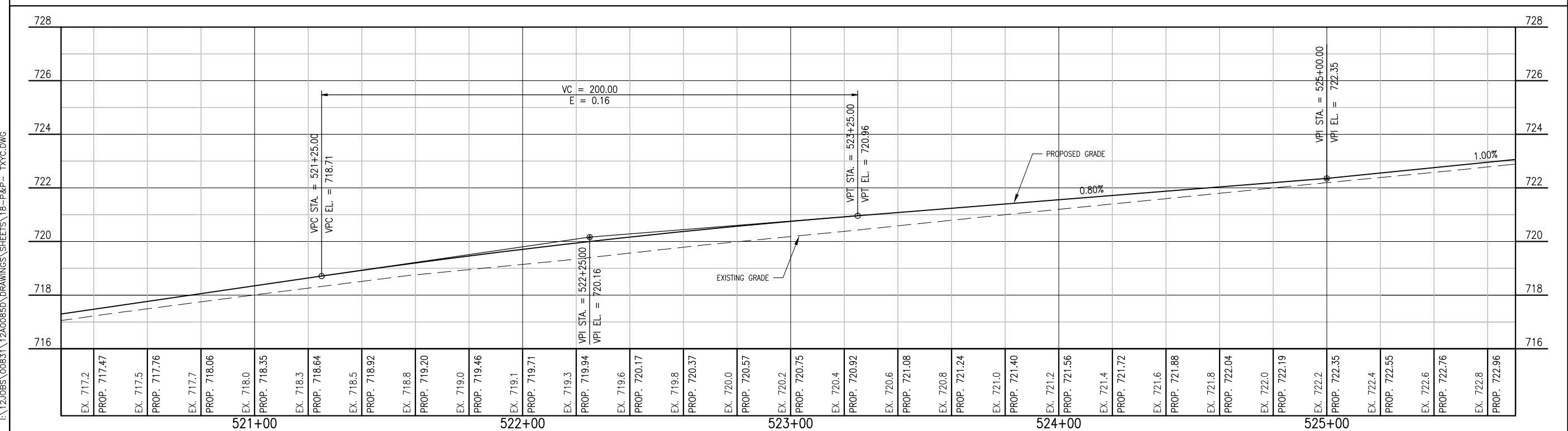
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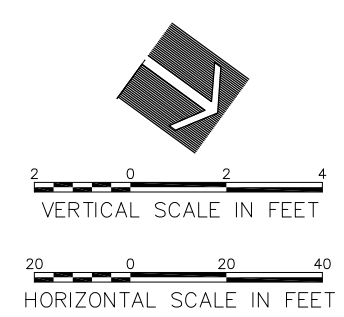
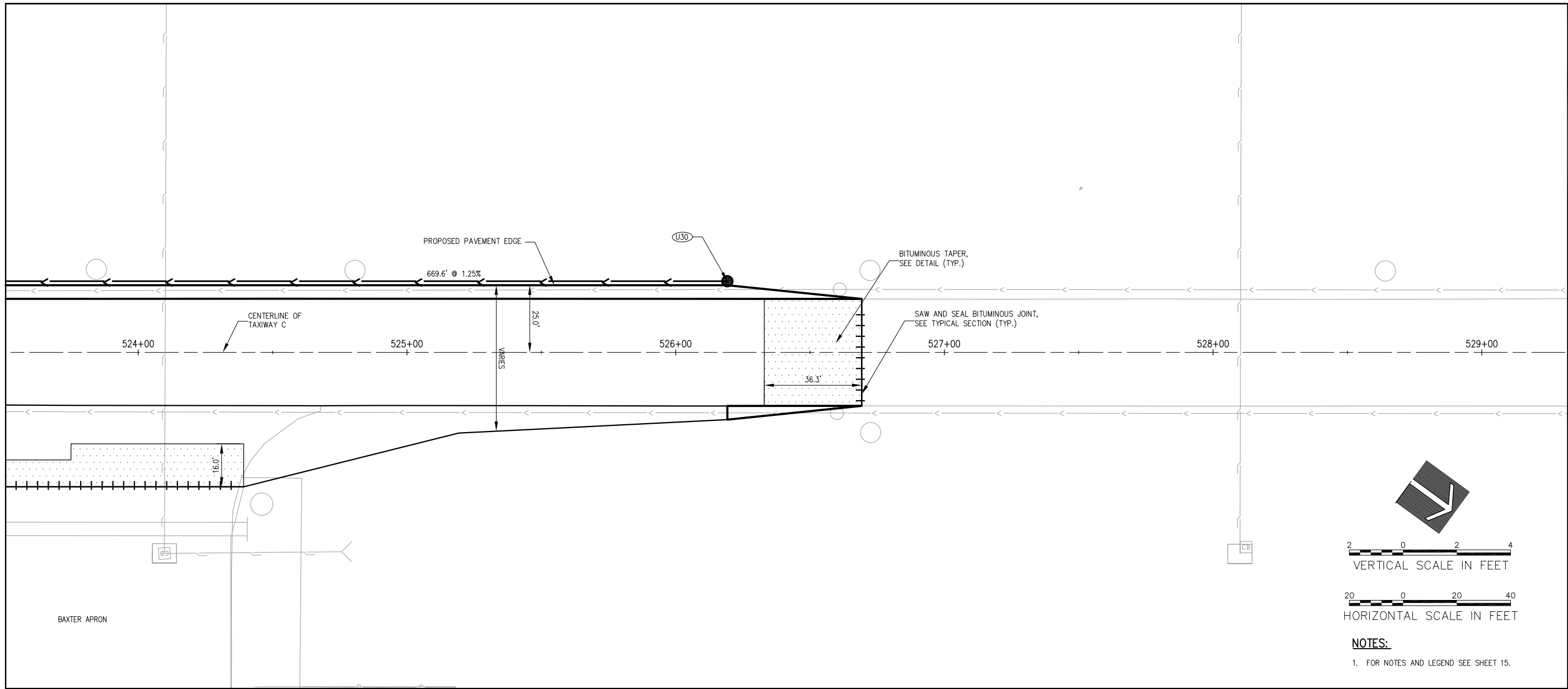
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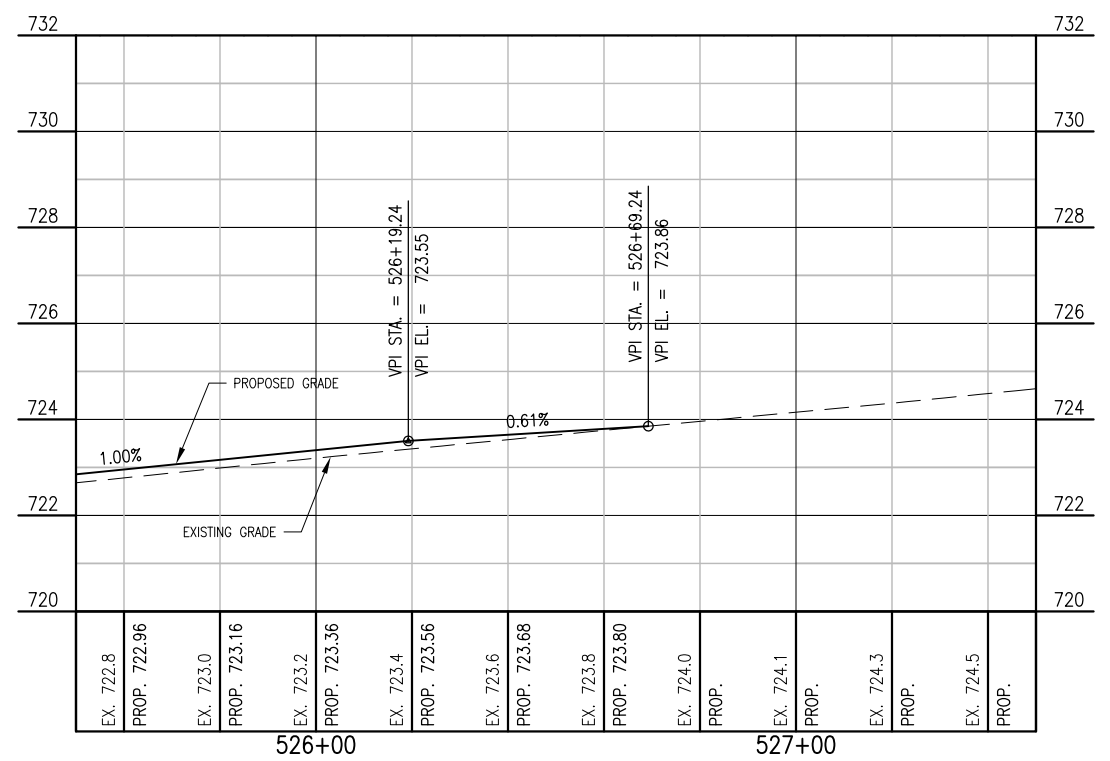


NOTES:  
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**NOTES:**  
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Date	NOVEMBER 16, 2012			

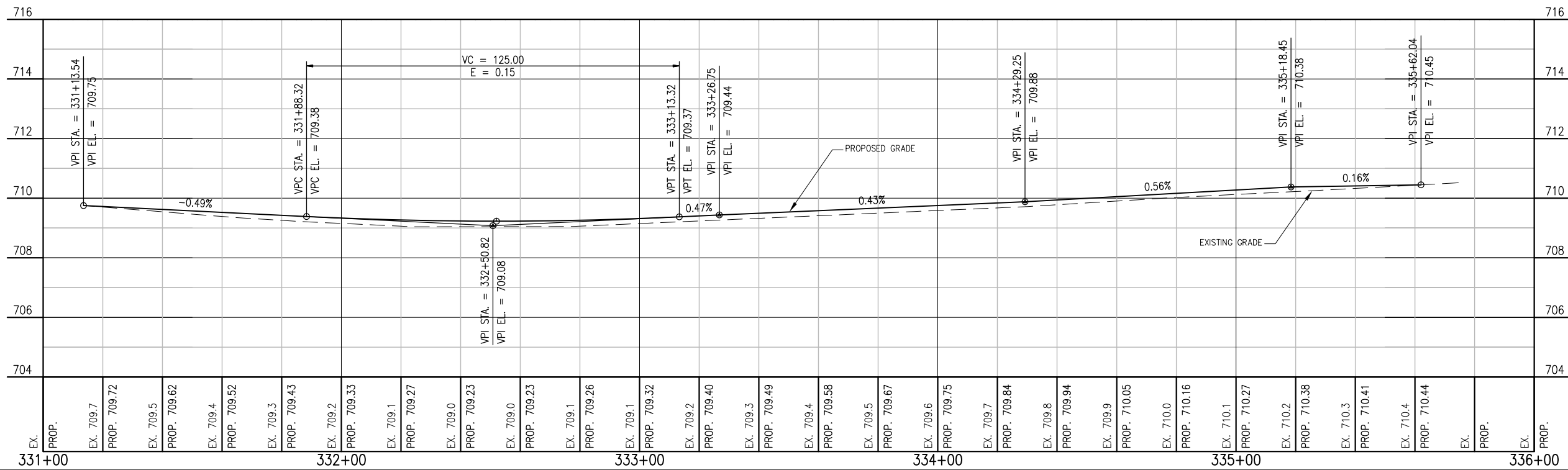
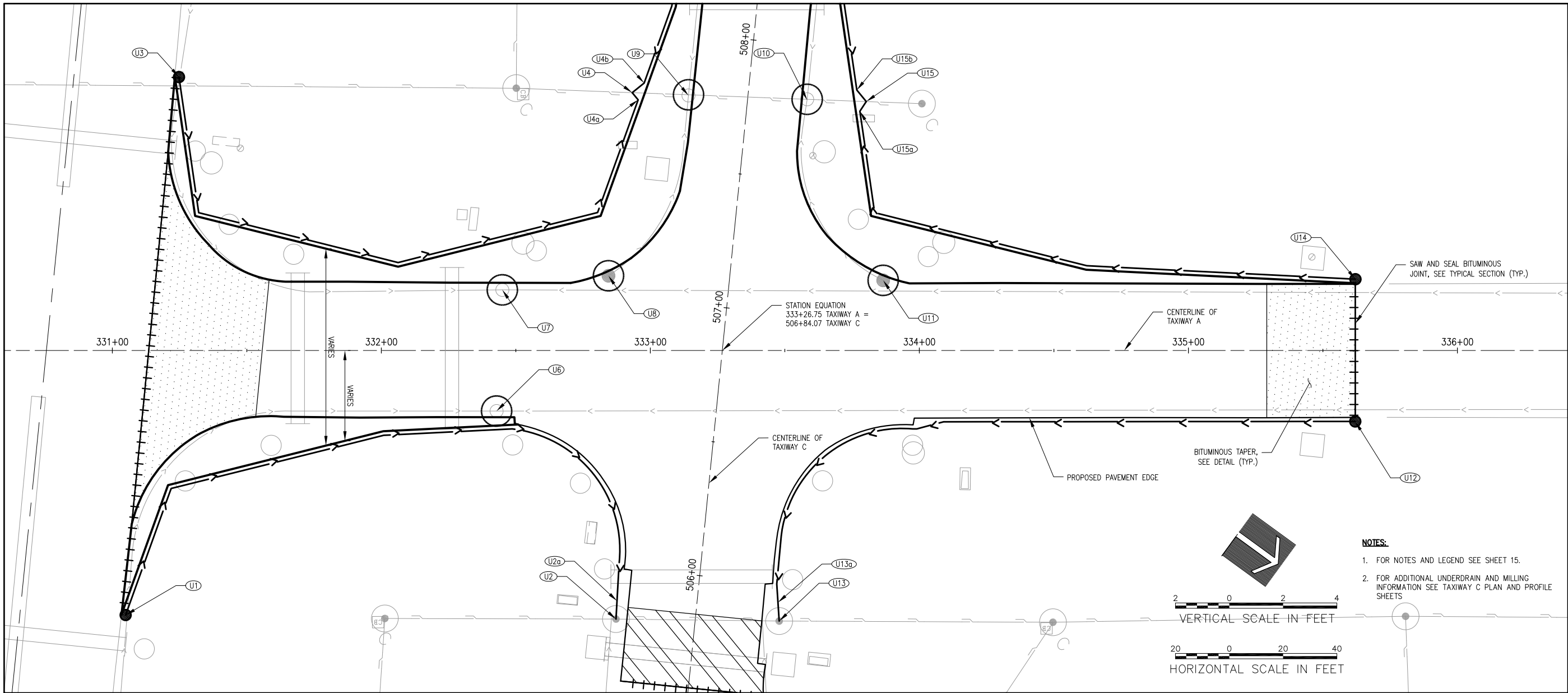
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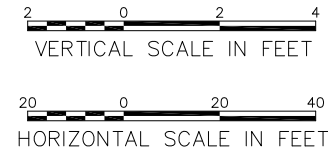
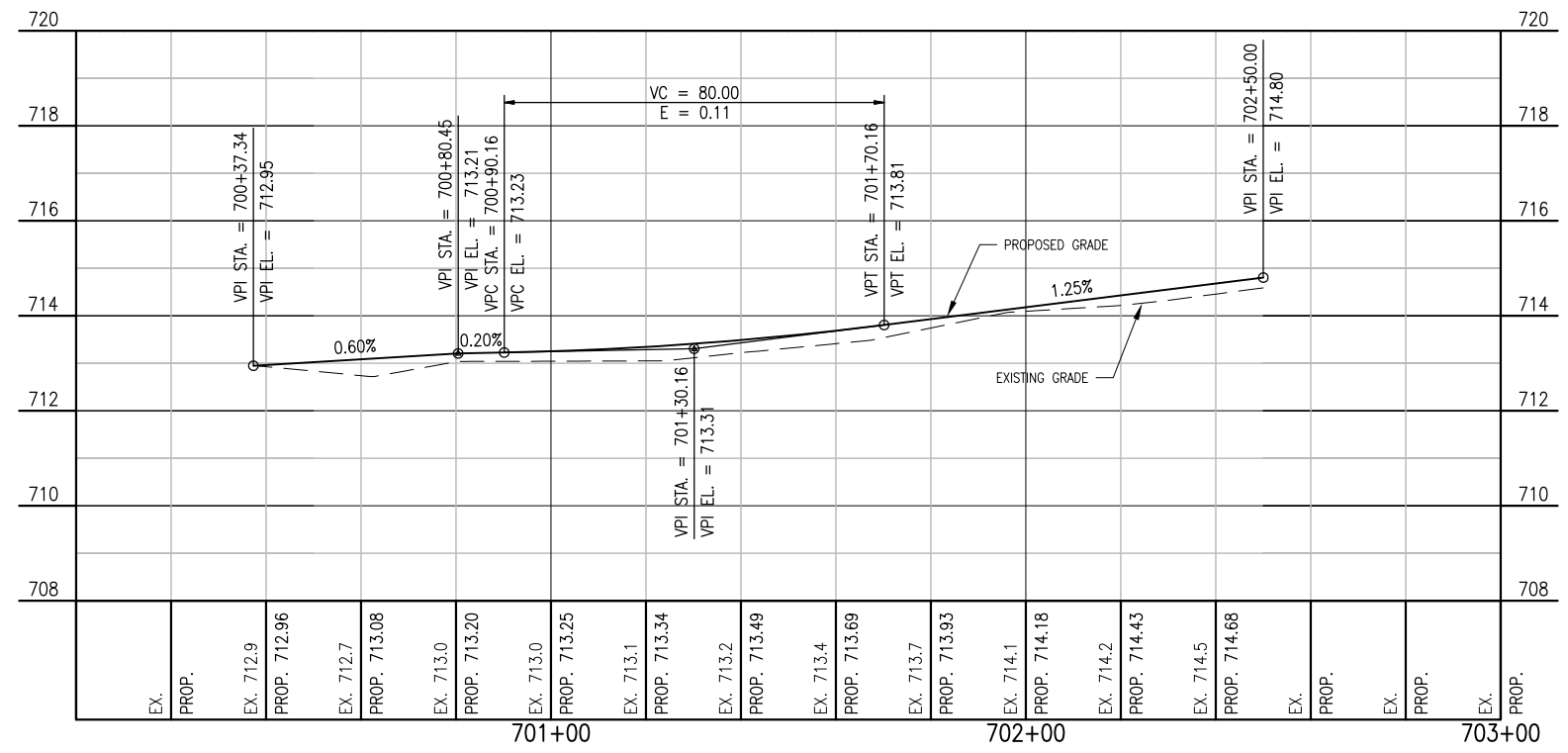
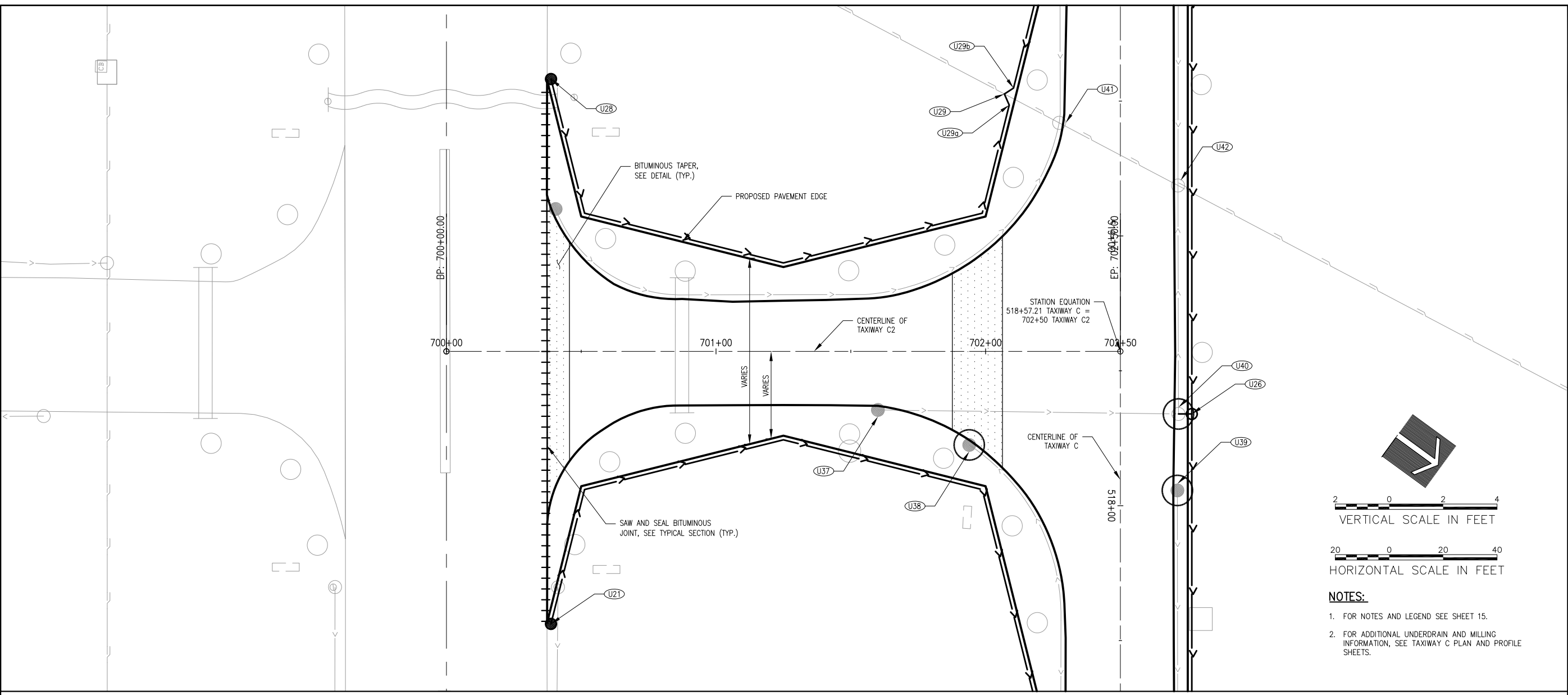
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Date	NOVEMBER 16, 2012			

- NOTES:**
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  - FOR ADDITIONAL UNDERDRAIN AND MILLING INFORMATION SEE TAXIWAY C PLAN AND PROFILE SHEETS

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**PLAN AND PROFILE  
 TAXIWAY A**

REHABILITATE TAXIWAY C AND  
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 IDA No. UGN-4189 AIP No. 3-17-0105-B54



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  - FOR ADDITIONAL UNDERDRAIN AND MILLING INFORMATION, SEE TAXIWAY C PLAN AND PROFILE SHEETS.

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 IDA No. UGN-4789 AIP No. 3-17-0105-B54

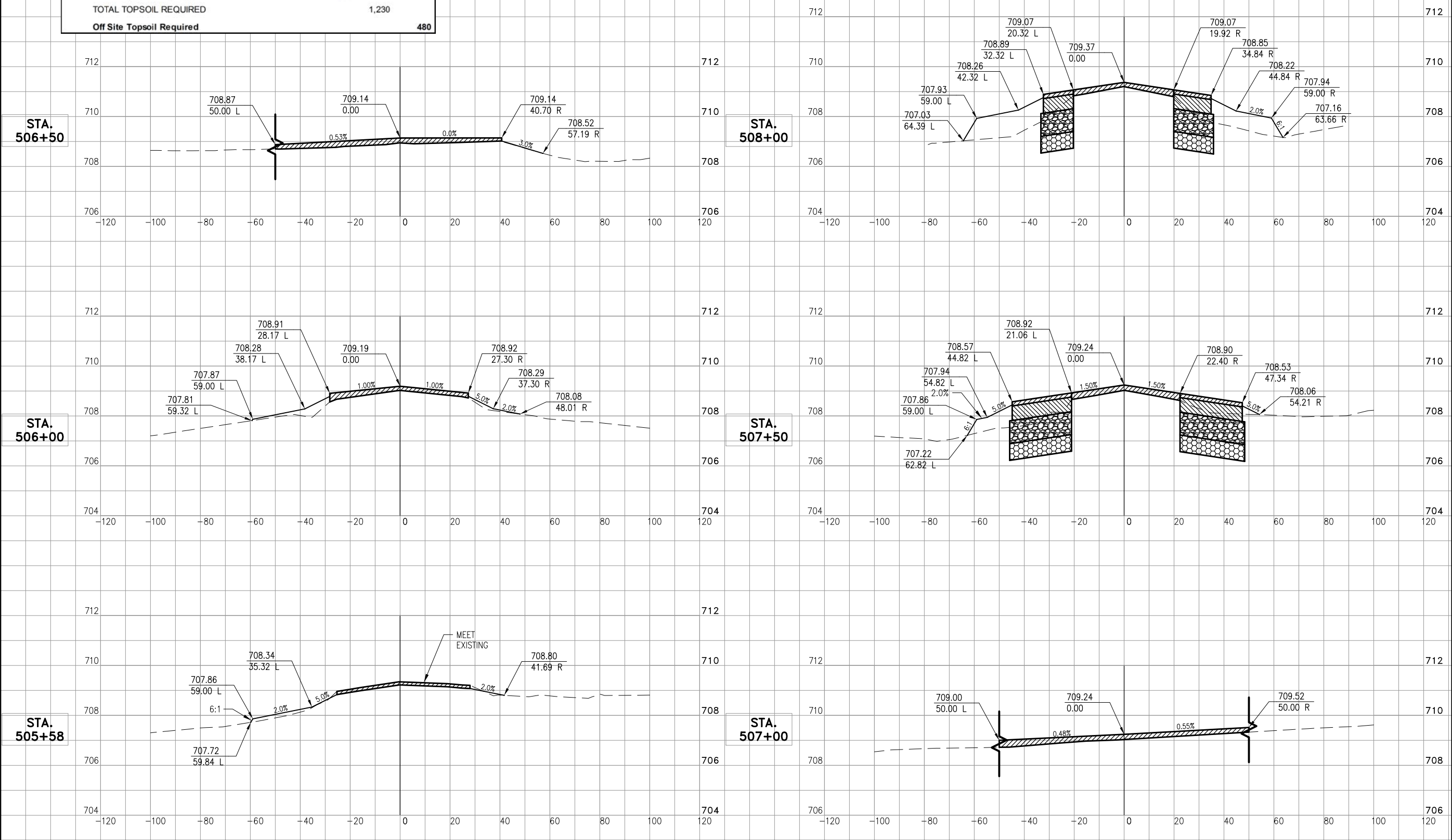
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 TAXIWAY C2

21  
 21 of 57 sheets

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DRAWN	KMS	10/02/12
REVIEWED	RWH	11/15/12

Hanson No. 12A0085D  
 Filename 21-P&P - TXYC2.DWG  
 Scale 1"=20'  
 Date NOVEMBER 16, 2012

EARTHWORK SUMMARY IN CUBIC YARDS		
<b>CUT</b>		
Topsoil	750	
Clay	1,865	
<b>TOTAL UNCLASSIFIED CUT</b>	<b>2,615</b>	
<b>CLAY FILL</b>		
Fill	645	
Shrink (10%)	65	
<b>TOTAL UNCLASSIFIED FILL</b>	<b>710</b>	
<b>Excess Clay for Disposal Off site</b>	<b>1,156</b>	
<b>TOPSOIL FILL</b>		
Topsoil from On Site	750	
<b>TOTAL TOPSOIL REQUIRED</b>	<b>1,230</b>	
<b>Off Site Topsoil Required</b>	<b>480</b>	



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12A0085D	NOVEMBER 16, 2012	LDH	LDH	RWH
22-SECTIONS_C.DWG	10/9/12			
Scale 1"=20'	10/9/12			

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**CROSS SECTIONS TAXIWAY C**  
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 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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 WAUKEGAN PORT DISTRICT  
 3580 North McAtee Road  
 Waukegan, Illinois 60087  
 Telephone: 847.244.0066  
 Fax: 847.244.3813



