10A

# UNIVERSITY OF ILLINOIS INSTITUTE OF AVIATION

**UN048 TOTAL SHEETS: 49** 

# UNIVERSITY OF ILLINOIS - WILLARD AIRPORT

**ILLINOIS PROJECT CMI-3663** A. I. P. PROJECT 3-17-0016-XX

# REHABILITATE AIR CARRIER APRON PHASE 2

**APRIL 27, 2007** 

CALL J.U.L.I.E. BEFORE EXCAVATING 1-800-892-0123 UNIVERSITY OF ILLINOIS - WILLARD AIRPORT

> TOWNSHIP: T 18 N RANGE: R 8 E TOWNSHIP: TOLONO COUNTY: CHAMPAIGN

#### TAXIWAY A6 GEOMETRIC DESIGN DATA

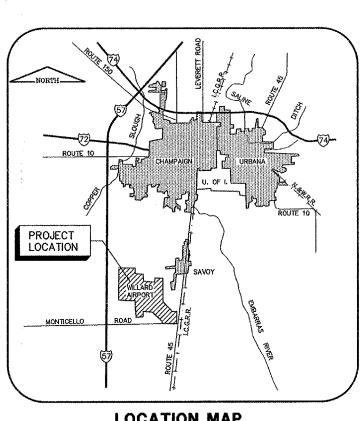
DESIGN GROUP - GROUP IV WINGSPAN - UP TO BUT NOT INCLUDING 171 FT. DESIGN APPROACH CATEGORY - C

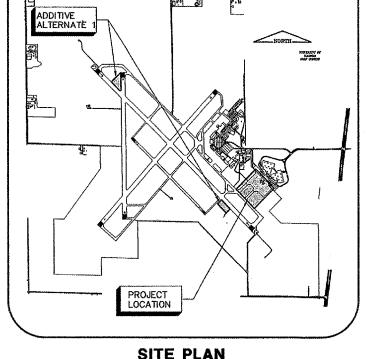
#### TAXIWAY A7 GEOMETRIC DESIGN DATA

DESIGN GROUP - GROUP III WINGSPAN - UP TO BUT NOT INCLUDING 118 FT. DESIGN APPROACH CATEGORY - C

#### PAVEMENT STRUCTURE DESIGN DATA

560 ANNUAL OPERATIONS DESIGN AIRCRAFT - 737-700 GROSS WEIGHT - 155,000 LBS. DUAL WHEEL GEAR





UNIVERSITY OF ILLINOIS WILLARD AIRPORT 04-30-2007 le m Sk EXPIRES: 11-30-2007

CRAWFORD MURPHY & TILLY, INC. CONSULTING ENGINEERS License No. 184-000613 SUBMITTED BY\_ DATE 04-30-2007 2007

CM&T JOB NUMBER 03059-03

GROUND CONTROL RADIO FREQUENCY - 121.8 ATIS FREQUENCY - 124.85 MAXIMUM HEIGHT OF EQUIPMENT

ABOVE GROUND IS 25 FT.

SITE PLAN

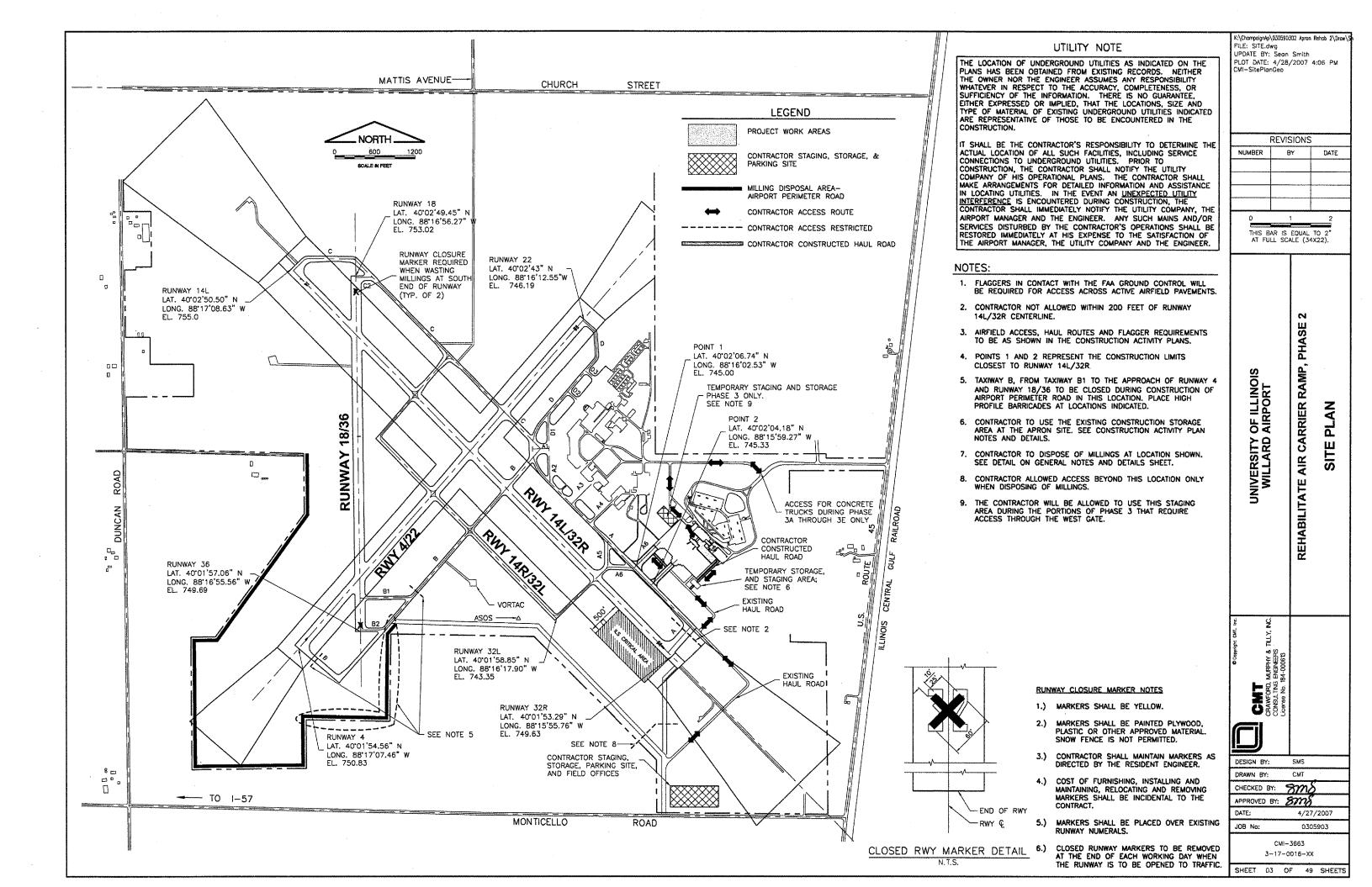
**LOCATION MAP** 

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47	CROSS SECTIONS - TXY A6 - 1		
48	CROSS SECTIONS - TXY A6 - 2		
49	CROSS SECTIONS - TXY A7 - 1		

## **Summary of Quantities**

Item	Description	UNIT	QUANTITY
Number			40,411111
AR110949	Adjust Cable Marker	EA	12
AR125941	Adjust Stake Mounted Light	<u> </u> EA	12
AR125942	Adjust Base Mounted Light	EA	8
AR125944	Adjust Taxi Guidance Sign	EA	2
AR150510	Engineer's Field Office	LS	1
AR152410	Unclassified Excavation	CY	800
AR152480	Shoulder Adjustment	SY	5,370
AR156510	Silt Fence	LF	1,925
AR156513	Separation Fabric	SY	6,740
AR156520	Inlet Protection	EA	6
AR162408	Class E Fence, Vinyl-8'	LF	835
AR162720	Electric Gate - 20'	EA	1
AR162900	Remove Class E Fence	LF	830
AR162908	Remove Electric Gate	EA	1
AR163000	Temporary Construction Fence	LF	360
AR201661	Clean and Seal Bituminous Cracks	LF	600
AR209608	Crushed Aggregate Base Course - 8"	SY	6,740
AR302900	Remove 4" ATP\$	SY	6,105
AR401610	Bituminous Surface Course	TON	740
AR401655	Butt Joint Construction	SY	1,110
AR401900	Remove Bituminous Pavement	SY	2,390
AR501508	8" PCC Pavement	SY	6,105
AR501509	9" PCC Pavement	SY	6.250
AR501515	15" PCC Pavement	SY	170
AR501530	PCC Test Batch	EA	1/0
AR501550	PCC Pavement Milling	SY	6,250
AR501604	4" PCC Sidewalk	SF	900
AR501690	PCC Sidewalk Removal	SF	900
AR501908	8" PCC Pavement Removal	SY	
AR501908	15" PCC Pavement Removal	SY	6,105 170
AR510515	Ground Rod	EA	5
AR510905	Remove Ground Rod	EA	5
AR602510	Bituminous Prime Coat	GAL	and a contract of the state of
AR603510	Bituminous Tack Coat		180
AR620510	Pavement Marking	GAL SF	890
AR705524	4" Perforated Underdrain w/Sock	LF LF	5,425 480
AR705944	Adjust Underdrain Cleanout	EA	460
AR751944	Adjust Manhole - Pavement	EA EA	2
AR751944 AR754210	Concrete Curb	LF	170
AR754210 AR754410	Comb. Concrete Curb & Gutter	- LF	
AR754900		LF LF	115
AR754900 AR754904	Remove Concrete Curb	LF LF	240
*************************	Remove Comb. Concrete Curb & Gutter		115
AR800215	Remove Bollard	EA	5
AR800281	Liquid Bond Breaker	SY	6,250
AR800283	Clean and Repaint Bollard	<u>EA</u>	12
AR800284	Remove, Repaint and Reinstall Guardrail	LF.	150
AR800285	Remove Parking Block	EA	15
AR901510	Seeding	AC	1.5
AR904510	Sodding	SY	970
AR908510	Mulching	AC	1.5
AR910410	Parking Block	<u>EA</u>	15
AR910420	Bollard	EA	5

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THIS BAR IS EQUAL TO 2"
AT FULL SCALE (34X22). REHABILITATE AIR CARRIER RAMP, PHASE 2
INDEX TO SHEETS
&
SUMMARY OF QUANTITIES UNIVERSITY OF ILLINOIS WILLARD AIRPORT DRAWN BY: CMT 8m8 CHECKED BY: APPROVED BY: 5008 4/27/2007 JOB No: 0305903 CMI--3663 3-17-0016-XX SHEET 02 OF 49 SHEETS



#### GENERAL NOTES

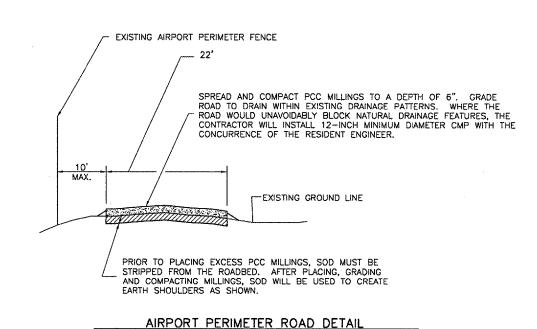
- ALL RUNWAYS, TAXIWAYS AND APRONS WILL BE KEPT OPEN TO AIRCRAFT TRAFFIC DURING CONSTRUCTION EXCEPT AS NOTED IN THE CONSTRUCTION ACTIVITY PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
- 2.) ALL CONSTRUCTION TRAFFIC OPERATING ON OR CROSSING ACTIVE RUNWAYS AND TAXIWAYS MUST BE UNDER THE CONTROL OF A FLAGMAN IN RADIO CONTACT WITH FAA AIR TRAFFIC CONTROL TOWER PERSONNEL AT ALL TIMES. THE CONTRACTOR WILL PROVIDE HIS OWN RADIOS.
- 3.) WHEN CONFLICTS ARISE BETWEEN CONSTRUCTION ACTIVITIES AND AIRCRAFT OPERATIONS AND SAFETY, AIRCRAFT OPERATIONS AND SAFETY WILL TAKE PRECEDENCE AND WILL GOVERN. FINAL AUTHORITY IN THE APPROVAL OF CLOSING AND OPENING PAVEMENTS AND CONSTRUCTION SEQUENCING LIES WITH THE AIRPORT MANAGER.
- 4.) THE CONTRACTOR MUST STORE EQUIPMENT AND MATERIALS AT THE LOCATION SHOWN FOR THE "CONTRACTOR'S STAGING, STORAGE, PARKING SITE AND FIELD OFFICE".
- 5.) BROKEN OR WASTE CONCRETE WILL BE DISPOSED OF BY THE CONTRACTOR OFF AIRPORT PROPERTY, UNLESS DIRECTED BY THE RESIDENT ENGINEER. PCC MILLINGS WILL BE USED TO CONSTRUCT A PORTION OF THE AIRPORT'S PERIMETER ROAD AS SHOWN ON THE SITE PLAN. THE ROAD WILL CONFORM TO THE DETAIL ON THIS SHEET.
- 6.) VEHICLES AND EQUIPMENT WILL NOT BE ALLOWED WITHIN AREAS 80' FROM THE CENTERLINE OF ACTIVE TAXIWAYS OR 200' FROM THE CENTERLINE OF ACTIVE RUNWAYS, UNLESS SHOWN OTHERWISE IN THE CONSTRUCTION ACTIVITY PLAN DRAWNIGS.
- 7.) ALL PAVEMENTS, DRIVES AND OTHER AREAS USED BY THE CONTRACTOR FOR HAUL ROADS AND STORAGE AREAS WILL BE MAINTAINED AND REPAIRED IN KIND BY THE CONTRACTOR TO THE SATISFACTION OF THE RESIDENT ENGINEER. NO ADDITIONAL COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR THIS WORK.
- 8.) EXISTING TURF & AGRICULTURAL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS WILL BE COMPLETELY RESTORED BY HIM AT HIS EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
- 9.) THE CONTRACTOR MUST THOROUGHLY CLEAN ALL CONSTRUCTION AREAS PRIOR TO OPENING TO AIR TRAFFIC.
- 10.) REFER TO THE CONSTRUCTION ACTIVITY PLANS AND THE SPECIFICATIONS FOR REQUIREMENTS CONCERNING COORDINATION OF CONSTRUCTION ACTIVITIES.
- 11.) THE FIRE/CRASH/RESCUE VEHICLES MUST HAVE COMPLETE ACCESS TO THE ENTIRE AIRFIELD INCLUDING THE CLOSURE AREAS.
- 12.) THE CONTRACTOR IS REQUIRED TO GIVE TWO FULL WORKING DAYS NOTICE TO THE AIRPORT MANAGER PRIOR TO CLOSING WORK AREAS TO AIRCRAFT.
- 13.) AT THE PRECONSTRUCTION MEETING, THE CONTRACTOR MUST SUPPLY THE AIRPORT MANAGER WITH PROPOSED CLOSURE AND PHASING DATES FOR HIS REVIEW AND APPROVAL. THE RESIDENT ENGINEER WILL KEEP THE AIRPORT MANAGER ADVISED OF ANY PROPOSED CHANGES IN CLOSURE AND PHASING DATES.
- 14.) ALL CONTRACTOR VEHICLES AND EQUIPMENT MUST DISPLAY AN ORANGE AND WHITE CHECKED AVIATION FLAG, EXCEPT HAUL VEHICLES.
- 15.) ANY VEHICLE OPERATING WITHIN A MOVEMENT AREA DURING THE HOURS OF DARKNESS MUST BE EQUIPPED WITH AN AMBER REVOLVING OR FLASHING DOME-TYPE LIGHT AS SPECIFIED IN THE SPECIAL PROVISIONS.
- 16.) IF, DURING CONSTRUCTION, AN EMERGENCY IS DECLARED BY THE AIRPORT, THE CONTRACTOR MUST IMMEDIATELY CLEAR THE PAVEMENT OF ALL VEHICLES, MEN AND FOLIDMENT