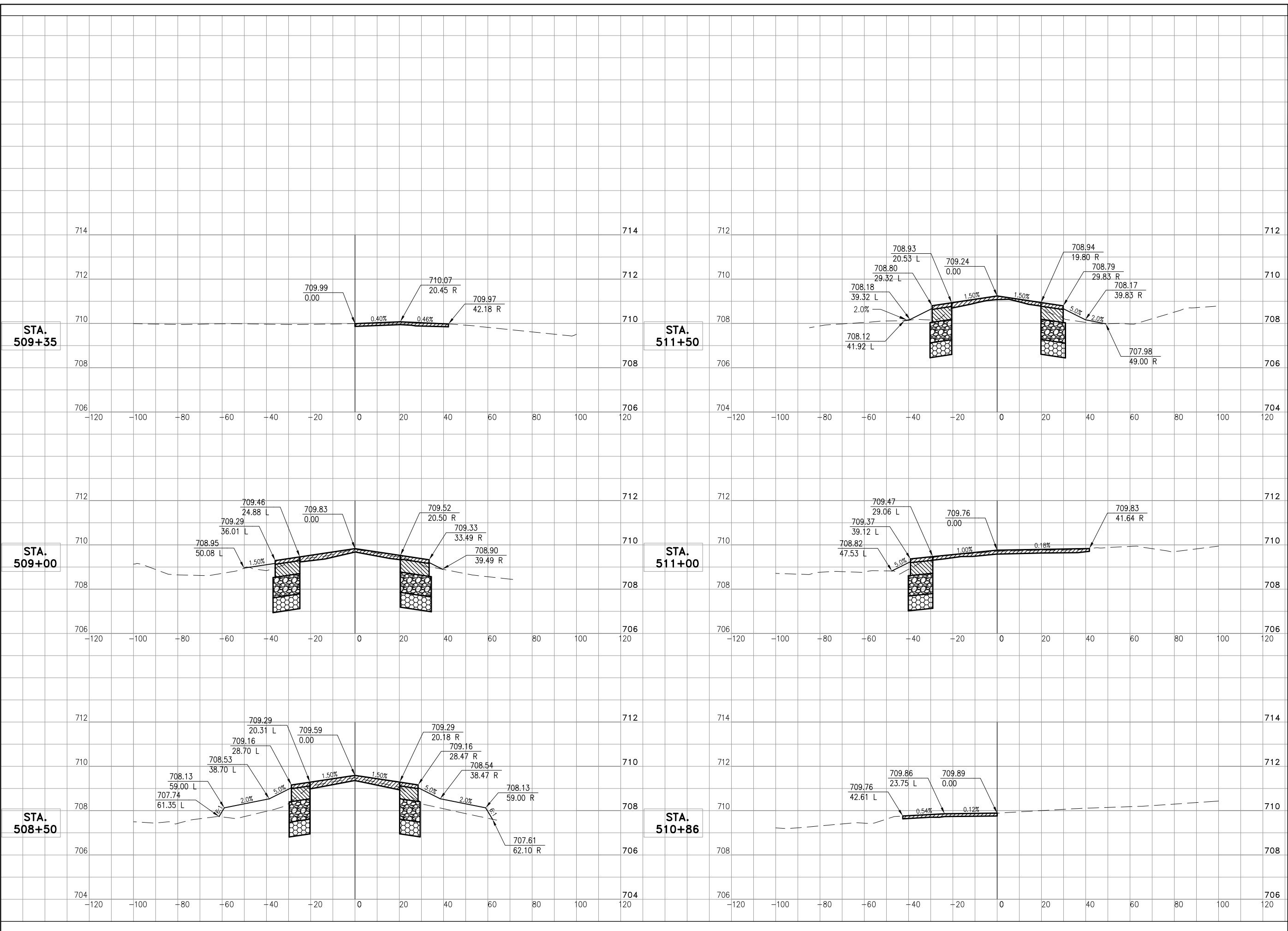
Revision No.	File Name	Scale	Date	LAYOUT	DRAWN	REVIEWED
12A0085D	23-SECTIONS_C.DWG	1"=20'	NOVEMBER 16, 2012	LDH	LDH	RWH

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CROSS SECTIONS  
 TAXIWAY C

REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

NOV 21, 2012 9:49 AM HALISM00682  
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Hanson No.	File Name	Scale	Date	LAYOUT	LDH
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				DRAWN	LDH
				REVIEWED	RWH



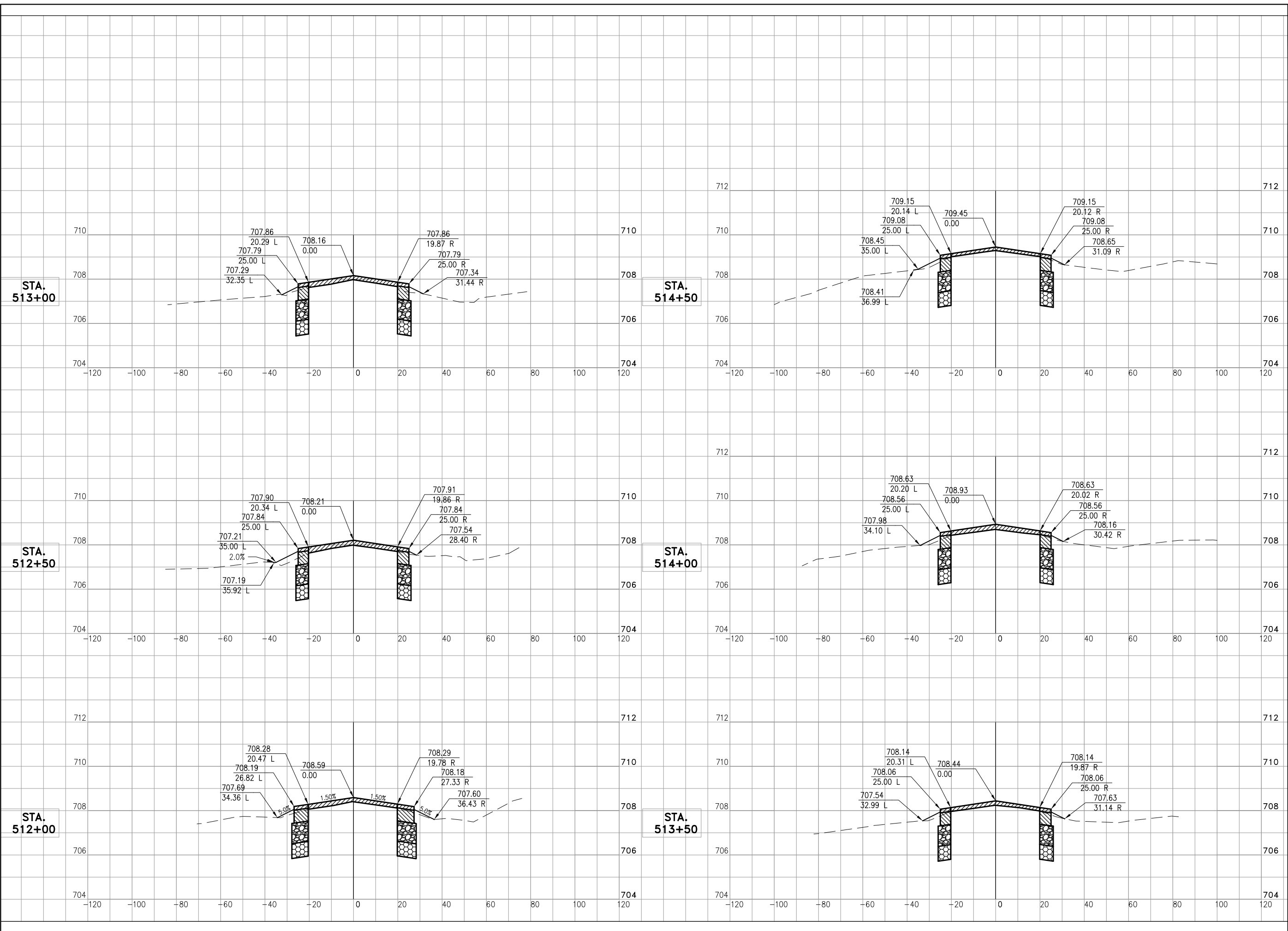
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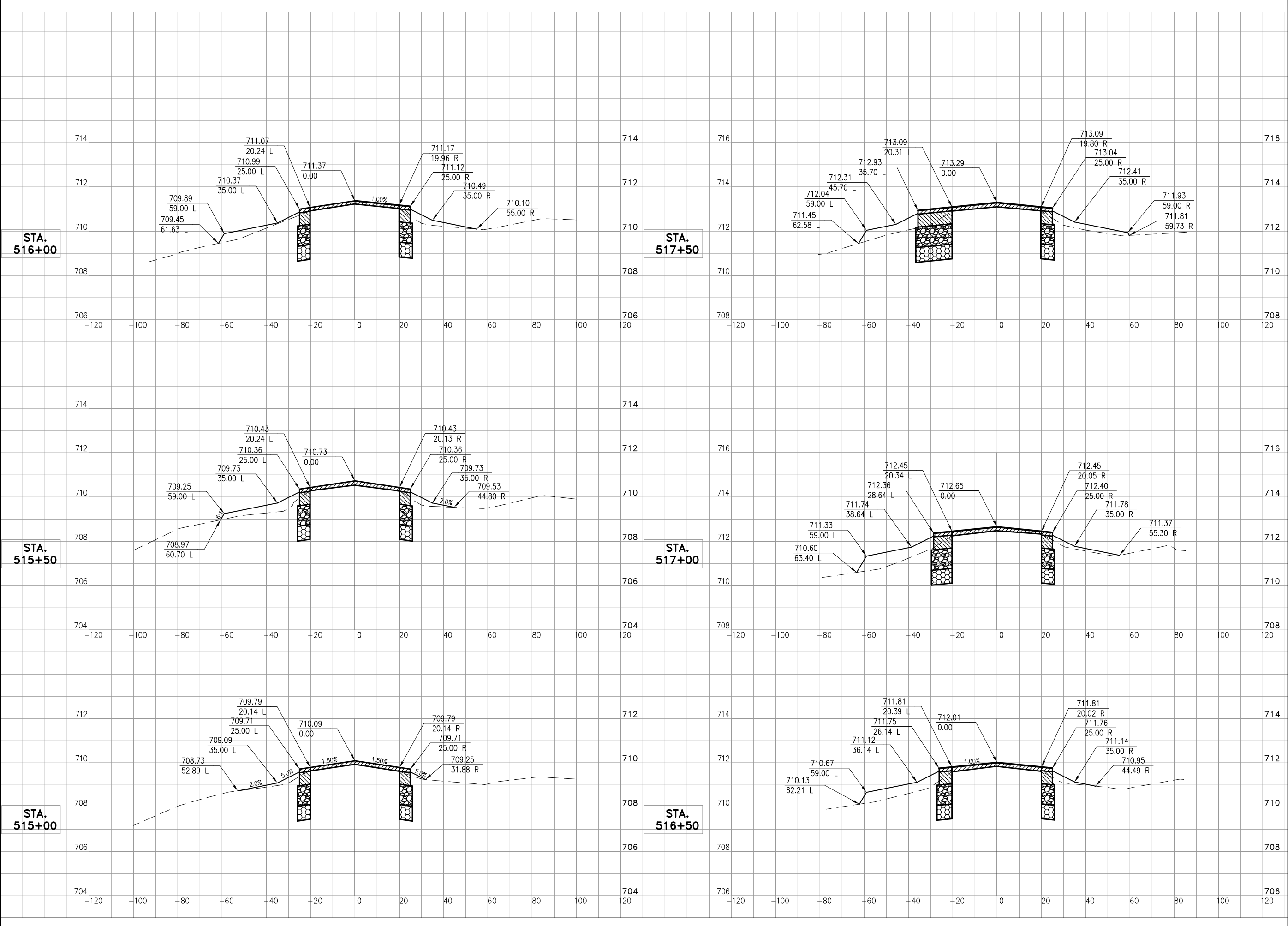


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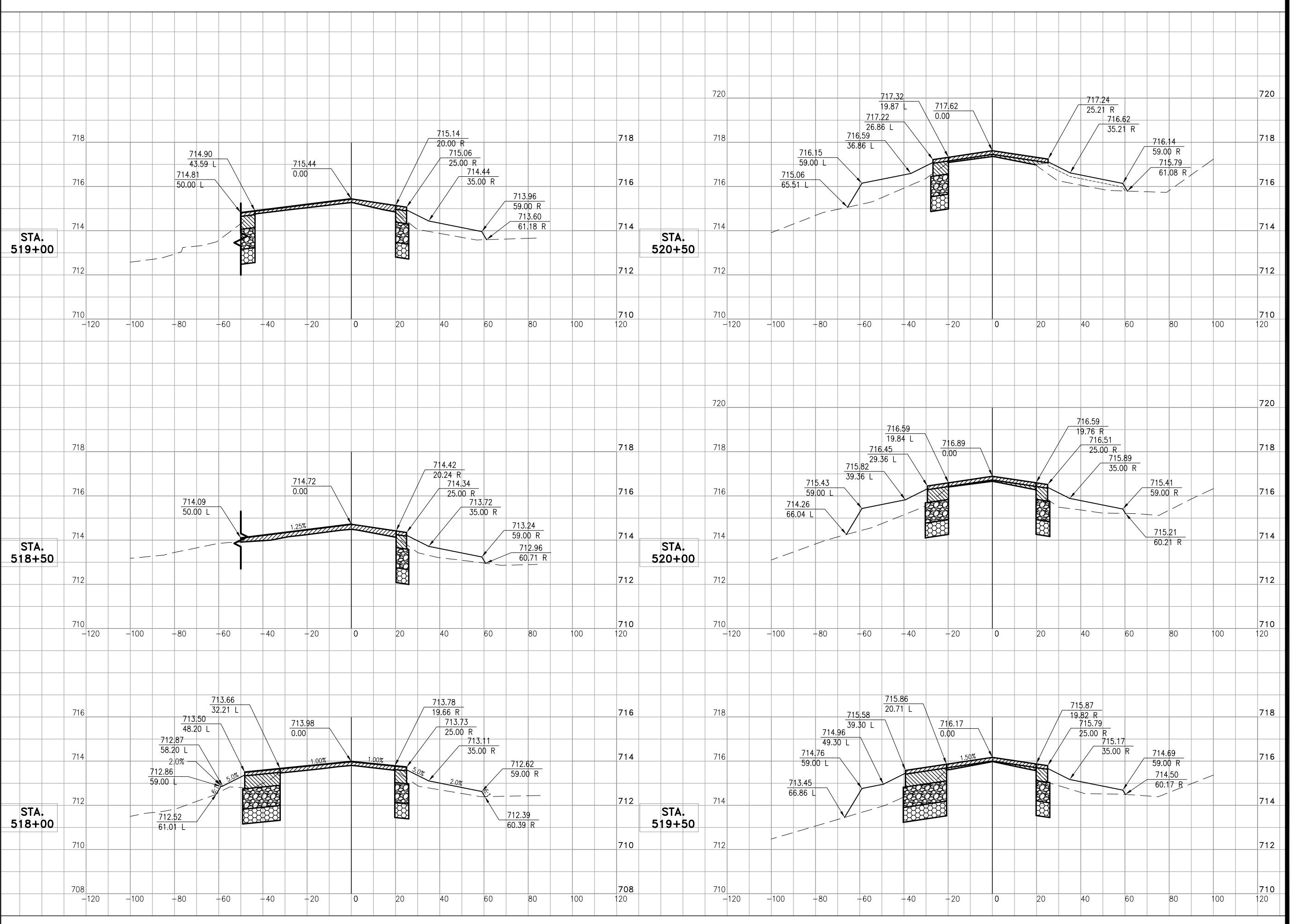


Revision No.	Filename	Scale	Date	LAYOUT	DRAWN	REVIEWED
12A0085D	26-SECTIONS_C.DWG	1"=20'	NOVEMBER 16, 2012	LDH	LDH	RMH

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WAUKEGAN PORT DISTRICT  
3580 North McAtee Road  
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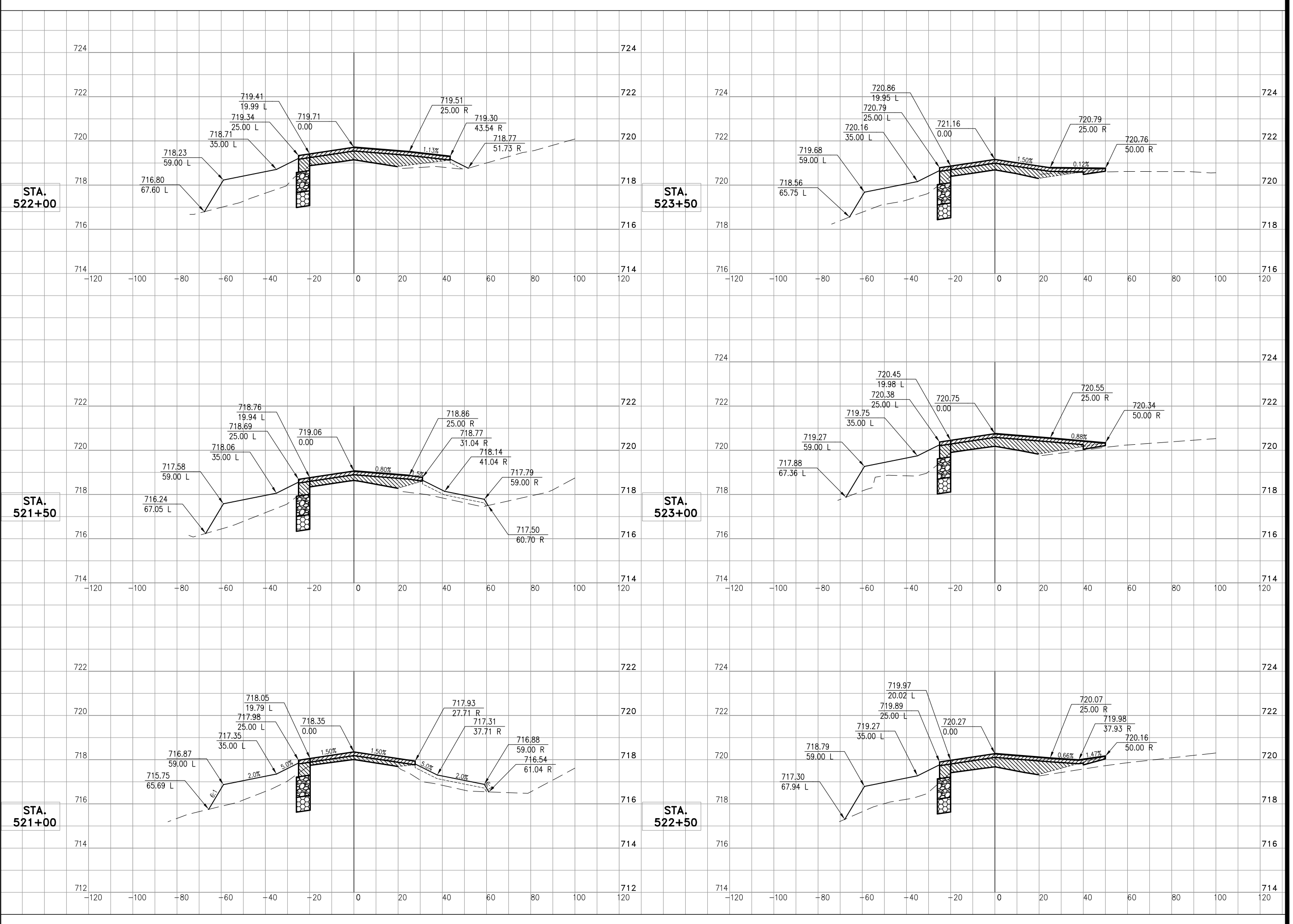


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27-SECTIONS_C.DWG	10/9/12			
1"=20'	NOVEMBER 16, 2012			

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ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54

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 3580 North McAtee Road  
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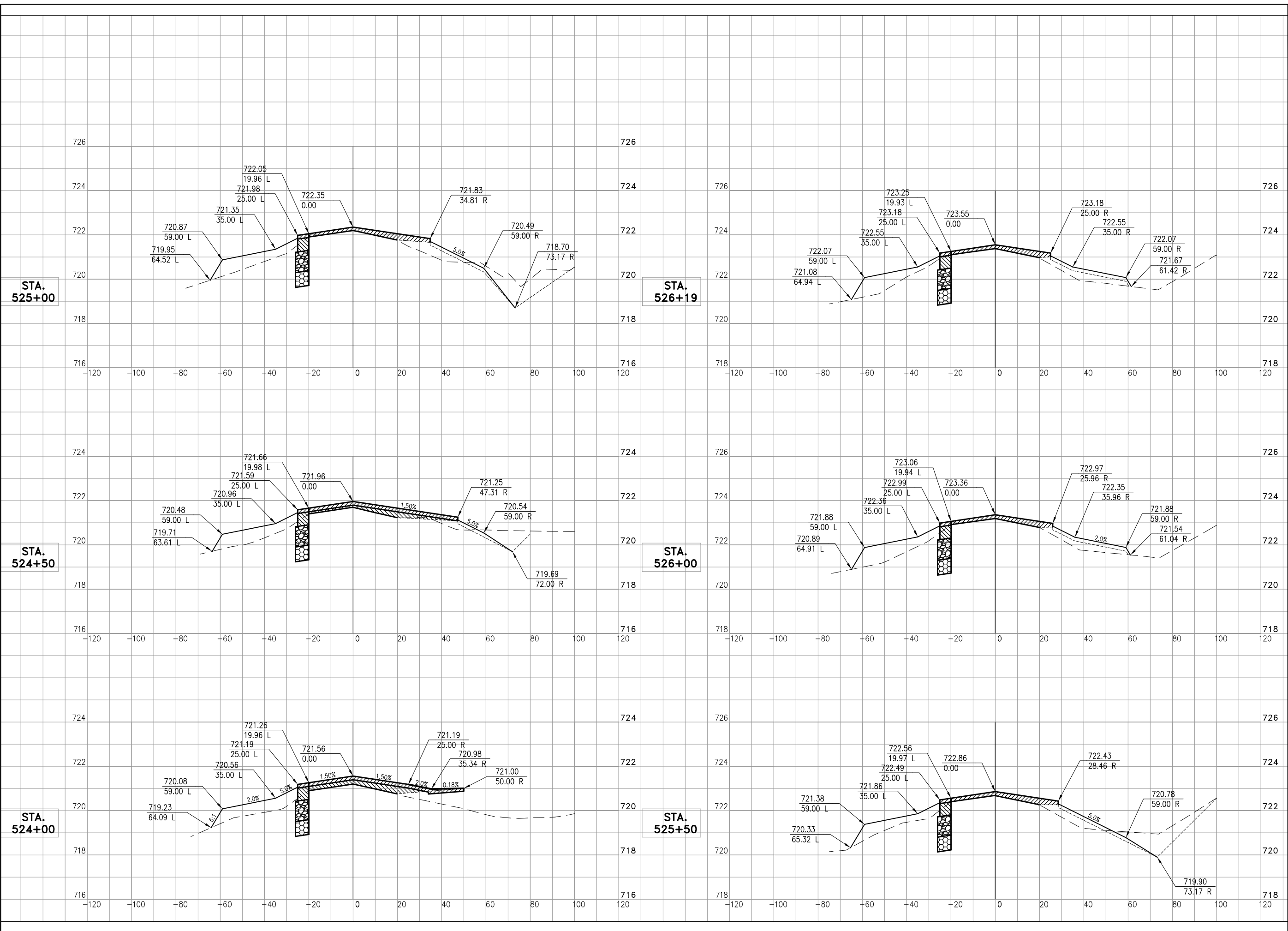
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NOVEMBER 16, 2012	11/15/12	LDH	LDH	RWH

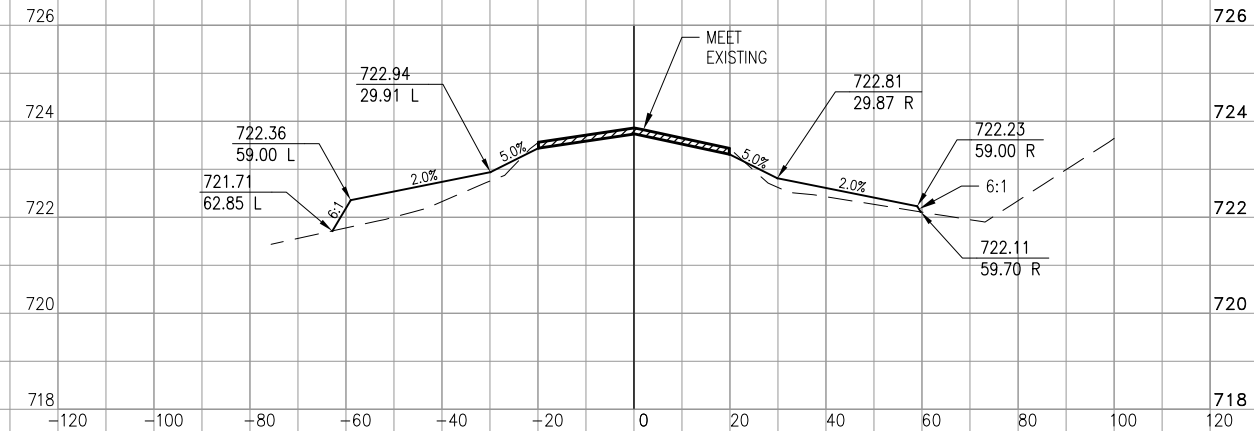
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CROSS SECTIONS  
 TAXIWAY C

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 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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Hanson No.	12A0085D	LAYOUT	LDH	10/9/12
Filename	29-SECTIONS_C.DWG	DRAWN	LDH	10/9/12
Scale	1"=20'	REVIEWED	RWH	11/15/12
Date	NOVEMBER 16, 2012			



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**CROSS SECTIONS  
TAXIWAY C**

REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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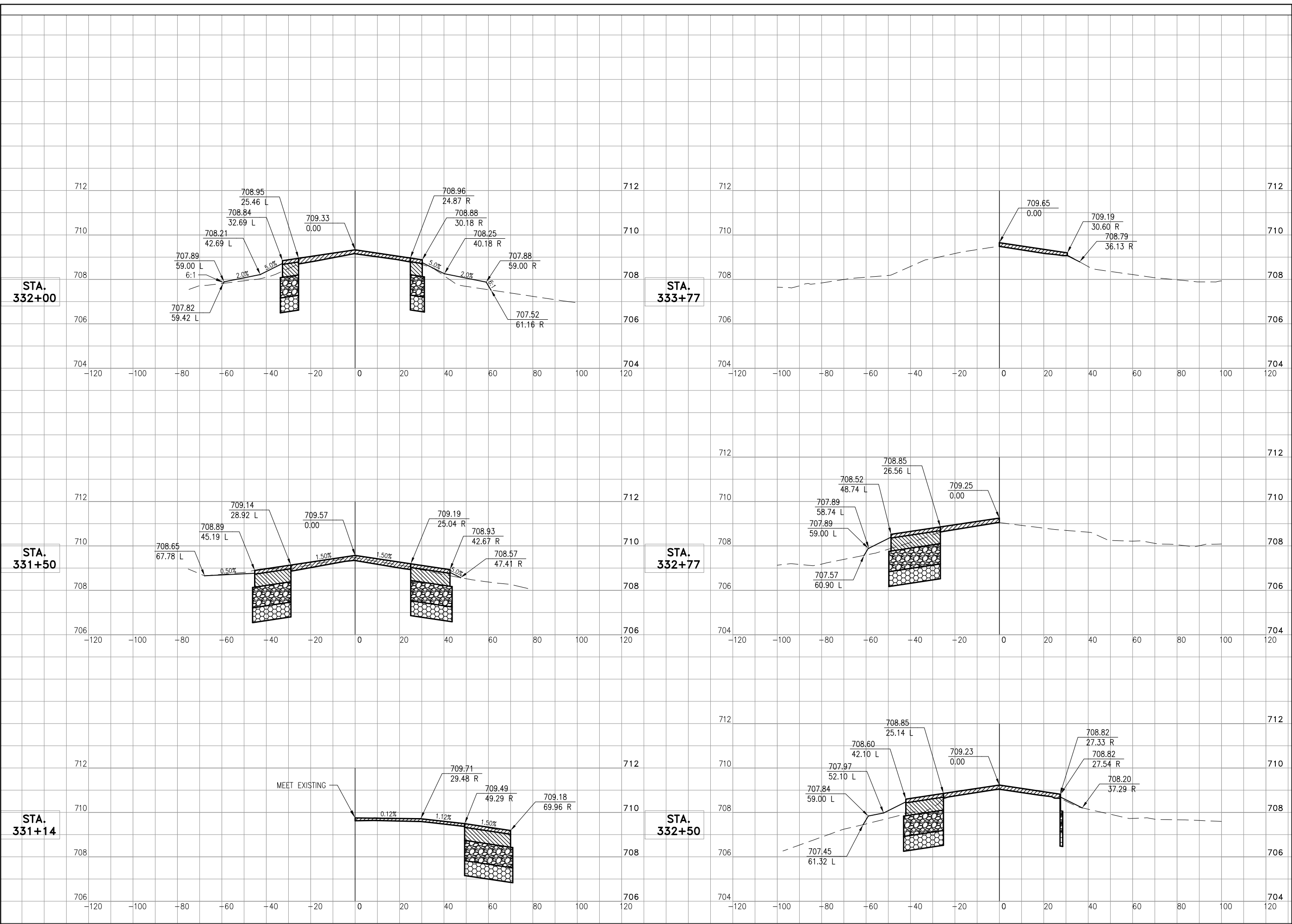


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30-SECTIONS_A.DWG	10/9/12			
1"=20'	10/9/12			
NOVEMBER 16, 2012	11/15/12			