GROUND CONTROL FREQUENCY 121.8 MHZ

MAXIMUM EQUIPMENT HEIGHT 25 FEET

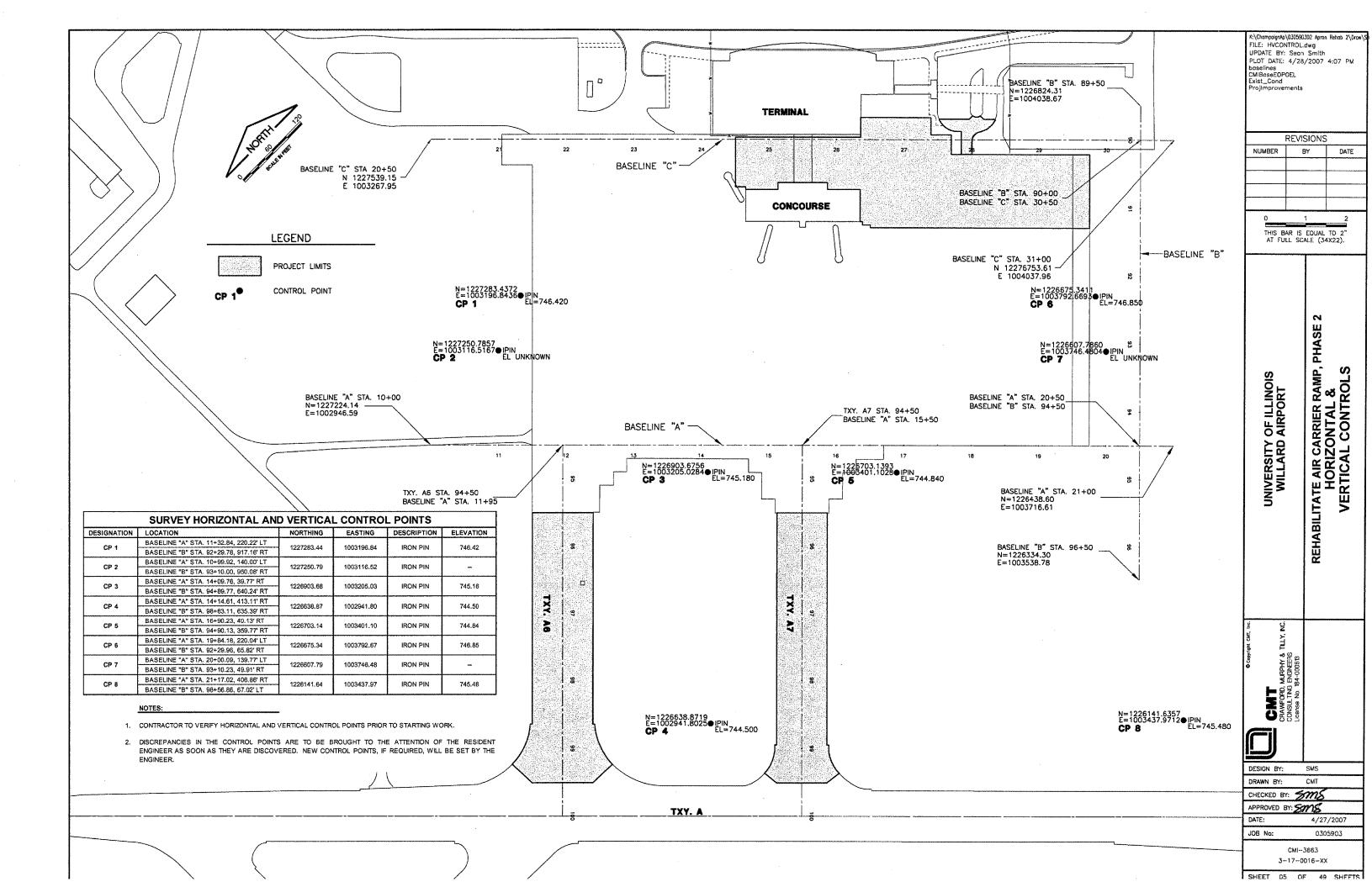
#### CONTRACTOR'S ACCESS

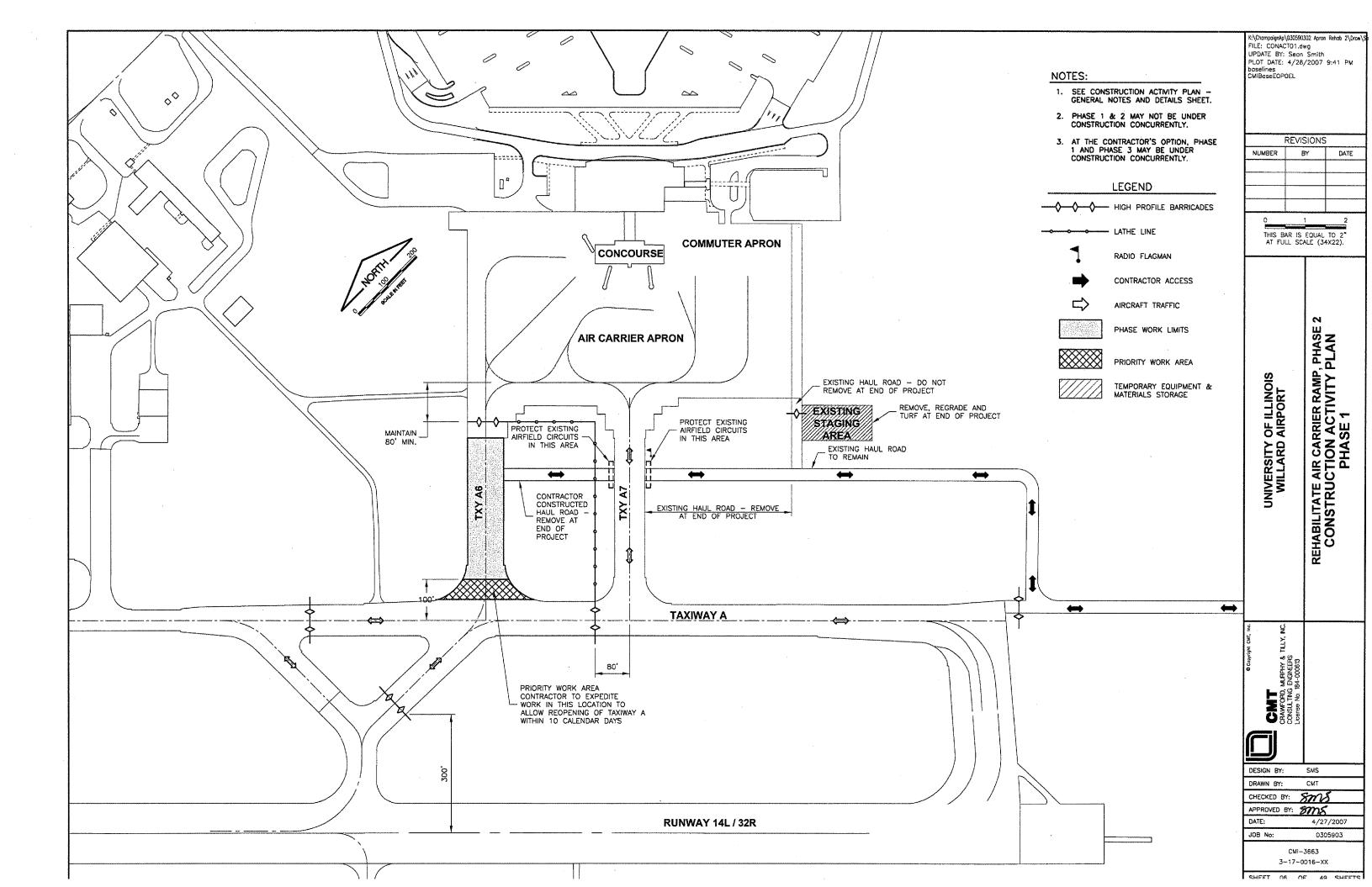
- 1.) CONTRACTOR'S ACCESS WILL BE AS FOLLOWS:
  - A) THE CONTRACTOR'S ACCESS TO THE WORK WILL BE AS SHOWN ON THE SITE PLAN AND CONSTRUCTION ACTIVITY PLANS.
  - B) DURING ADVERSE WEATHER, THE CONTRACTOR MUST MAKE PROVISIONS FOR ACCESS TO THE WORK SITE AT NO ADDITIONAL COST TO THE CONTRACT, NO EXTENSION OF CONTRACT TIME WILL BE CONSIDERED FOR DELAYS DUE TO LACK OF ADEQUATE ACCESS TO THE WORK. SEE NOTE 3 BELOW.
  - C) THE CONTRACTOR WILL INSTALL AND MAINTAIN A HEAVY-DUTY PADLOCK ON THE ACCESS GATE. HE MUST PROVIDE KEYS FOR THIS PADLOCK TO THE RESIDENT ENGINEER, AIRPORT SECURITY AND MAINTENANCE SUPERVISOR. NO ADDITIONAL KEYS ARE TO BE DISTRIBUTED UNLESS AUTHORIZED BY THE AIRPORT MANAGER.
  - D) THE CONTRACTOR WILL BE RESPONSIBLE FOR KEEPING ALL CONSTRUCTION ACCESS GATES CLOSED & SECURED AT ALL TIMES, INCLUDING WORK HOURS. IF THE CONTRACTOR CHOOSES TO LEAVE THE GATE OPEN, HE MUST POST A COMPETENT, FULL TIME SECURITY GUARD TO PREVENT UNAUTHORIZED ENTRIES. THE CONTRACTOR WILL REPLACE ANY UNSATISFACTORY SECURITY GUARDS IF SO DIRECTED BY THE AIRPORT MANAGER OR RESIDENT ENGINEER.
  - E) THE CONTRACTOR MUST CLOSE AND LOCK THE ACCESS GATES UPON LEAVING THE SITE.
  - F) THROUGHOUT THE DURATION OF THE CONTRACT, ANY DAMAGE TO THE ACCESS GATES OR FENCING ADJACENT TO THE PROJECT WILL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE AIRPORT MANAGER.
  - G) ALL COSTS RELATING TO CONTRACTOR'S ACCESS AND SECURITY WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
  - H) THE CONTRACTOR MUST STORE EQUIPMENT AND MATERIALS IN SUCH A WAY AS TO NOT DISTURB AGRICULTURAL AREAS OR VIOLATE THE PART 77 APPROACH AND PRIMARY SURFACES.
  - I) EMPLOYEE PERSONAL VEHICLES WILL NOT BE ALLOWED BEYOND THE CONTRACTOR'S PARKING AREA. CONTRACTOR PERSONNEL WILL PARK IN THE CONTRACTOR'S STORAGE AREA. PERSONNEL WILL BE TRANSPORTED TO THE WORK SITE BY COMPANY OWNED VEHICLES.
  - J) THE CONTRACTOR MUST PROVIDE CONSTRUCTION ENTRANCE SIGNAGE ON MONTICELLO ROAD AS REQUIRED BY CHAMPAIGN COUNTY HIGHWAY DEPARTMENT AND THE TOLONO TOWNSHIP. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING ALL ACCESS ROADS WITH THE APPROPRIATE AGENCY RESPONSIBLE FOR THE ROADWAY.
  - K) THE CONTRACTOR WILL HAVE A VACUUM TYPE SWEEPER AVAILABLE AT ALL TIMES.
- AN AREA WILL BE PROVIDED BY THE AIRPORT TO THE CONTRACTOR AS THE STAGING, STORAGE AND EMPLOYEE PARKING SITE, AT THE LOCATION SHOWN,
- 3.) THE CONTRACTOR WILL BE ALLOWED TO USE THE P.C.C. MILLINGS TO CONSTRUCT THE HAUL/ACCESS ROAD TO SUIT HIS NEEDS AS THE WORK PROGRESSES. CONTRACTOR SUPPLIED MATERIAL WILL BE REQUIRED TO CONSTRUCT THE HAUL ROAD PRIOR TO BEGINNING WORK.
- 4.) A LIST OF AUTHORIZED PERSONNEL PERMITTED TO USE THE GATE MUST BE PROVIDED BY THE CONTRACTOR TO THE RESIDENT ENGINEER.
- THE CONTRACTOR MUST PROVIDE A SIGN AT THE ACCESS GATE SAYING "AUTHORIZED PERSONNEL ONLY".
- 6.) ALL PERSONNEL ON THE AIRFIELD WILL BE REQUIRED TO SUBMIT A TEN YEAR BACKGROUND CHECK TO AIRPORT SECURITY.

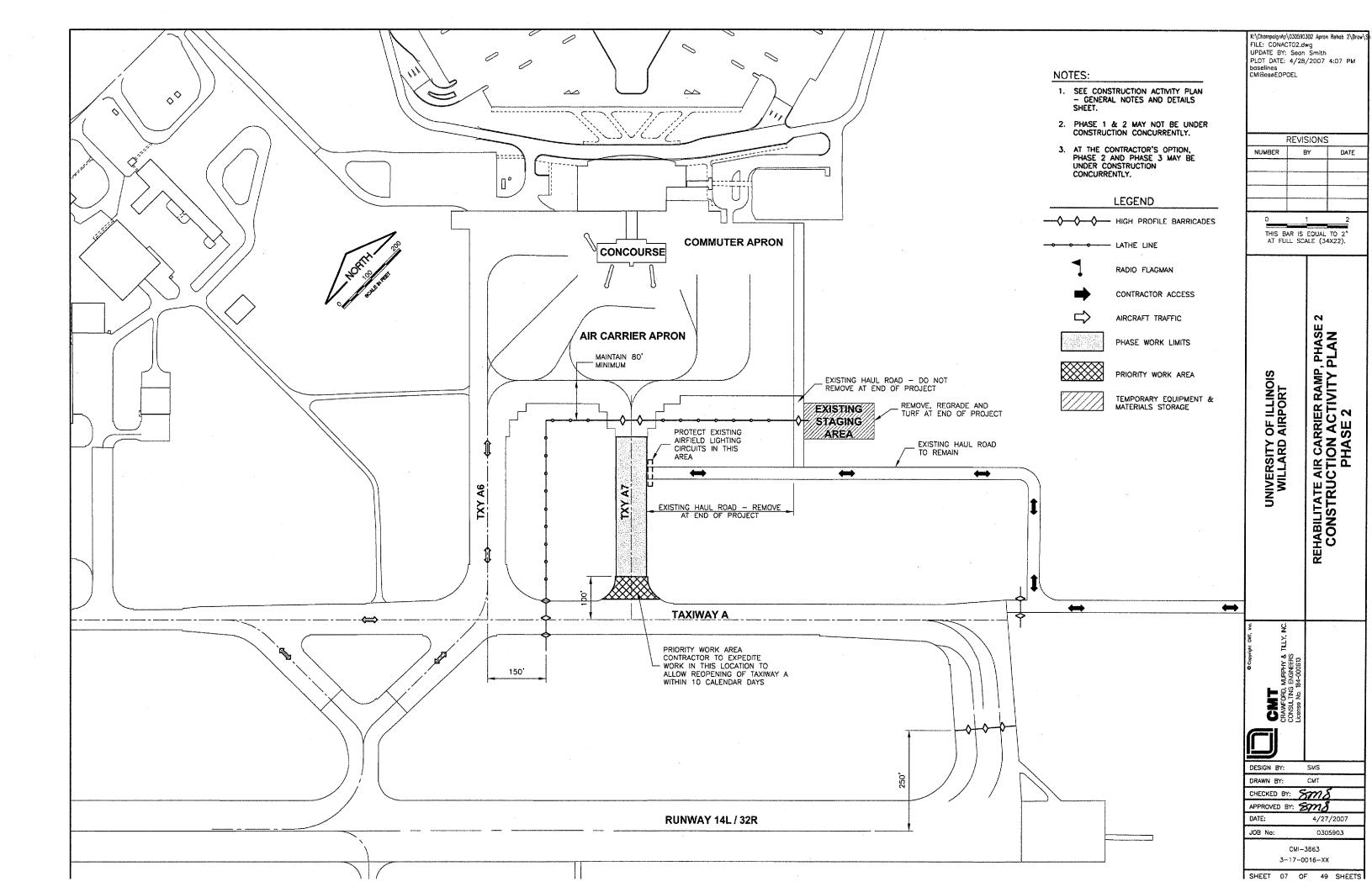


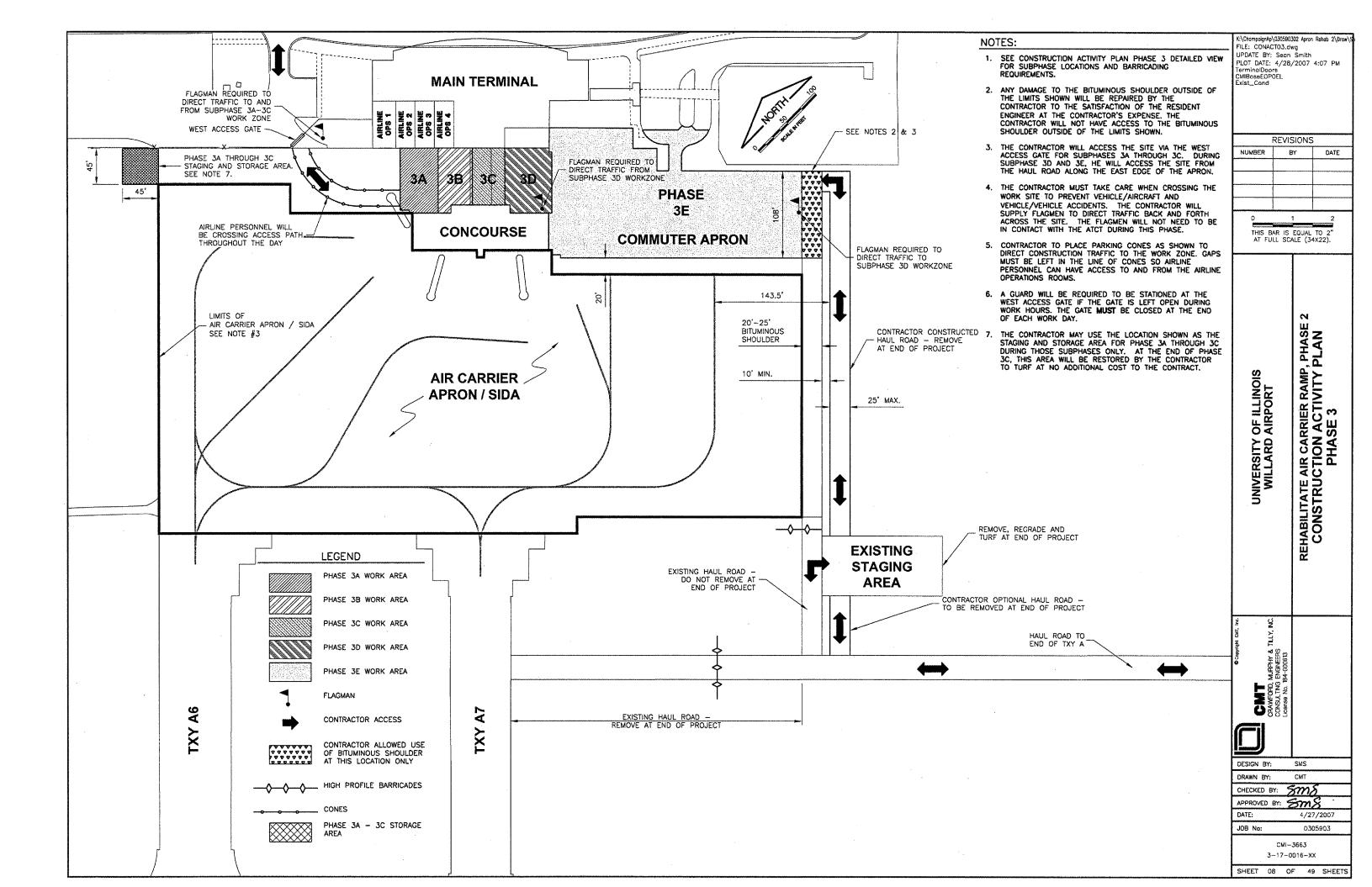
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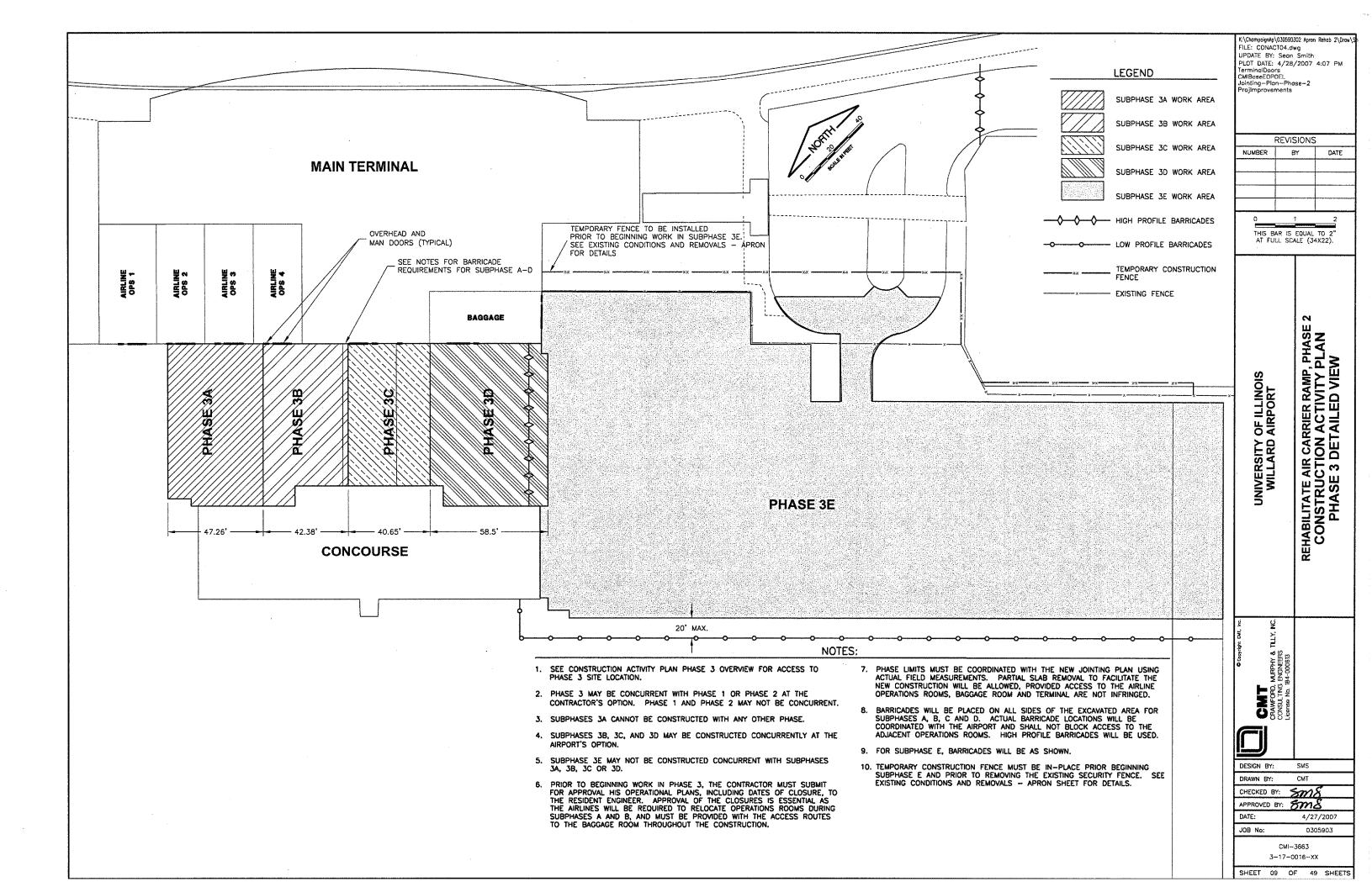
:\ChampoignAp\030590302 Apron Rehab 2\Draw FILE: GENNOTDET.dwg UPDATE BY: Sean Smith PLOT DATE: 4/28/2007 4:07 PM REVISIONS NUMBER BY DATE THIS BAR IS EQUAL TO 2 AT FULL SCALE (34X22) RAMP, OF ILLINOIS AIRPORT EHABILITATE AIR CARRIER F GENERAL NOT & DETAILS UNIVERSITY ( **5** DESIGN BY: SMS DRAWN BY: CMT CHECKED BY: SM8 APPROVED BY: 500 DATE: 4/27/2007 CMI~3663 3-17-0016-XX SHEET 04 OF 49 SHEETS