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 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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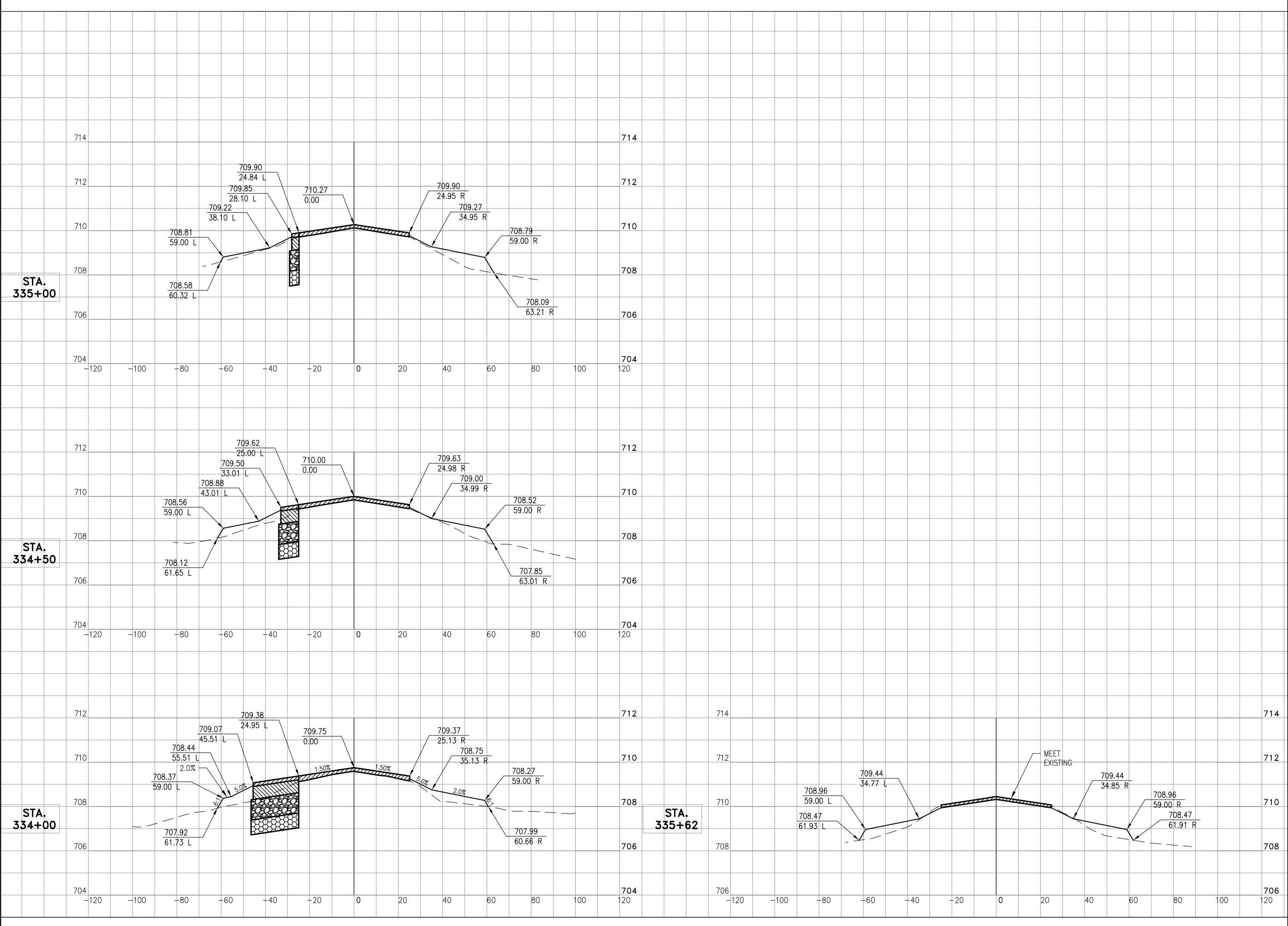


Revision No.	Filename	Scale	Date	LAYOUT	DRAWN	REVIEWED
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 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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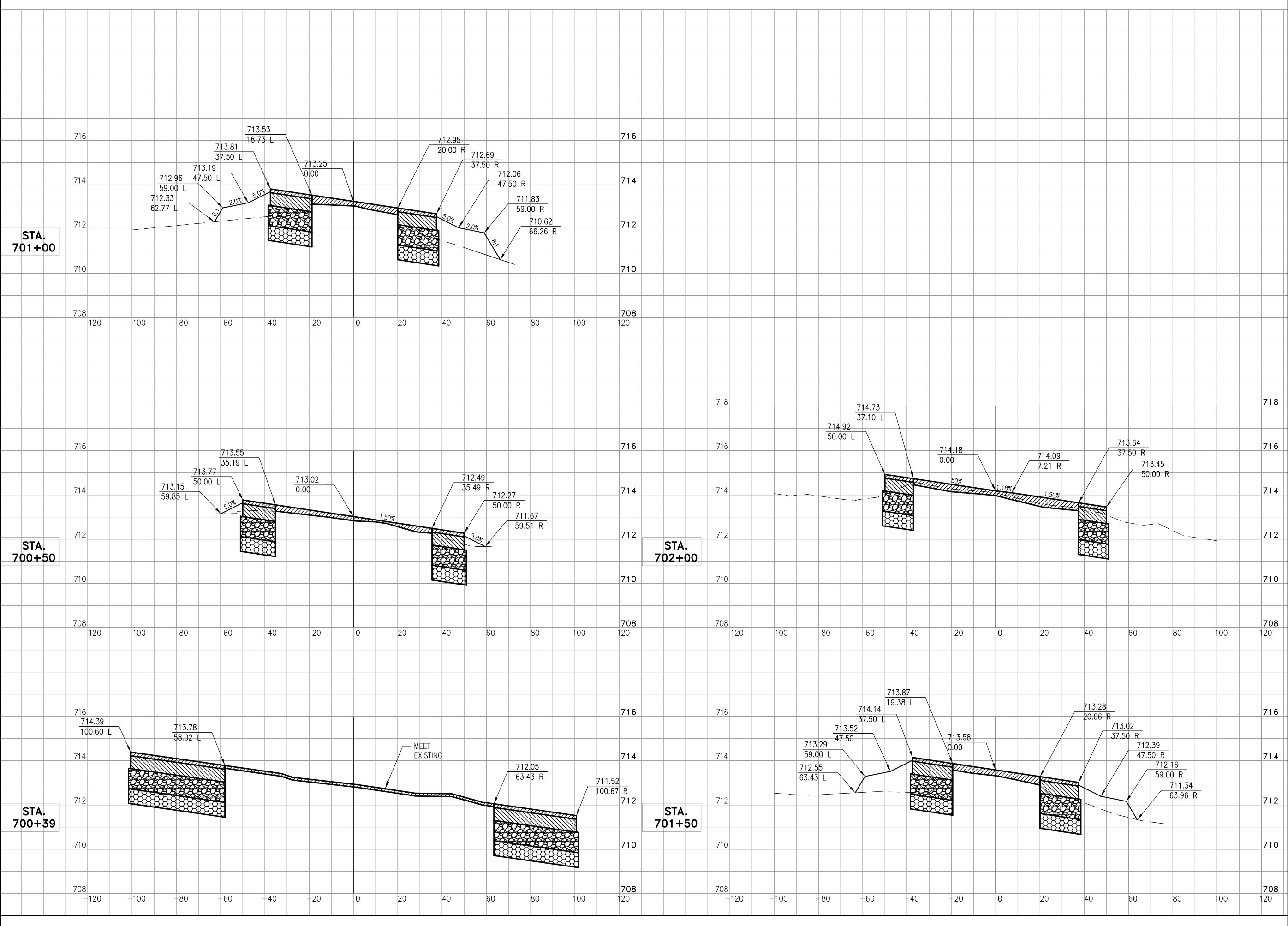


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**CROSS SECTIONS  
 TAXIWAY C2**  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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REVISION	DATE

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 WAUKEGAN PORT DISTRICT  
 3580 North McAree Road  
 Waukegan, Illinois 60087  
 Telephone: 847.244.0066  
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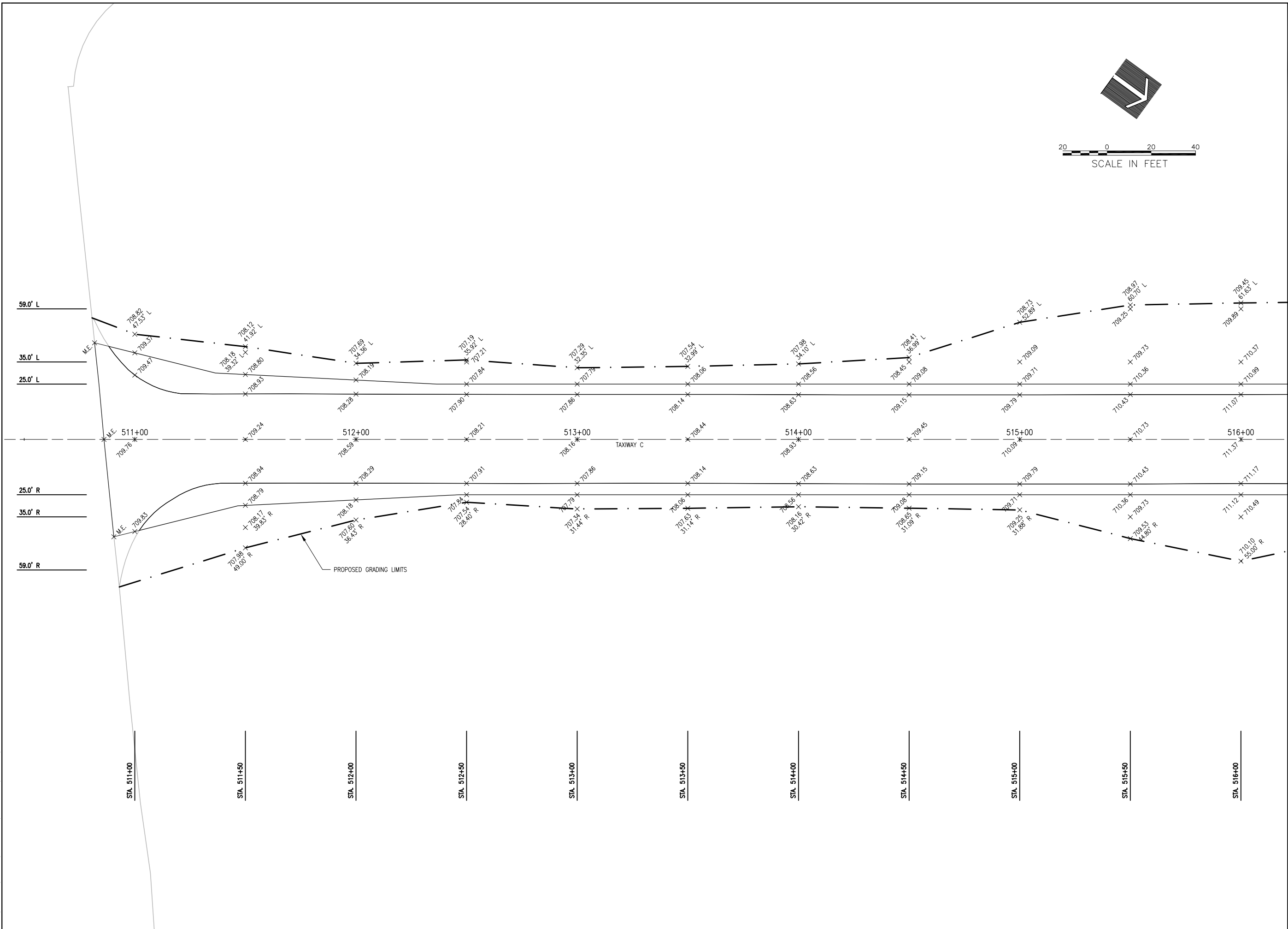
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Filename 33-STAKING C.DWG	LDH	10/9/12
Scale 1"=20'	RWH	11/15/12
Date NOVEMBER 16, 2012		
LAYOUT		
DRAWN		
REVIEWED		

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STAKING PLAN  
 TAXIWAY C

REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54



REVISION	DATE

WAUKEGAN REGIONAL AIRPORT  
 WAUKEGAN PORT DISTRICT  
 3580 North McArae Road  
 Waukegan, Illinois 60087  
 Telephone: 847.244.0066  
 Fax: 847.244.3813

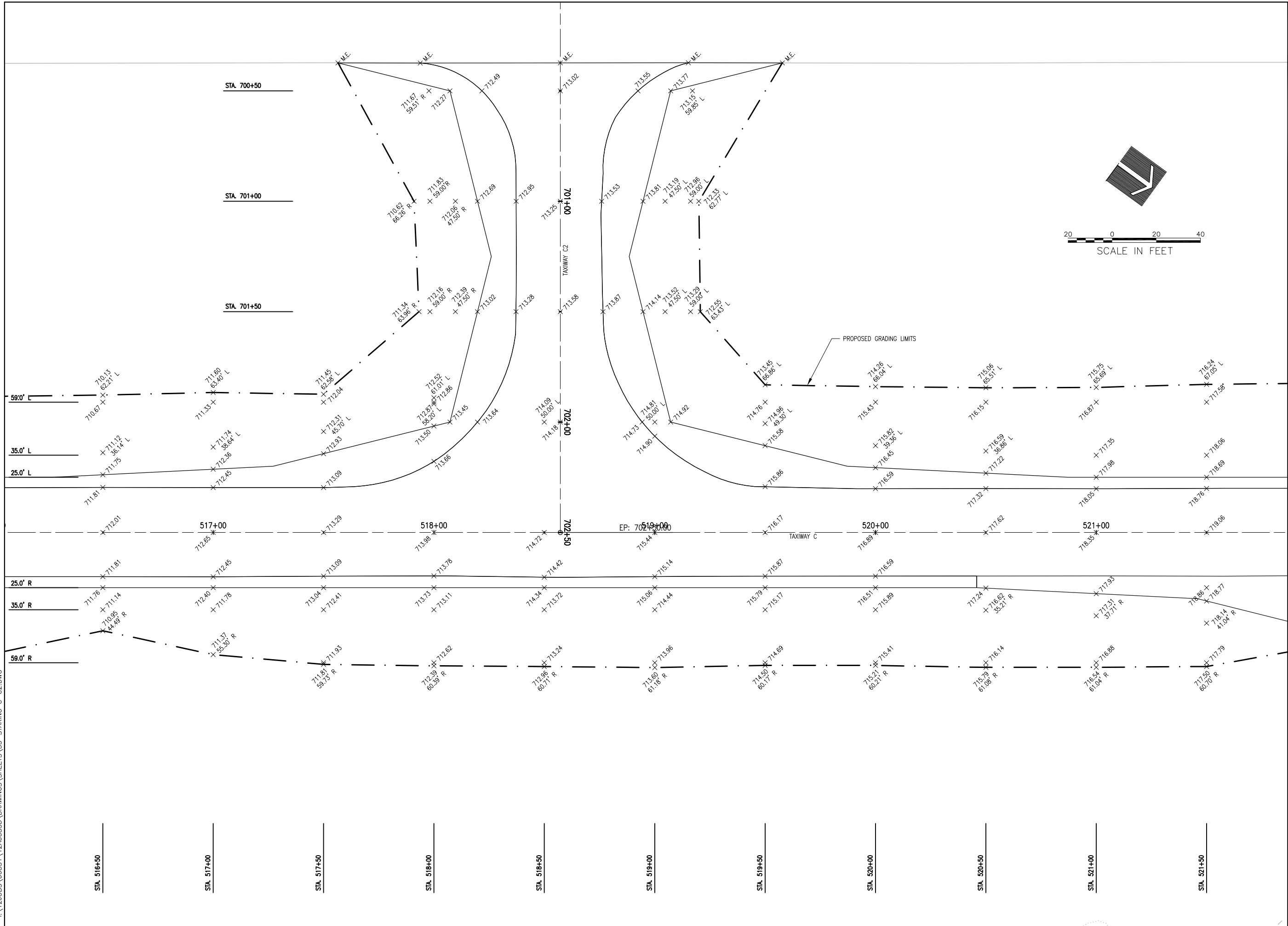


Revision No.	Date	By	Check
12A0085D	10/9/12	LDH	LDH
34-STAKING C.DWG	10/9/12	LDH	LDH
NOVEMBER 16, 2012	11/15/12	LDH	RWH

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STAKING PLAN  
 TAXIWAY C

REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54



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 WAUKEGAN PORT DISTRICT  
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LAYOUT	LDH	10/9/12
DRAWN	LDH	10/9/12
REVIEWED	RMH	11/15/12

Hanson No. 12A0085D  
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 Scale: 1"=20'  
 Date: NOVEMBER 16, 2012

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STAKING PLAN  
 TAXIWAY C AND C2

REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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Hanson No.	12A0085D	
Filename	36-STAKING_C.DWG	
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DRAWN	LDH	10/10/12
REVIEWED	RMH	11/15/12

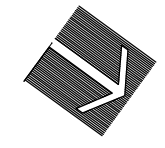
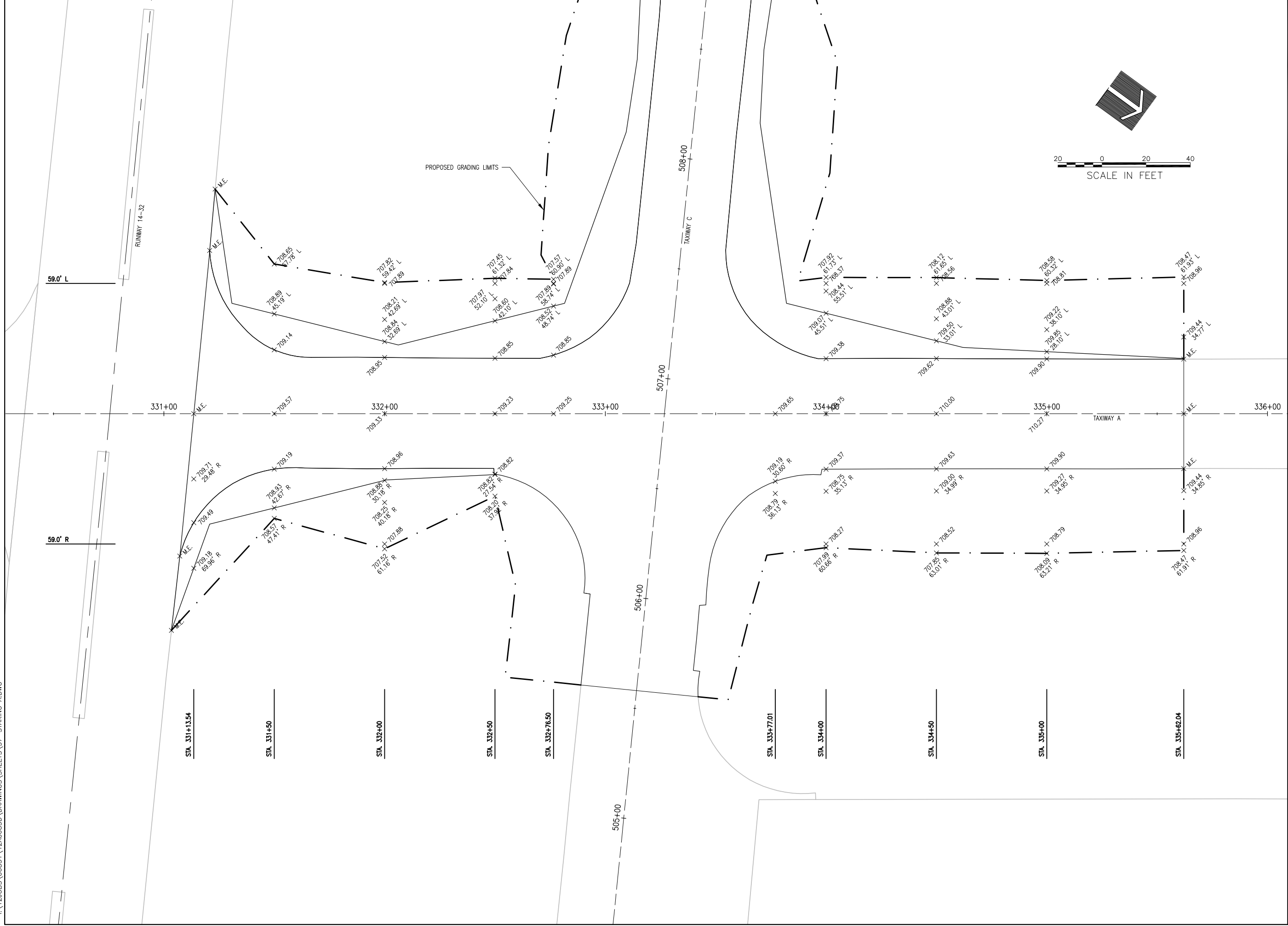
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STAKING PLAN  
TAXIWAY C

REHABILITATE TAXIWAY C AND  
ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54

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Hanson No.	12A0085D
Filename	37-STAKING A.DWG
Scale	1"=20'
Date	NOVEMBER 16, 2012
LAYOUT	LDH 10/10/12
DRAWN	LDH 10/10/12
REVIEWED	RWH 11/15/12


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**STAKING PLAN**  
**TAXIWAY A**  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

UNDERDRAIN SCHEDULE

Structure	Station	Offset	Type	Rim El.	Invert El.	Pay Length	Slope %
U1	505+64.10	210.85 LT	Clean Out	709.64	707.64	270.8	0.50
U2a U2	505+80.85	29.35 LT	Slope Break RCP Connection	--- ---	706.28 702.28		
U3	507+64.94	211.14 LT	Clean Out	709.40	707.40	251.7	0.50
U4a U4a U4b	507+76.23	39.81 LT	Slope Break RCP Connection Slope Break	--- --- ---	706.14 702.09 706.89		
U5	509+25.90	44.03 LT	Clean Out	709.66	707.66		
U6	506+53.29	81.24 LT	Adjust RIM Elevation	708.89	---	---	---
U7	506+98.30	83.63 LT	Adjust RIM Elevation	708.89	---	---	---
U8	507+07.47	44.88 LT	Adjust RIM Elevation	708.83	---	---	---
U9	507+77.09	22.01 LT	Adjust RIM Elevation	708.98	---	---	---
U10	507+80.09	22.04 RT	Adjust RIM Elevation	708.98	---	---	---
U11	507+15.99	56.88 RT	Adjust RIM Elevation	709.32	---	---	---
U12	506+81.40	236.74 RT	Clean Out	709.87	707.87	266.3	0.50
U13a U13	505+86.18	31.08 RT	Slope Break RCP Connection	--- ---	706.53 701.85		
U14	507+34.00	231.53 RT	Clean Out	709.87	707.87		
U15a U15 U15b	507+81.28	41.06 RT	Slope Break RCP Connection Slope Break	--- --- ---	706.75 702.82 707.21	157.5	0.50
U16	509+34.71	43.71 RT	Clean Out	710.00	708.00		
U17	510+88.44	43.56 LT	Clean Out	709.56	707.56	188.2	0.50
U18a U18 U18b	512+74.71	26.50 LT	Slope Break RCP Connection Slope Break	--- --- ---	706.62 701.00 705.15		
U19	515+07.30	26.50 LT	Clean Out	709.51	707.51		
U20 U20a	515+12.30	26.50 LT	RCP Connection Slope Break	--- ---	702.50 703.25	501.2	1.25
U21	517+56.18	211.21 LT	Clean Out	711.52	709.55		

Structure	Station	Offset	Type	Rim El.	Invert El.	Pay Length	Slope %
U22	511+02.31	42.61 RT	Clean Out	709.71	707.71	195.8	0.50
U23a U23 U23b	512+93.49	26.50 RT	Slope Break RCP Connection Slope Break	--- --- ---	706.73 700.00 705.36		
U24	515+07.92	26.50 RT	Clean Out	709.51	707.51		
U25 U25a	515+12.92	26.50 RT	RCP Connection Slope Break	--- ---	702.15 706.35	322.4	1.25
U26	518+34.00	26.50 RT	Inspection Hole	714.10	710.38		
U27	520+45.85	26.50 RT	Clean Out	716.99	715.00	211.9	2.18
U28	519+58.17	211.19 LT	Clean Out	714.04	712.04		
U29a U29 U29b	519+51.32	40.52 LT	Slope Break RCP Connection Slope Break	--- --- ---	708.93 706.78 712.61	699.6	1.25
U30	526+19.24	26.50 LT	Clean Out	722.98	720.98		
U31	510+98.14	36.25' LT	Adjust RIM Elevation	709.40	---	---	---
U32	511+05.70	38.90 RT	Adjust RIM Elevation	709.83	---	---	---
U33	512+74.69	22.93 LT	Cap UD Structure	---	---	---	---
U34	512+90.68	21.83 RT	Cap UD Structure	---	---	---	---
U35	515+33.89	22.45 LT	Cap UD Structure	---	---	---	---
U36	515+33.81	21.51 RT	Cap UD Structure	---	---	---	---
U37	518+35.50	89.94 LT	Cap UD Structure	---	---	---	---
U38	518+22.53	56.06 LT	Adjust RIM Elevation	713.65	---	---	---
U39	518+05.65	21.15 RT	Adjust RIM Elevation	713.85	---	---	---
U40	518+34.00	21.55 RT	Adjust RIM Elevation	714.28	---	---	---
U41	519+41.93	22.71 LT	Cap UD Structure	---	---	---	---
U42	519+18.70	21.38 RT	Cap UD Structure	---	---	---	---
U40	518+34.00	21.55 RT	Existing Inspection Hole	714.28	710.41	5.0	0.50
U26	518+34.00	26.50 RT	Inspection Hole	714.10	710.38		

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Hanson No. 12A0085D	10/11/12
Filename 38-DRAINAGE_SCHEDULE.DWG	KMS
Scale N/A	KMS
Date NOVEMBER 16, 2012	RWH
LAYOUT	REVIEWED
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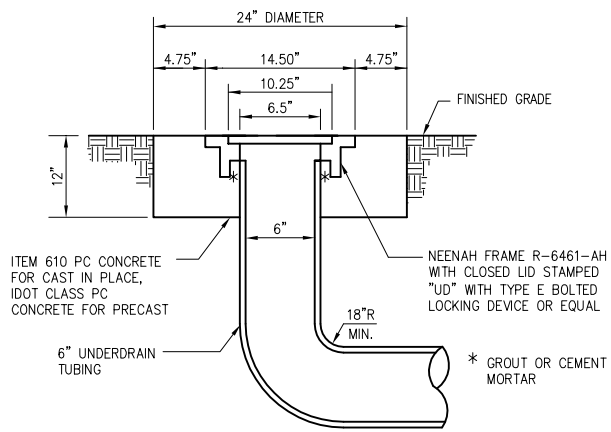
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SCHEDULE

REHABILITATE TAXIWAY C AND  
ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54

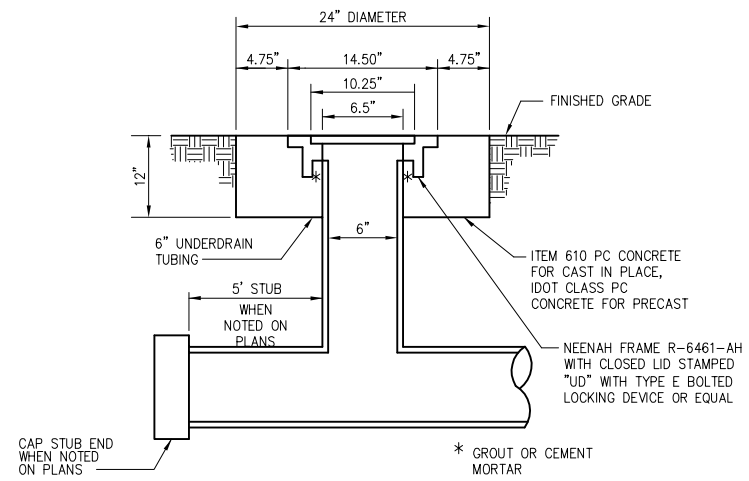


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Filename	39-DRAINAGE_DETAILS.DWG		
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Date	NOVEMBER 16, 2012		
LAYOUT	LDH	9/6/12	
DRAWN	LDH	9/6/12	
REVIEWED	RMH	11/15/12	

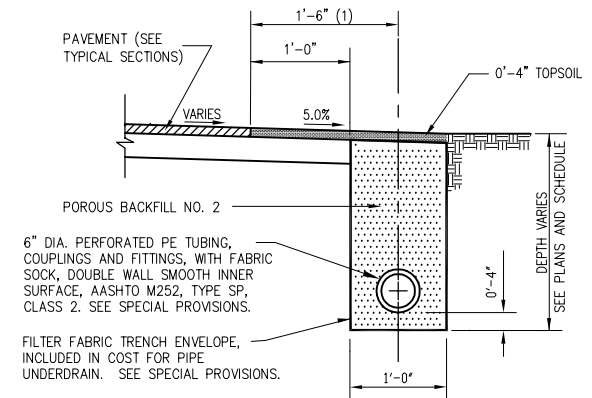
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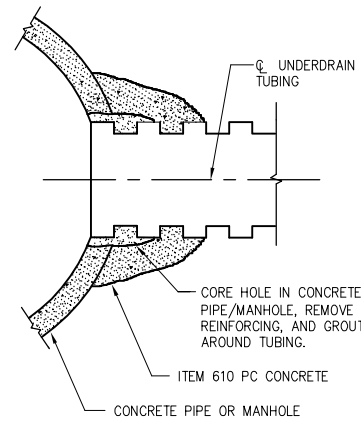
UNDERDRAIN CLEANOUT