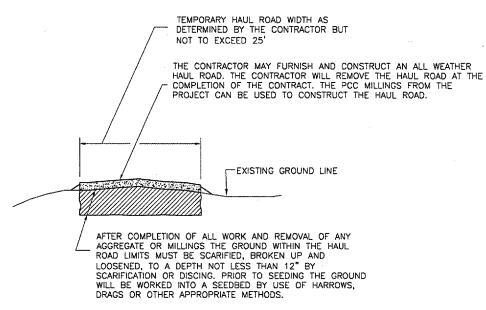




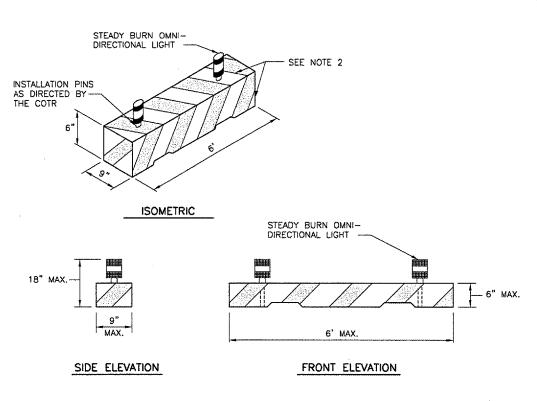


#### CONSTRUCTION ACTIVITY AND PHASING GENERAL NOTES

- THE CONTRACTOR WILL PLACE ALL BARRICADES AND RUNWAY CLOSURES MARKERS AS REQUIRED PRIOR TO BEGINNING WORK.
- 2. THE WORK ZONES FOR EACH PHASE ARE ADJACENT TO SECURITY CONTROLLED AREAS (SIDA) OF THE AIRFIELD. THE CONTRACTOR WILL BE AWARE THAT ANY PERSONNEL FOUND OUTSIDE OF HIS DESIGNATED WORK AREA MAY BE IN VIOLATION OF THE REGULATIONS OF THE TRANSPORTATION SECURITY ADMINISTRATION. ANY SUCH VIOLATIONS ARE SUBJECT TO FINES; ANY FINES LEVIED AGAINST THE AIRPORT AS A RESULT OF THE CONTRACTOR'S OPERATIONS WILL BE PAID BY THE CONTRACTOR AT NO COST TO THE CONTRACT.
- 3. THE CONTRACTOR WILL BE REQUIRED TO OBTAIN SECURITY BADGES FOR HIS SUPERINTENDENT AND FOREMEN SUCH THAT THEY MAY ACT AS ESCORT FOR CONTRACTOR PERSONNEL AND VEHICLES THAT REQUIRE ACCESS TO OR ACROSS THE SIDA. BADGING COSTS WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 4. IN CASE OF EMERGENCY, THE CONTRACTOR MUST EXIT THE WORK ZONE VIA HIS DESIGNATED HAUL ROUTE AND RELOCATE TO THE STAGING AND STORAGE LOCATION SHOWN ON THE CONSTRUCTION ACTIVITY PLANS.
- 5. THE STAGING AND STORAGE LOCATION DESIGNATED ON THE CONSTRUCTION ACTIVITY PLANS IS AN EXISTING AGGREGATE SURFACED AREA. THE CONTRACTOR MAY USE THIS AREA FOR STORAGE OF LARGE EQUIPMENT THAT IS NOT ABLE TO BE MOVED TO THE STAGING AREA AT MONTICELLO ROAD AS SHOWN ON THE SITE PLAN. MOBILE EQUIPMENT SUCH AS ROLLERS AND OTHER WHEELED EQUIPMENT SHALL BE MOVED TO THE MONTICELLO ROAD LOCATION AT THE END OF THE WORKING DAY.
- 6. EQUIPMENT AND MATERIAL STORED AT THE TEMPORARY STAGING AREA MUST BE PARKED OR STORED SUCH THAT THE PART 77 AND PRIMARY SURFACES ARE NOT VIOLATED IN ANY WAY.
- WORK THAT MUST BE COMPLETED OUTSIDE OF THE WORK AREAS SHOWN, SUCH AS PAVEMENT MARKING, MUST BE COORDINATED WITH THE AIRPORT. THE AIRPORT WILL BE GIVEN 72 HOURS NOTICE PRIOR TO THE CONTRACTOR BEGINNING THIS WORK.
- 8. RADIO FLAGMEN WILL NOT BE REQUIRED TO BE IN CONTACT WITH FAA GROUND CONTROL, UNLESS THE CONTRACTOR REQUIRES ACCESS TO ACTIVE AND GROUND CONTROLLED AIFFIELD PAVEMENTS. THE RADIO FLAGMEN WILL MONITOR THE GROUND CONTROL FREQUENCY IN ORDER TO ASSIST IN DETERMINING IF THE CROSSING VEHICLES WILL BE SAFE TO CROSS THE ACTIVE TAXIWAYS/TAXILANES. GROUND CONTROL WILL BE NOTIFIED IF BROOMING OR OTHER CONSTRUCTION OPERATIONS WILL REQUIRE AIRCRAFT TO HOLD FOR THE CONTRACTOR TO CLEAR THE ACTIVE TAXIWAYS/TAXILANES.
- 9. THE CONTRACTOR WILL BE ALLOWED USE OF THE BITUMINOUS SHOULDER ADJACENT TO THE AIR CARRIER APRON AT THE LOCATION SHOWN ONLY. DAMAGE TO THE SHOULDER AT LOCATIONS OTHER THAN THOSE SHOWN CAUSED BY THE CONTRACTOR WILL BE REPAIRED AT NO COST TO THE CONTRACT.



#### CONTRACTOR CONSTRUCTED HAUL ROAD DETAIL



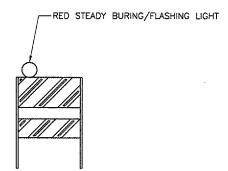
## LOW PROFILE BARRICADE DETAILS

#### BEAM BARRICADE NOTES

- BARRICADE TO BE OF LOW MASS; EASILY COLLAPSIBLE UPON CONTACT WITH AN AIRCRAFT OR ANY OF ITS COMPONENTS; AND WEIGHTED OR STURDILY ATTACHED TO THE SURFACE TO PREVENT DISPLACEMENT FROM PROP WASH, JET BLAST, WING VORTEX, OR OTHER SURFACE WIND CURRENTS.
- REFLECTIVE MATERIAL, ORANGE FLORESCENT AND WHITE FLORESCENT DIAGONAL WILL BE PLACED ON ALL FACES. MATERIAL WILL BE EITHER SCOTCHLITE OR REPLEXITE MATERIAL.
- STEADY-BURN LIGHTS WILL HAVE A MINIMUM OF 5 CANDELAS AS EFFECTIVE INTENSITY AND FLASH AT A RATE OF FROM 55 TO 75 FLASHES PER MINUTE.
- 4. BARRICADES TO BE PLACED END TO END.

#### CONTRACTOR CONSTRUCTED HAUL ROAD

- ACCESS BETWEEN THE END OF TAXIWAY A AND THE WORK SITE WILL BE VIA AN EXISTING HAUL ROAD AT THE ALIGNMENT SHOWN ON THE SITE PLAN. ACCESS WITHIN THE SITE WILL BE AT THE ALIGNMENT SHOWN ON THE CONSTRUCTION ACTIVITY PLANS OR AS PERMITTED BY THE RE.
- AT THE CONTRACTOR'S OPTION, THE CONTRACTOR MAY CONSTRUCT ADDITIONAL ALL WEATHER HAUL ROADS WITH MILLINGS OR AGGREGATE MATERIALS TO EXPEDITE CONSTRUCTION OPERATIONS.
- THE DESIGN OF THE CONTRACTOR CONSTRUCTED HAUL ROAD IS AT THE DISCRETION OF THE CONTRACTOR.
- 4. ALL EXISTING AND CONTRACTOR CONSTRUCTED HAUL ROADS AS SHOWN IN THE PLANS TO BE REMOVED AT THE COMPLETION OF THE CONTRACT. REMOVAL OF THESE HAUL ROADS WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THE PHASE 3 STORAGE AREA AT THE WEST SIDE OF THE APRON AT THE END OF THE PROJECT.
- 5. AFTER COMPLETION OF THE WORK, THE GROUND WITHIN THE LIMITS OF THE TEMPORARY HAUL ROAD WILL BE RESTORED TO PRE-DISTURBED CONDITION. AS A MINIMUM, THE GROUND WITHIN THE LIMITS OF THE CONTRACTOR CONSTRUCTED HAUL ROAD MUST FIRST BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH NOT LESS THAN 12 INCHES AND RETURNED TO PRE-DISTURBED GRADE. AFTER LOOSENING AND PRIOR TO SEEDING, THE TOP 5 INCHES WILL BE WORKED INTO A SATISFACTORY SEEDBED BY USE OF ROLLERS, DRAGS, HARROWS OR OTHER APPROPRIATE METHODS. THE GROUND WILL THEN BE SEEDED AND MULCHED ACCORDING TO ITEM 901 AND 908.
- WHERE REQUIRED BY LOCAL DRAINAGE PATTERNS, THE CONTRACTOR WILL INSTALL A MINIMUM 12" Ø CMP TO FACILITATE DRAINAGE UNDER THE HAUL ROAD. THE COVER OVER THE PIPE SHALL BE ADEQUATE TO PREVENT CRUSHING OF THE PIPE.
- 7. HAUL ROAD CONSTRUCTION, REMOVAL AND GROUND RESTORATION WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NOT MEASURED FOR PAYMENT, NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK. THE COST TO CONSTRUCT, REMOVE AND RESTORE THE GROUND TO PRE-DISTURBED CONDITION WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICES FOR THE RESPECTIVE ITEMS UTILIZING THE HAUL ROAD.



## HIGH-PROFILE BARRICADE DETAIL

#### HIGH-PROFILE BARRICADE NOTES

- FLASHERS TO BE BATTERY OPERATED. LENS TO BE RED AND BE ABLE TO ROTATE 90 DEGREES.
- SANDBAGS TO BE PLACED ON EACH SUPPORT BRACE AS REQUIRED TO PREVENT DISPLACEMENT BY WIND, JET OR PROP BLAST.
- NO SEPARATE PAYMENT WILL BE MADE FOR THIS ITEM. COSTS TO BE CONSIDERED INCIDENTAL TO THE PROJECT
- 4. PLACE AT MAXIMUM 15' INTERVALS.
- BARREL/DRUM TYPE BARRICADES WILL NOT BE ALLOWED.

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REVISIONS			
NUMBER	BY	DATE	

THIS BAR IS EQUAL TO 2' AT FULL SCALE (34X22),

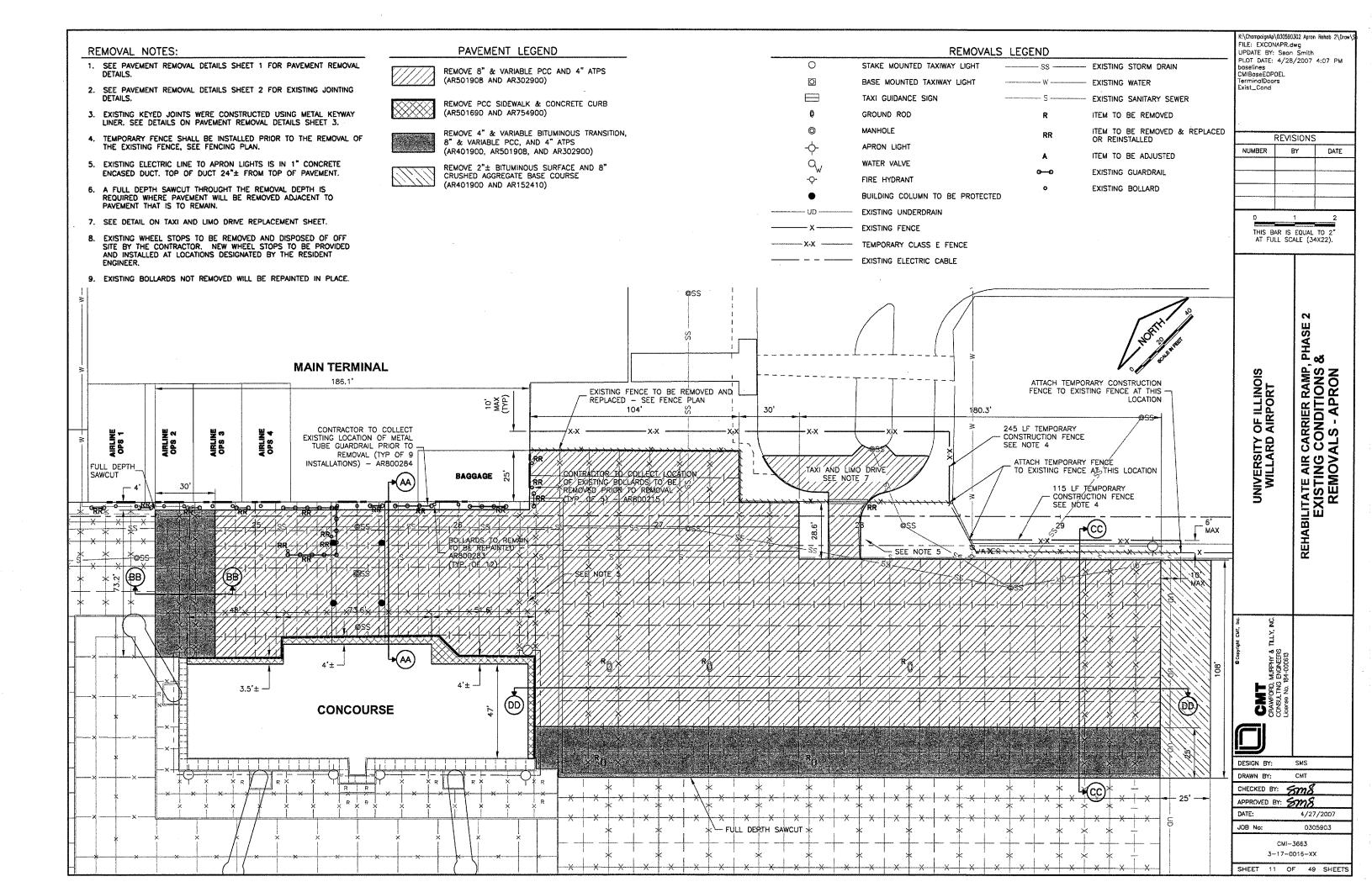
REHABILITATE AIR CARRIER RAMP, PHASE 2
CONSTRUCTION ACTIVITY
GENERAL NOTES & DETAILS

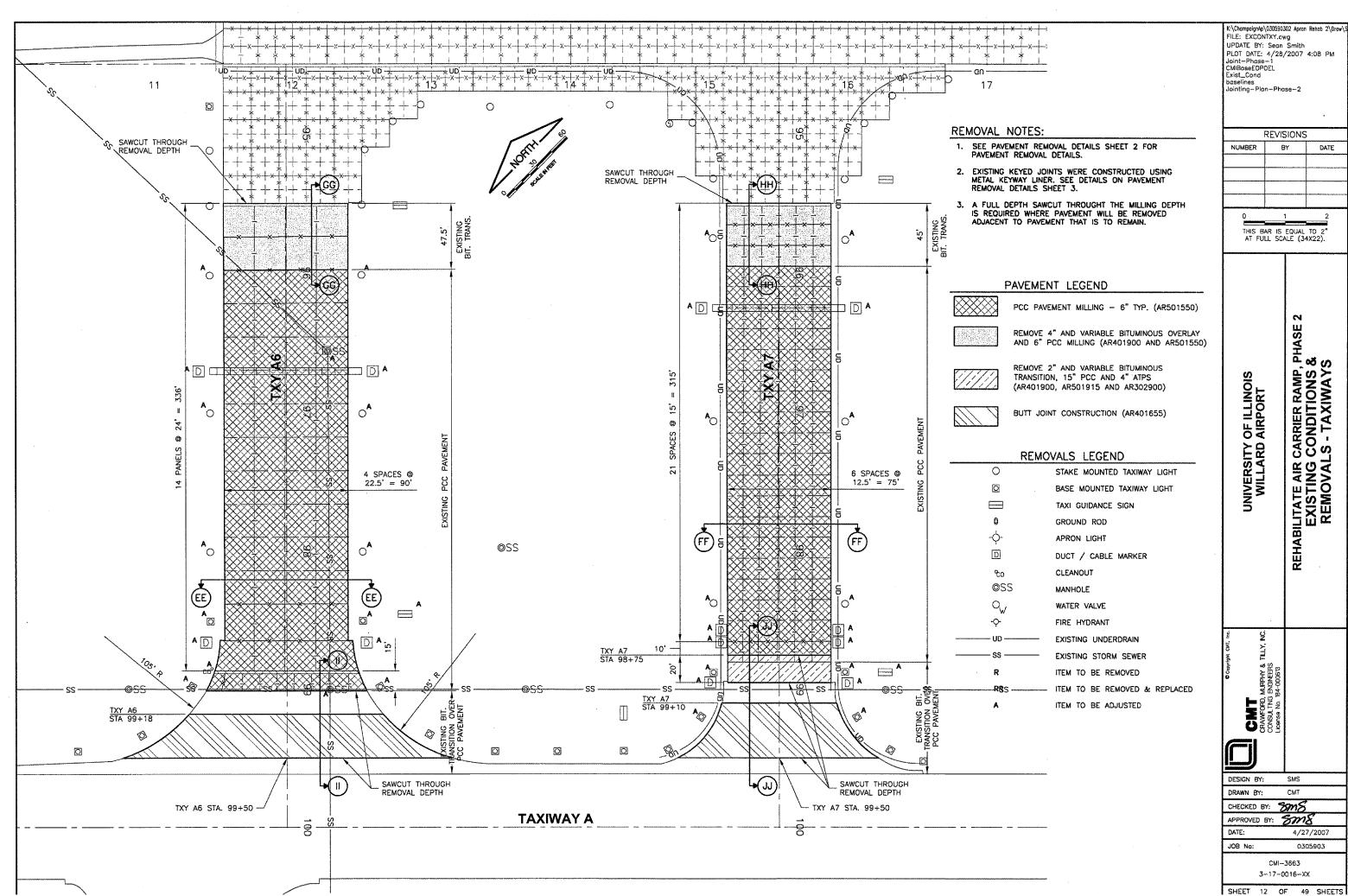
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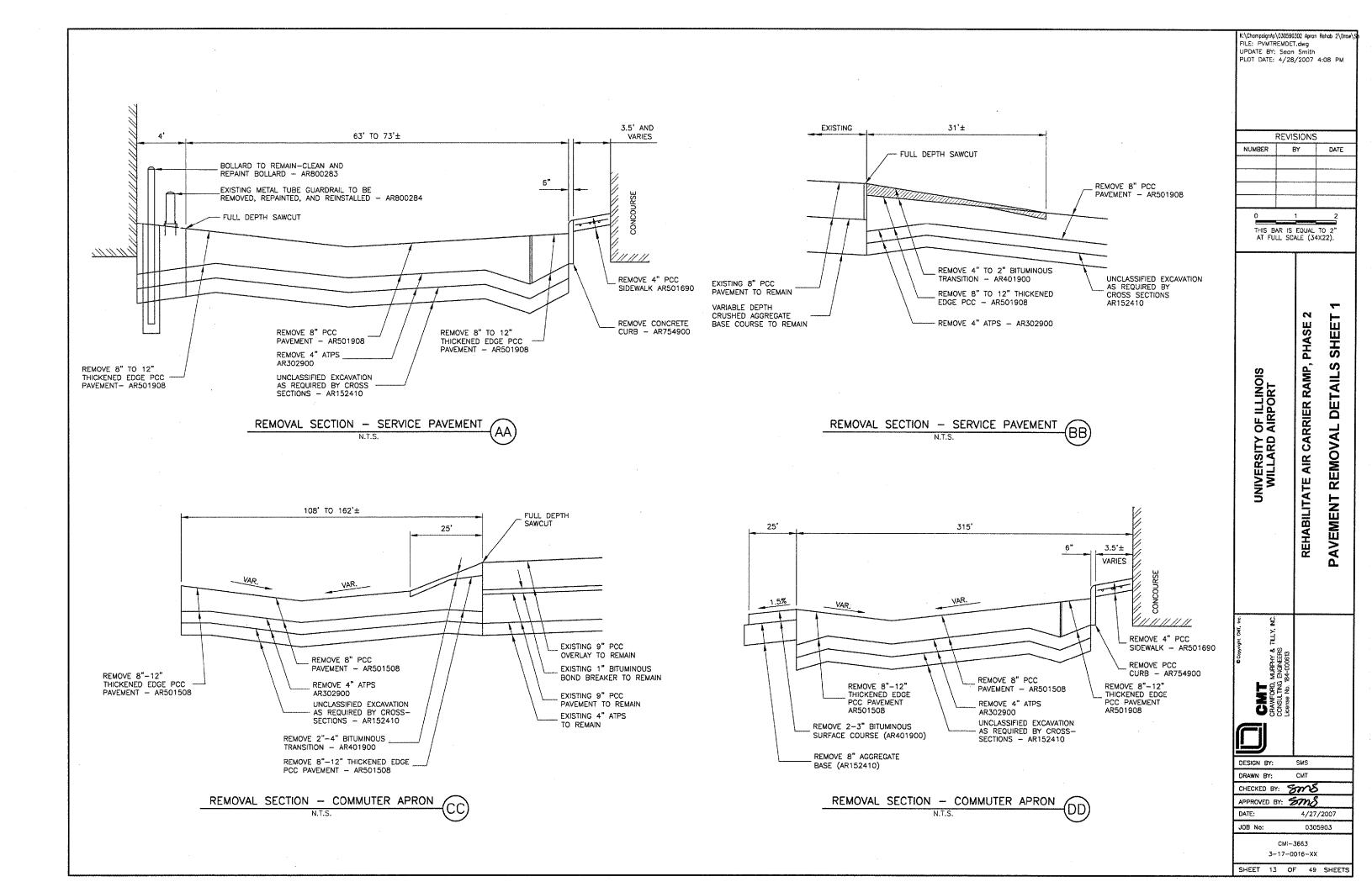
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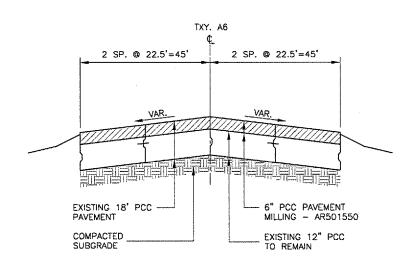
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SHEET 10 OF 49 SHEETS

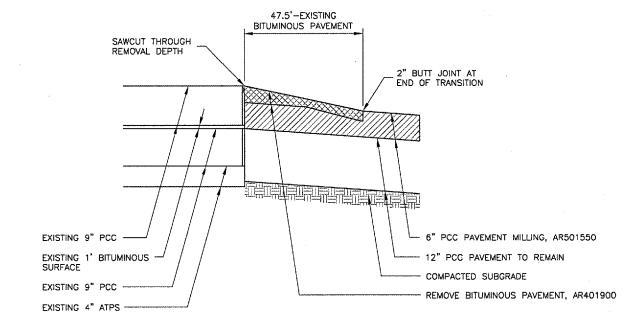




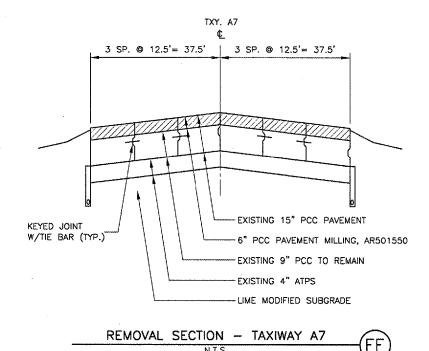


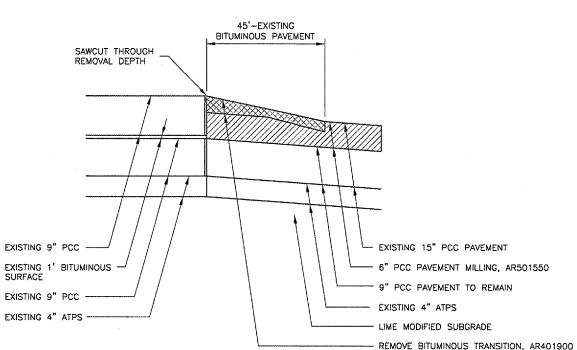


REMOVAL SECTION - TAXIWAY A6







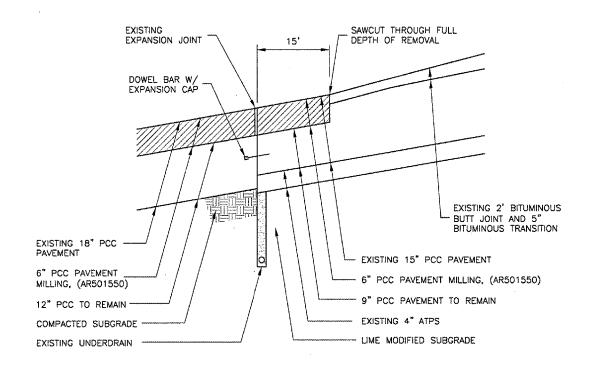


N.T.S.