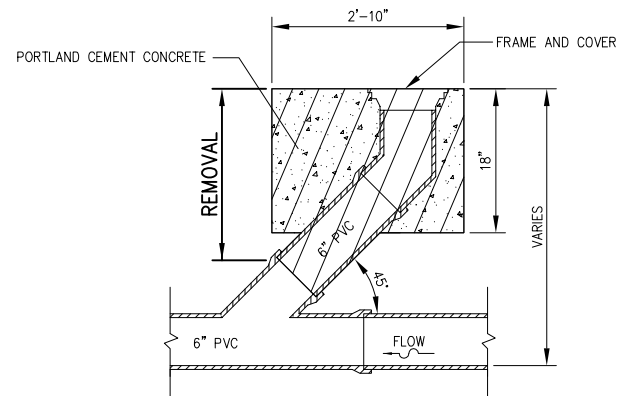
UNDERDRAIN INSPECTION HOLE



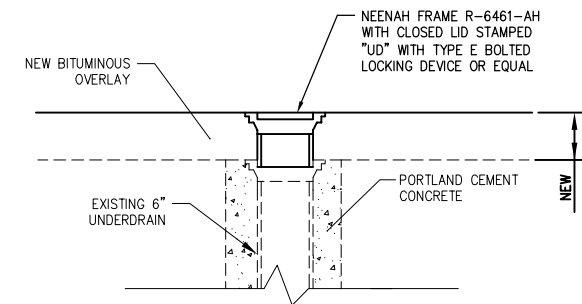
UNDERDRAIN ALONG PAVEMENT EDGE



STORM SEWER CONCRETE COLLAR  
AND GROUT CONNECTION



EXISTING UNDERDRAIN  
CLEANOUT REMOVAL



PROPOSED IN-PAVEMENT  
UNDERDRAIN INSPECTION  
HOLE ADJUSTMENT

REVISION	DATE

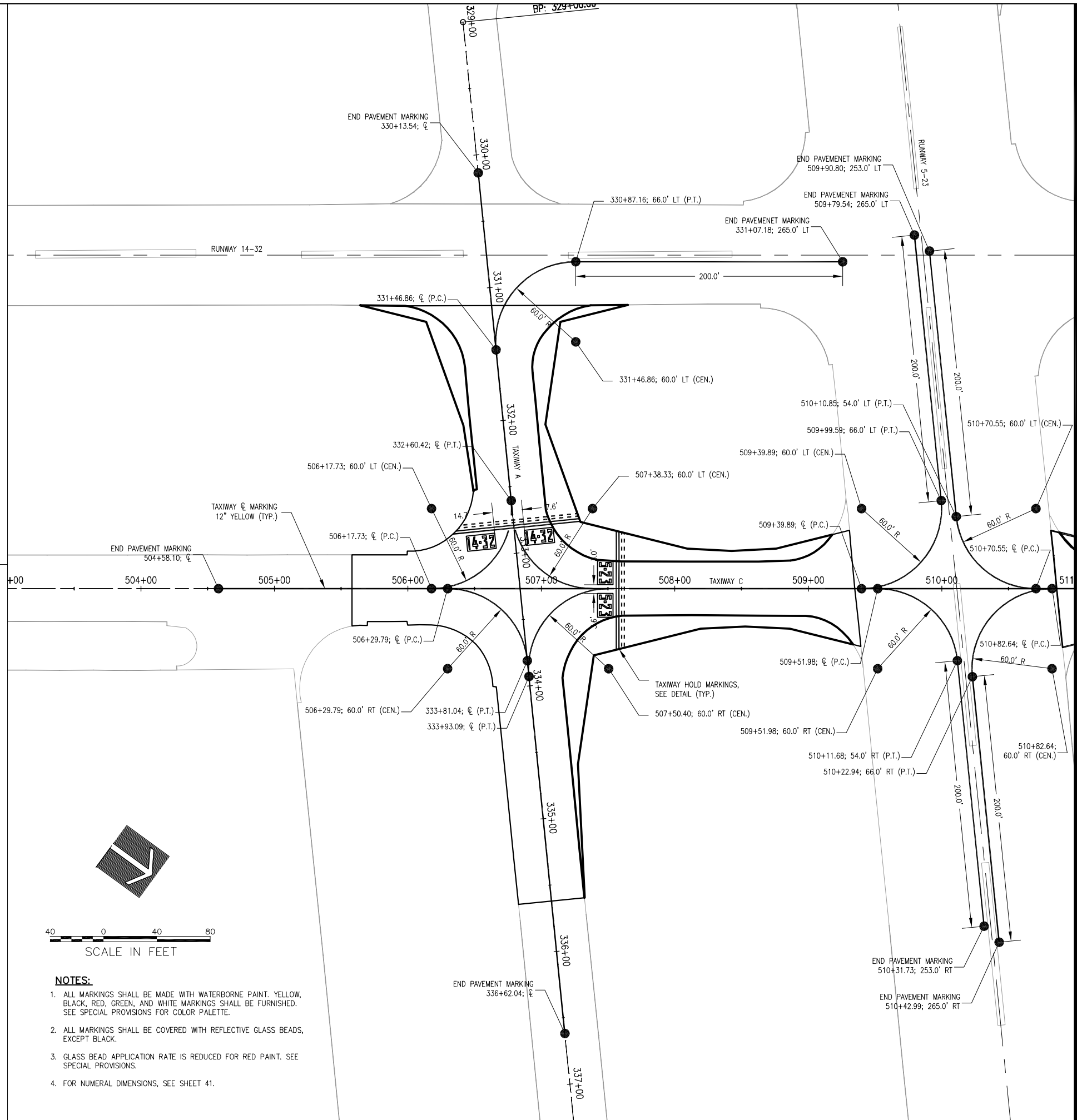
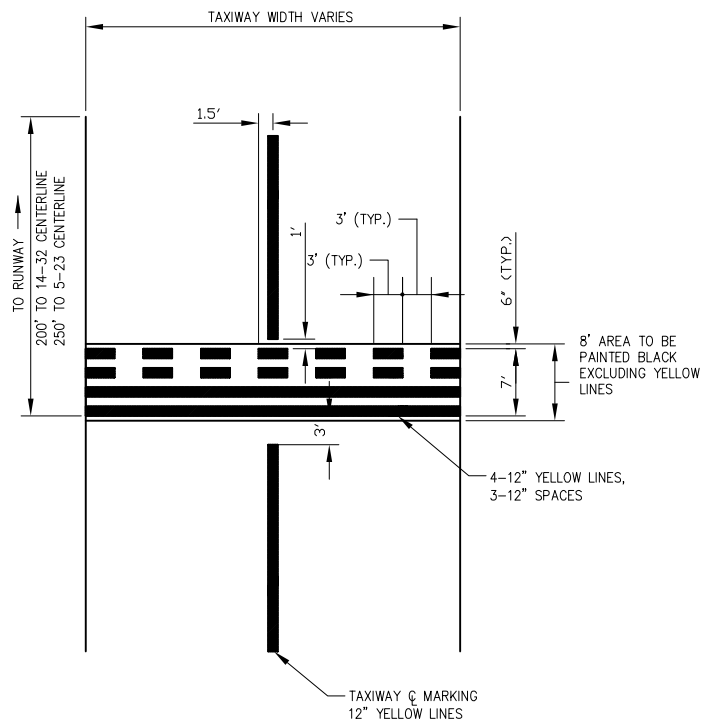
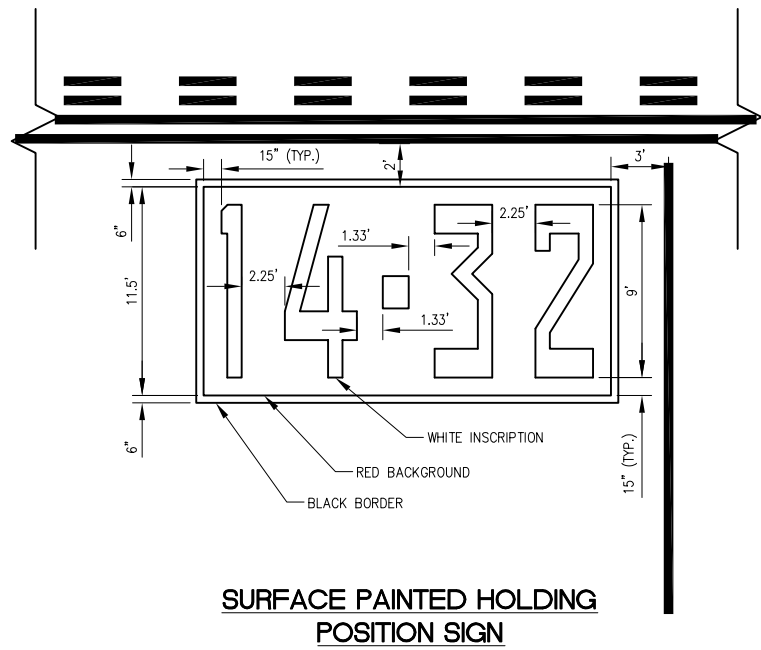
WAUKEGAN REGIONAL AIRPORT  
 WAUKEGAN PORT DISTRICT  
 3580 North McArees Road  
 Waukegan, Illinois 60087  
 Telephone: 847.244.0066  
 Fax: 847.244.3813



Hanson No.	12A0085D	LAYOUT	LDH	09/19/12
Filename	40-MARKING_PLAN.DWG	DRAWN	KMS	09/19/12
Scale	1"=40'	REVIEWED	RWH	11/15/12
Date	NOVEMBER 16, 2012			

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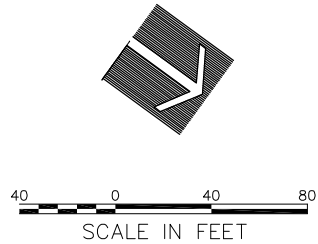
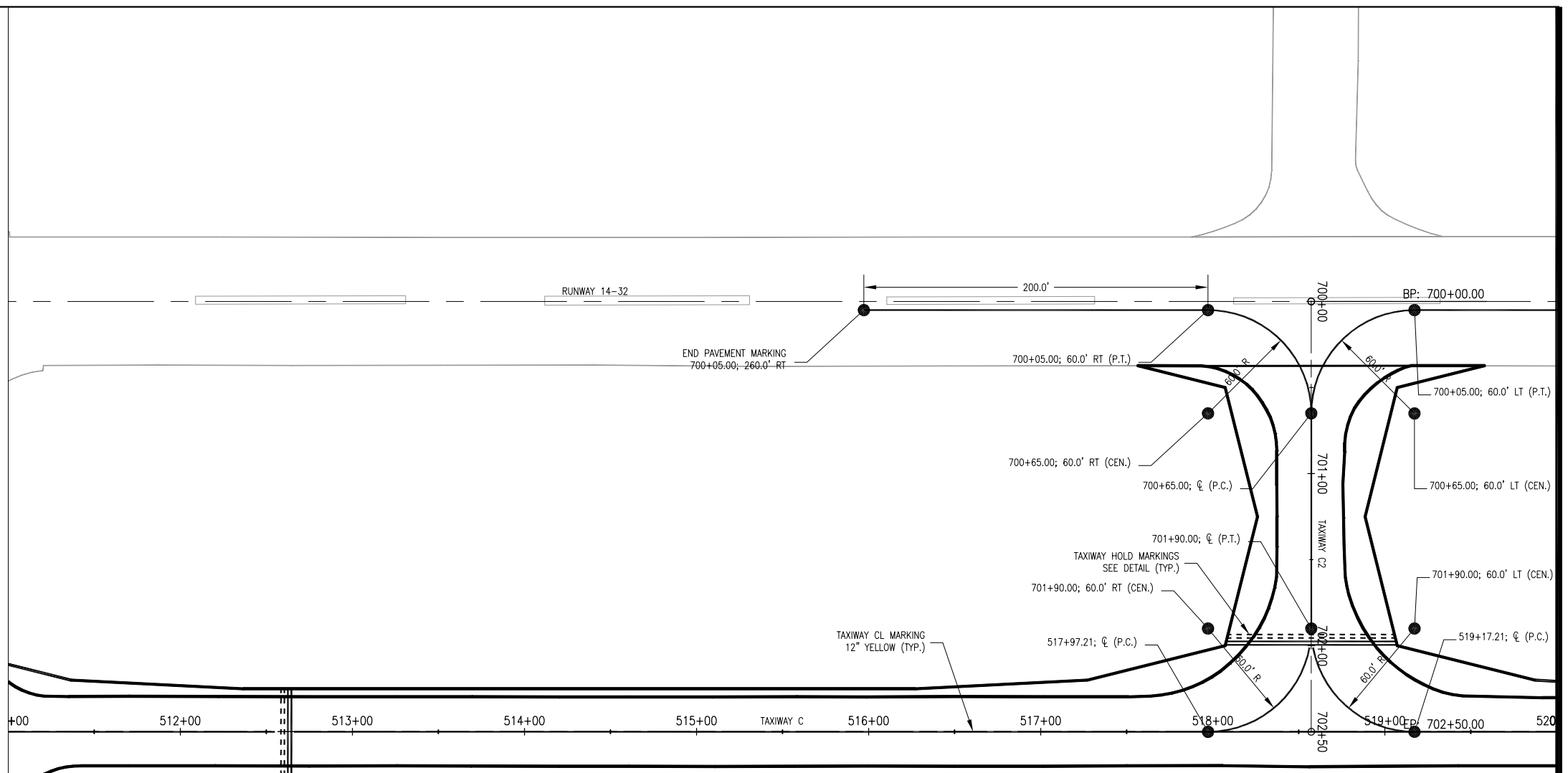
MARKING PLAN  
 STA 503+00 TO 511+00  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54



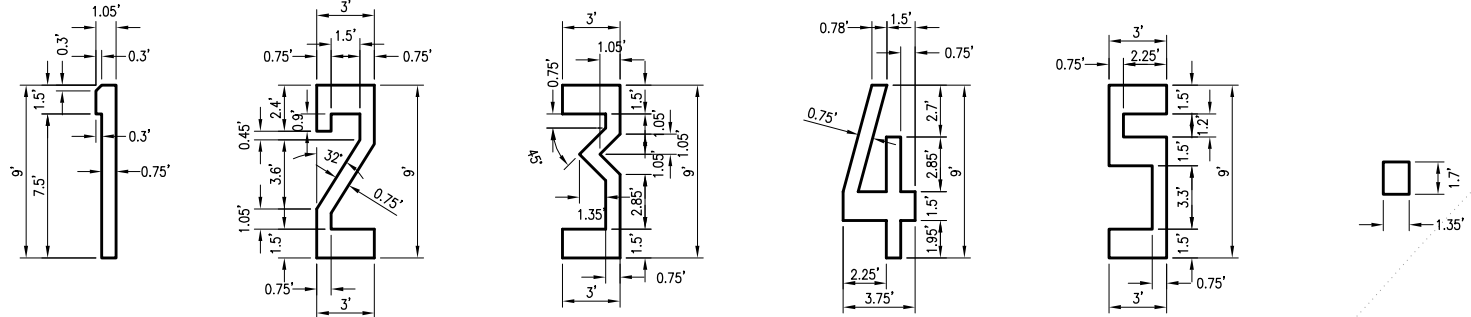
- NOTES:**
1. ALL MARKINGS SHALL BE MADE WITH WATERBORNE PAINT. YELLOW, BLACK, RED, GREEN, AND WHITE MARKINGS SHALL BE FURNISHED. SEE SPECIAL PROVISIONS FOR COLOR PALETTE.
  2. ALL MARKINGS SHALL BE COVERED WITH REFLECTIVE GLASS BEADS, EXCEPT BLACK.
  3. GLASS BEAD APPLICATION RATE IS REDUCED FOR RED PAINT. SEE SPECIAL PROVISIONS.
  4. FOR NUMERAL DIMENSIONS, SEE SHEET 41.

NOV 21, 2012 9:31 AM SPITZ01394  
 I:\1200BS\00831\12A0085D\DRAWINGS\SHEETS\40-MARKING\_PLAN.DWG





1. FOR NOTES AND LEGEND SEE SHEET 40.



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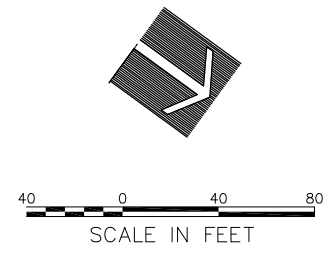
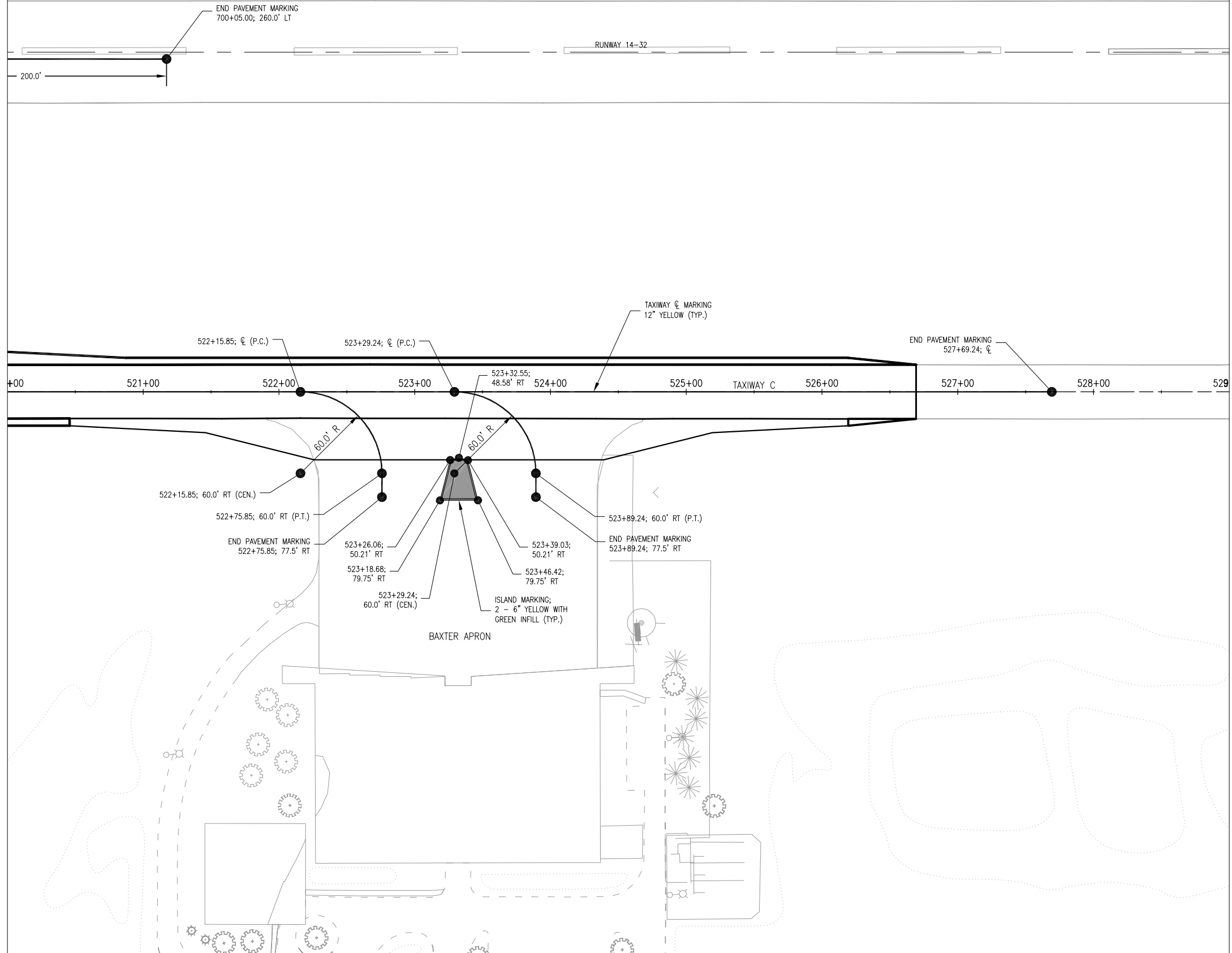
Revision No.	Description	Date	Drawn	Reviewed
12A0085D	41-MARKING_PLAN.DWG	NOVEMBER 16, 2012	LDH	RWH
41	Scale 1"=40'	09/19/12	KMS	RWH
NOVEMBER 16, 2012		09/19/12		



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**MARKING PLAN**  
**STA 511+00 TO 520+00**  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

NOV 21, 2012 9:15 AM SPITZ01394  
 I:\12JOBS\00831\12A0085D\DRAWINGS\SHEETS\42-MARKING\_PLAN.DWG



1. FOR NOTES AND LEGEND SEE SHEET 40.

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12A0085D	42-MARKING_PLAN.DWG	1"=40'	NOVEMBER 16, 2012	LDH	KMS	RWH

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**MARKING PLAN**  
**STA 520+00 TO 528+00**  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

REVISION  
DATE

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Hanson No.	12A0085D	LAYOUT	LDH	09/24/12
Filename	43-LIGHTING_PLAN.DWG	DRAWN	KMS	09/24/12
Scale	1" = 40'	REVIEWED	RWH	11/15/12
Date	NOVEMBER 16, 2012			

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LIGHTING PLAN  
STA 504+00 TO 510+00

REHABILITATE TAXIWAY C AND  
ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54

**AIRFIELD LIGHTING NOTES**

- ALL WORK, POWER OUTAGES, AND/OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE AIRPORT DIRECTOR/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 & 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).
- CONTRACTOR SHALL FIELD VERIFY EXISTING SITE CONDITIONS. CONTRACTOR SHALL FIELD VERIFY RESPECTIVE CIRCUITS AND POWER SOURCES PRIOR TO REMOVING OR DISCONNECTING THE RESPECTIVE AIRFIELD LIGHTING, TAXI SIGN, NAVAID, OR OTHER DEVICE.
- PROPOSED RUNWAY, THRESHOLD, AND TAXIWAY LIGHTS SHALL BE PLACED 10' (FT.) FROM THE PAVEMENT EDGE UNLESS SHOWN OTHERWISE ON THESE CONSTRUCTION DRAWINGS. PROPOSED TAXI GUIDANCE SIGNS SHALL BE LOCATED SUCH THAT THE CLOSEST SIDE OF THE SIGN IS 15' FROM THE PAVEMENT EDGE, UNLESS SHOWN OTHERWISE.
- PROPOSED RUNWAY LIGHTS, THRESHOLD LIGHTS, TAXIWAY LIGHTS, GUIDANCE SIGNS, OTHER AIRFIELD LIGHTING, SPLICE CANS, HANDHOLES, MANHOLES, ELECTRICAL DUCTS, AND CABLE SHALL BE INSTALLED AT THE LOCATIONS SHOWN AND IN COMPLIANCE WITH THE SPECIFICATIONS, SPECIAL PROVISIONS, RESPECTIVE DETAILS, AND MANUFACTURER'S RECOMMENDATIONS.
- PROPOSED CABLE FOR RUNWAY AND TAXIWAY LIGHTING SHALL BE INSTALLED APPROXIMATELY 12" FROM THE PAVEMENT EDGE. CABLES SHALL BE PLACED A MINIMUM OF 18" BELOW FINISHED GRADE.
- THE PROPOSED RUNWAY AND TAXIWAY LIGHTING CABLE SHALL BE 1/C, #8 AWG, FAA L-824, 5000 VOLT, TYPE C UNDERGROUND CABLE IN UNIT DUCT.
- IN AREAS WHERE THERE IS A CONGESTION OF CABLES OR WHERE THE PROPOSED CABLE CROSSES AN EXISTING CABLE, THE CONTRACTOR IS REQUIRED TO HAND DIG THE TRENCH NECESSARY FOR THE PROPOSED CABLE. AT OTHER LOCATIONS, THE PROPOSED CABLE MAY BE TRENCHED OR PLOWED INTO PLACE. HAND DIGGING, TRENCHING AND/OR PLOWING WILL BE CONSIDERED INCIDENTAL TO THE PROPOSED CABLES AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- PROPOSED RUNWAY LIGHTS SHALL BE FITTED WITH LENSES IN ACCORDANCE WITH THE "LIGHT LENS SCHEDULE". ALL PROPOSED TAXIWAY LIGHTS WILL BE FITTED WITH 360° BLUE LENSES.
- ALL PROPOSED RUNWAY, THRESHOLD, AND TAXIWAY LIGHTS SHALL BE TAGGED BY THE CONTRACTOR IN ACCORDANCE WITH THE LIGHT NUMBERS SHOWN ON THESE CONSTRUCTION DRAWINGS.
- SEE "TAXI GUIDANCE SIGN SCHEDULE" AND/OR RESPECTIVE TAXI SIGN DETAILS FOR INFO ON SIGN LEGENDS.
- THE CONTRACTOR SHALL SECURE, IDENTIFY AND PLACE ALL TEMPORARY EXPOSED WIRING IN CONDUIT, DUCT OR UNIT DUCT TO PREVENT ELECTROCUTION AND FIRE IGNITION SOURCES AS PER THE REQUIREMENTS OF FAA AC 150/5370-2F, PART 218, C. ALL LABOR, MATERIALS, AND TIME NECESSARY TO COMPLY WITH THIS REQUIREMENT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- HOMERUN CABLES FOR A RESPECTIVE CIRCUIT THAT ARE INSTALLED IN CONDUIT OR DUCT SHALL BE RUN TOGETHER IN THE SAME RACEWAY OR DUCT.
- EXISTING AIRFIELD LIGHTING CABLES IN AREAS OF NEW WORK SHALL BE DISCONNECTED & REMOVED WHERE IN CONFLICT WITH NEW CONSTRUCTION. IN OTHER AREAS CABLES MAY BE ABANDONED IN PLACE. CONTRACTOR MAY REMOVE ABANDONED CABLES AT NO ADDITIONAL COST TO THE CONTRACT AND SHALL HAVE THE SALVAGE RIGHTS TO ABANDONED CABLES.
- THE CONTRACTOR IS REQUIRED TO FILL IN ALL HOLES AND DEPRESSIONS RESULTING FROM THE NEW WORK, WITH EARTH MATERIAL. THE AREAS SHALL BE COMPACTED TO PREVENT FUTURE SETTLEMENT AND FERTILIZED, SEEDED, AND MULCHED IN ACCORDANCE WITH ITEMS 901 AND 908 RESPECTIVELY.
- THE CONTRACTOR IS REQUIRED TO RESTORE ALL DISTURBED PAVEMENT ASSOCIATED WITH NEW AIRFIELD LIGHTING INSTALLATIONS.
- EVERY AIRFIELD LIGHTING CABLE SPLICER SHALL BE QUALIFIED IN MAKING CABLE SPLICES AND TERMINATIONS ON CABLES RATED AT AND/OR ABOVE 5,000 VOLTS AC. CABLE SPlicing/Terminating PERSONNEL SHALL HAVE A MINIMUM OF THREE (3) YEARS CONTINUOUS EXPERIENCE IN TERMINATING/SPLICING MEDIUM VOLTAGE CABLE.
- NO CONNECTION TO AN ACTIVE LIGHTING CIRCUIT WILL BE BROKEN UNTIL THE CIRCUIT HAS BEEN TURNED OFF IN ACCORDANCE WITH NOTE 1.