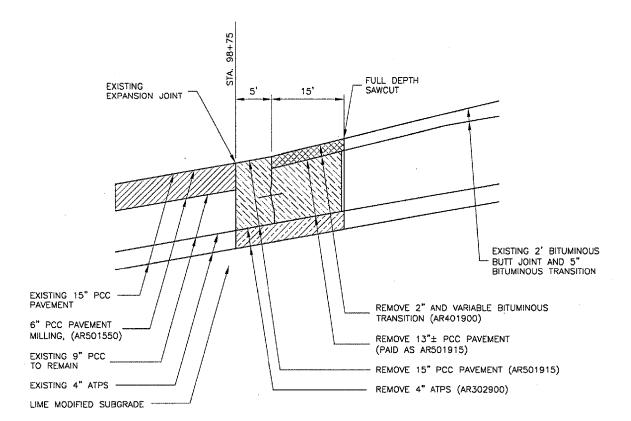
CRAWFORD, CONSULTING License No. 18 REMOVE BITUMINOUS TRANSITION, AR401900 DESIGN BY: REMOVAL SECTION - TAXIWAY A7 AT APRON DRAWN BY: JOB No:

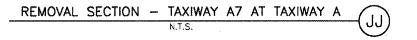
K:\ChampaignAp\030590302 Apron Rehab 2\Draw\ FILE: PVMTRMVLDET2.dwg UPDATE BY: Sean Smith PLOT DATE: 4/28/2007 4:08 PM REVISIONS NUMBER BY DATE THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). SHEET REHABILITATE AIR CARRIER RAMP, PHASE PAVEMENT REMOVAL DETAILS UNIVERSITY OF ILLINOIS WILLARD AIRPORT CMT CHECKED BY: SMB APPROVED BY: 57718 4/27/2007 0305903 CMI-3663 3-17-0016-XX

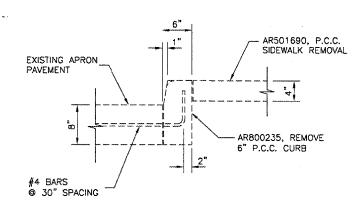
SHEET 14 OF 49 SHEETS





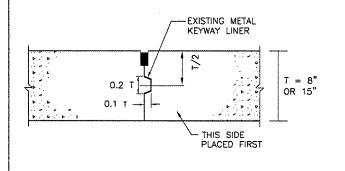




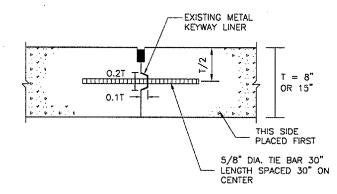


NOTE: ANY DAMAGE TO EXISTING PAVEMENT ADJACENT TO THE REMOVAL LOCATION TO BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE AIRPORT AT NO EXPENSE TO THE CONTRACT.

CURB ADJACENT TO CONCOURSE TYPICAL DETAIL



EXISTING TYPE C KEYED JOINT DETAIL SYMBOL



EXISTING TYPE E HINGED (KEYED) JOINT DETAIL SYMBOL -----

EXISTING KEYED JOINT DETAILS

FILE: MISCREMDET.dwg UPDATE BY: Seon Smith PLOT DATE: 4/28/2007 4:08 PM REVISIONS NUMBER DATE BY THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).

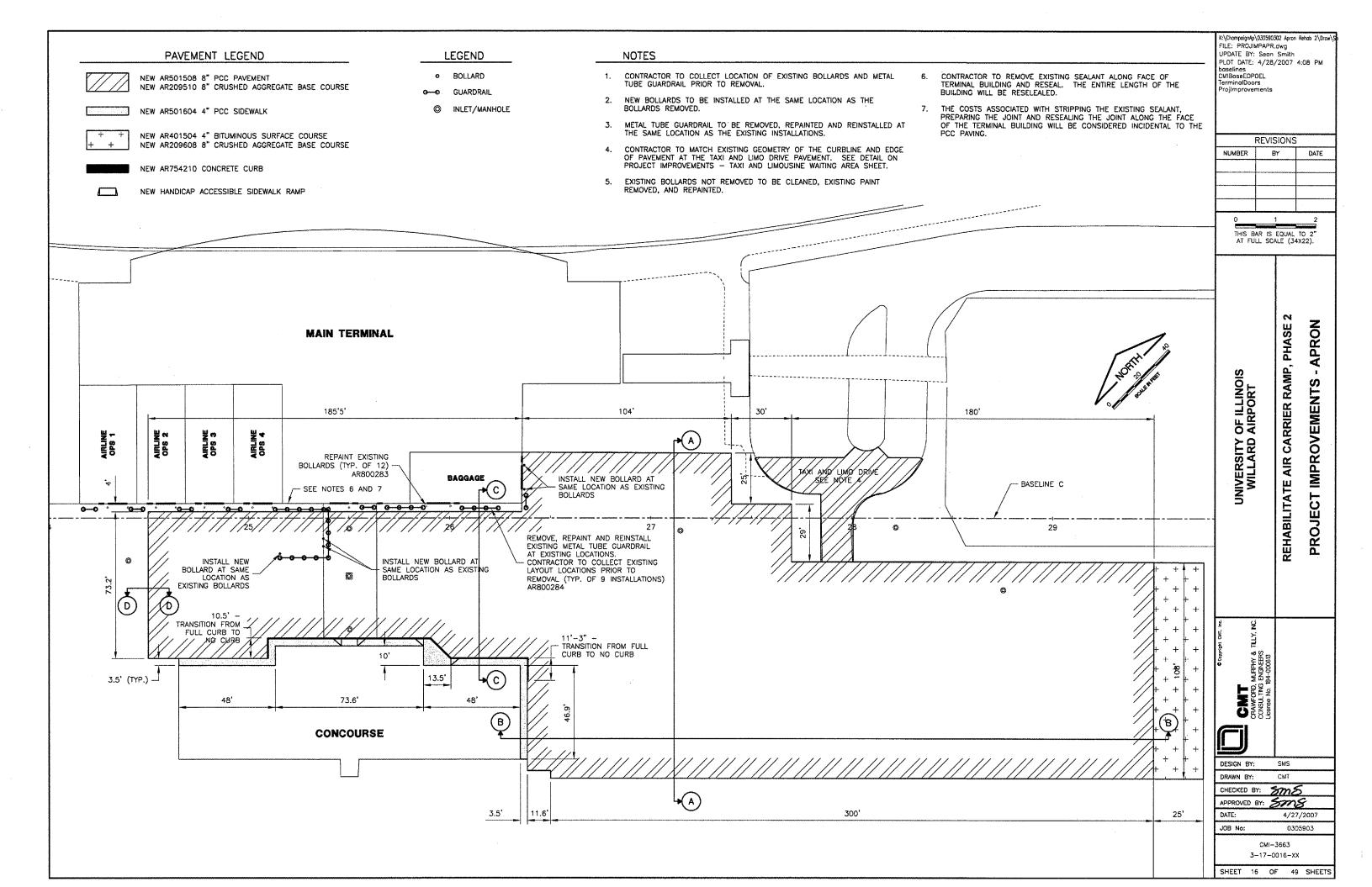
C:\ChampaignAp\030590302 Apron Rehab 2\Draw

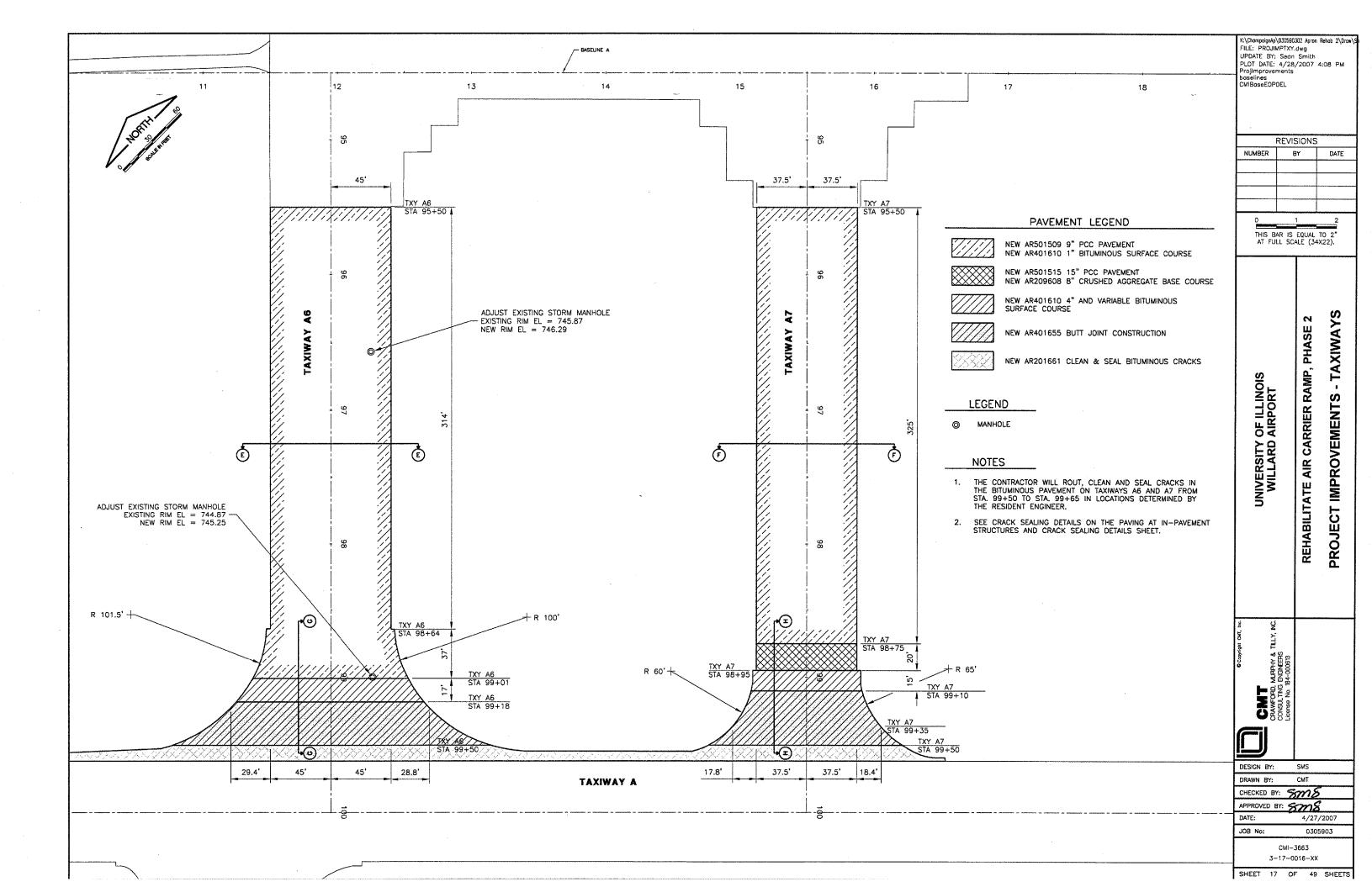
REHABILITATE AIR CARRIER RAMP, PHASE 2 PAVEMENT REMOVAL DETAILS SHEET UNIVERSITY OF ILLINOIS WILLARD AIRPORT

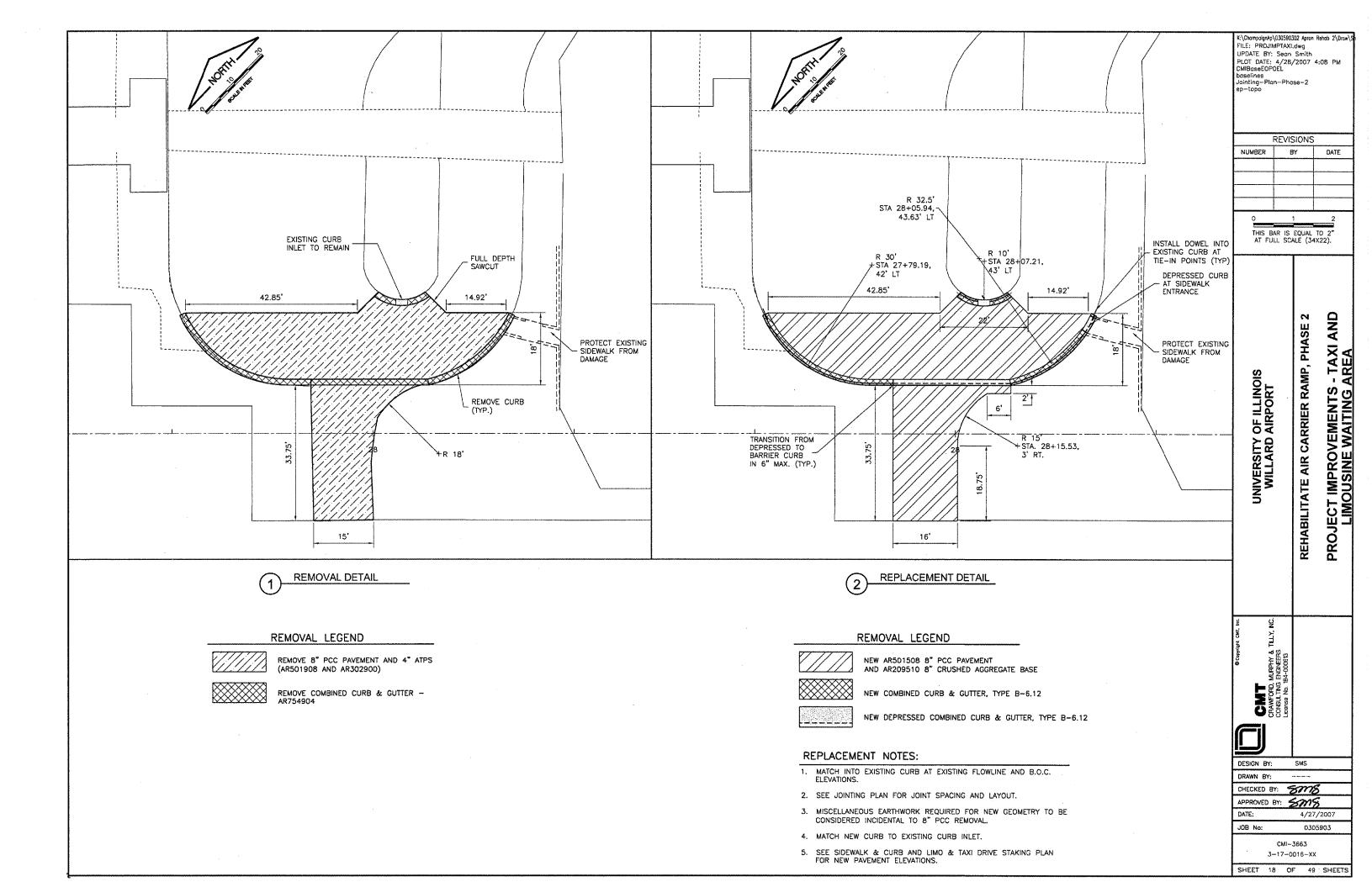
CMT SMS DESIGN BY: CMT CHECKED BY: Sms APPROVED BY: 5778

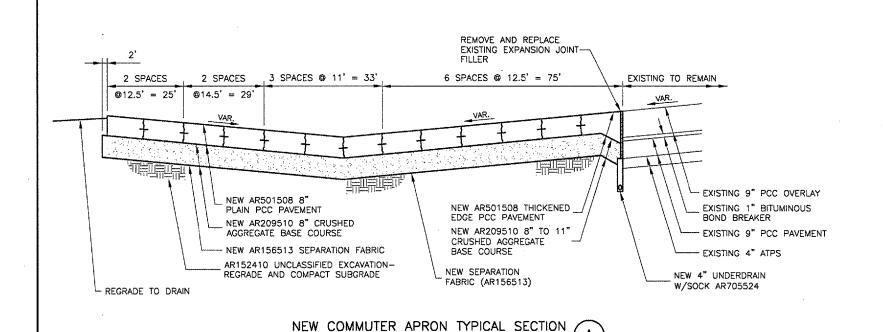
DATE: 4/27/2007 JOB No: 0305903 CMI-3663

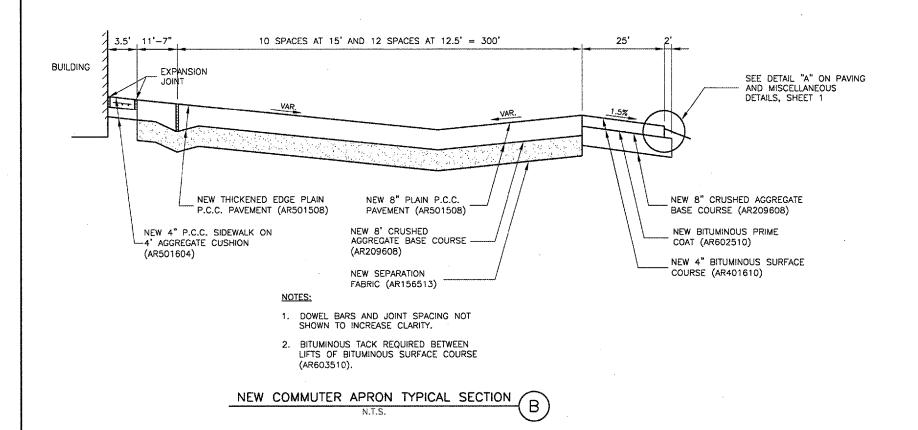
3-17-0016-XX SHEET 15 OF 49 SHEETS

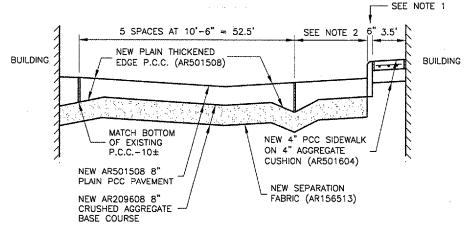








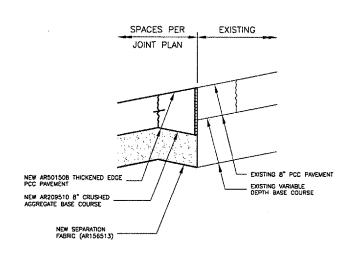




#### NOTES

- 1. CURBLINE STARTS AT BASELINE C STA. 25+09 AND ENDS AT STA. 26+39.
- 2. BASELINE C STA. 25+09 TO STA. 25+90 = 1 SPACE AT 10'-6".
  BASELINE C STA. 24+50 TO BASELINE C STA. 25+09 AND
  BASELINE C STA. 25+90 TO STA. 26+39 =1 SPACE AT 10'-4" AND
  1 SPACE AT 10'-6".

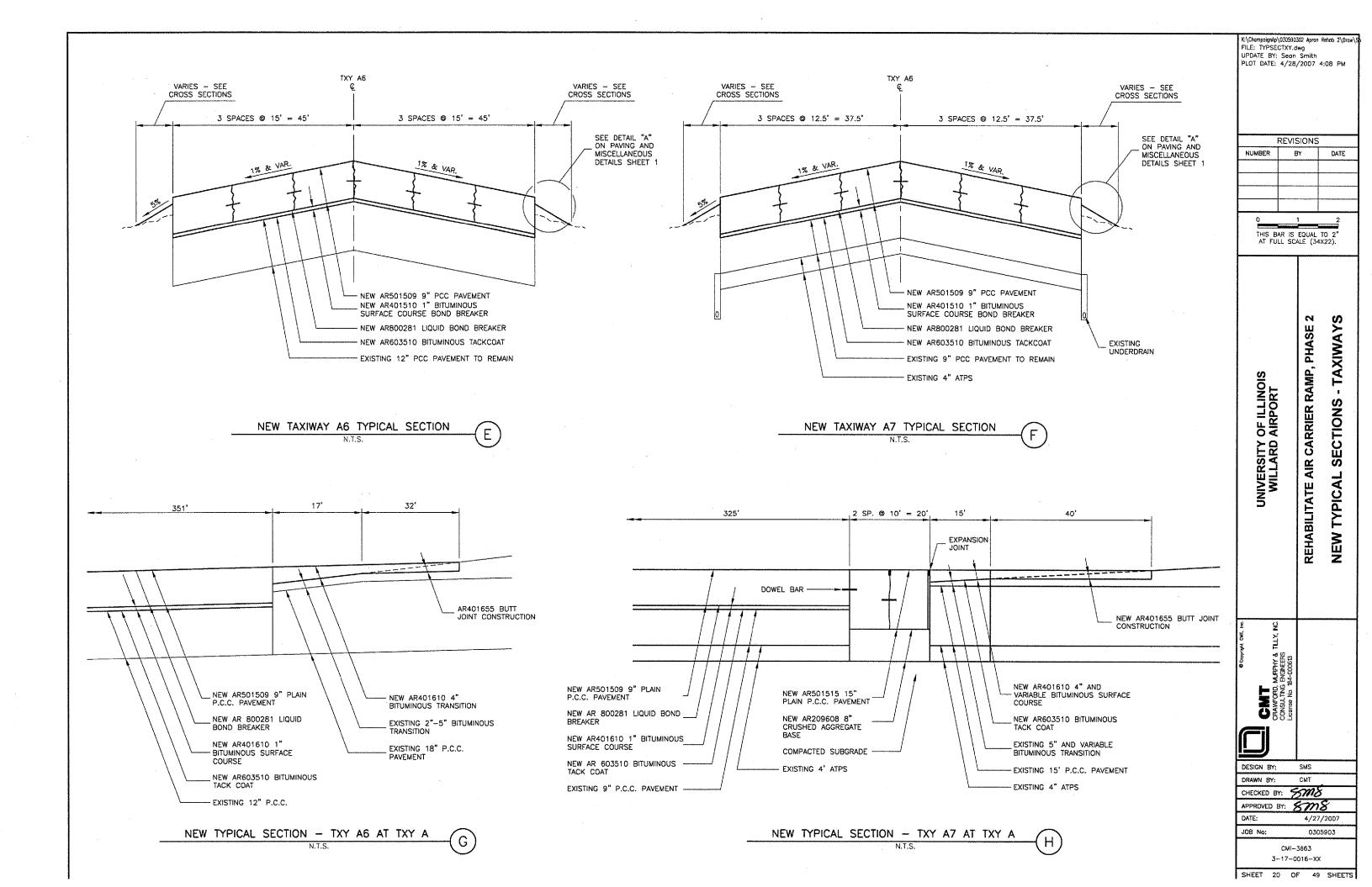
# NEW COMMUTER APRON TYPICAL SECTION C

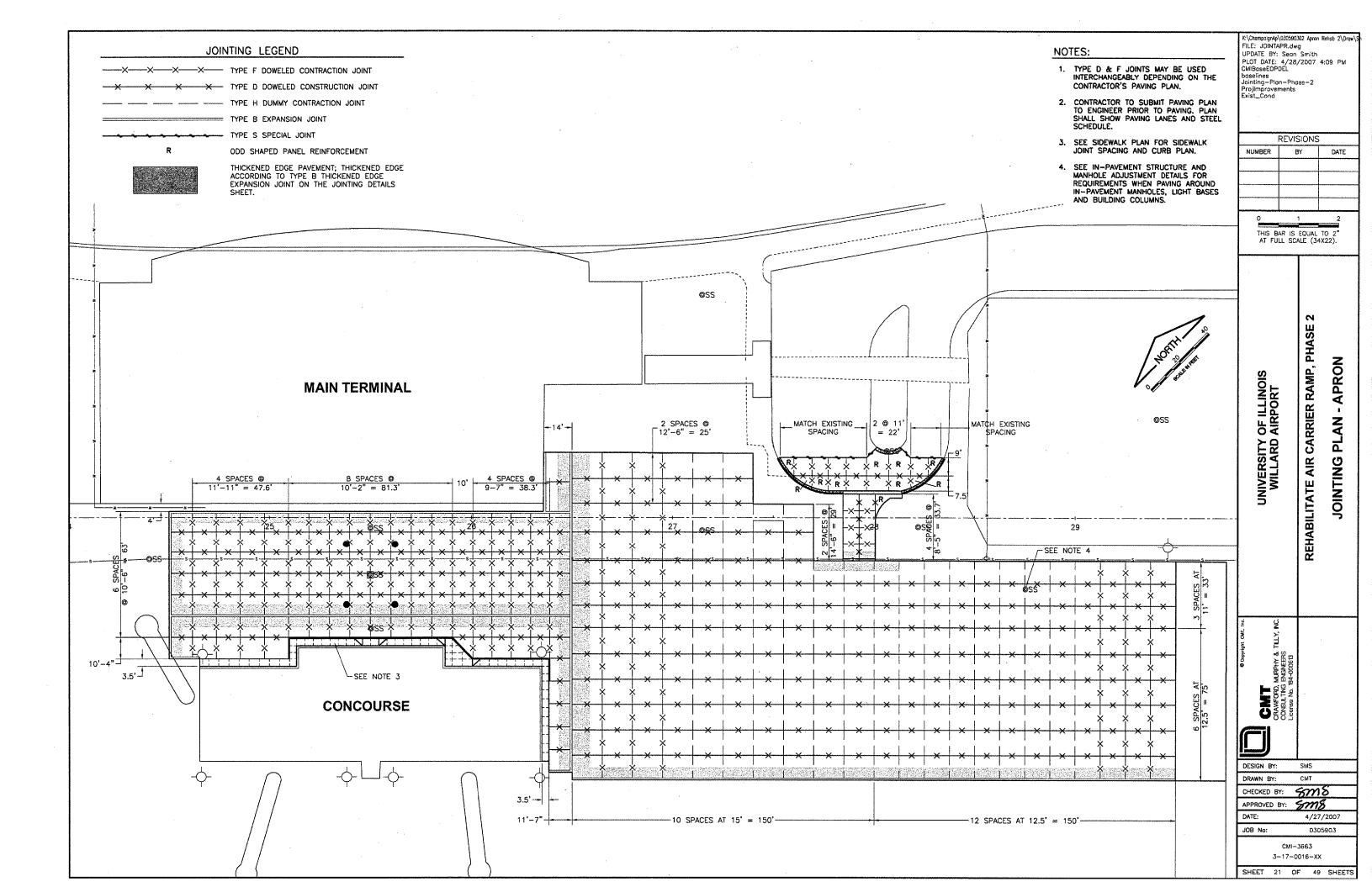


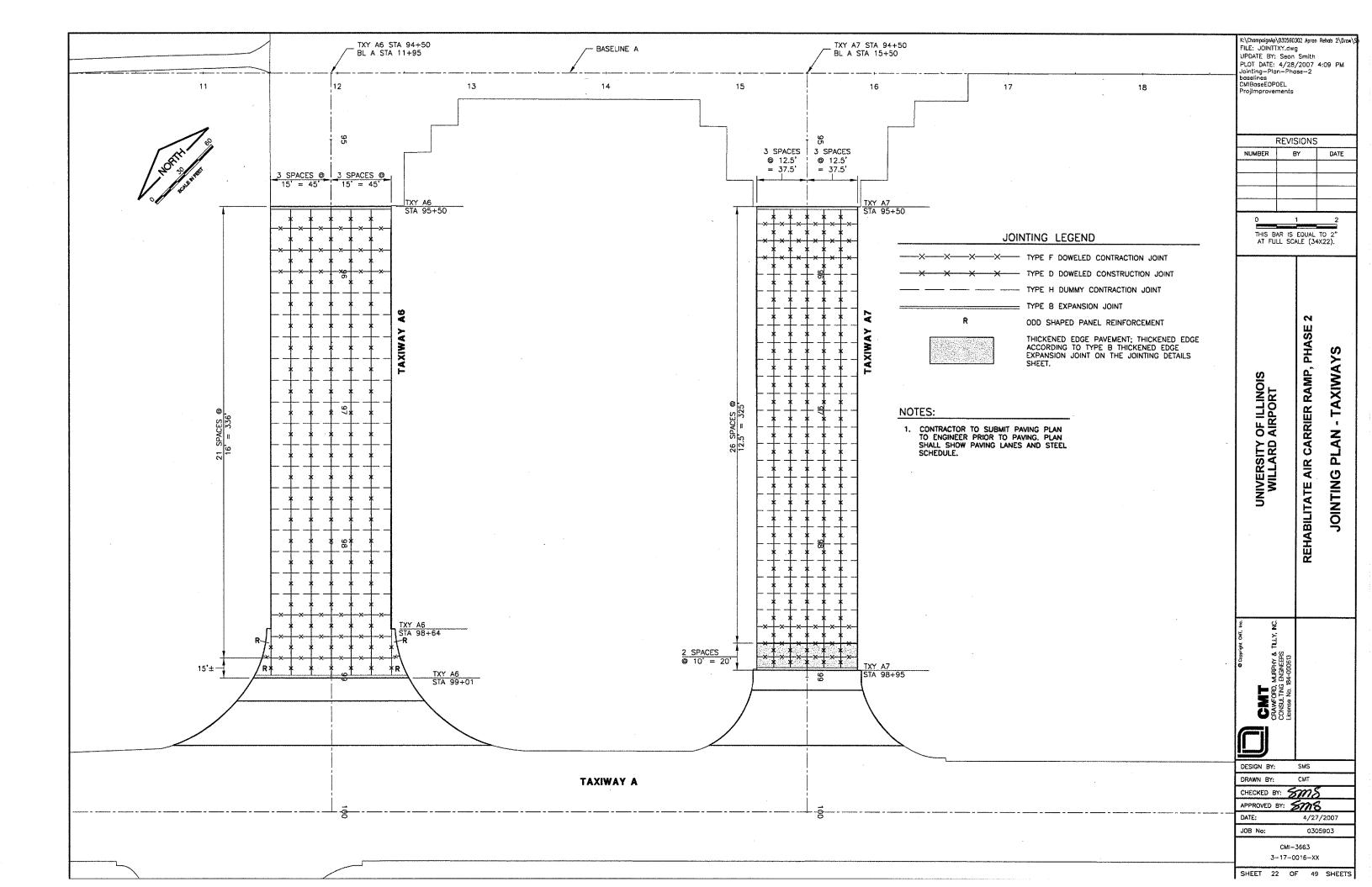
NEW SERVICE PAVEMENT TYPICAL SECTION D

K:\ChampaignAp\03059030Z Apron Rehob 2\Drow\; FILE: TYPSECAPR.dwg UPDATE BY: Sean Smith PLOT DATE: 4/28/2007 4:08 PM REVISIONS NUMBER BY DATE THIS BAR IS EQUAL TO 2' AT FULL SCALE (34X22). - APRON REHABILITATE AIR CARRIER RAMP, PHASE OF ILLINOIS
AIRPORT SECTIONS UNIVERSITY ( **NEW TYPICAL** CRAWFORD, CONSULTING License No. 1 DESIGN BY: DRAWN BY: СМТ CHECKED BY: 8m8 APPROVED BY: Sm8 DATE: 4/27/2007 JOB No: 0305903 CMI-3663

3-17-0016-XX
SHEET 19 OF 49 SHEETS







#### TABLE 1

TABLE !				
PAVEMENT THICKNESS T - INCHES	DEPTH OF CONTRACTION JOINT INITIAL SAW CUT I, INCHES I=(T/4) ±1/4"			
5	1.25″			
6	1.50"			
7	1.75"			
8	2.00"			
9	2.25"			
10	2.50"			
11	2.75"			
12	3.00"			
13	3.25"			
14	3.50"			
15	3.75"			
16	4.00"			
17	4.25"			
18	4.50"			

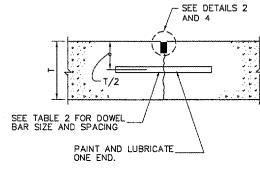
#### TABLE 2

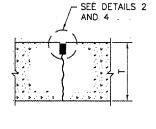
PAVEMENT	DOWEL BAR DETAILS				.S		
THICKNESS T - INCHES	DIA.	LENGTH	SPACING	BAR SIZE	LENGTH	SPACING	
5	5/8"	12"	12"	#4	24"	30"	
6	3/4"	18"	12"	#5	30"	30"	
7	3/4"	18"	12"	#5	30"	30"	
8	1"	19*	12"	<b>#</b> 5	30*	30"	
9	1*	19"	12"	<b>#</b> 5	30"	30"	
10	1"	19"	12"	#5	30"	30"	
11	1"	19"	12"	#5	30"	30"	
12	1"	19"	12"	#5	30"	30"	
13	1 ~ 1/4"	20"	15"	#5	30"	30"	
14	1 - 1/4"	20"	15"	#5	30"	.30"	ĺ
15	1 - 1/4"	20*	15"	<b>#</b> 5	30*	30"	
16	1 1/4"	20"	15"	#5	30"	30"	
17	1 ~ 1/2"	20"	18"	#5	30"	30"	
18	1 - 1/2"	20"	18"	#5	30"	30"	

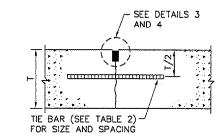
#### JOINT NOTES

- 1.) ALL EDGES OF NEW SLABS, FREE STANDING OR CLOSURE, SHALL BE EDGED WITH AN APPROVED TOOL HAVING A RADIUS OF 1/8" TO 1/4" TO FACILITATE SAWING OF THE SEALANT RESERVOIR. A RADIUS > 1/4" WILL NOT BE ACCEPTABLE.
- 2.) THE INITIAL SAWCUT FOR ALL LONGITUDINAL & TRANSVERSE CONTRACTION JOINTS SHALL BE SAWED AS SOON AS POSSIBLE AFTER PLACEMENT OF THE PAVEMENT.
- 3.) ALL TIE BARS & MESH SHALL BE SECURELY HELD IN PLACE BY SUPPORT PINS OR OTHER APPROVED METHODS TO PREVENT SHIFTING DURING & AFTER
- 4.) TIE BARS SHALL BE DEFORMED BARS IN CONFORMANCE WITH THE SPECIFICATIONS.
- 5.) THE INITIAL SAWCUT SHALL BE MADE TO THE 1/8" WIDTH INDICATED, INITIAL SAWING TO THE DIMENSIONS OF THE SECOND SAWCUT WILL NOT BE
- 6.) ALL SEALANT TO BE HOT/COLD POUR. SILICONE AND PREFORMED SEALANT SHALL NOT BE USED ON THIS PROJECT.
- 7.) ALL JOINTS THAT ARE THE END OF A CONSTRUCTION PHASE TO BE TYPE D DOWELED CONSTRUCTION JOINTS.

#### CONTRACTION JOINTS







TYPE F DOWELED SYMBOL -X-X-X-

- SEE DETAIL 2

THIS SIDE PLACED FIRST

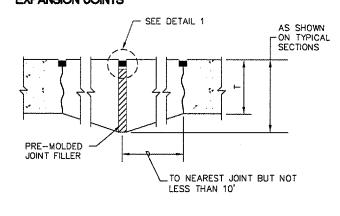
DRILL d + 1/4" DIA, HOLE INTO PAVEMENT, SET DOWEL BAR IN

CHEMICAL ADHESIVE.

TYPE H DUMMY SYMBOL -- --- -- TYPE G HINGED (TIED)

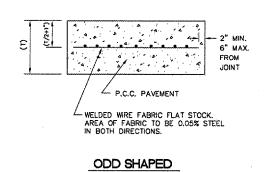
SYMBOL -------

### **EXPANSION JOINTS**



TYPE B THICKENED EDGE

SYMBOL ....



PANEL REINFORCEMENT

#### TYPE D DOWELED

SEE TABLE 2 FOR DOWEL

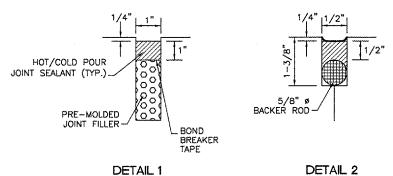
LUBRICATE THIS END -

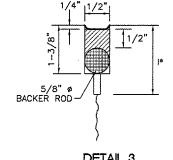
BAR SIZE AND SPACING

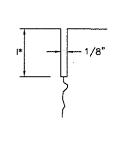
SYMBOL -x -x -x-

#### **JOINT SEALING DETAILS**

**CONSTRUCTION JOINTS** 







DETAIL 3 \*SEE TABLE 1

**DETAIL 4** \*SEE TABLE

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REVISIONS				
NUMBER	BY	DATE		
٥	1	2		

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

# CARRIER RAMP, PHASE OF ILLINOIS AIRPORT **DETAIL** JOINTING UNIVERSITY C REHABILITATE AIR NEW

DESIGN BY: SMS CMT Smi CHECKED BY: APPROVED BY: Sm8 DATE: 4/27/2007

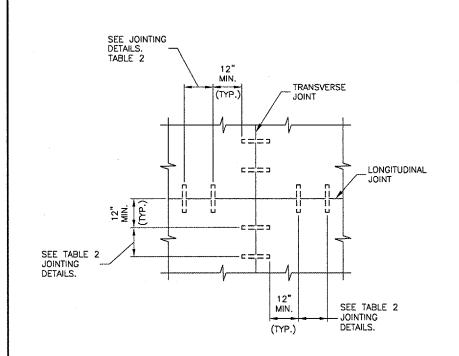
CMT

JOB No:

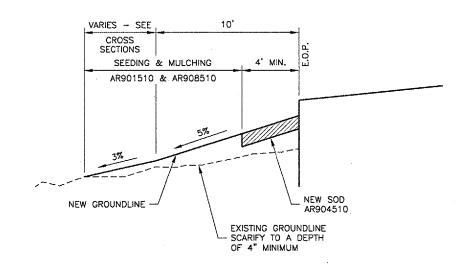
CMI~3663 3-17-0016-XX

0305903

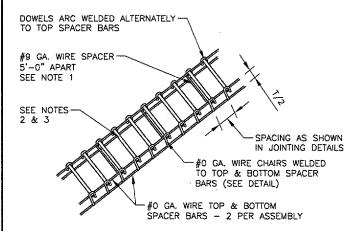
SHEET 23 OF 49 SHEETS



DOWEL INSTALLATION AT JOINT CORNERS DETAIL



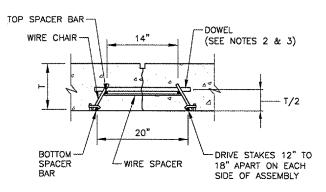
NEW TURF SHOULDER DETAIL "A"



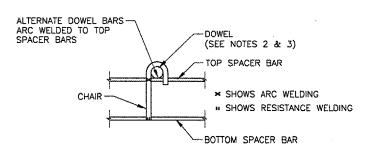
# DOWEL BASKET ASSEMBLY DETAIL

#### DOWEL BASKET NOTES

- 1.) #9 GA. WIRE SPACER BAR ARC WELDED TO THE BOTTOM OF TOP SPACER BAR (MAY BE MECHANICALLY ATTACHED IN LIEU OF WELDING): 3 REQUIRED PER UNIT.
- 2.) DOWEL BAR DIAMETER, LENGTH & SPACING SHALL BE AS SHOWN IN TABLE 2 OF JOINTING DETAILS SHEET.
- 3.) DOWELS SHALL BE EPOXY COATED FULL LENGTH OF DOWEL. IMMEDIATELY PRIOR TO PAVING, THE FREE END OF EACH DOWEL SHALL BE LUBRICATED OR OILED, FOR HALF THE LENGTH OF THE DOWEL ONLY.