**EXISTING LEGEND**

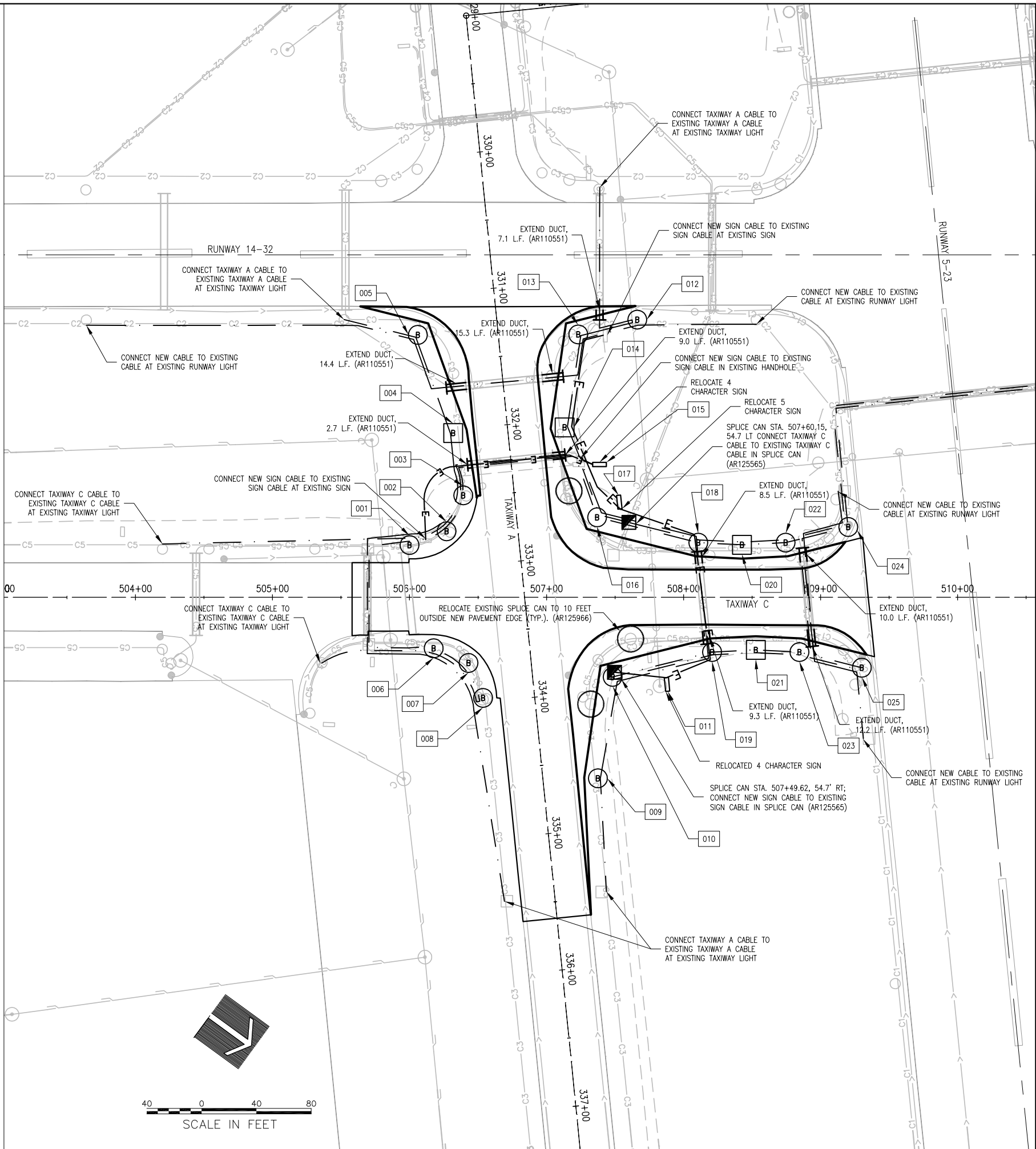
- LIGHTING CABLES (CIRCUIT 1)
- LIGHTING CABLES (CIRCUIT 2)
- LIGHTING CABLES (CIRCUIT 3)
- LIGHTING CABLES (CIRCUIT 4)
- LIGHTING CABLES (CIRCUIT 5)
- LIGHTING CABLES (CIRCUIT 6)
- SIGN CABLES (CIRCUIT 7)
- AIRFIELD SIGN
- L-861 EDGE LIGHT, OMNIDIRECTIONAL
- ▭ CONCRETE ENCASED DUCT, OR DIRECT BURIAL

LOC = LOCATION SIGN FACE, YELLOW ON BLACK  
 DIR = DIRECTIONAL SIGN FACE, BLACK ON YELLOW  
 DES = DESTINATION SIGN FACE, BLACK ON YELLOW  
 MAN = MANDATORY SIGN FACE, WHITE ON RED

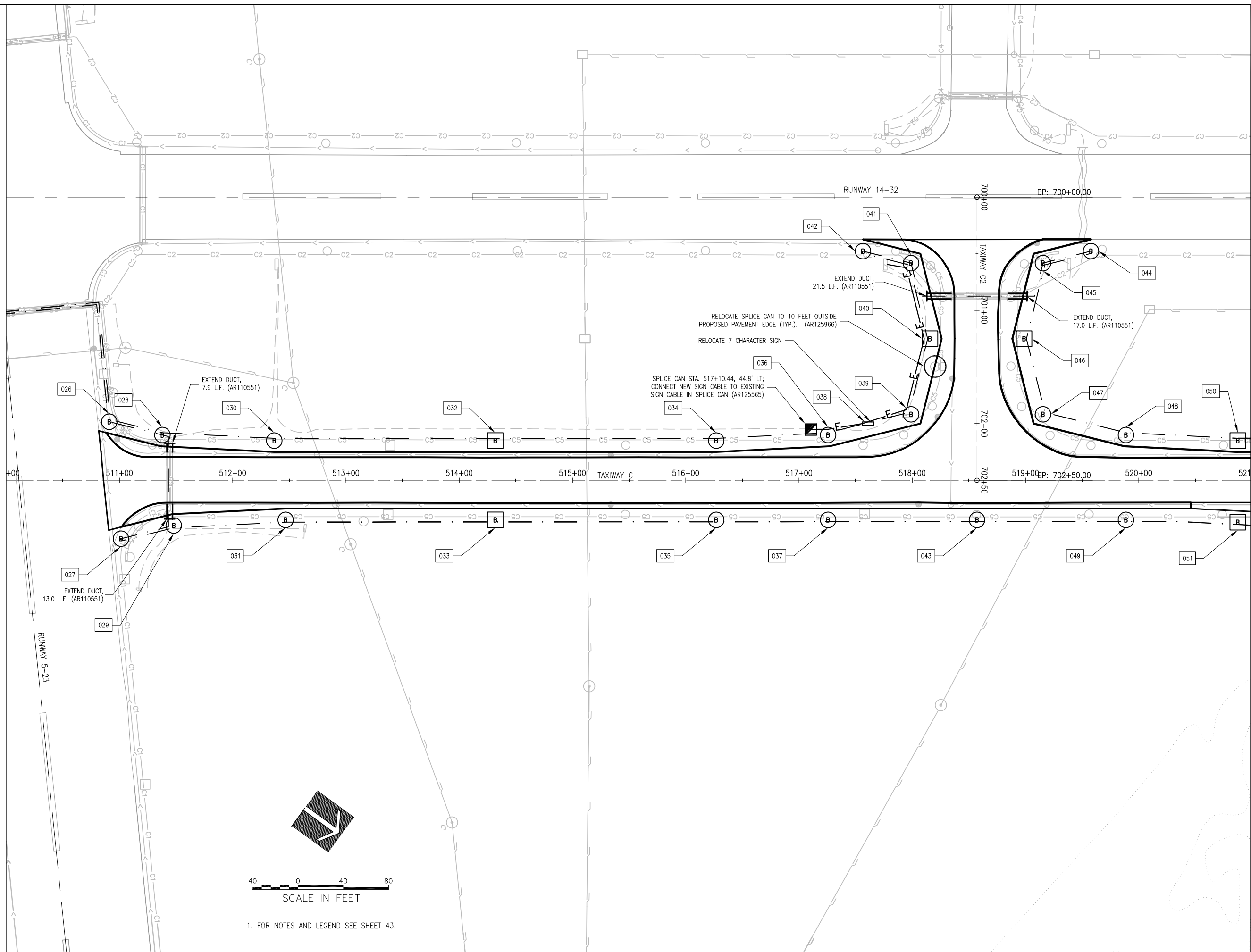
NOTE: LOC LETTER IS ALWAYS THE FIRST CHARACTER ON THE SIGN FACE

**PROPOSED LEGEND**

- RELOCATED L-858 AIRFIELD SIGN SIZE 1, STYLE 5, CLASS 2 WITH L-830 ISOLATION TRANSFORMER
- L-861T BASE MOUNTED TAXIWAY EDGE LIGHT, OMNIDIRECTIONAL: BLUE
- L-861T STAKE MOUNTED TAXIWAY EDGE LIGHT, OMNIDIRECTIONAL: BLUE
- SPLICE CAN
- SPLICE CAN TO BE RELOCATED
- ▭ EXTEND ELECTRICAL DUCT
- SERIES CIRCUIT LIGHTING CABLES; 1/C #8 AWG, FAA L-824, 5000 VOLT, TYPE C UG CABLE IN UNIT DUCT
- SIGN CABLES; 1/C #8 AWG, FAA L-824, 5000 VOLT, TYPE C UG CABLE IN UNIT DUCT



NOV 21, 2012 8:56 AM SPITZ01394  
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1. FOR NOTES AND LEGEND SEE SHEET 43.

WA066

REVISION	DATE

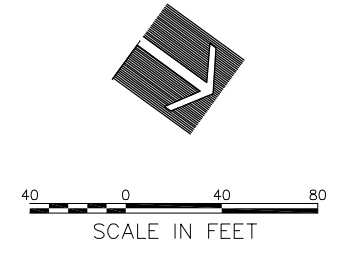
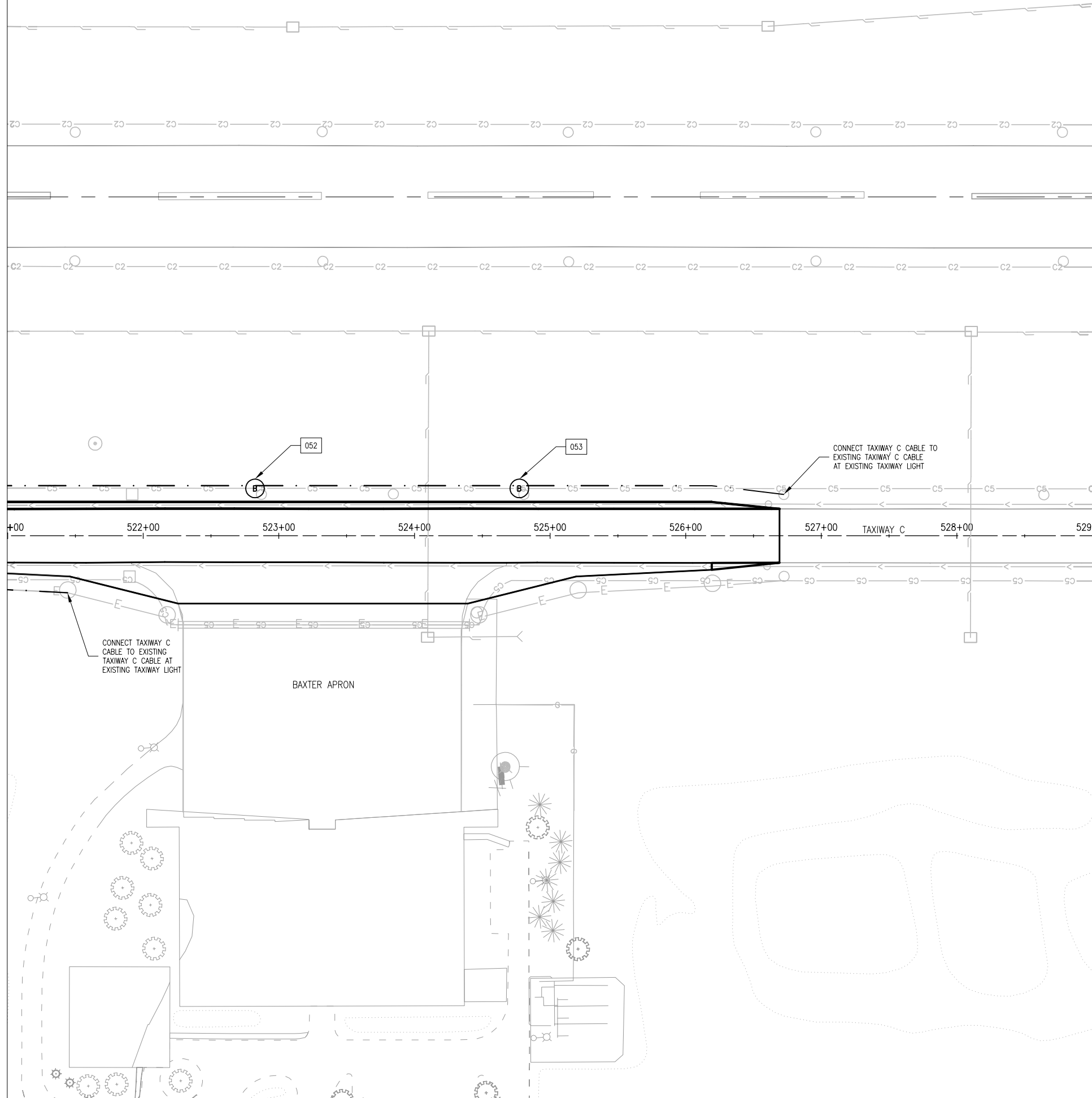
WAUKEGAN REGIONAL AIRPORT  
 WAUKEGAN PORT DISTRICT  
 3580 North McAfee Road  
 Waukegan, Illinois 60087  
 Telephone: 847.244.0066  
 Fax: 847.244.3813

Hanson No.	12A0085D
Filename	44-LIGHTING_PLAN.DWG
Scale	1" = 40'
Date	NOVEMBER 16, 2012
LAYOUT	LDH 09/24/12
DRAWN	KMS 09/24/12
REVIEWED	RWH 11/15/12

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**LIGHTING PLAN**  
**STA 510+00 TO 521+00**  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

NOV 21, 2012 8:48 AM SPITZ01394  
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1. FOR NOTES AND LEGEND SEE SHEET 43.

WA066

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 Waukegan, Illinois 60087  
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Revision No.	Revision Description	Drawn	Checked	Reviewed
12A0085D	45-LIGHTING_PLAN.DWG	LDH	KMS	RMH
1"=40'	NOVEMBER 16, 2012	09/24/12	09/24/12	11/15/12

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LIGHTING PLAN  
 STA 521+00 TO 529+00  
 REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

LIGHTING AND SIGNAGE SCHEDULE

NO.	TAG ID	DESCRIPTION	TYPE	DIRECTION	COLOR	MOUNTING	STATION	OFFSET		NO.
001	13-5-001	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	505+99.97	38.2	LT	001
002	13-5-002	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	506+27.05	48.3	LT	002
003	13-5-003	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	506+39.23	74.5	LT	003
004	13-5-004	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Base	332+02.19	39.9	RT	004
005	13-5-005	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	331+28.32	58.4	RT	005
006	13-5-006	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	506+17.63	37.2	RT	006
007	13-5-007	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	506+43.09	47.9	RT	007
008	13-5-008	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	506+53.68	73.4	RT	008
009	13-5-009	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	334+63.51	39.9	LT	009
010	13-5-010	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	507+48.28	58.1	RT	010
011	13-5-011	Relocated Sign	---	Double Face	---	---	507+87.46	58.6	RT	011
012	13-5-012	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	331+33.30	102.0	LT	012
013	13-5-013	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	331+39.70	58.1	LT	013
014	13-5-014	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Base	332+06.21	41.5	LT	014
015	13-5-015	Relocated Sign	---	Double Face	---	---	332+35.20	59.0	LT	015
016	13-5-016	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	507+36.89	58.4	LT	016
017	13-5-017	Relocated Sign	---	Double Face	---	---	507+53.56	64.6	LT	017
018	13-5-018	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	508+10.77	39.9	LT	018
019	13-5-019	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	508+20.83	39.9	RT	019
020	13-5-020	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Base	508+42.63	38.4	LT	020
021	13-5-021	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Base	508+52.70	38.4	RT	021
022	13-5-022	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	508+74.50	39.9	LT	022
023	13-5-023	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	508+84.57	39.9	RT	023
024	13-5-024	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	509+20.21	51.4	LT	024
025	13-5-025	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	509+30.13	51.3	RT	025
026	13-5-026	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	510+91.02	51.7	LT	026
027	13-5-027	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	511+01.42	51.6	RT	027
028	13-5-028	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	511+37.96	39.9	LT	028
029	13-5-029	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	511+48.03	39.9	RT	029
030	13-5-030	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	512+36.73	35.0	LT	030
031	13-5-031	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	512+46.81	35.0	RT	031
032	13-5-032	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Base	514+31.85	35.0	LT	032
033	13-5-033	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Base	514+31.85	35.0	RT	033
034	13-5-034	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	516+26.96	35.0	LT	034
035	13-5-035	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	516+26.96	35.0	RT	035
036	13-5-036	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	517+25.74	39.9	LT	036
037	13-5-037	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	517+25.74	35.0	RT	037
038	13-5-038	Relocated Sign	---	Double Face	---	---	702+00.00	91.2	RT	038
039	13-5-039	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	701+91.75	58.3	RT	039
040	13-5-040	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Base	701+25.00	41.6	RT	040
041	13-5-041	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	700+58.25	58.3	RT	041
042	13-5-042	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	700+47.64	100.7	RT	042
043	13-5-043	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	518+57.21	35.0	RT	043
044	13-5-044	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	700+47.66	100.6	LT	044
045	13-5-045	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	700+58.25	58.3	LT	045
046	13-5-046	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Base	701+25.00	41.6	LT	046
047	13-5-047	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	701+91.75	58.3	LT	047
048	13-5-048	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	519+88.69	39.9	LT	048
049	13-5-049	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	519+88.69	35.0	RT	049
050	13-5-050	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Base	520+87.46	35.0	LT	050
051	13-5-051	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Base	520+87.46	37.1	RT	051
052	13-5-052	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	522+82.41	35.0	LT	052
053	13-5-053	Taxiway Edge Light	L-861T	Omnidirectional	Blue	Stake	524+77.37	35.0	LT	053

REVISION

DATE

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WAUKEGAN PORT DISTRICT  
3580 North McAtee Road  
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Hanson No.	12A0085D	LAYOUT	KMS	10/11/12
Filename	46-LIGHTING_SCHEDULE.DWG	DRAWN	KMS	10/11/12
Scale	N/A	REVIEWED	RWH	11/15/12
Date	NOVEMBER 16, 2012			

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LIGHTING AND  
SIGNAGE SCHEDULE

REHABILITATE TAXIWAY C AND  
ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54

**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 AND/OR SHUT DOWN OF SYSTEMS WITH THE RESPECTIVE FACILITY OWNER PERSONNEL AND THE AIRPORT MANAGER/DIRECTOR. 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 & 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).
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 RESIDENT 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 ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF AERONAUTICS). 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 PHASE CONDUCTORS ON 120/240VAC SINGLE-PHASE, THREE WIRE SYSTEMS AND BLACK, ORANGE (FOR HIGH LEG) AND BLUE SHALL BE USED FOR PHASE CONDUCTORS ON 240/120VAC THREE-PHASE, FOUR WIRE 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 KCMIL).
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 UL LISTED. CONFIRM LIQUID-TIGHT FLEXIBLE METAL CONDUIT BEARS THE UL LABEL PRIOR TO INSTALLING IT.
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, CUTOFF, PANELBOARD, & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION".

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**ELECTRICAL NOTES**  
**SHEET 1**

REHABILITATE TAXIWAY C AND  
 ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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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 ELECTRICAL DETAILS SHEET 1.
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 ELECTRICAL DETAILS SHEET 1.
6. L-823 TYPE II, TWO-CONDUCTOR SECONDARY CONNECTORS SHALL BE CLASS 'A' (FACTORY MOLDED).
7. THERE SHALL BE NO SPLICES IN THE SECONDARY CABLE(S) WITHIN THE STEMS OF A RUNWAY/TAXIWAY EDGE/THRESHOLD LIGHTING FIXTURE AND THE WIREWAYS LEADING TO TAXIWAY SIGNS AND PAPI/REIL EQUIPMENT.
8. ELECTRICAL INSULATING GREASE SHALL BE APPLIED WITHIN THE L-823, SECONDARY, TWO CONDUCTOR CONNECTORS TO PREVENT WATER ENTRANCE. THESE CONNECTORS SHALL NOT BE TAPED.
9. DEB ISOLATION TRANSFORMERS SHALL BE BURIED AT A DEPTH OF TEN (10") INCHES ON A LINE CROSSING THE LIGHT AND PERPENDICULAR TO THE RUNWAY/TAXIWAY CENTERLINE AT A LOCATION TWELVE (12") INCHES FROM THE LIGHT OPPOSITE FROM THE RUNWAY/TAXIWAY.
10. A SLACK OF THREE (3') FEET, MINIMUM, SHALL BE PROVIDED IN THE PRIMARY CABLE AT EACH TRANSFORMER/CONNECTOR TERMINATION. AT STAKE-MOUNTED LIGHTS, THE SLACK SHALL BE LOOSELY COILED IMMEDIATELY BELOW THE ISOLATION TRANSFORMER.
11. DIRECTION OF PRIMARY CABLES SHALL BE IDENTIFIED BY COLOR CODING AS FOLLOWS: WHEN FACING LIGHT WITH BACK TO PAVEMENT, CABLE TO THE LEFT IS CODED RED AND CABLE TO RIGHT IS CODED BLUE. THIS APPLIES TO STAKE MOUNTED LIGHTS AND BASE MOUNTED LIGHTS WHERE THE BASE HAS ONLY ONE ENTRANCE.
12. L-867 BASES SHALL BE SIZE B, 24" DEEP, CLASS I, UNLESS OTHERWISE NOTED.
13. BASE MOUNTED BREAKABLE COUPLINGS SHALL NOT HAVE WEEP HOLES TO THE OUTSIDE. PLUGGED UP HOLES SHALL NOT BE ACCEPTABLE. IT SHALL BE A 1/4" DIAMETER, MINIMUM, OR EQUIVALENT OPENING FOR DRAINAGE FROM THE SPACE AROUND THE SECONDARY CONNECTOR INTO THE L-867 BASE.
14. THE ELEVATION OF THE BREAKABLE COUPLING GROOVE SHALL NOT EXCEED 1-1/2" ABOVE THE EDGE OF THE COVER IN CASE OF BASE MOUNTED COUPLINGS, OR THE TOP OF THE STAKE IN CASE OF STAKE MOUNTED COUPLINGS.
15. WHERE THE BREAKABLE COUPLING IS NOT AN INTEGRAL PART OF THE LIGHT FIXTURE STEM OR MOUNTING LEG, A BEAD OF SILICON SEAL SHALL BE APPLIED COMPLETELY AROUND LIGHT STEM OR WIREWAY AT BREAKABLE COUPLING TO PROVIDE A WATERTIGHT SEAL.
16. TOPS OF THE STAKES SUPPORTING LIGHT FIXTURES SHALL BE FLUSH WITH THE SURROUNDING GRADE.
17. PLASTIC LIGHTING FIXTURE COMPONENTS, SUCH AS LAMP HEADS, STEMS, BREAKABLE COUPLINGS, BASE COVERS, BRACKETS, STAKES, SHALL NOT BE ACCEPTABLE.
18. THE TOLERANCE FOR THE HEIGHT OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE: ONE (1) INCH. IN CASE OF STAKE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE STAKE AND THE TOP OF THE LENS. IN CASE OF BASE MOUNTED LIGHTS, THE SPECIFIED LIGHTING FIXTURE HEIGHT SHALL BE MEASURED BETWEEN THE TOP OF THE BASE FLANGE AND THE TOP OF THE LENS, THUS INCLUDING THE BASE COVER, THE FRANGIBLE COUPLING, THE STEM, THE LAMP HOUSING AND THE LENS.
19. THE TOLERANCE FOR THE LATERAL SPACING (LIGHT LANE TO RUNWAY/TAXIWAY CENTERLINE) OF RUNWAY/TAXIWAY EDGE LIGHTS SHALL BE ONE (1) INCH. THIS ALSO APPLIES AT INTERSECTIONS TO LATERAL SPACING BETWEEN LIGHTS OF A RUNWAY/TAXIWAY AND THE INTERSECTING RUNWAY/TAXIWAY.

20. ENTRANCES INTO L-867 BASES SHALL HAVE CONDUIT COUPLINGS OR REDUCERS TO INTERFACE UNIT DUCT/CONDUIT TO L-867 BASE HUBS, OR SHALL BE SEALED WITH HEAT SHRINK AS SHOWN IN DETAIL "B" ON ELECTRICAL DETAILS SHEET 1.
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 3500 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 AND/OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE 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 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 OWNER'S REPRESENTATIVE AND/OR THE RESIDENT ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. **CONTACT J.U.L.I.E. FOR UTILITY INFORMATION AT 1-800-892-0123.** ALSO CONTACT AIRPORT DIRECTOR/MANAGER AND AIRPORT PERSONNEL FOR ASSISTANCE IN LOCATING UNDERGROUND AIRPORT CABLES AND/OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.
32. WHEN PREPARING CABLE FOR SPLICES, THE CONTRACTOR SHALL USE A CABLE STRIPPER/PENCILLER WHENEVER CABLE CONNECTIONS ARE MADE.

**GROUNDING NOTES FOR AIRFIELD LIGHTING**

1. GROUNDING FOR RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS SHALL BE AS DETAILED ON THE PLANS AND AS SPECIFIED HEREIN. PER FAA AC 150/5340-30G DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, CHAPTER 12, PART 12.6; A GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. THE PURPOSE OF THE LIGHT BASE GROUND IS TO PROVIDE A DEGREE OF PROTECTION FOR MAINTENANCE PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE THAT MAY RESULT FROM A SHORTED POWER CABLE OR ISOLATION TRANSFORMER. A LIGHT BASE GROUND SHALL BE INSTALLED AT EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. A LIGHT BASE GROUND SHALL ALSO BE INSTALLED AT EACH STAKE MOUNTED LIGHT FIXTURE. A LIGHT BASE GROUND SHALL BE INSTALLED AND CONNECTED TO THE METAL FRAME OF EACH TAXI GUIDANCE SIGN AS DETAILED ON THE PLANS AND IN ACCORDANCE WITH THE RESPECTIVE TAXI GUIDANCE SIGN MANUFACTURER RECOMMENDATIONS. THE LIGHT BASE GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR BONDED 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), ULTRAWELD BY HARGER, GRAYSLAKE, ILLINOIS (PHONE: 800-842-7437), OR APPROVED EQUAL. 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. FOR BASE MOUNTED LIGHT FIXTURES THE LIGHT FIXTURE MUST BE BONDED TO THE LIGHT BASE INTERNAL GROUND LUG VIA A #6 AWG STRANDED COPPER WIRE RATED FOR 600 VOLTS WITH GREEN XHHW INSULATION, OR A BRAIDED GROUND STRAP OF EQUIVALENT CURRENT RATING. THE GROUND WIRE LENGTH MUST BE SUFFICIENT TO ALLOW THE REMOVAL OF THE LIGHT FIXTURE FROM THE LIGHT BASE FOR ROUTINE MAINTENANCE. SEE LIGHT FIXTURE MANUFACTURER'S INSTRUCTIONS FOR PROPER METHODS OF ATTACHING A BONDING WIRE.
3. 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 2011 NATIONAL ELECTRICAL CODE ARTICLE 250-12.
4. PER FAA 150/5340-30G THE RESISTANCE TO GROUND OF THE RESPECTIVE MOUNTING STAKE OR LIGHT BASE (WITH GROUND ROD CONNECTED) MUST BE 25 OHMS OR LESS.
5. FOR EACH GROUND ROD/GROUNDING ELECTRODE SYSTEM THE CONTRACTOR SHALL TEST THE MADE ELECTRODE GROUND SYSTEM WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUNDING SYSTEMS. TEST RESULTS SHALL BE RECORDED FOR EACH GROUNDING ELECTRODE SYSTEM. IF GROUND RESISTANCE EXCEEDS 25 OHM, CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION. RECORD DATE AND SITE CONDITIONS FOR EACH TEST. COPIES OF THE GROUND SYSTEM TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT PROJECT REPRESENTATIVE/RESIDENT ENGINEER.