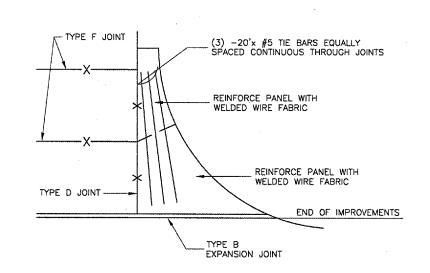


# DOWEL BAR INSTALLATION DETAIL

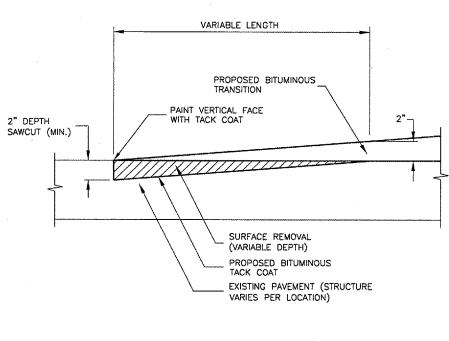


# TYPICAL DOWEL BASKET ELEVATION DETAIL SHOWING CHAIR

DOWEL BASKET DETAILS



FILLET DETAIL AND FILLET REINFORCING DETAIL



BUTT JOINT DETAIL

K:\ChampaignAp\030590302 Apron Rehab 2\Draw\FILE: PAVMISCDET.dwg
UPDATE BY: Sean Smith PLOT DATE: 4/28/2007 4:09 PM

> REVISIONS NUMBER BY DATE

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

SHE PHASE **DETAILS** REHABILITATE AIR CARRIER RAMP, OF ILLINOIS
AIRPORT MISCELLANEOUS UNIVERSITY (

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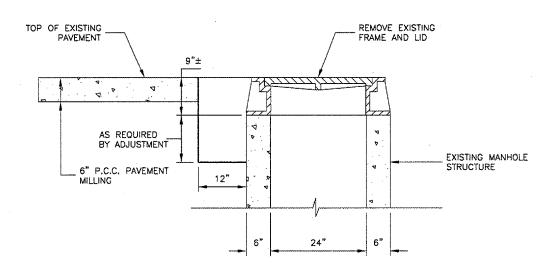
**PAVING** 

DESIGN BY: CMT DRAWN BY: CHECKED BY: <u>Sm8</u> APPROVED BY: Sms

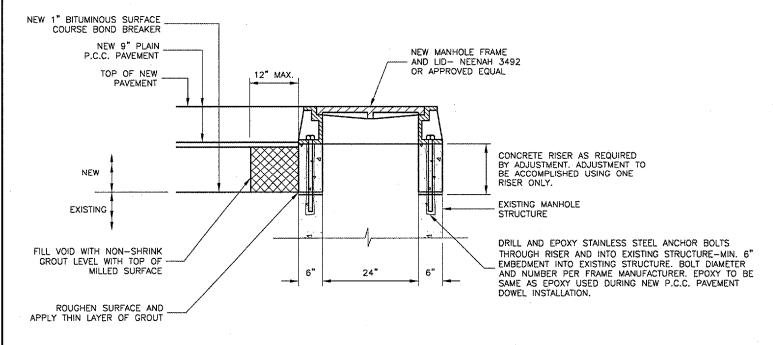
DATE: 4/27/2007 JOB No: 0305903

CMI-3663 3-17-0016-XX

SHEET 24 OF 49 SHEETS



#### BEFORE ADJUSTMENT



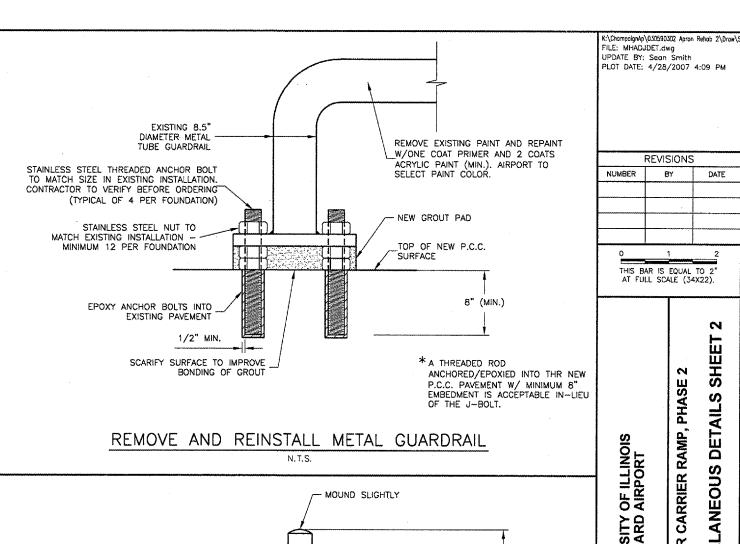
AFTER ADJUSTMENT

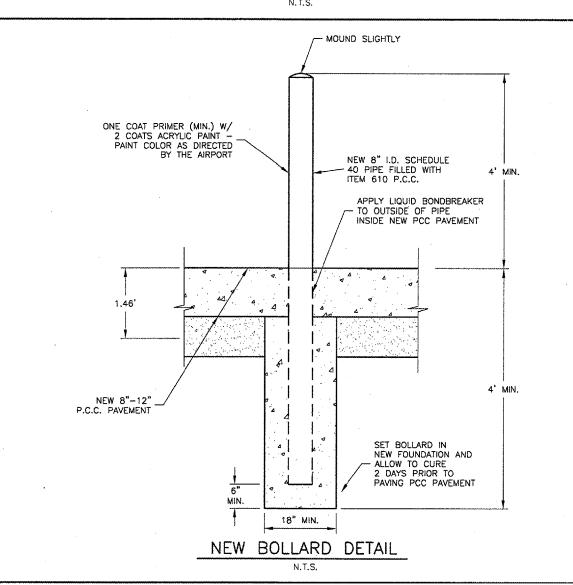
#### MANHOLE NOTES

1.) HEIGHT OF ADJUSTMENT SHOWN ON PROJECT IMPROVEMENTS SHEETS.

IN PAVEMENT MANHOLE ADJUSTMENT

N.T.S.





FILE: MHADJDET.dwg UPDATE BY: Sean Smith PLOT DATE: 4/28/2007 4:09 PM REVISIONS

NUMBER BY DATE

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

2

臣日 SH REHABILITATE AIR CARRIER RAMP, PHASE DETAILS UNIVERSITY OF ILLINOIS WILLARD AIRPORT MISCELLANEOUS **PAVING AND** CRAWFORD, CONSULTING DESIGN BY: SMS DRAWN BY: CMT

CHECKED BY: 3m8

8ms

CMI-3663

3-17-0016-XX SHEET 25 OF 49 SHEETS

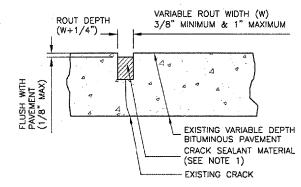
4/27/2007

0305903

APPROVED BY:

DATE:

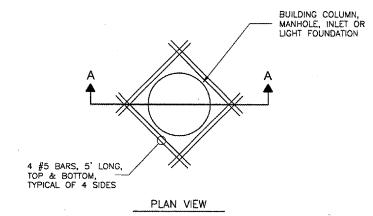
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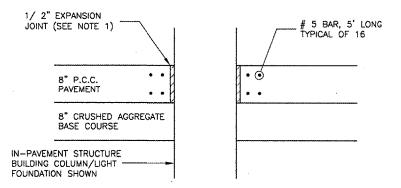


# CLEAN & SEAL BITUMINOUS CRACKS (AR201661)

#### NOTES:

- 1. THE CRACK ROUTING DIMENSIONS WILL PROVIDE A WIDTH TO DEPTH RATIO OF 1:1 FOR SEALANT MATERIAL.
- CRACKS TO BE ROUTED, CLEANED AND SEALED AT LOCATIONS DESIGNATED BY THE RESIDENT ENGINEER.





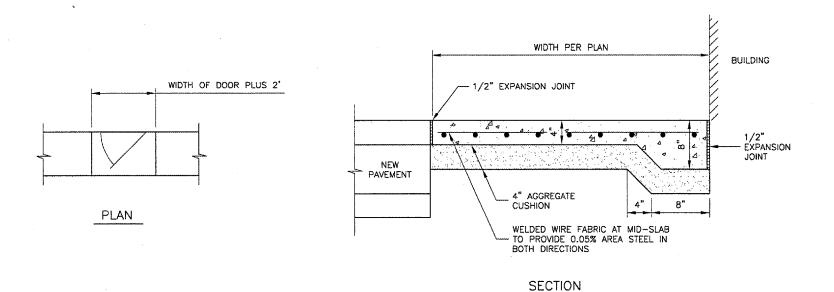
SECTION A-A

## P.C.C. PAVING AT IN-PAVEMENT STRUCTURES

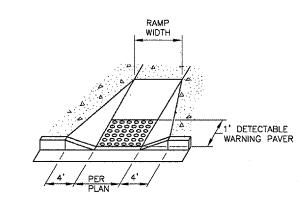
NOTES;

- 1. A MINIMUM 1/2" EXPANSION IS REQUIRED AT BUILDING COLUMNS AND LIGHT FOUNDATIONS. IN-PAVEMENT MANHOLES AND INLETS MAY HAVE THE EXPANSION JOINT ELIMINATED AT THE DISCRETION OF THE RESIDENT ENGINNER. THE EXPANSION JOINTS WILL BE SEALED.
- JOINT LOCATIONS SHOWN ARE FOR ILLUSTRATIVE PURPOSES AND MAY NOT REFLECT ACTUAL FIELD CONDITIONS.
- PAVEMENT LEADING UP TO IN~PAVEMENT MANHOLES AND INLETS DESIGNED TO ACCEPT STORMWATER RUNOFF WILL BE SLOPED TOWARDS THE DRAIN.
- 4. A MINIMUM OF 2-INCH COVER IS REQUIRED OVER THE TIE BARS LOCATED AS SHOWN IN THE DETAIL.
- ANY DAMAGE TO THE EXISTING IN-PAVEMENT STRUCTURES CAUSED BY THE CONTRACTOR'S OPERATIONS WILL BE REPAIRED BY HIM AT HIS EXPENSE PRIOR TO COMPLETING THE P.C.C. PAVING.

K:\ChampoignAp\030590302 Apron Rehab 2\Draw\ FILE: PAVDET-STRUCT.dwg UPDATE BY: Sean Smith PLOT DATE: 4/28/2007 4:09 PM REVISIONS NUMBER BY DATE THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). PAVING AT IN-PAVEMENT STRUCTURES AND CRACK SEALING DETAILS REHABILITATE AIR CARRIER RAMP, PHASE UNIVERSITY OF ILLINOIS WILLARD AIRPORT CMT DESIGN BY: SMS DRAWN BY: CMT Sms CHECKED BY: Sms DATE: 4/27/2007 JOB No: 0305903 CMI-3663 3-17-0016-XX SHEET 26 OF 49 SHEETS



SIDEWALK AT DOORS



# SIDEWALK RAMPS

CONTRACTION JOINTS AT LOCATIONS
SHOWN IN PLANS. 1/2" EXPANSION
JOINT IS REQUIRED EVERY 30' MAXIMUM.

NEW WELDED WIRE FABRIC
TO PROVIDE MIN. 0.05% AREA STEEL
NEW 4" PCC
NEW 4" AGGREGATE CUSHION

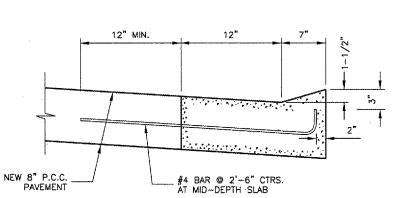
AR501604 NEW 4" PCC SIDEWALK

# NEW 8" P.C.C. PAVEMENT #4 BAR © 2'-6" CENTERS

NEW AR754210 CONCRETE CURB

#### SIDEWALK AND CURB NOTES:

- NEW CURB DETAILS MATCH RECORDS OF EXISTING CURB AS BUILT IN FIELD. ADJUSTMENT MAY BE REQUIRED AT TIE—IN POINTS OF NEW CURB TO EXISTING CURB.
- 2. SIDEWALK RAMP CONSTRUCTION, INCLUDING DETECTABLE WARNING PAVERS, INCIDENTAL TO
- CONTRACTION JOINTS ARE REQUIRED IN THE NEW CURB CONSTRUCTION. JOINTS MUST MATCH JOINTING IN NEW PCC PAVEMENT.
- 4. 1 EXPANSION JOINT IS REQUIRED AT THE BUILDING FACE AND BACK OF CURB OR NEW PCC PAYEMENT, DEPENDING ON LOCATION IN THE NEW SIDEWALK CONSTRUCTION
- 5. 3" EXPANSION JOINTS SPACED A MAXIMUM OF 30 FEET ON CENTERS ARE REQUIRED IN THE NEW SIDEWALK. THE EXPANSION JOINT WILL BE IN PLACE OF A CONTRACTION JOINT AT THAT LOCATION. EXPANSION JOINTS WILL BE PLACED AT THE END OF EACH DAY'S PLACEMENT IN THE SIDEWALK CONSTRUCTION.
- EXTEND 8" AGGREGATE BASE COURSE TO BACK OF CURB PLUS 1 FOOT MAXIMUM.



BOTTOM OF NEW P.C.C. CURB

CONCOURSE

END OF CURB DETAIL

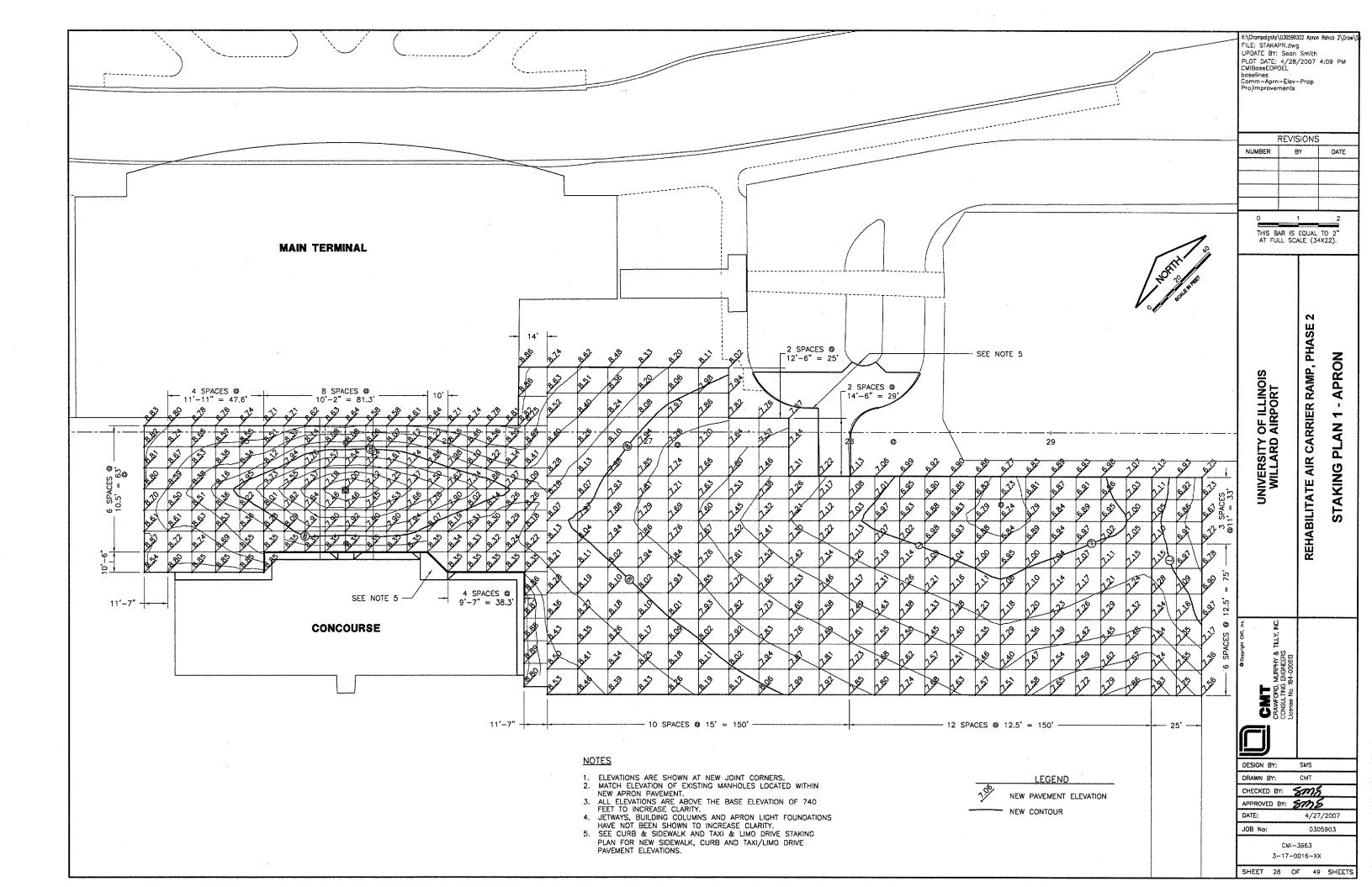
NEW SIDEWALK

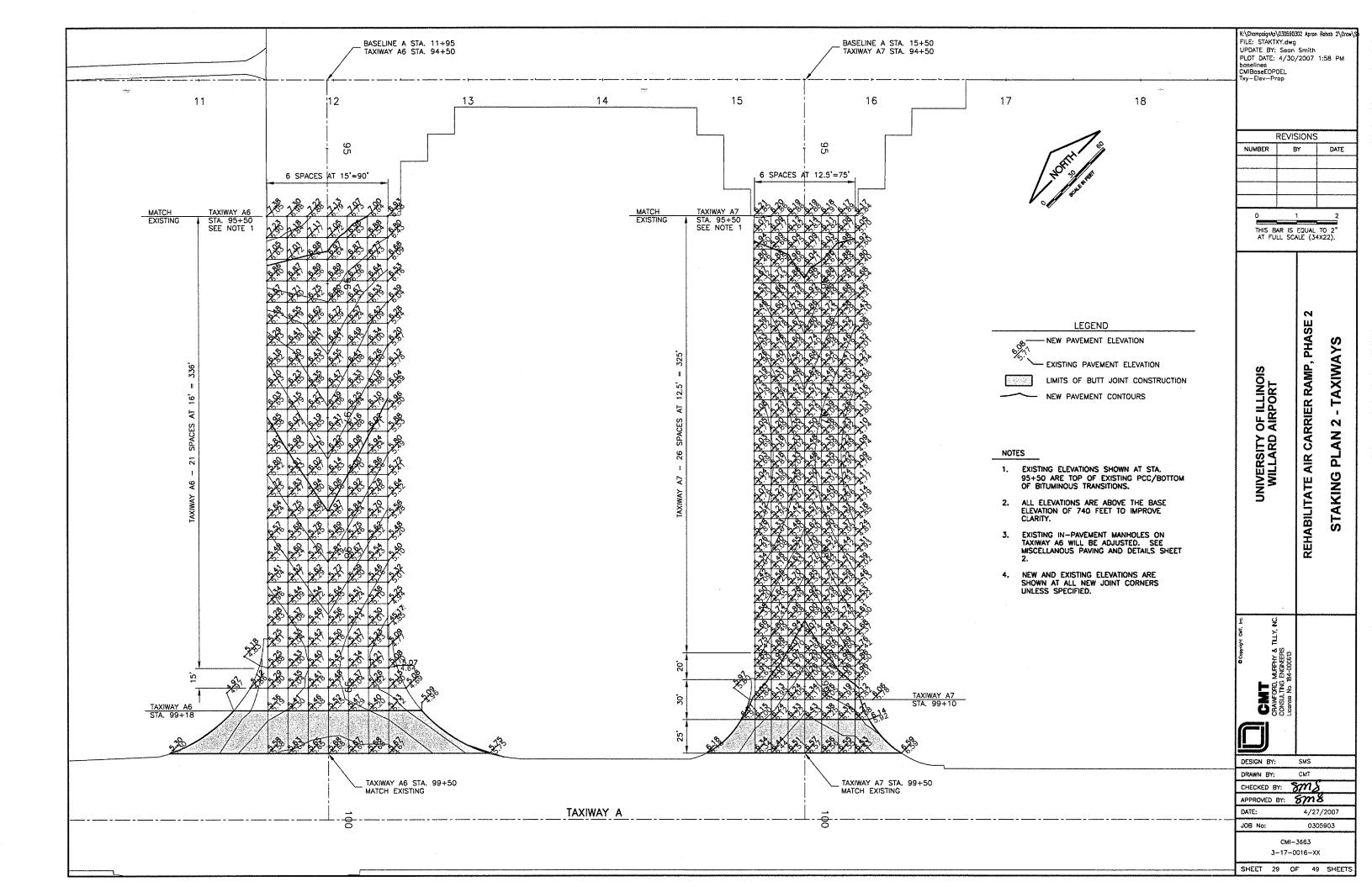
DEPRESSED

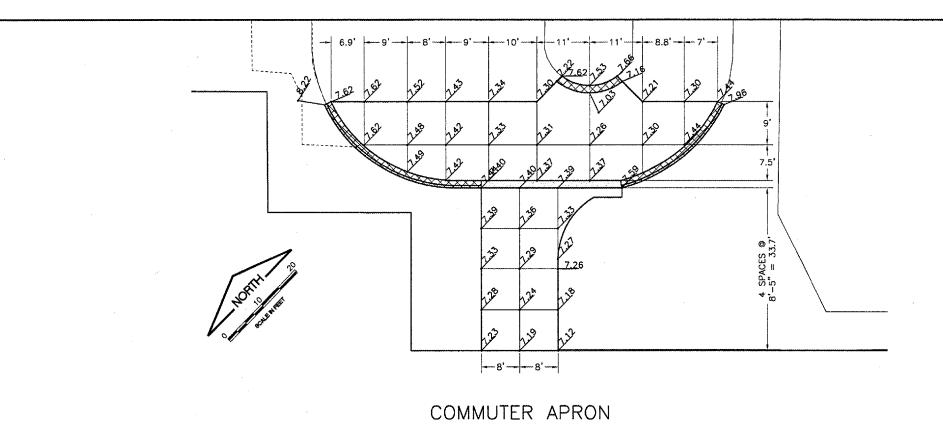
REVISIONS BY NUMBER DATE THIS BAR IS EQUAL TO 2' AT FULL SCALE (34X22). PHASE RAMP, OF ILLINOIS AIRPORT CURB REHABILITATE AIR CARRIER AND SIDEWALK SMS DPA 8M8 CHECKED BY: APPROVED BY: mo 4/27/2007 0305903 CMI~3663 3-17-0016-XX SHEET 27 OF 49 SHEETS