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REVISION	DATE

WAUKEGAN REGIONAL AIRPORT  
WAUKEGAN PORT DISTRICT  
3580 North McAtee Road  
Waukegan, Illinois 60087  
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Fax: 847.244.3813



Hanson No. 12A0085D	File Name 48-E-002-ELEC.DWG	Scale N/A	Date NOVEMBER 16, 2012
LAYOUT	KNL	LDH	RMH
DRAWN	9/19/11	11/8/11	11/15/12
REVIEWED			

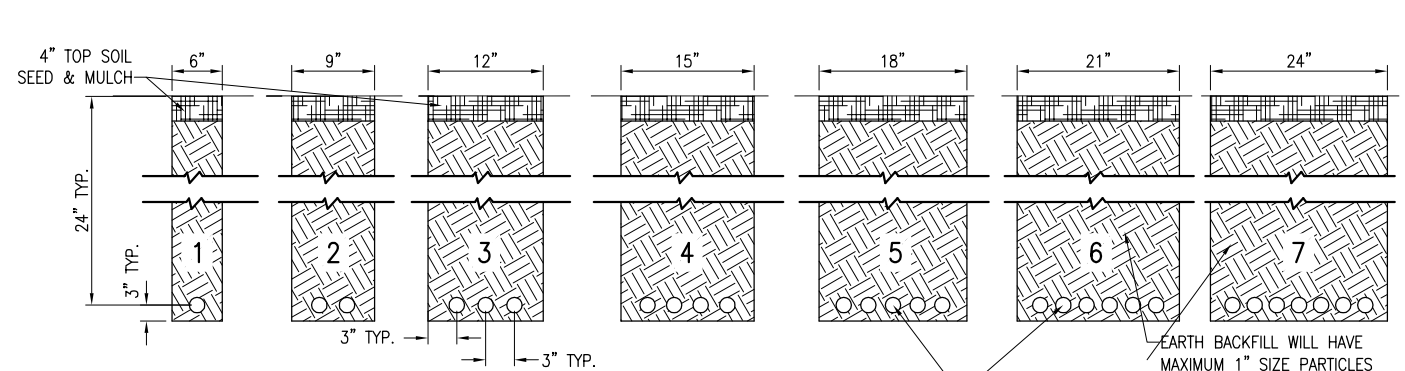
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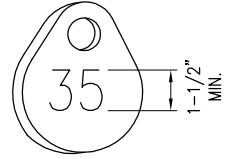
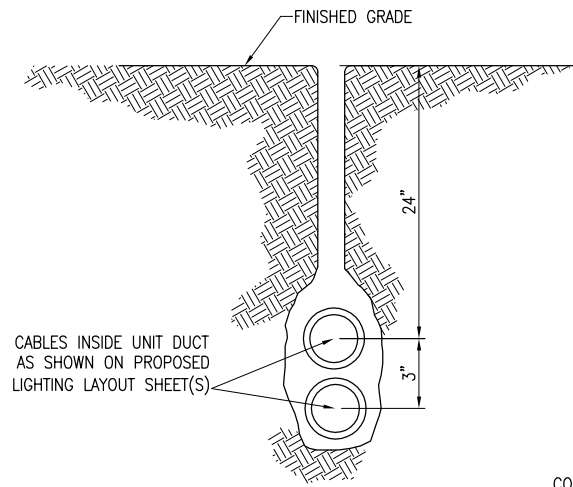
**ELECTRICAL NOTES**  
**SHEET 2**

REHABILITATE TAXIWAY C AND  
ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54



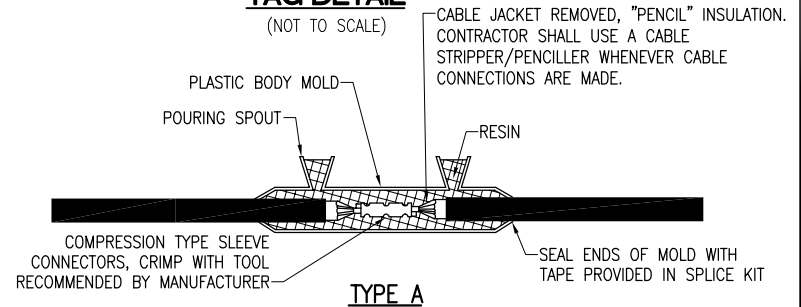


- NOTES:**
1. DETAIL NUMBERS INDICATE NO. OF CABLES.
  2. TRENCHES WITH MORE THAN SEVEN CABLES SHALL BE INCREASED 3" IN WIDTH FOR EACH ADDITIONAL CABLE; IF SPECIFIED ON PLANS TWO PARALLEL TRENCHES MAY BE CONSTRUCTED.
  3. DEPTH OF TRENCHES SHALL BE AS SHOWN ABOVE UNLESS OTHERWISE SPECIFIED ON THE PLANS.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



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

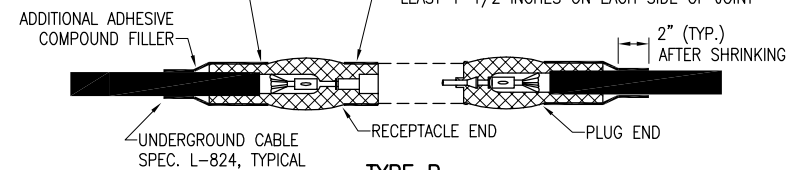
**TAG DETAIL**  
(NOT TO SCALE)



FOR SPLICES IN LOW VOLTAGE CABLE (600V) HOMERUNS FOR EXTENSIONS TO EXISTING LOW VOLTAGE CABLES ONLY. TYPE A SPLICES SHALL BE MADE IN SPLICE CANS, HANDHOLES, MANHOLES, OR JUNCTIONS BOXES

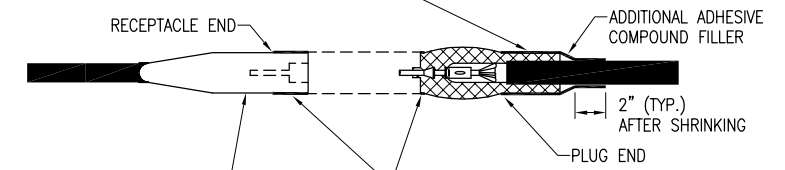
CONTINUOUS HEAT SHRINK TUBING PLACED OVER THE ENTIRE L-823 CONNECTOR(S) BOTH MALE AND FEMALE AT ALL 5KV JUNCTIONS. THE HEAT SHRINK TUBING SHALL BE APPROXIMATELY 18" IN LENGTH WITH 6 INCHES OF MASTIC ON BOTH ENDS AND VOID OF MASTIC IN MIDDLE OF TUBE RATED FOR 5KV.

WRAP WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE-HALF LAPPED, EXTENDED AT LEAST 1-1/2 INCHES ON EACH SIDE OF JOINT



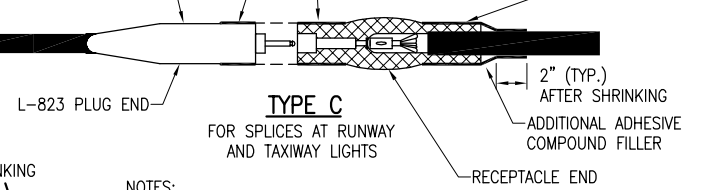
FOR SPLICES AT JUNCTION OF HOMERUN WITH LOOP CIRCUIT AND FOR SPLICES IN HOMERUNS TO EXISTING CABLES

HEAT SHRINKABLE TUBING WITH INTERNAL ADHESIVE. HEAT SHRINKABLE TUBING SHALL EXTEND FROM THE CABLE TO AT LEAST AN INCH PAST THE COMPLETED CONNECTION.



WRAP WITH AT LEAST ONE LAYER OF RUBBER OR SYNTHETIC RUBBER TAPE AND ONE LAYER OF PLASTIC TAPE, ONE-HALF LAPPED, EXTENDED AT LEAST 1-1/2 INCHES ON EACH SIDE OF JOINT

HEAT SHRINKABLE TUBING WITH INTERNAL ADHESIVE. HEAT SHRINKABLE TUBING SHALL EXTEND FROM THE CABLE TO AT LEAST AN INCH PAST THE COMPLETED CONNECTION.

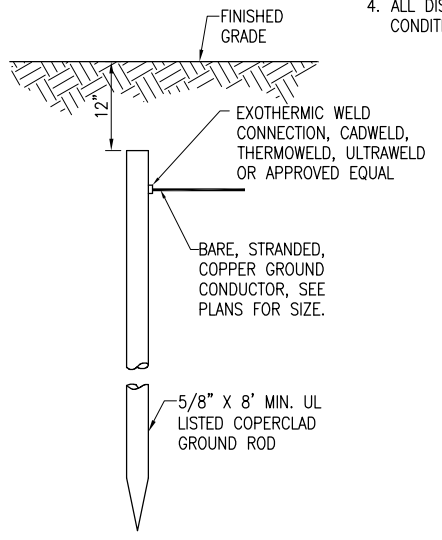


FOR SPLICES AT RUNWAY AND TAXIWAY LIGHTS

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

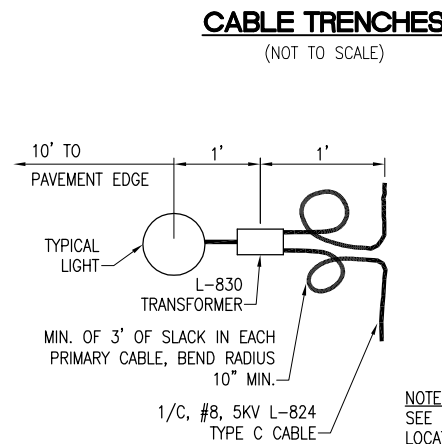
INSIDE DIAMETER OF CONNECTOR SHALL PROPERLY MATCH THE OUTSIDE DIAMETER OF CABLE.

**CABLE SPLICES**  
(NOT TO SCALE)



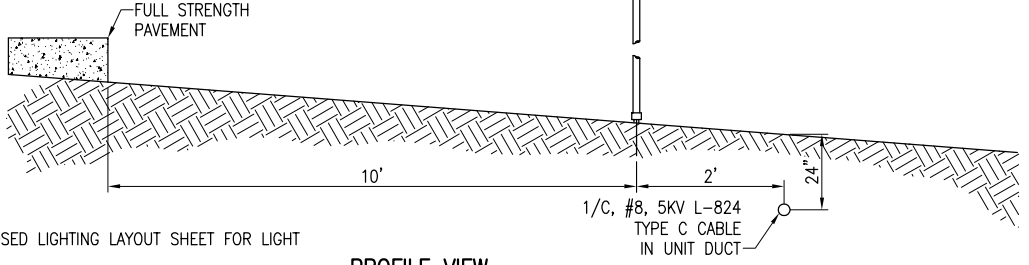
- NOTES:**
1. TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLAN.
  2. THE RESISTANCE TO GROUND OF THE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS.
  3. COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.

**GROUND ROD**  
(NOT TO SCALE)

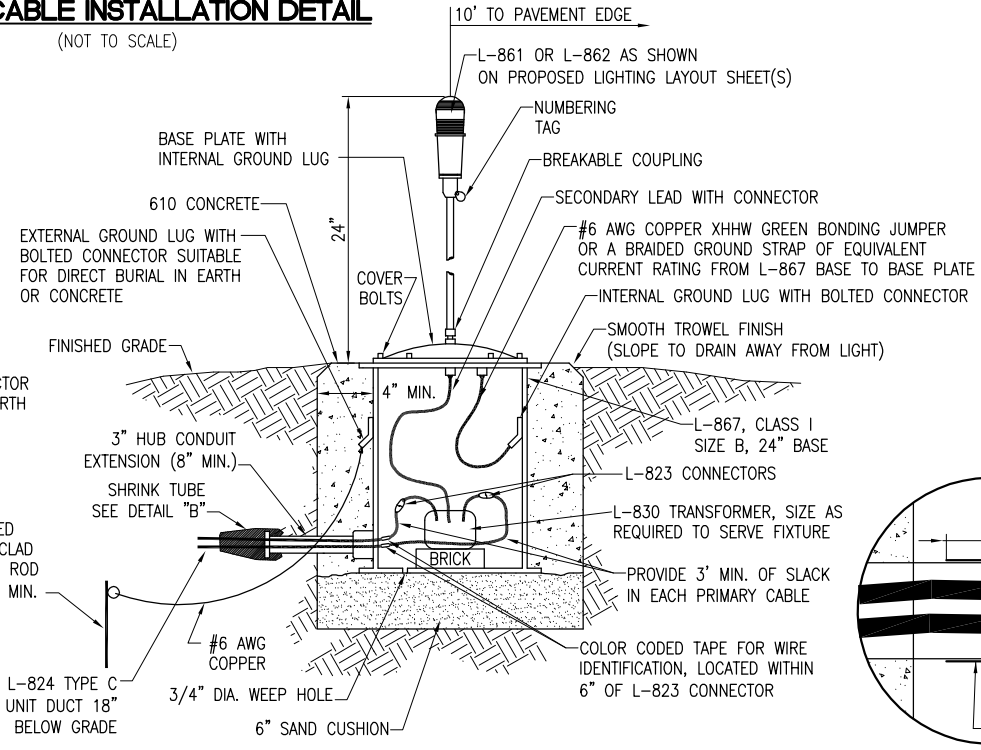


**PLAN VIEW**

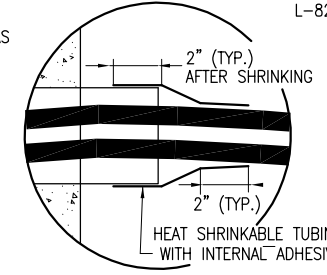
**LIGHT AND CABLE INSTALLATION DETAIL**  
(NOT TO SCALE)



**PROFILE VIEW**



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



**DETAIL 'B'**  
(NOT TO SCALE)

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REVISION	DATE

WAUKEGAN REGIONAL AIRPORT  
WAUKEGAN PORT DISTRICT  
3580 North McAtee Road  
Waukegan, Illinois 60087  
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Fax: 847.244.3813



FILENAME	SCALE	DATE	LAYOUT	DRAWN	REVIEWED
49-E-501-ELEC.DWG	N/A	NOVEMBER 16, 2012	KNL	LDH	RMH

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Illinois Professional Design Firm  
Registration No. 184-001084

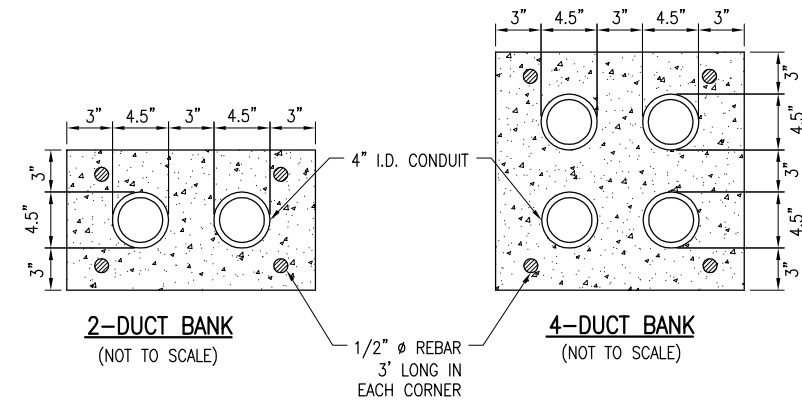
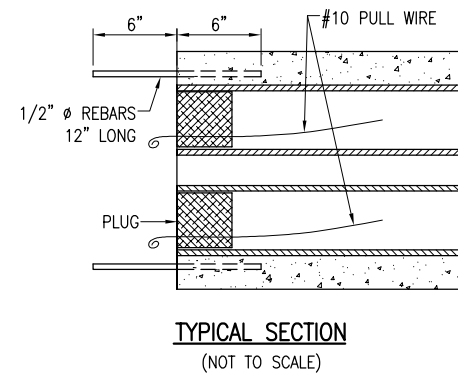
**ELECTRICAL DETAILS**  
SHEET 1  
REHABILITATE TAXIWAY C AND  
ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54



Hanson No.	12A0085D	LAYOUT	KNL	9/19/11
Filename	50-E-502-ELEC.DWG	DRAWN	LDH	11/8/11
Scale	N/A	REVIEWED	RWH	11/15/12
Date	NOVEMBER 16, 2012			

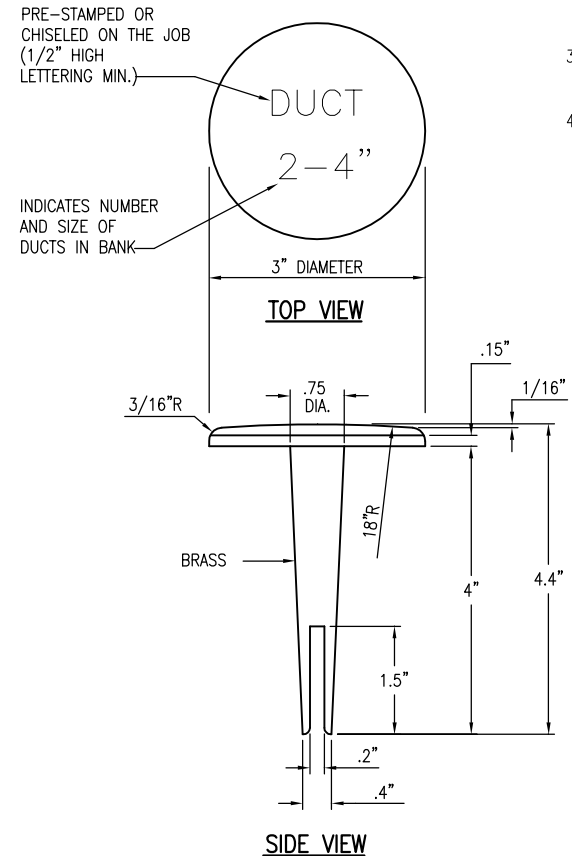
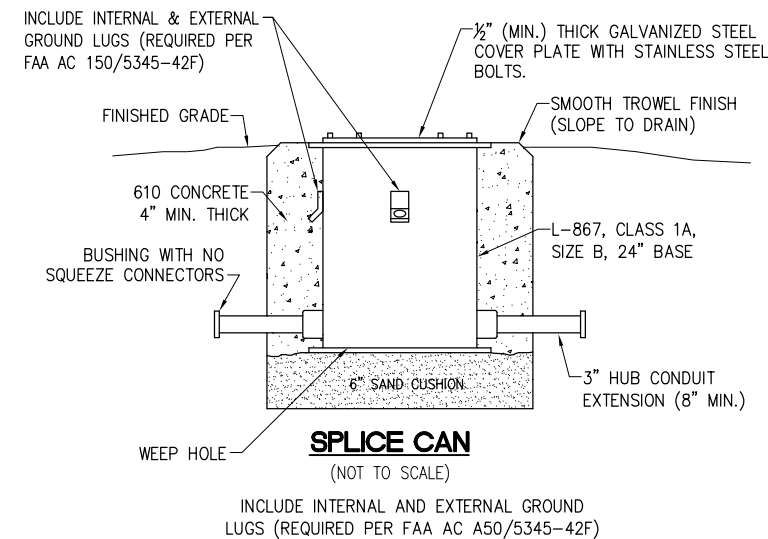
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ELECTRICAL DETAILS  
SHEET 2  
REHABILITATE TAXIWAY C AND  
ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54

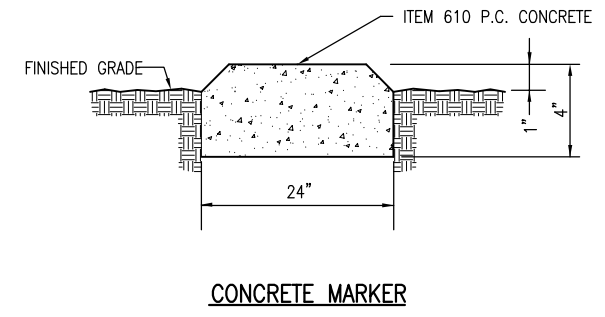


- DUCT BANK NOTES:**
- DIMENSIONS FOR CONCRETE COVERAGE AND SEPARATION BETWEEN DUCTS ARE MINIMUM.
  - INCLUDE DUCT SPACERS AS MANUFACTURED BY UNDERGROUND DEVICES INC., OR APPROVED EQUAL TO MAINTAIN PROPER SEPARATION OF CONDUITS.
  - REBAR IS REQUIRED TO ACCOMMODATE FUTURE DUCT EXTENSIONS & INTERFACE AT DUCT BANK TERMINATIONS. CONCRETE ENCASED DUCT BANKS TERMINATING IN HANDHOLES REQUIRE REBAR AT TERMINATIONS.
  - CONDUITS FOR CONCRETE ENCASED DUCT SHALL BE SCHEDULE 40 PVC CONFORMING TO ITEM 110.
  - MINIMUM DEPTH OF TOP OF DUCT ENCASEMENT SHALL BE 18" BELOW FINISHED GRADE.
  - HIGH VOLTAGE AND LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, DUCT, HANDHOLE, OR MANHOLE.
  - HOMERUN CABLES FOR A RESPECTIVE CIRCUIT SHALL BE INSTALLED IN THE SAME RACEWAY OR DUCT.
  - DUCT INTERFACE TO HANDHOLES OR MANHOLES WILL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE DUCT PAY ITEM.

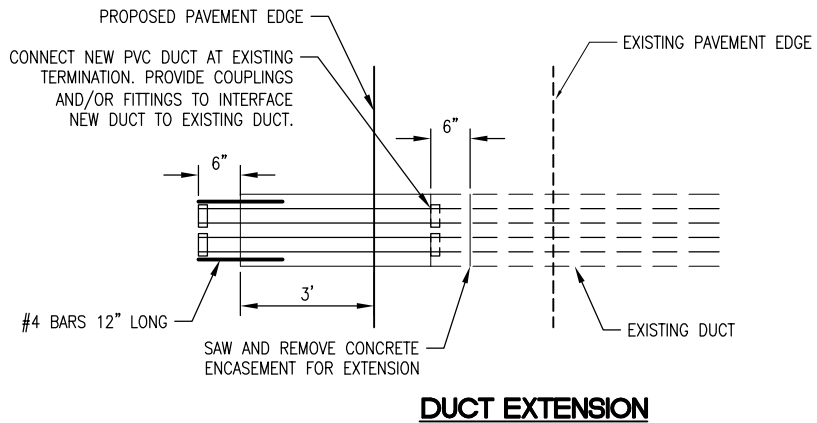
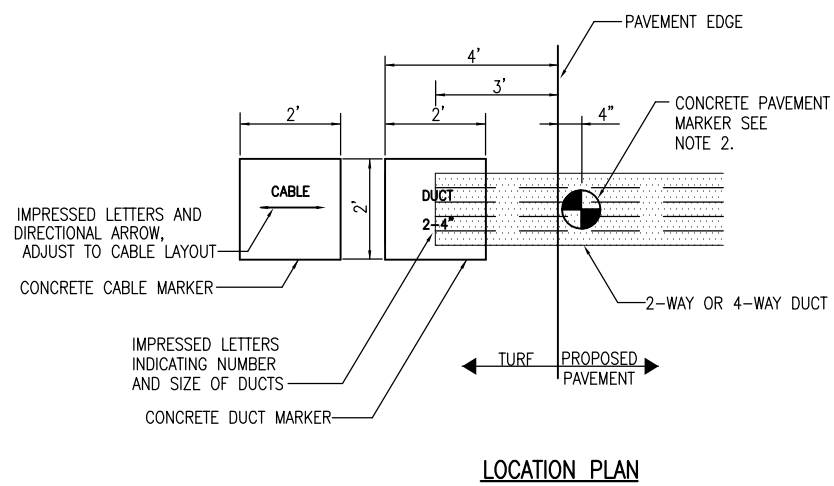
- CABLE & DUCT MARKER NOTES:**
- THE COST OF ALL TURF AND PAVEMENT DUCT MARKERS SHALL BE INCIDENTAL TO THE DUCT. THE COST OF ALL CABLE MARKERS SHALL BE INCIDENTAL TO THE CABLE.
  - BITUMINOUS PAVEMENT DUCT MARKER AND CONCRETE DUCT MARKER TO BE PROVIDED AT EACH END OF EACH DUCT AS SHOWN ON THE LOCATION PLAN. FOR CONCRETE PAVEMENT, THE LETTER "D" SHALL BE IMPRESSED IN THE PAVEMENT INSTEAD OF THE MARKER. THE LETTER SHALL BE FORMED 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.



- NOTES:**
- TOP OF MARKER SHALL BE FLUSH WITH FINISHED PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN A DRILLED HOLE AND SECURED WITH EPOXY GLUE.
  - BRASS DUCT MARKERS ARE AVAILABLE FROM G&S FOUNDRY AND MANUFACTURING CO. INC., 210 KASKASKIA DRIVE, RED BUD, IL 62278, PHONE: 618-282-4114



- NOTES:**
- THE COSTS 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 FORMED AS DESCRIBED IN NOTE 4.
  - CABLE MARKERS SHALL BE PLACED AT CHANGES OF DIRECTION AND EVERY 200' ALONG CABLE RUNS.
  - LETTERS 4" HIGH, 3" WIDE WITH WIDTH OF STROKE 1/2" AND 1/4" DEEP. ALL LETTERS, NUMBERS AND ARROWS TO BE IMPRESSED.



**TURF AND PAVEMENT DUCT AND CABLE MARKERS**

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REVISION  
DATE

WAUKEGAN REGIONAL AIRPORT  
WAUKEGAN PORT DISTRICT  
3580 North McAtee Road  
Waukegan, Illinois 60087  
Telephone: 847.244.0066  
Fax: 847.244.3813

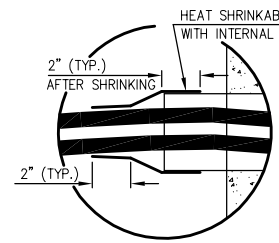


Hanson No.	12A0085D	DATE	9/19/11
Filename	51-E-503-ELEC.DWG	DRAWN	LDH
Scale	N/A	REVIEWED	RWH
Date	NOVEMBER 16, 2012		

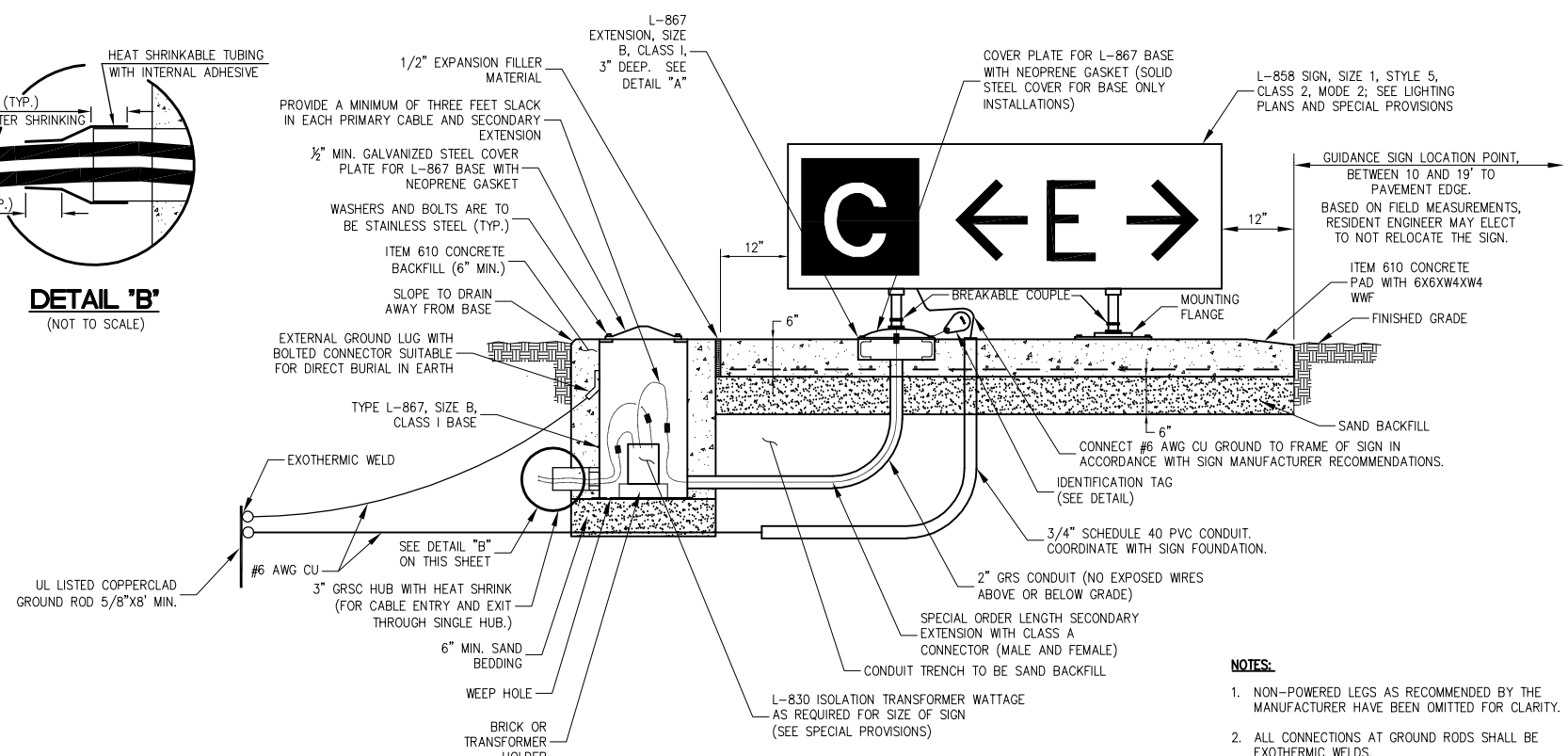
**HANSON**  
Professional Services Inc. 2012  
Illinois Professional Design Firm  
Registration No. 184-001084  
Hanson Professional Services Inc.  
815 Commerce Drive, Suite 200  
Oak Brook, Illinois 60523

ELECTRICAL DETAILS  
SHEET 3

REHABILITATE TAXIWAY C AND  
ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54

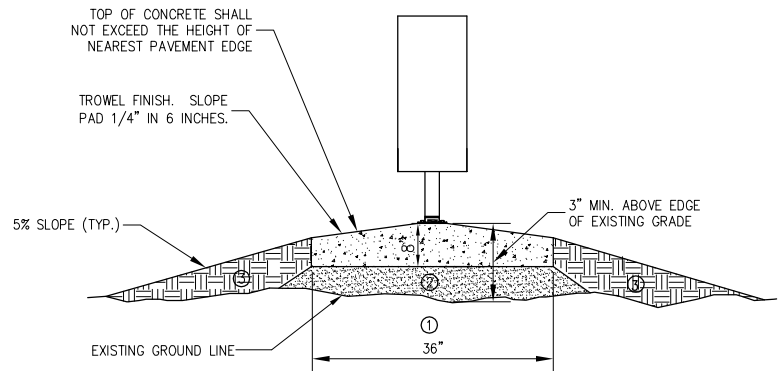


**DETAIL 'B'**  
(NOT TO SCALE)



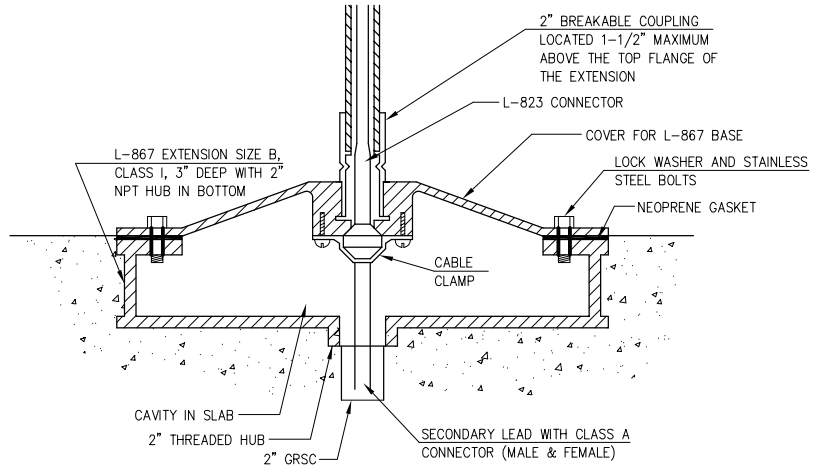
**SIDE VIEW**

- NOTES:**
- NON-POWERED LEGS AS RECOMMENDED BY THE MANUFACTURER HAVE BEEN OMITTED FOR CLARITY.
  - ALL CONNECTIONS AT GROUND RODS SHALL BE EXOTHERMIC WELDS.