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FILE: CURBDTL..dwg UPDATE BY: Sean Smith PLOT DATE: 4/28/2007 4:09 PM







ELEVATIONS ARE SHOWN AT NEW JOINT CORNERS FOR TAXI AND LIMO DRIVE IMPROVEMENTS. ALL ELEVATIONS ARE ABOVE THE BASE ELEVATION OF 740 FEET TO INCREASE CLARITY. SEE APRON STAKING PLAN AND TAXIWAYS STAKING PLAN FOR APRON, TAXIWAY A6 AND TAXIWAY A7 NEW PAVEMENT ELEVATIONS. SEE SIDEWALK AND CURB DETAILS SHEET FOR NEW SIDEWALK AND CURB CONSTRUCTION DETAILS. UNIVERSITY OF ILLINOIS WILLARD AIRPORT TAXIWAY AND LIMO DRIVE NEW PAVEMENT AND CURB ELEVATIONS 1/2" EXPANSION JOINT -1/2" EXPANSION JOINT 1/2" -EXPANSION JOINT 2 SPACES @ 3'-7-1/2" = 7.25' 4 SPACES @ 7 SPACES @ CONCOURSE 1/2" EXPANSION JOINT -DESIGN BY: LIMIT OF IMPROVEMENTS DATE: 3.5'--JOB No: NEW SIDEWALK AND CURB ELEVATIONS SHEET 30 OF 49 SHEETS

K:\ChampaignAp\030590302 Apron Rehab 2\Draw\ K:\ChompaignAp\030930302 Apron Rehab 2\Dro FILE: SIDEWLKPLAN.dwg UPDATE BY: Sean Smith PLOT DATE: 4/28/2007 4:10 PM Jointing-Plan-Phase-2 Projimprovements CMiBaseEOPOEL Limo-Eley--Prop

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REVISIONS				
NUMBER	BY	DATE		

LEGEND NEW PAVEMENT OR CURB ELEVATION

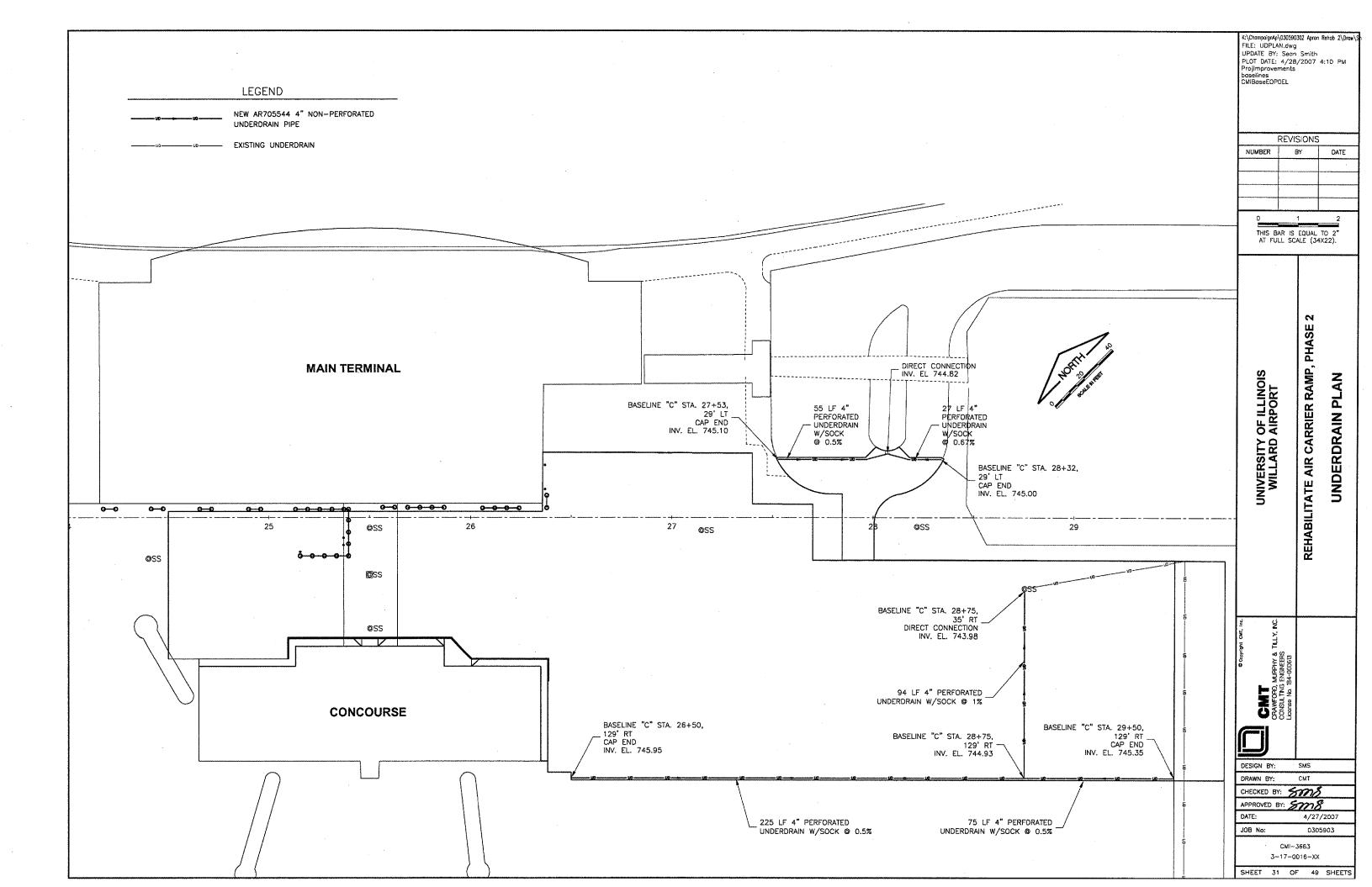
THIS BAR IS EQUAL TO 2' AT FULL SCALE (34X22).

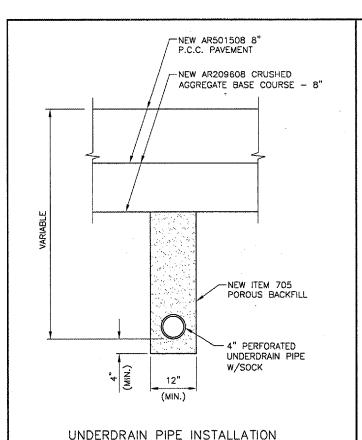
REHABILITATE AIR CARRIER RAMP, PHASE SIDEWALK AND CURB PLAN TAXI AND LIMO DRIVE PLAN

DPA 8m8 APPROVED BY: 57778

4/27/2007

CMI-3663 3-17-0016-XX





DEPTH PER 0 EXISTING 9" NEW AR501508 8" - 12" P.C.C. PAVEMENT P.C.C. PAVEMENT EXISTING 1" NEW AR209608 CRUSHED BITUMINOUS SURFACE AGGREGATE BASE COURSE- 8" EXISTING 9" P.C.C. PAVEMENT EXISTING 4" ATPS - TOP OF NEW ITEM 705 POROUS BACKFILL TO BE FLUSH WITH TOP OF EXISTING ATPS

UNDERDRAIN INSTALLATION AT

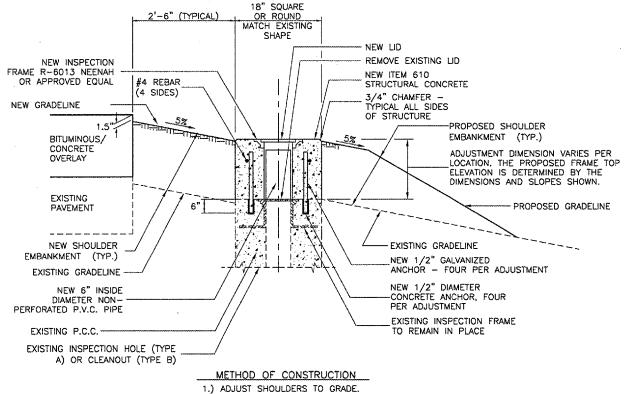
EDGE OF EXISTING ATPS DETAIL

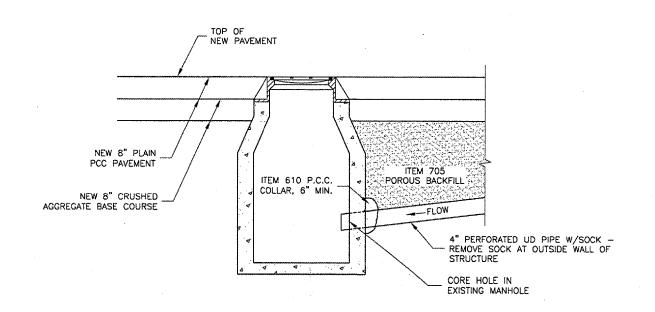
4" PERFORATED UNDERDRAIN W/SOCK 4" PVC TEE FITTING 4" PERFORMED 4" PERFORMED UNDERDRAIN W/SOCK UNDERDRAIN W/SOCK

3-WAY UNDERDRAIN CONNECTION DETAIL

BELOW PAVEMENT DETAIL

N.T.S.





DIRECT CONNECTION DETAIL N.T.S.

JOB No: CMI-3663 3-17-0016-XX

REVISIONS NUMBER BY DATE

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PLOT DATE: 4/28/2007 4:10 PM

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UPDATE BY: Sean Smith

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

OF ILLINOIS
AIRPORT DETAIL

CARRIER RAMP, UNDERDRAIN UNIVERSITY ( AIR ILITATE / REHABII

CRAWFORD, CONSULTING SMS DESIGN BY:

CMT CHECKED BY: SMS APPROVED BY: 57778 DATE: 4/27/2007

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SHEET 32 OF 49 SHEETS

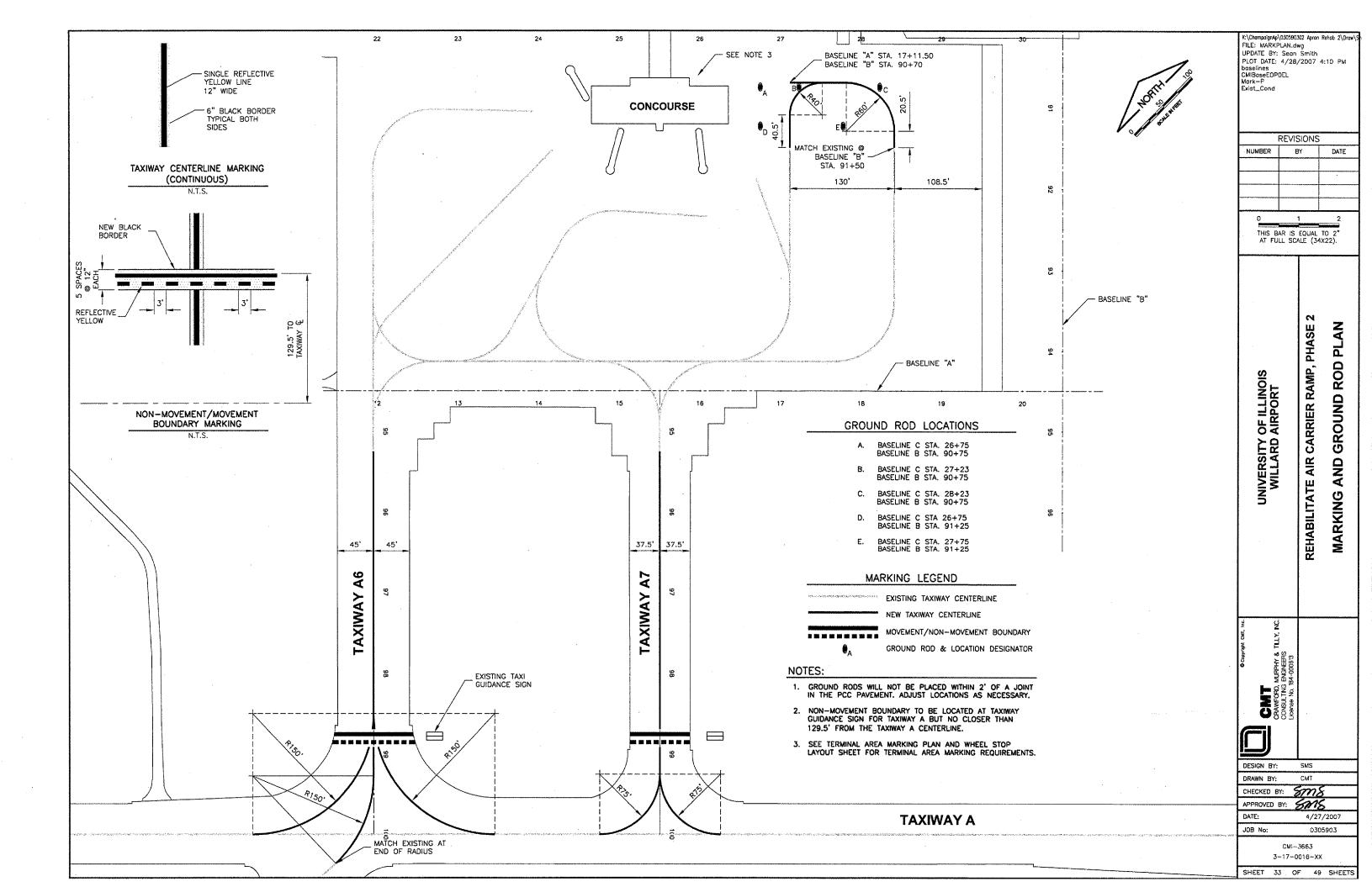
CLEANOUT/INSPECTION HOLE ADJUSTMENT -IN TURF DETAIL

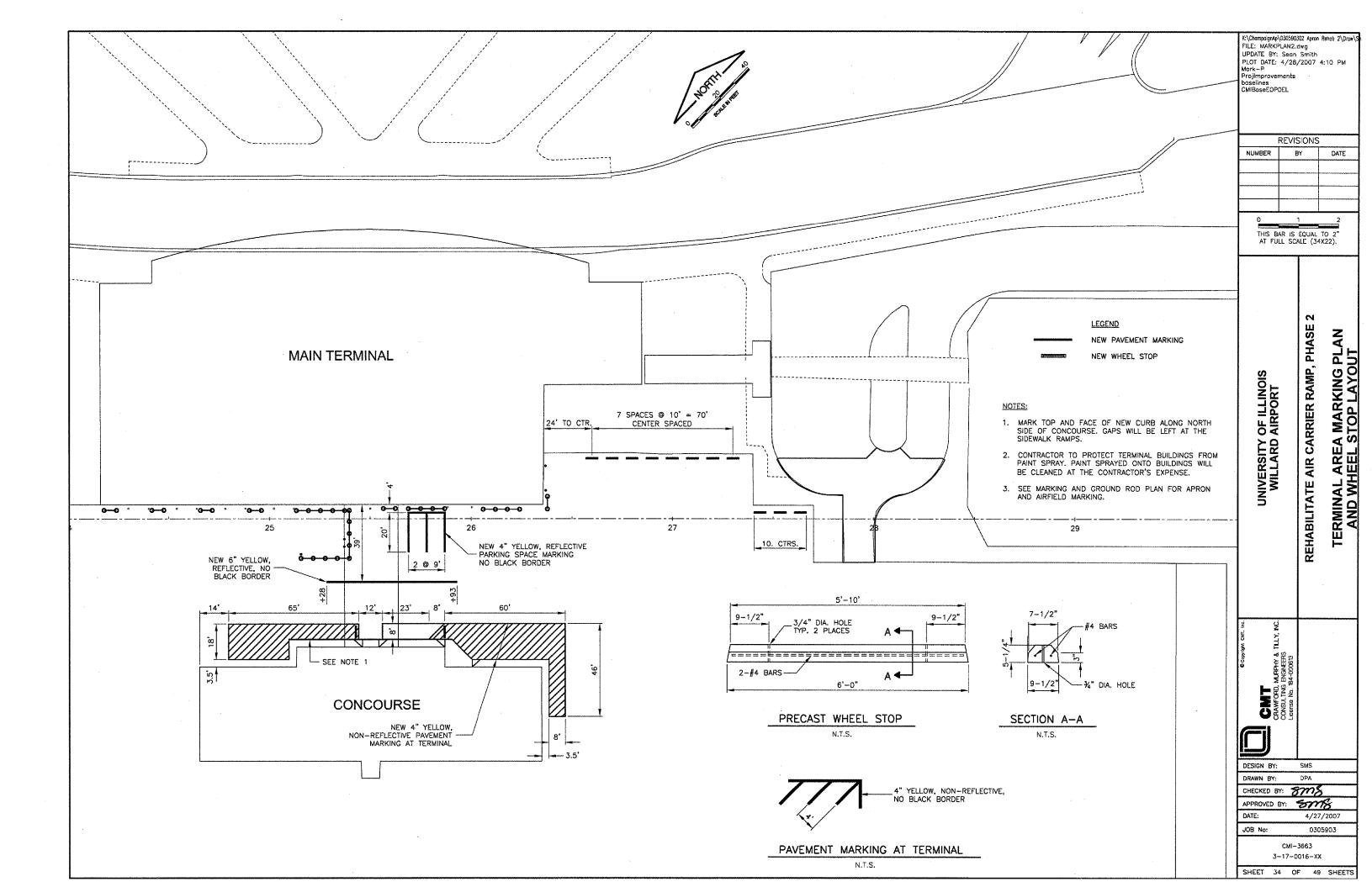
2.) EXCAVATE CLEANOUT/INSPECTION HOLE AND ADJUST TO PROPER

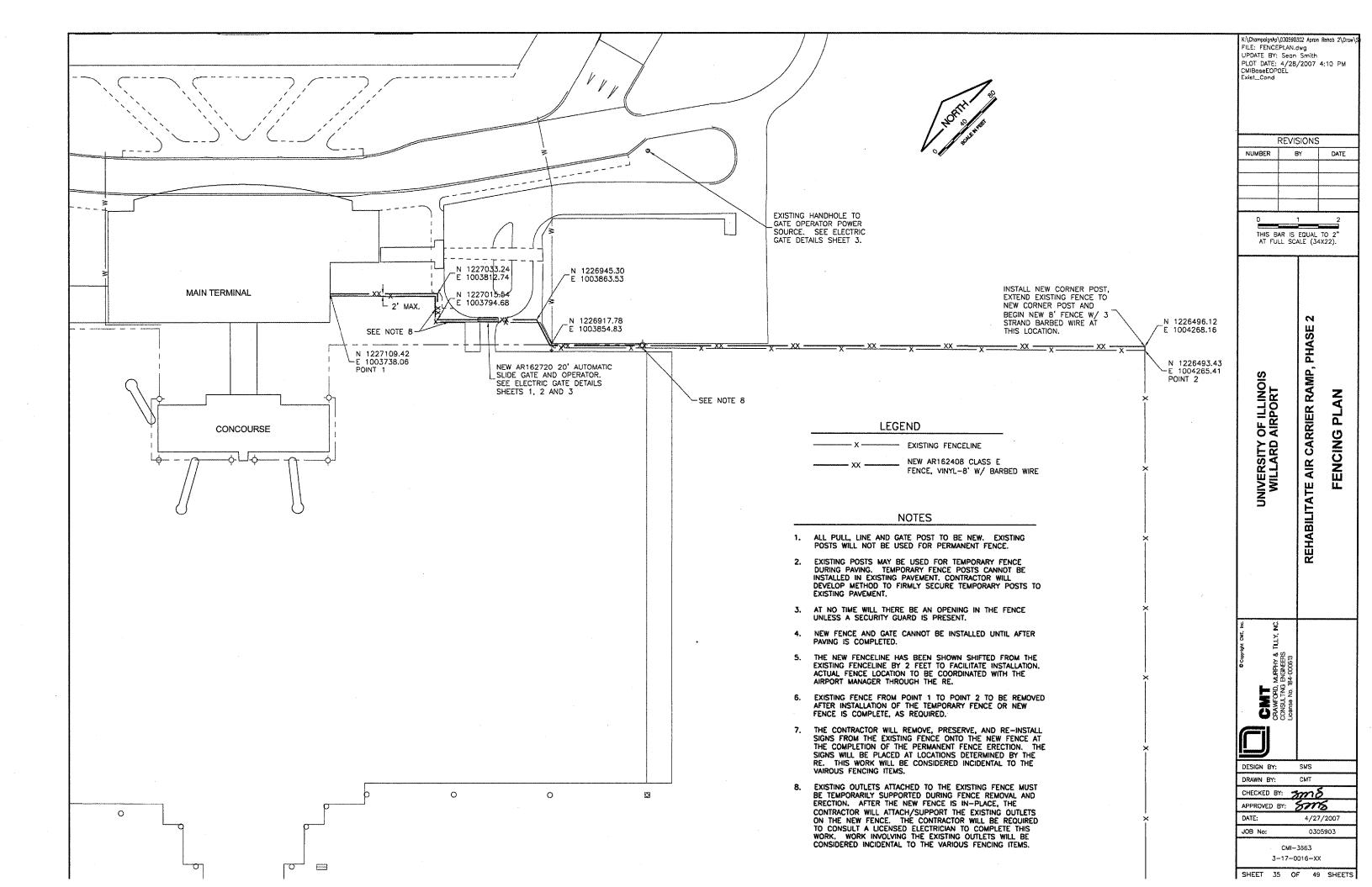
3.) BACKFILL EXCAVATED MATERIAL.