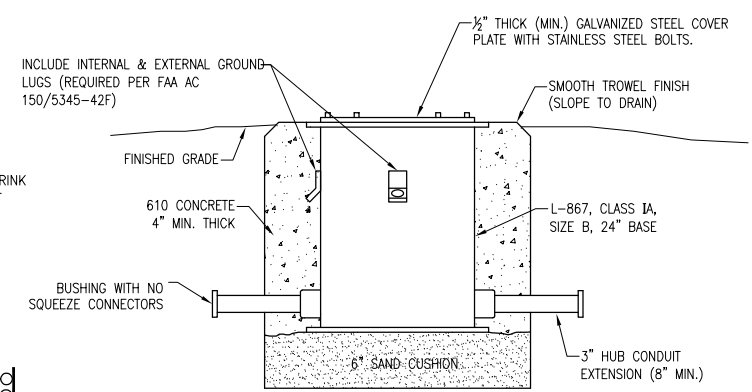


**END DETAIL**  
(NOT TO SCALE)

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



**DETAIL 'A'**  
(NOT TO SCALE)



**TRANSFORMER BASE/SPLICE CAN DETAIL**

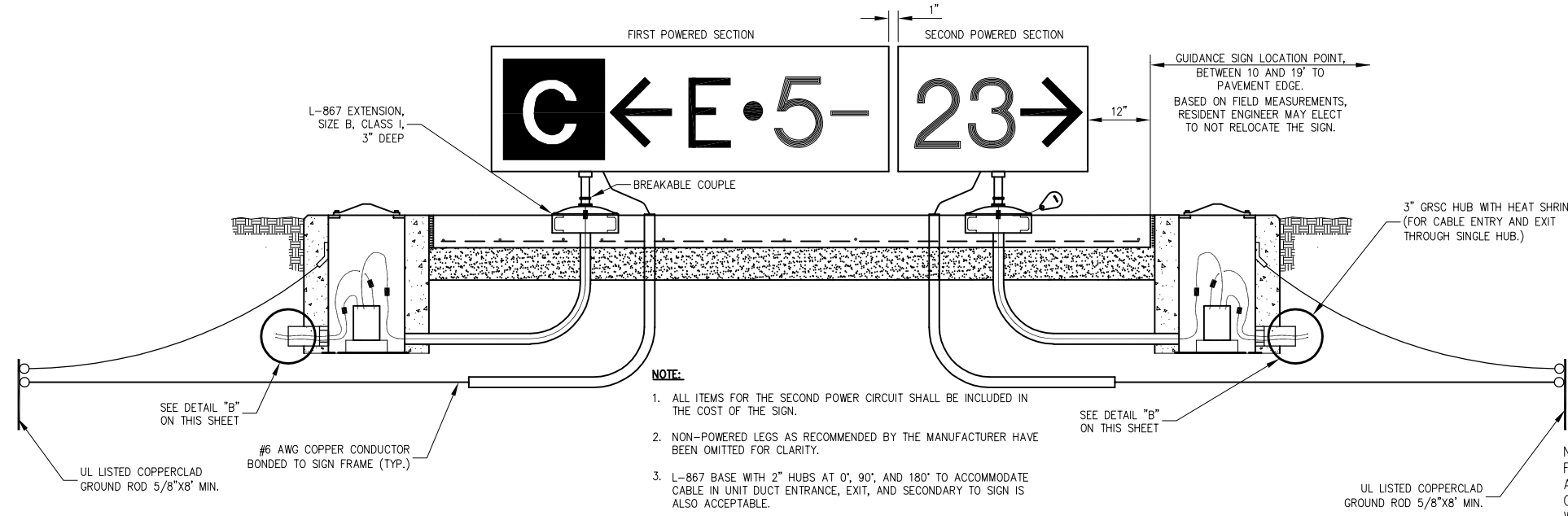
(NOT TO SCALE)

**NOTE:**  
FOR THE PURPOSE OF ENHANCING SAFETY, EACH BASE MUST HAVE INSTALLED, BY THE MANUFACTURER, AN INTERNAL AND EXTERNAL GROUND STRAP THAT IS AVAILABLE FOR THE PURPOSE OF ATTACHING A GROUND LUG THAT IS CONNECTED TO AN EARTH GROUND OR A SAFETY GROUND CONDUCTOR INSTALLED WITH THE RESPECTIVE CIRCUIT. FOR AIRPORT PROJECTS RECEIVING FEDERAL FUNDS THIS REQUIREMENT IS MANDATORY PER FAA AC 150/5345-42F.

**GENERAL NOTES:**

- SEE ELECTRICAL NOTES SHEETS.

PER FAA AC 150/5340-30G DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, A LIGHT BASE GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. A LIGHT BASE 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 LIGHT BASE 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. ALSO BOND THE SIGN FRAME TO THE GROUND ROD WITH A #6 AWG BARE COPPER CONDUCTOR.

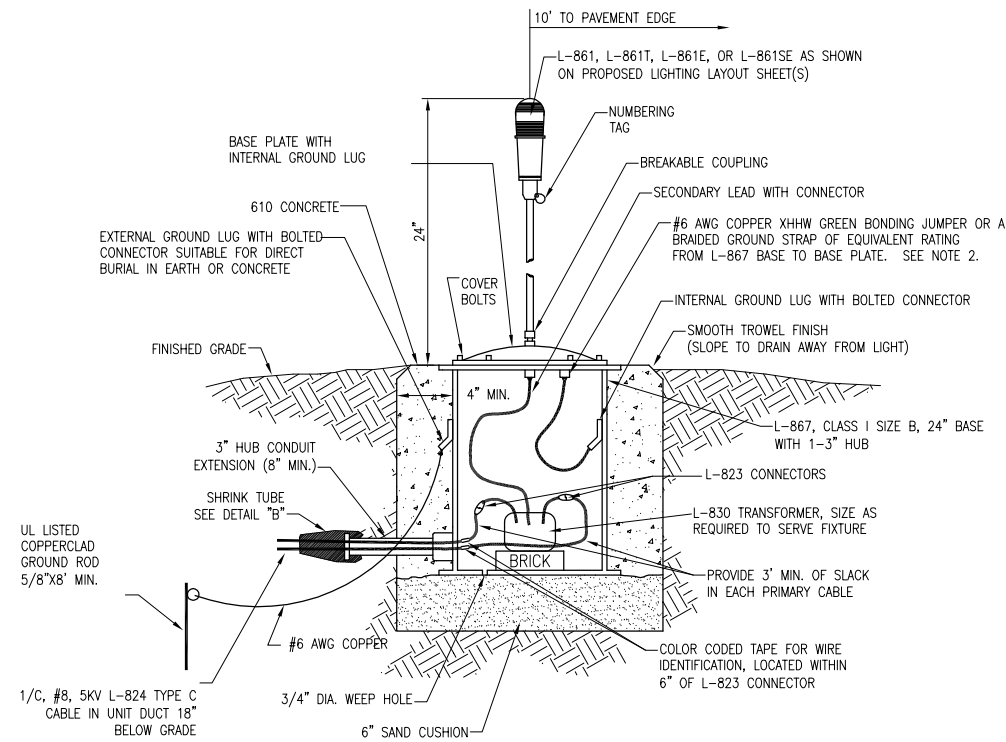


**LIGHTED AIRPORT GUIDANCE SIGN WHEN TWO POWER CIRCUITS ARE REQUIRED**

MAINTAIN A MINIMUM OF ONE ROD LENGTH SEPARATION BETWEEN GROUND RODS.

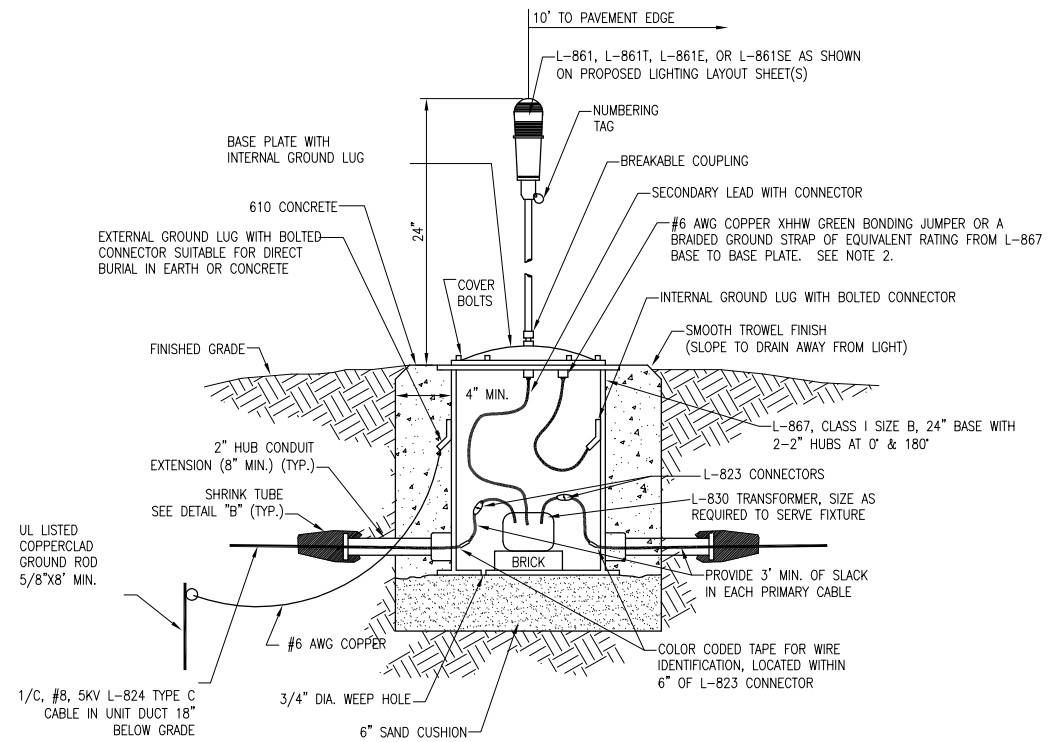
- NOTE:**
- ALL ITEMS FOR THE SECOND POWER CIRCUIT SHALL BE INCLUDED IN THE COST OF THE SIGN.
  - NON-POWERED LEGS AS RECOMMENDED BY THE MANUFACTURER HAVE BEEN OMITTED FOR CLARITY.
  - L-867 BASE WITH 2" HUBS AT 0°, 90°, AND 180° TO ACCOMMODATE CABLE IN UNIT DUCT ENTRANCE, EXIT, AND SECONDARY TO SIGN IS ALSO ACCEPTABLE.

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**MEDIUM/HIGH INTENSITY LIGHT - BASE MOUNTED OPTION 1**

(NOT TO SCALE)

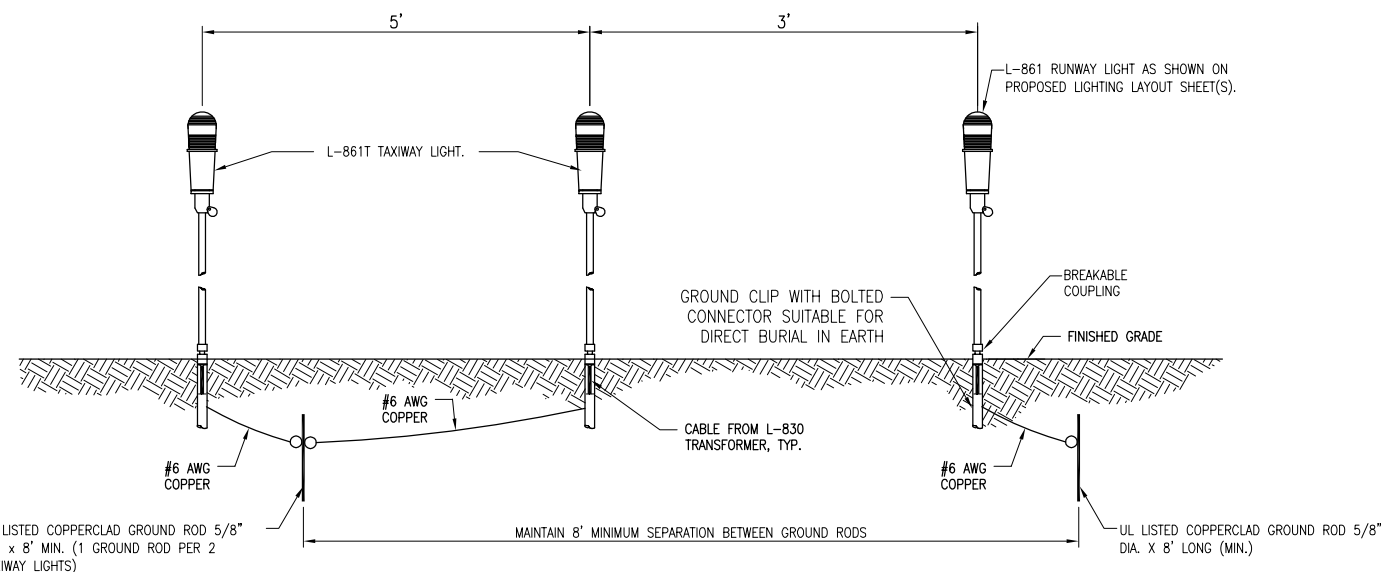


**MEDIUM/HIGH INTENSITY LIGHT - BASE MOUNTED OPTION 2**

(NOT TO SCALE)

**NOTES**

- 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 150/5340-30G DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS, CHAPTER 12, PART 12.6; A GROUND MUST BE INSTALLED AT EACH LIGHT FIXTURE. THE PURPOSE OF THE LIGHT BASE GROUND IS TO PROVIDE A DEGREE OF PROTECTION FOR MAINTENANCE PERSONNEL FROM POSSIBLE CONTACT WITH AN ENERGIZED LIGHT BASE OR MOUNTING STAKE THAT MAY RESULT FROM A SHORTED POWER CABLE OR ISOLATION TRANSFORMER. A LIGHT BASE GROUND SHALL BE INSTALLED AT EACH TRANSFORMER BASE/LIGHT CAN ASSOCIATED WITH RUNWAY LIGHTS, TAXIWAY LIGHTS, AND LIGHTED TAXI GUIDANCE SIGNS. A LIGHT BASE GROUND SHALL ALSO BE INSTALLED AT EACH STAKE MOUNTED LIGHT FIXTURE. A LIGHT BASE GROUND SHALL BE INSTALLED AND CONNECTED TO THE METAL FRAME OF EACH TAXI GUIDANCE SIGN AS DETAILED ON THE PLANS AND IN ACCORDANCE WITH THE RESPECTIVE TAXI GUIDANCE SIGN MANUFACTURER RECOMMENDATIONS. THE LIGHT BASE GROUND SHALL BE A #6 AWG BARE COPPER CONDUCTOR BONDED 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 RODS 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), ULTRAWELD BY HARGER, GRAYSLAKE, ILLINOIS (PHONE: 800-842-7437), OR APPROVED EQUAL. 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.
- FOR BASE MOUNTED LIGHT FIXTURES THE LIGHT FIXTURE MUST BE BONDED TO THE LIGHT BASE INTERNAL GROUND LUG VIA A #6 AWG STRANDED COPPER WIRE RATED FOR 600 VOLTS WITH GREEN XHHW INSULATION OR A BRAIDED GROUND STRAP OF EQUIVALENT CURRENT RATING. THE GROUND WIRE LENGTH MUST BE SUFFICIENT TO ALLOW THE REMOVAL OF THE LIGHT FIXTURE FROM THE LIGHT BASE FOR ROUTINE MAINTENANCE. SEE THE LIGHT FIXTURE MANUFACTURER'S INSTRUCTIONS FOR PROPER METHODS OF ATTACHING A BONDING WIRE.
- FOR TAXIWAY LIGHTS THAT ARE SPACED WITH LESS THAN 10 FEET OF SEPARATION BETWEEN THEM PROVIDE ONE 5/8-INCH DIAMETER BY 8-FOOT LONG GROUND ROD PER TWO ADJACENT TAXIWAY LIGHTS.
- STEEL USED TO MANUFACTURE GROUND RODS SHALL BE 100% DOMESTIC STEEL.
- 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 2011 NATIONAL ELECTRICAL CODE ARTICLE 250-12.
- PER FAA 150/5340-30G THE RESISTANCE TO GROUND OF THE RESPECTIVE MOUNTING STAKE OR LIGHT BASE (WITH GROUND ROD CONNECTED) MUST BE 25 OHMS OR LESS.
- FOR EACH GROUND ROD/GROUNDING ELECTRODE SYSTEM THE CONTRACTOR SHALL TEST THE MADE ELECTRODE GROUND SYSTEM WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUNDING SYSTEMS. TEST RESULTS SHALL BE RECORDED FOR EACH GROUNDING ELECTRODE SYSTEM. IF GROUND RESISTANCE EXCEEDS 25 OHMS, CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION. RECORD DATE AND SITE CONDITIONS FOR EACH TEST. COPIES OF THE GROUND SYSTEM TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT PROJECT REPRESENTATIVE/RESIDENT ENGINEER.



**GROUNDING DETAIL FOR TAXIWAY LIGHT SPACING LESS THAN 10'**

(NOT TO SCALE)

REVISION	DATE

WAUKEGAN REGIONAL AIRPORT  
WAUKEGAN PORT DISTRICT  
3580 North McAfee Road  
Waukegan, Illinois 60087  
Telephone: 847.244.0066  
Fax: 847.244.3813



LAYOUT	DATE	BY	CHKD
DRAWN	NOVEMBER 16, 2012	N/A	N/A
REVIEWED	NOVEMBER 16, 2012	N/A	N/A

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Oak Brook, Illinois 60523

**ELECTRICAL DETAILS**  
**SHEET 4**  
REHABILITATE TAXIWAY C AND  
ASSOCIATED EXIT TAXIWAYS, PHASE 1  
IDA No. UGN-4189 AIP No. 3-17-0105-B54

REVISION	DATE

WAUKEGAN REGIONAL AIRPORT  
 WAUKEGAN PORT DISTRICT  
 3580 North McArees Road  
 Waukegan, Illinois 60087  
 Telephone: 847.244.0066  
 Fax: 847.244.3813



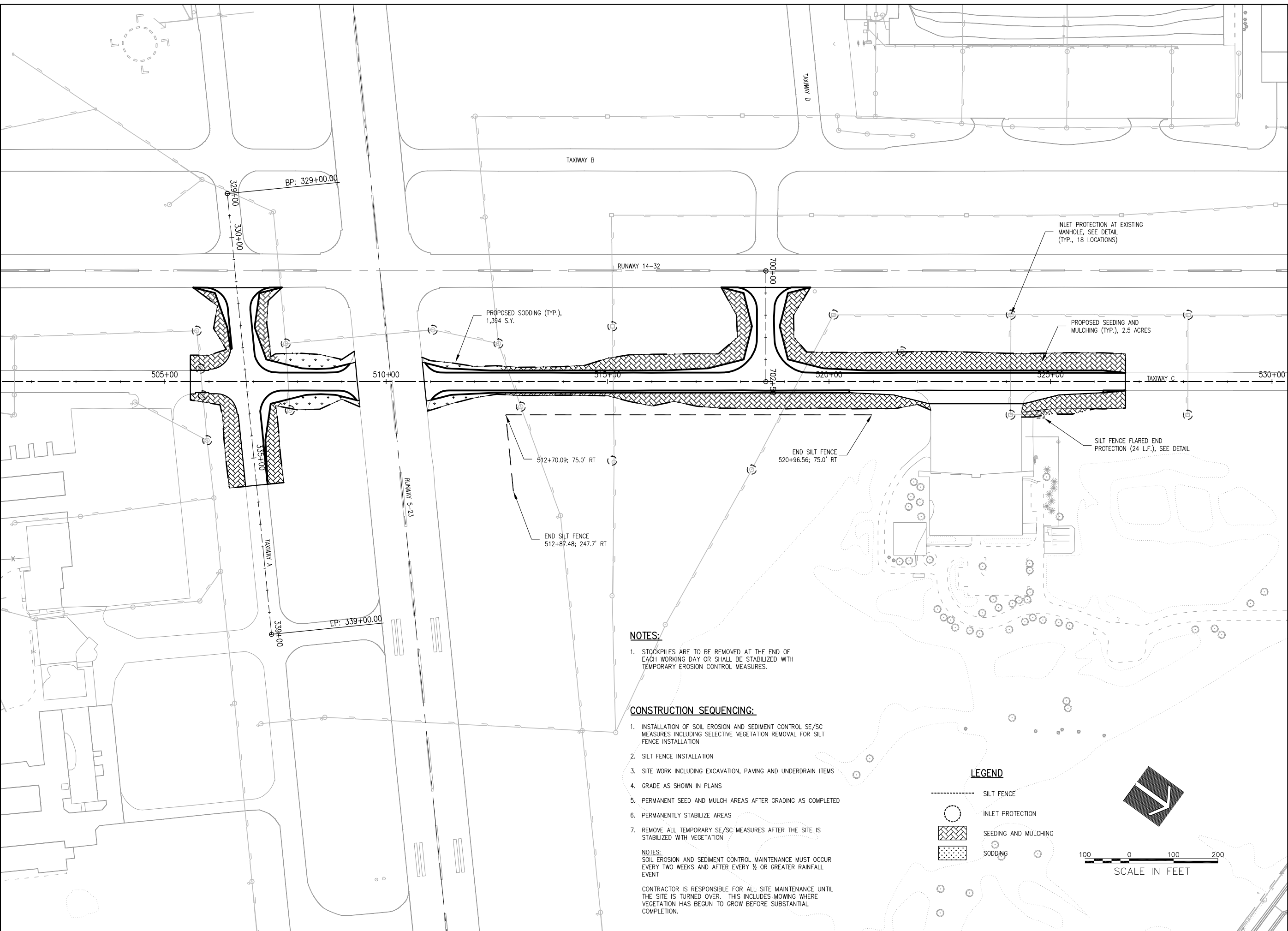
Revision No.	Date	By	Reviewed
12A0085D	09/21/12	LDH	RWH
53-SWPPP.DWG	09/21/12	KMS	RWH
1" = 100'	11/15/12		
NOVEMBER 16, 2012			

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**STORM WATER POLLUTION PREVENTION PLAN**  
 REHABILITATE TAXIWAY C AND ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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- NOTES:**
- STOCKPILES ARE TO BE REMOVED AT THE END OF EACH WORKING DAY OR SHALL BE STABILIZED WITH TEMPORARY EROSION CONTROL MEASURES.

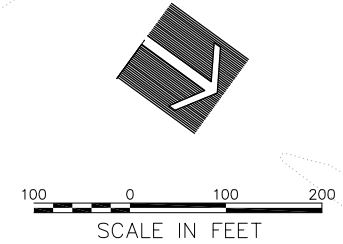
- CONSTRUCTION SEQUENCING:**
- INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL SE/SC MEASURES INCLUDING SELECTIVE VEGETATION REMOVAL FOR SILT FENCE INSTALLATION
  - SILT FENCE INSTALLATION
  - SITE WORK INCLUDING EXCAVATION, PAVING AND UNDERDRAIN ITEMS
  - GRADE AS SHOWN IN PLANS
  - PERMANENT SEED AND MULCH AREAS AFTER GRADING AS COMPLETED
  - PERMANENTLY STABILIZE AREAS
  - REMOVE ALL TEMPORARY SE/SC MEASURES AFTER THE SITE IS STABILIZED WITH VEGETATION

**NOTES:**  
 SOIL EROSION AND SEDIMENT CONTROL MAINTENANCE MUST OCCUR EVERY TWO WEEKS AND AFTER EVERY 1/4 OR GREATER RAINFALL EVENT

CONTRACTOR IS RESPONSIBLE FOR ALL SITE MAINTENANCE UNTIL THE SITE IS TURNED OVER. THIS INCLUDES MOWING WHERE VEGETATION HAS BEGUN TO GROW BEFORE SUBSTANTIAL COMPLETION.

**LEGEND**

- SILT FENCE
- INLET PROTECTION
- SEEDING AND MULCHING
- SODDING



**STORM WATER POLLUTION PREVENTION NOTES**

**GENERAL**

THE CONTRACTOR SHALL IMPLEMENT ALL PROVISIONS OF THE CONTRACT DOCUMENTS TO ASSURE THAT STORM WATER POLLUTION PREVENTION ITEMS ARE CONSTRUCTED AND MAINTAINED IN A TIMELY MANNER. SEDIMENTATION MUST NOT BE TRANSPORTED OFF THE CONSTRUCTION SITE. PERMANENT DRAINAGE FEATURES AND VEGETATIVE MEASURES SHALL BE PROVIDED AS SOON AS POSSIBLE.

THE MAINTENANCE OF ALL STORM WATER POLLUTION PREVENTION MEASURES IS INCIDENTAL TO THE ASSOCIATED ITEM.

**POLLUTION PREVENTION MEASURES**

THE CONTRACTOR SHALL BE REQUIRED TO IMPLEMENT AND MAINTAIN STORM WATER POLLUTION PREVENTION PRACTICES AND MEASURES PRIOR TO THE STRIPPING OF EXISTING VEGETATION WHERE EVER POSSIBLE AND AS SOON AS CONSTRUCTION PERMITS IN OTHER AREAS. POLLUTION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, INCLUDING THESE CONSTRUCTION PLANS, AND WITH STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, CURRENT ISSUE. THE CONTRACTOR SHALL ADJUST HIS OPERATIONS AND IMPLEMENT POLLUTION CONTROL MEASURES SO THAT NO RUNOFF FROM STRIPPED AREAS WILL LEAVE THE CONSTRUCTION SITE OTHER THAN THROUGH SEDIMENT TRAPS OR OTHER SUITABLE CONTROL MEASURES.

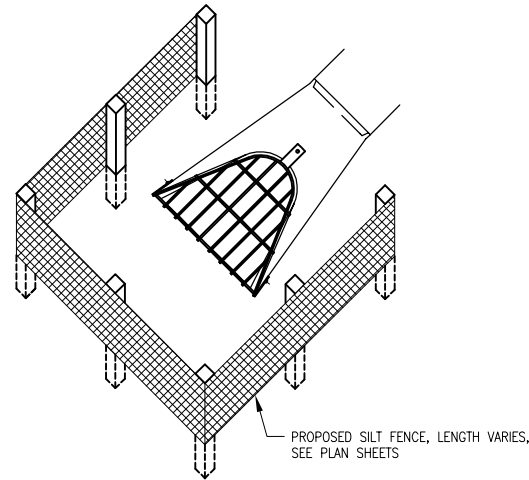
POLLUTION CONTROL ITEMS SHALL BE PROVIDED AS NOTED ON THE STORM WATER POLLUTION PREVENTION PLAN AND IN THE STORM WATER POLLUTION PREVENTION DETAILS AND AS DIRECTED BY THE ENGINEER. THE LIMITS OF SUCH MEASURES SHALL BE STAKED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. SUCH LIMITS MAY BE ADJUSTED BY THE ENGINEER TO ACCOUNT FOR ACTUAL SITE CONDITIONS EXPERIENCED DURING CONSTRUCTION. ADDITIONAL COMPENSATION FOR MEASURES EXCEEDING THE PLAN QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR EACH ITEM.

THE CONTRACTOR IS TO MAINTAIN AND ADJUST, REPAIR OR REPLACE ALL POLLUTION PREVENTION MEASURES AS REQUIRED OR AS DIRECTED BY THE ENGINEER UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED. MAINTENANCE OF POLLUTION CONTROL MEASURES IS TO BE PROVIDED AT NO ADDITIONAL COST TO THE CONTRACT.

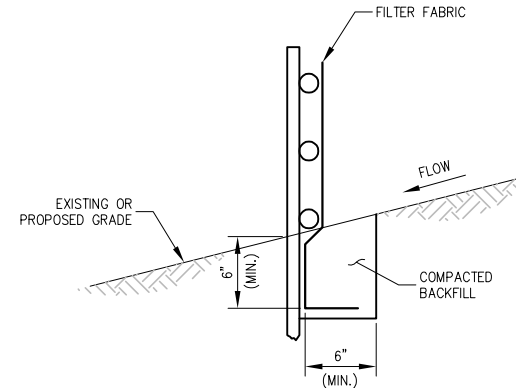
ADDITIONAL STORMWATER POLLUTION PREVENTION MEASURES ARE EXISTING ON SITE LOCATED AT DRAINAGE FACILITIES AND ALONG THE PROPERTY LINE.

**SEDIMENTATION AND EROSION CONTROL NOTES:**

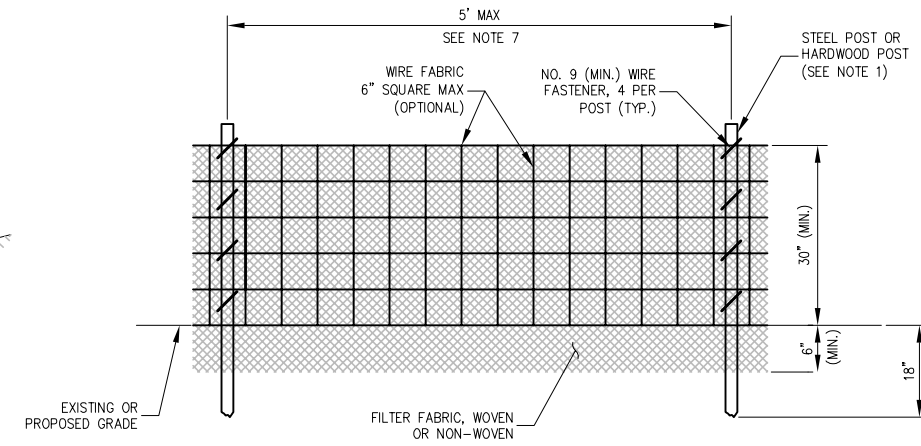
- A. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
- B. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.
- C. DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 14 CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DISTURBANCE, OR REDISTURBANCE.
- D. AREAS OR ENBANKMENTS HAVING SLOPES GREATER THAN OR EQUAL TO 3H:1V, AND APPROVED BY THE ENFORCEMENT OFFICER, SHALL BE STABILIZED WITH SOD, MAT OR BLANKET IN COMBINATION WITH SEEDING.
- E. EROSION CONTROL BLANKET SHALL BE REQUIRED ON ALL INTERIOR DETENTION BASIN SIDE SLOPES BETWEEN NORMAL WATER LEVEL AND HIGH WATER LEVEL.
- F. ALL STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED, BY AN APPROPRIATE SEDIMENT CONTROL MEASURE.
- G. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.
- H. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE PROPERTY OWNER SHALL BE ULTIMATELY RESPONSIBLE FOR MAINTENANCE AND REPAIR.
- I. A STABILIZED MAT OF AGGREGATE UNDERLAIN WITH FILTER CLOTH (OR OTHER APPROPRIATE MEASURE) SHALL BE LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA. ANY SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
- J. SOIL STOCKPILES SHALL NOT BE LOCATED IN A FLOOD PRONE AREA OR A DESIGNATED BUFFER PROTECTING WATERS OF THE UNITED STATES OR ISOLATED WATERS OF LAKE COUNTY.
- K. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (e.g. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURE).
- L. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER OR GOVERNING AGENCY.



**SILT FENCE PLACEMENT AT FLARED END SECTIONS (FES)**



**FABRIC ANCHOR DETAIL**

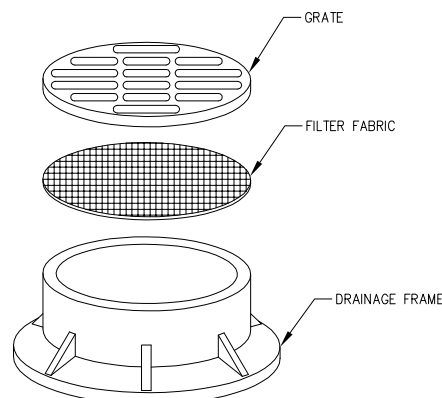


**ELEVATION**

**SILT FENCE DETAILS**

**NOTES:**

- 1. FENCE POST SHALL BE EITHER STEEL "T" LINE POST OR HARDWOOD POST WITH A MINIMUM SECTIONAL AREA OF 3.0 SQUARE INCHES. A CARPENTER'S 2"x2" POST WILL NOT MEET SPECIFICATIONS.
- 2. TOP AND BOTTOM WIRE OF WIRE FABRIC (OPTIONAL) SHALL BE MINIMUM GAGE NO. 9. INTERMEDIATE WIRES OF THE WIRE FABRIC SHALL BE MINIMUM GAGE NO. 11.
- 3. WIRE FABRIC (OPTIONAL) SHALL BE SECURELY FASTENED TO FENCE POSTS WITH NO. 9 GAGE WIRE MINIMUM. FOUR (4) FASTENERS PER POST REQUIRED.
- 4. FILTER FABRIC SHALL BE SECURELY FASTENED TO WIRE FABRIC AND POSTS WITH TIES OR STAPLES SPACED AT 12" APART AT THE TOP, MIDDLE AND BOTTOM.
- 5. WHEN TWO SECTIONS OF FILTER FABRIC MEET, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED AND ATTACHED TO THE WIRE FABRIC AT A POST.
- 6. FILTER FABRIC SHALL BE IN ACCORDANCE WITH SPECIAL PROVISIONS WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
- 7. A MAXIMUM OF 5 FEET IS USED FOR POST-TO-POST SPACING.
- 8. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
- 9. ALL STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY AN APPROPRIATE SEDIMENT CONTROL MEASURE.
- 10. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. PERIODIC INSPECTION SHALL BE PERFORMED AND REQUIRED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.
- 11. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED AND REPLACED WHEN BULGES DEVELOP IN THE SILT FENCE.
- 12. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (E.G. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURE).
- 13. FENCE POSTS SHALL BE REMOVED WHEN DIRECTED AT PROJECT END.
- 14. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER OR GOVERNING AGENCY.



**INLET PROTECTION - DRAINAGE STRUCTURE FILTER WRAP**

**NOTES:**

- 1. FILTER WRAP TO BE PLACED IN ALL MANHOLES AS SHOWN.
- 2. FABRIC SHALL BE IN CONFORMANCE WITH MATERIALS SPECIFIED FOR SILT FENCE.
- 3. FABRIC SHALL OVERLAY FRAME BY 2 INCHES (MINIMUM).
- 4. CONTRACTOR SHALL CLEAR DEBRIS AND SILT AS REQUIRED FROM FABRIC TO MAINTAIN DRAINAGE THROUGH THE STRUCTURE.
- 5. FABRIC SHALL REMAIN IN PLACE UNTIL TURFED AREAS HAVE DEVELOPED A MINIMUM OF 80% OF COVERAGE.
- 6. COST OF FILTER WRAP SHALL BE INCIDENTAL TO INLET PROTECTION.

REVISION	DATE

WAUKEGAN REGIONAL AIRPORT  
 WAUKEGAN PORT DISTRICT  
 3580 North McAfee Road  
 Waukegan, Illinois 60087  
 Telephone: 847.244.0066  
 Fax: 847.244.3813



Hanson No. 12A0085D	10/12/12
Filename 54-SWPP DET.DWG	LDH
Scale N/A	LDH
Date NOVEMBER 16, 2012	RMH
LAYOUT	
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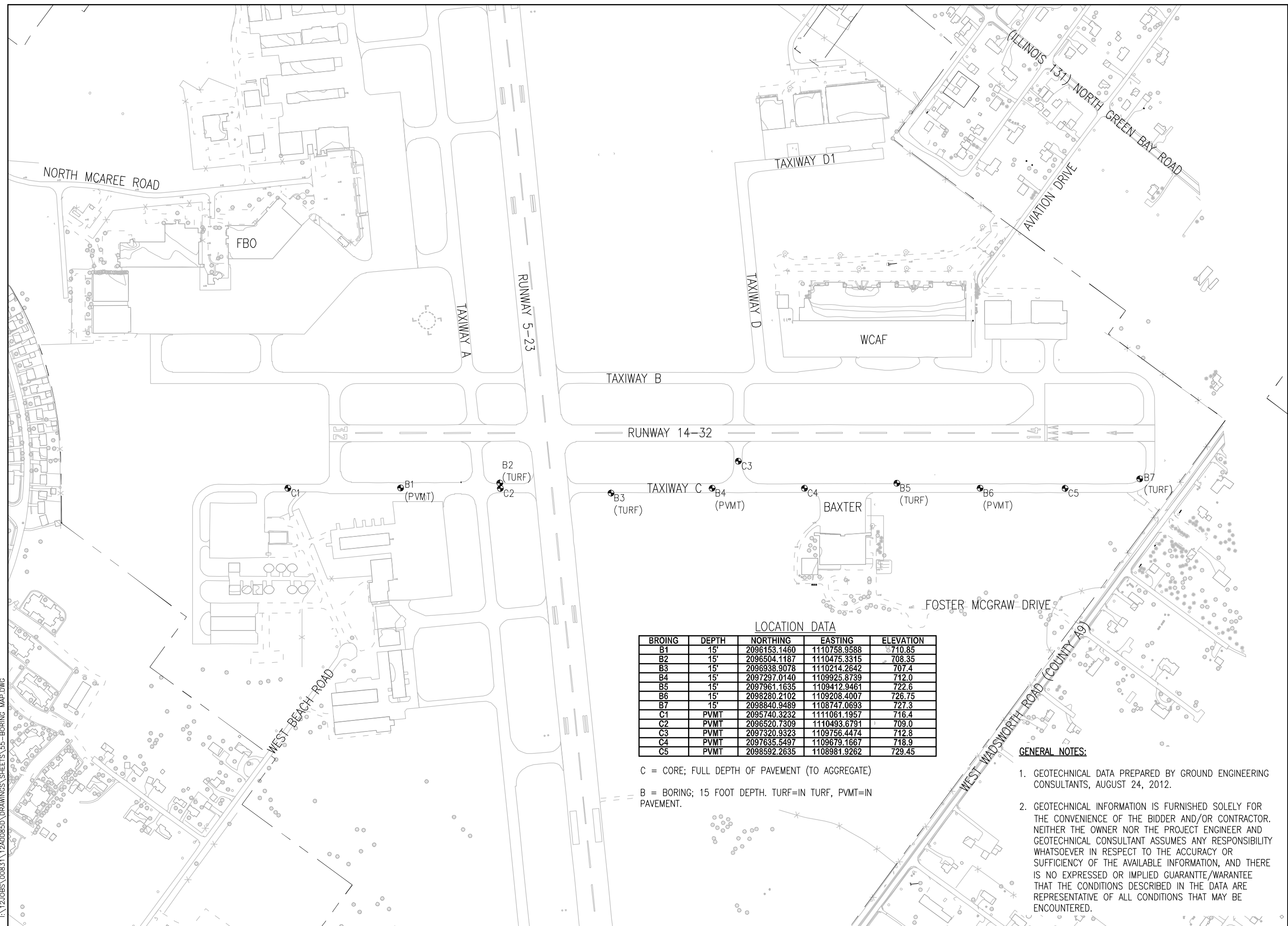
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**STORM WATER POLLUTION PREVENTION DETAILS**  
 REHABILITATE TAXIWAY C AND ASSOCIATED EXIT TAXIWAYS, PHASE 1  
 IDA No. UGN-4189 AIP No. 3-17-0105-B54

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Hanson No.	12A0085D	LAYOUT	LDH	5/25/12
Filename	55-BORING_MAP.DWG	DRAWN	LDH	5/25/12
Scale	1"=200'	REVIEWED	RMH	11/15/12
Date	NOVEMBER 16, 2012			



LOCATION DATA

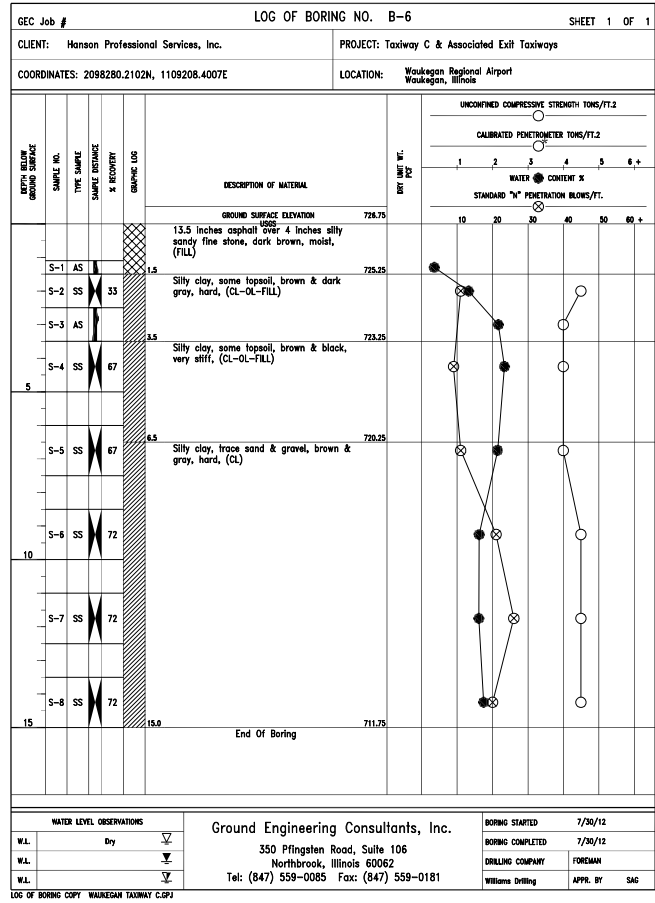
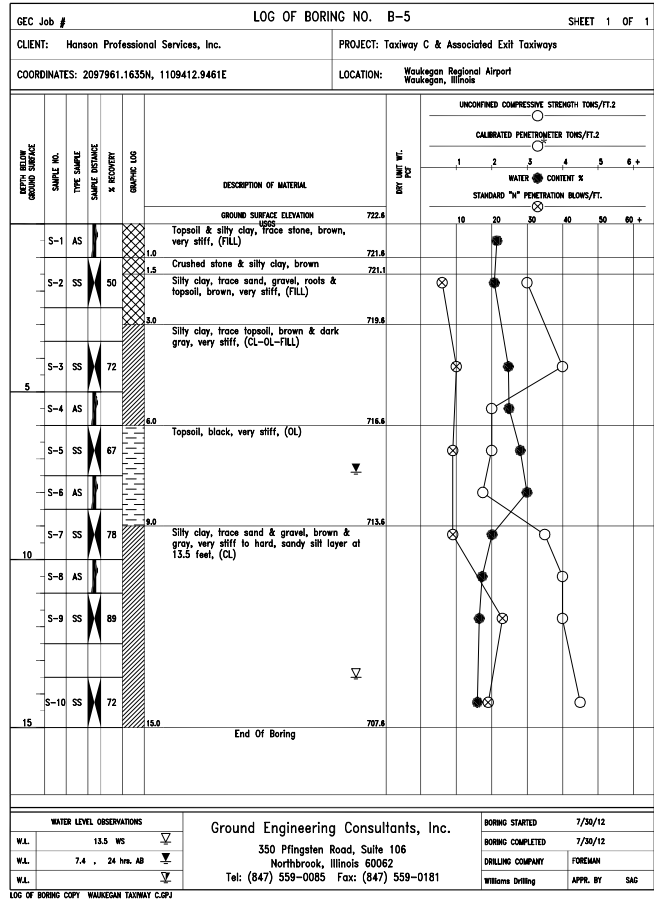
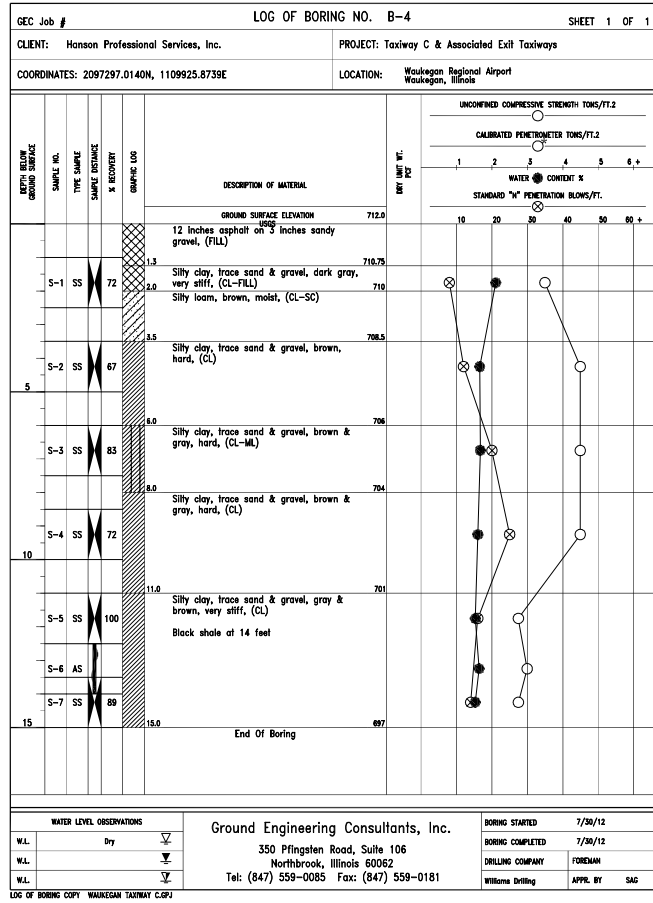
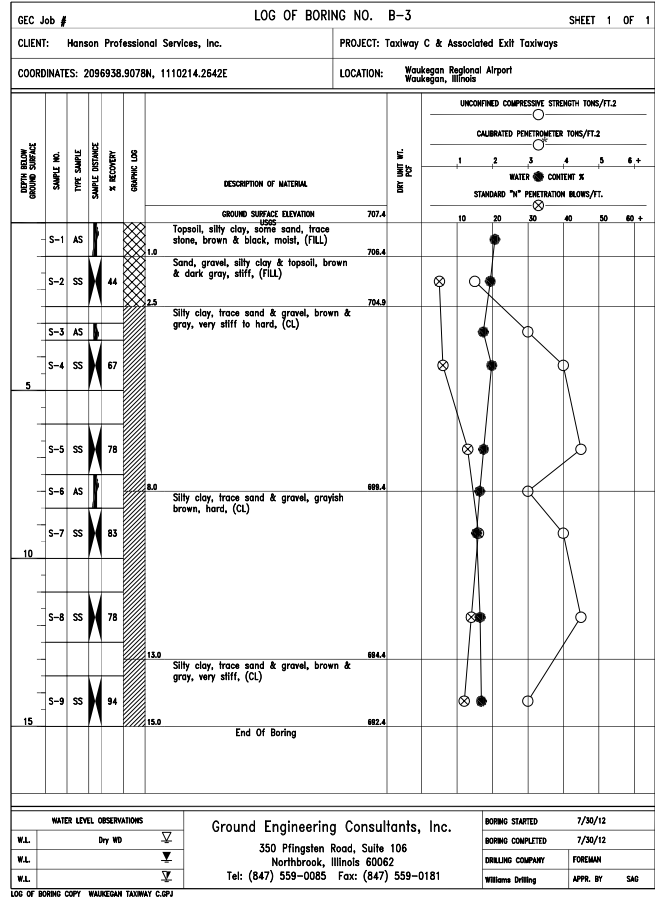
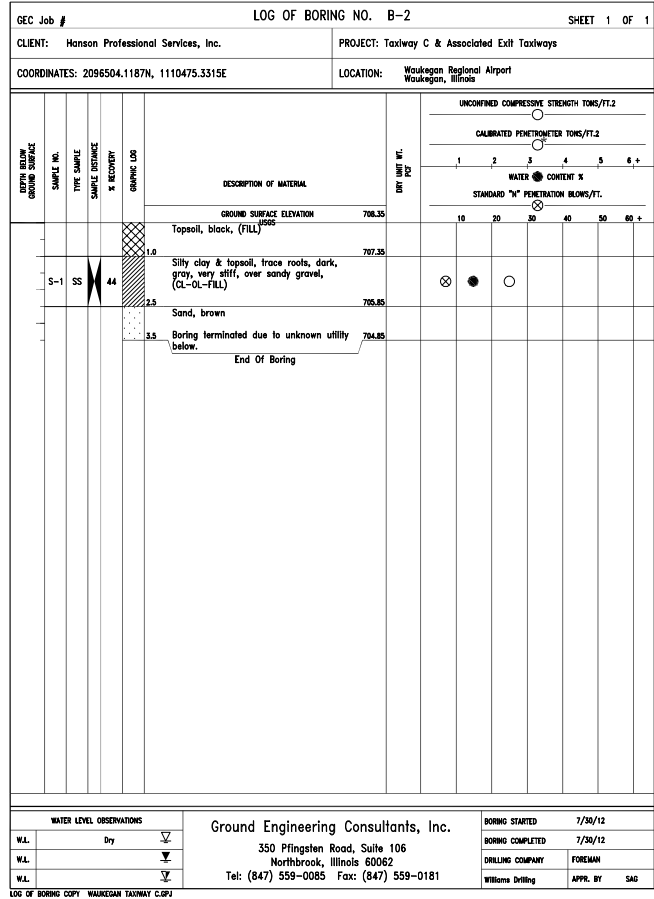
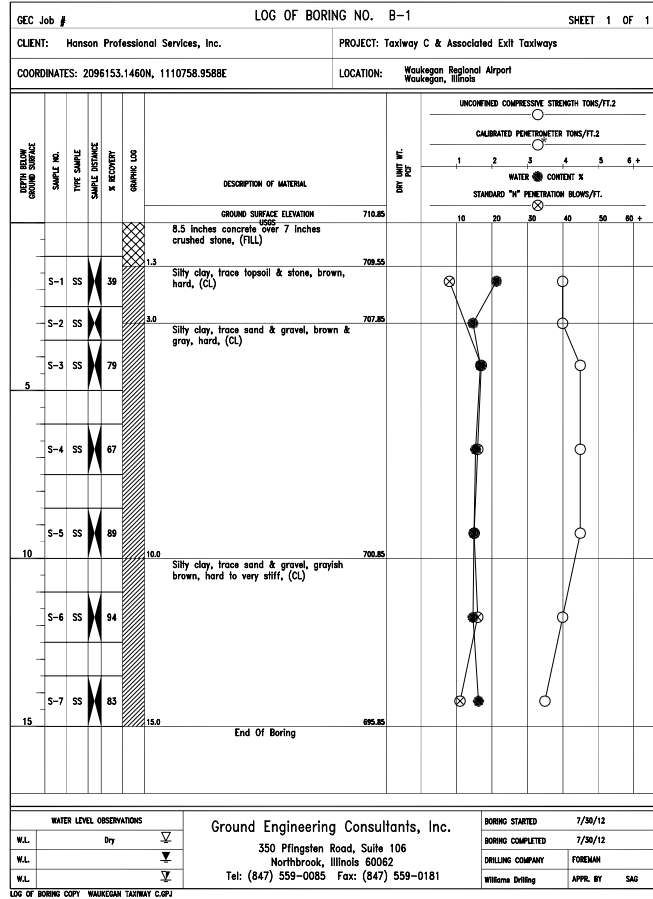
BORING	DEPTH	NORTHING	EASTING	ELEVATION
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B2	15'	2096504.1187	1110475.3315	708.35
B3	15'	2096938.9078	1110214.2642	707.4
B4	15'	2097297.0140	1109925.8739	712.0
B5	15'	2097961.1635	1109412.9461	722.6
B6	15'	2098280.2102	1109208.4007	726.75
B7	15'	2098840.9489	1108747.0693	727.3
C1	PVMT	2095740.3232	1111061.1957	716.4
C2	PVMT	2096520.7309	1110493.6791	709.0
C3	PVMT	2097320.9323	1109756.4474	712.8
C4	PVMT	2097635.5497	1109679.1667	718.9
C5	PVMT	2098592.2635	1108981.9262	729.45

C = CORE; FULL DEPTH OF PAVEMENT (TO AGGREGATE)  
B = BORING; 15 FOOT DEPTH. TURF=IN TURF, PVMT=IN PAVEMENT.

GENERAL NOTES:

1. GEOTECHNICAL DATA PREPARED BY GROUND ENGINEERING CONSULTANTS, AUGUST 24, 2012.
2. GEOTECHNICAL INFORMATION IS FURNISHED SOLELY FOR THE CONVENIENCE OF THE BIDDER AND/OR CONTRACTOR. NEITHER THE OWNER NOR THE PROJECT ENGINEER AND GEOTECHNICAL CONSULTANT ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY OR SUFFICIENCY OF THE AVAILABLE INFORMATION, AND THERE IS NO EXPRESSED OR IMPLIED GUARANTEE/WARRANTEE THAT THE CONDITIONS DESCRIBED IN THE DATA ARE REPRESENTATIVE OF ALL CONDITIONS THAT MAY BE ENCOUNTERED.

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REVISION	DATE

Waukegan Regional Airport  
Waukegan Port District  
3580 North McAtee Road  
Waukegan, Illinois 60087  
Telephone: 847.244.0066  
Fax: 847.244.3813

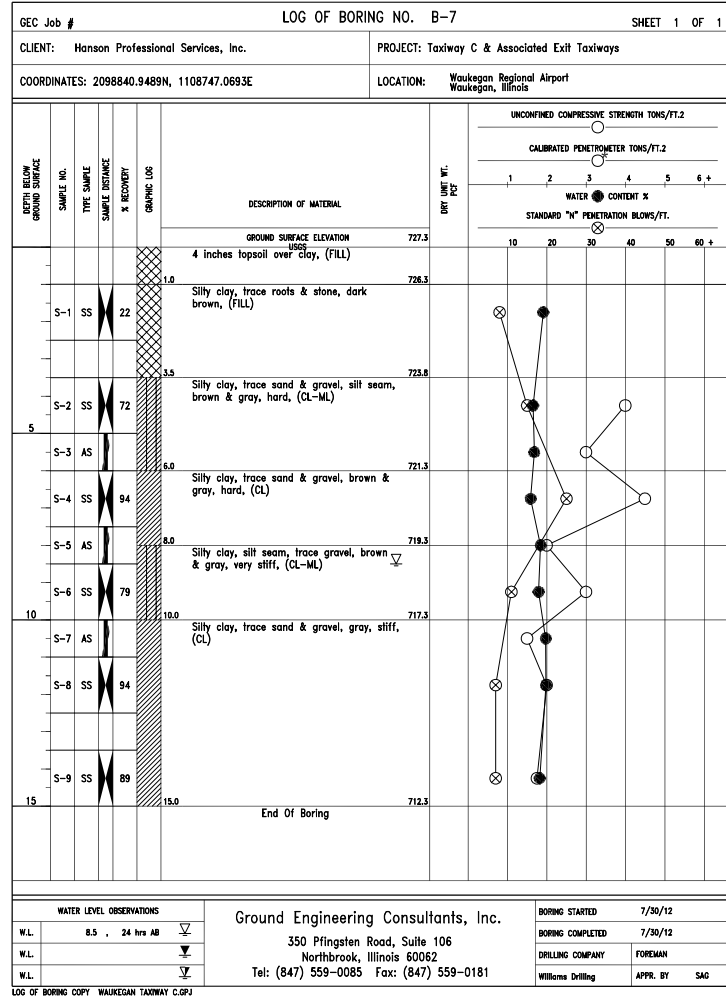
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56-BORING LOGS.DWG	N/A	NOVEMBER 16, 2012			
		5/25/12	LDH	LDH	RMH
		5/25/12			
		11/15/12			

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815 Commerce Drive, Suite 200  
Oak Brook, Illinois 60523

BORING LOGS





SUMMARY OF PAVEMENT CORES				
Core No.	Core Material	Pavement Thickness	Base Course Material	Base Course Thickness
C-1	Asphalt	4 Inches	Crushed Stone over Brown and Black Clay	5 Inches
C-2	Asphalt	24.5 Inches	Sandy Gravel (Clay at 30 Inches)	6 Inches
C-3	Asphalt	16 Inches	Gravel on Gray Silty Clay	3 to 4 Inches
C-4	Asphalt	15 Inches	Sand and Gravel over Clay	9 Inches
C-5	Asphalt	14 to 14.5 Inches Cored; 3.5 Inches Below (Drilled)	Crushed Stone	2 to 3 Inches

<p>WA066</p>	
<p>REVISION</p>	<p>DATE</p>
<p>WAUKEGAN REGIONAL AIRPORT                  WAUKEGAN PORT DISTRICT                  3580 North McAtee Road                  Waukegan, Illinois 60087                  Telephone: 847.244.0066                  Fax: 847.244.3813</p>	
	
<p>Hanson No. 12A0085D                  Filename 57-BORING LOGS.DWG                  Scale N/A                  Date NOVEMBER 16, 2012</p>	<p>LAYOUT LDH 5/25/12                  DRAWN LDH 5/25/12                  REVIEWED RMH 11/15/12</p>
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<p>Hanson Professional Services Inc.                  815 Commerce Drive, Suite 200                  Oak Brook, Illinois 60523</p>	
<p>BORING LOGS AND PAVEMENT CORES</p>	
<p>REHABILITATE TAXIWAY C AND ASSOCIATED EXIT TAXIWAYS, PHASE 1                  IDA No. UGN-4189 AIP No. 3-17-0105-B54</p>	
<p>57</p>	
<p>57 of 57 sheets</p>	