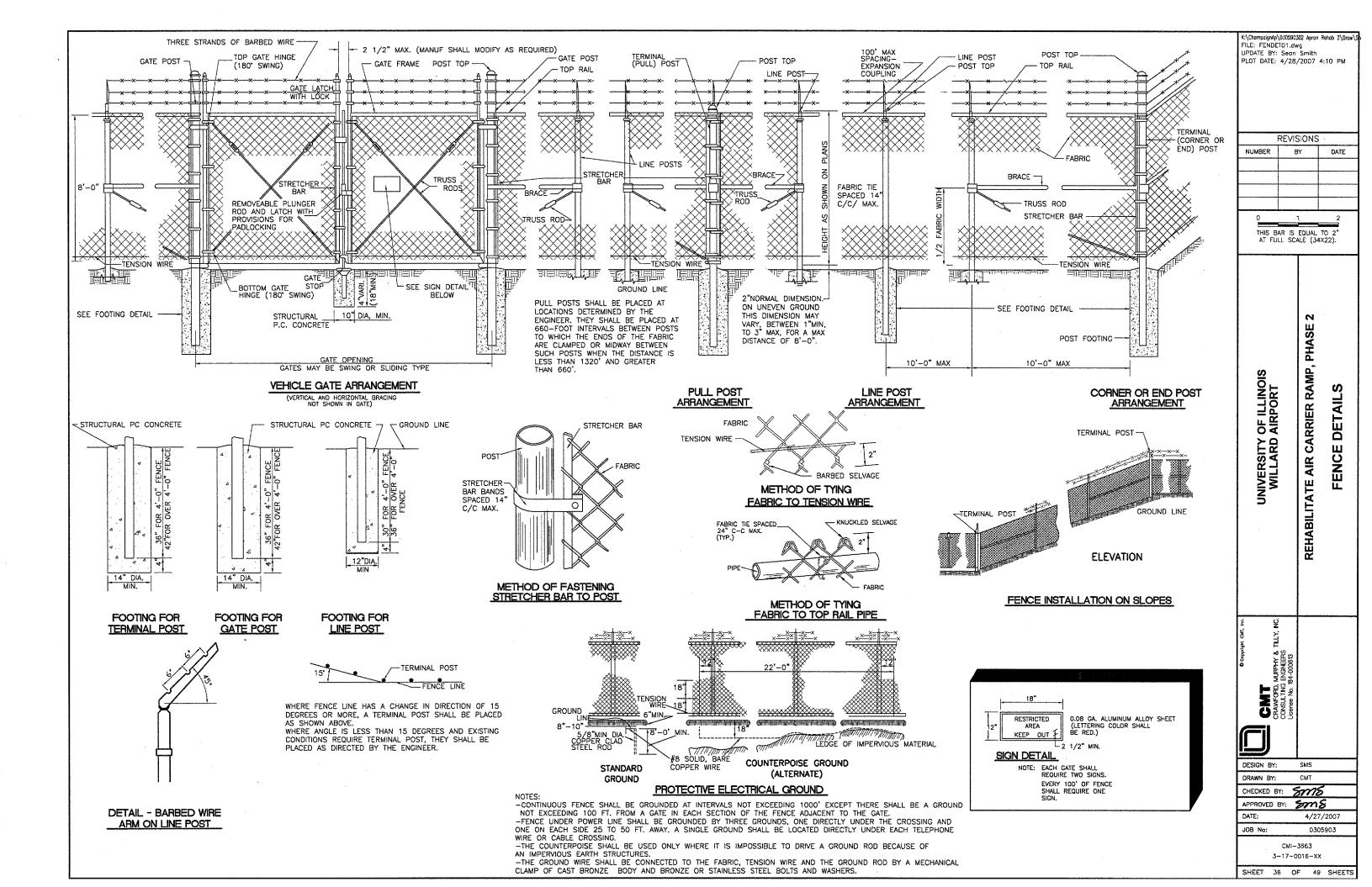
GRADE.

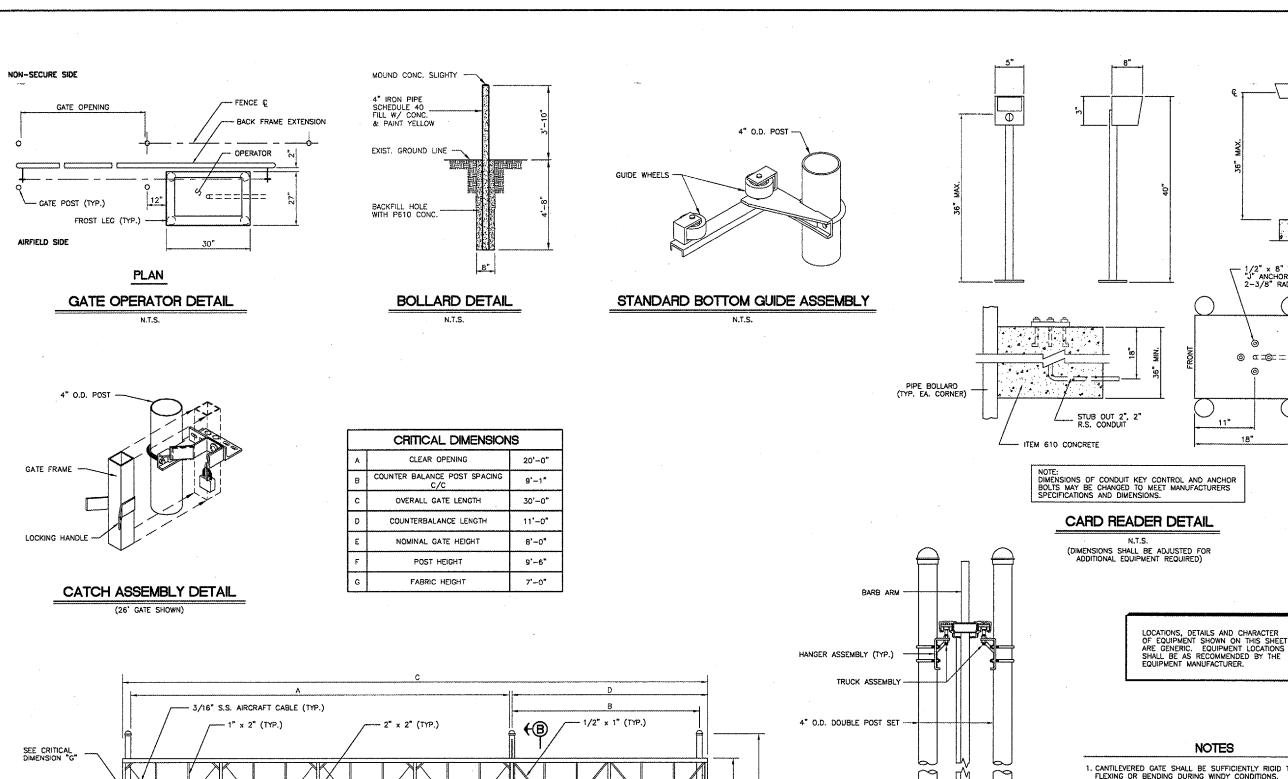
N.T.S.











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SEE CATCH ASSEMBLY DETAIL

FINISHED GRADE

10

ATTACH

3

**ELEVATION** 

CANTILEVER SLIDE GATE

(26' GATE SHOWN)

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WILLARD AIRPORT DETAILS GATE ELECTRICAL CRAWFORD, I CRAWFORD, I CONSULTING LICENSE No. 18 CMT СМТ Sm8 CHECKED BY: APPROVED BY: 5m8 JOB No: 0305903

NOTES

- 1/2" x 8" THREADED "J" ANCHOR BOLTS ON 2-3/8" RAD. (4 REQD.)

@ a =@======

1. CANTILEVERED GATE SHALL BE SUFFICIENTLY RIGID TO WITHSTAND FLEXING OR BENDING DURING WINDY CONDITIONS. CONTRACTOR SHALL PROVIDE STIFFENERS, STRUCTURAL SHAPES IN EXCESS OF THE MINIMUM SPECIFIED DIMENSIONS OR ADDITIONAL ROLLERS AND POSTS SUFFICIENT TO PREVENT DISPLACEMENT OF THE GATE BY WIND OR BY UNAUTHORIZED PERSONNEL.

(SEE DETAIL)

EXTRUSIONS SHALL BE OVERSIZED FOR EXTRA RIGIDITY OVER "STANDARD" GATE DESIGN.

SECTION B-B

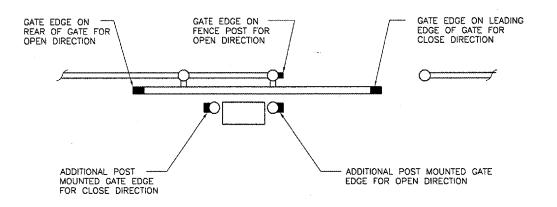
(TYP. ALL GATES)

BOTTOM GUIDE ASSEMBLY (SEE DETAIL)

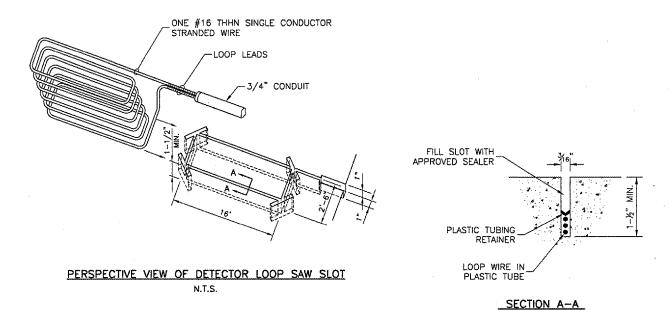
- CONTRACTOR SHALL PROVIDE AND INSTALL GATE AS A COMPLETE WORKING UNIT. THE GATE WORK SHALL INCLUDE, BUT NOT BE LIMITED TO: GATE, OPERATOR, CARD READER AND POWER CABLES, CONDUIT, TRENCHING, CIRCUIT BREAKERS, AND ALL CONNECTIONS, LABOR AND MATERIALS NECCESSARY TO COMPLETE OPERATION.
- 3. LOCATION OF THE GATE OPERATOR SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
- 4. PIPE BOLLARDS SHALL BE INSTALLED AT LOCATIONS SHOWN IN PLAN VIEW.
- 5. THE FABRIC TYPE & FINISH OF THE GATE, MATCH WITH THE PROPOSED FENCE OR AS DIRECTED BY THE ENGINEER.
- 6. ALL SLIDING GATES SHALL HAVE ALL ROLLERS ENCLOSED IN STEEL OR PLASTIC SHROUDS TO PREVENT ACCIDENTAL INJURY.
- 7. 3 STRANDS OF BARBED WIRE ON TOP OF GATE NOT SHOWN.

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SHEET 37 OF 49 SHEETS



# SECONDARY GATE OPERATOR ENTRAPMENT PROTECTION CONTACT SENSORS



DETECTOR LOOP DETAILS

## CAUTION:

- . DO NOT SPLICE WIRE.
- DO NOT FRACTURE WIRE INSULATION. LOOPS SHORTED TO GROUND WILL CAUSE DETECTOR MALFUNCTION, WHEN PLACING WIRE IN THE SLOT, DO NOT USE SCREWDRIVER OR OTHER SHARP TOOLS.
- TYPICAL LAYOUT FOR LOOP:
- SAW SLOT 3/18" WIDE x 1-1/2" DEEP. MAKE RECTANGULAR SHAPE TO SPECIFIED LOOP DIMENSIONS PLUS SLOT FOR LEAD CONDUIT.
- GROUT WITH NO. 202 WEATHERBAN SEALANT (A PRODUCT OF 3M CO.) OR APPROVED EQUIVALENT ... (EXAMPLE: DE WITTS NO. 99 BLACK MASTIC CAULK).

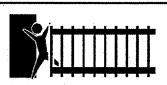
- 1.) LOOP LEADS ARE LIMITED TO 100 FEET.
- 2.) LOOP LEADS MUST HAVE FOUR (4) TWISTS PER FOOT.

N.T.S.

- 3.) LOOP AND LOOP LEADS MUST BE LOCATED, AT LEAST, 18" FROM ANY ELECTRICAL POWER SERVICE OR RUN, OR STEEL REINFORCEMENT.
- 4.) LOOP LEADS MUST BE IN SEPERATE CONDUIT BETWEEN LOOP AND DETECTOR. THEY MUST NOT SHARE CONDUIT WITH OTHER WIRING OR LEADS FROM OTHER LOOPS.
- 5.) WIRE SHALL BE #16 THHN SINGLE CONDUCTOR STRANDED WIRE.
- 6.) ALL WIRE SHALL BE CONTINOUS WITHOUT SPLICING.

LOCATIONS, DETAILS AND CHARACTER OF EQUIPMENT SHOWN ON THIS SHEET ARE GENERIC. EQUIPMENT LOCATION SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.





STANDARD TRACK (TYP.)

TOP PRIMARY MEMBER

x 2" VERTICAL

2" x 2" VERTICAL (BEHIND)

3" PRIMARY VERTICAL (BEHIND)

5" ALUM. CHANNEL

GATE FRAME SECTION

# **Moving Gate Can Cause Injury or Death**

KEEP CLEAR! Gate may move at any time without prior warning. Do not let children operate the gate or play in the gate area.

This entrance is for vehicles only Pedestrians must use separate entrance

WARNING SIGN DETAIL

# SUMMARY OF OPERATION

- 1.) THE GATES SHALL HAVE AN AUTOMATIC GATE OPERATOR WITH TWO CARD READERS AND REMOTE CONTROL. ONCE THE GATE IS OPENED IT WILL REMAIN OPEN FOR THE TIME SPECIFIED BY THE OWNER AFTER THE LOOP PICKUPS DETERMINE THAT THERE ARE NO VEHICLES OVER THE PICKUP LOOPS.
- 2.) ACTUATING THE GATE OPENERS VIA THE CARD READER REQUIRES THE VEHICLE TO APPROACH THE GATE ENTRANCE AND STOP. THE DRIVER ACTIVATES THE GATE OPENER BY SWEEPING HIS CARD. THE ACCESS CONTROL DEVICE TRANSMITS AN IMPULSE TO ACTIVATE THE GATE OPENER TO OPEN THE GATE. AFTER THE GATE IS FULLY OPENED AND STOPPED, THE VEHICLE PROCEEDS THROUGH THE OPENING, PASSING OVER THE LOOPS. WHILE THE VEHICLE IS IN THE LOOP SENSING RANGE, AN IMPULSE IS TRANSMITTED TO THE GATE OPERATOR TO HOLD THE GATE IN THE OPEN POSITION. WHEN THE LOOP HAS BEEN CLEARED, THE AUTOMATIC TIMER IS ACTIVATED AND, WHEN THE USER-DETERMINED TIME HAS ELAPSED. IT WILL ACTIVATE THE GATE OPENER TO CLOSE THE GATE. EXITING THE AREA IS ACCOMPLISHED IN THE SAME MANNER.

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ONTRACTOR SH	······································	ETTERING	S INDICATED IN TABLE BELOW
IGN DIMENSION		LOR HEIGHT	TEXT
1 24' x 18"	:18" WHITE I	ED 1.5"	FAA REGULATIONS REQUIRE THAT AFTER ENTERING OR EXITING THROUGH THIS SECURITY GATE YOU ARE REQUIRED TO WAIT UNTIL THE GATE CLOSES BEFORE PROCEEDING, FINES OR

1) SIGNS #1 AND #3 SHALL BE INSTALLED ON BOTH SIDES OF GATE, SIGN #2 SHALL BE INSTALLED ON "LAND" SIDE OF GATE.

# UL 235 COMPLIANCE NOTES

GATE INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF UL 235, INCLUDING, BUT NOT LIMITED TO:

- ALL OPENINGS OF THE SLIDE GATE ARE GUARDED OR SCREENED FROM THE BOTTOM OF THE GATE TO A MINIMUM OF 4 FEET ABOVE GROUND TO PREVENT A 2-1/4" DIAMETER SPHERE FROM PASSING THROUGH THE OPENINGS ANYWHERE IN THE GATE, AND IN THAT PORTION OF THE ADJACENT FENCE THAT THE GATE COVERS IN THE OPEN POSITION.
- ALL EXPOSED PINCH POINTS ARE ELIMINATED OR GUARDED AND GUARDING IS SUPPLIED FOR ALL EXPOSED ROLLERS.
- A WARNING SIGN (SEE DETAIL, THIS SHEET) MUST BE AFFIXED TO BOTH SIDES OF THE SLIDE GATE.
- FOR ADDITIONAL UL 235 REQUIREMENTS FOR THIS GATE INSTALLATION, SEE GATE OPERATOR DETAILS SHEET.

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THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22),

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AIR

OF ILLINOIS AIRPORT

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ETAIL

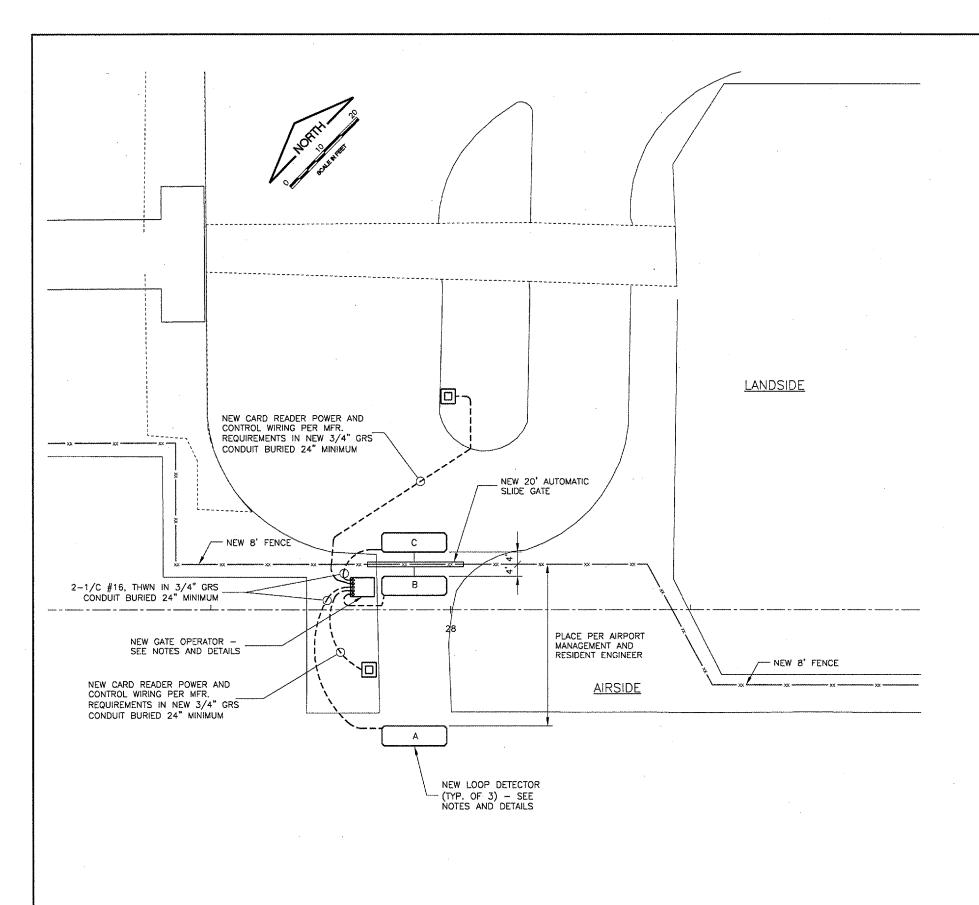
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DATE

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DESIGN BY: DRAWN BY: CHECKED BY: APPROVED BY: DATE: JOB No:



### NOTES FOR GATE

- DISCONNECT AND REMOVE EXISTING GATE OPERATOR. REPLACE WITH NEW GATE OPERATOR, SENTEX SL-580, 3/4 HP, 208V, 1 PHASE, OR EQUIVALENT. GATE OPERATOR INCLUDES ALL ACCESSORIES AS REQUIRED TO INTERFACE WITH REMOTE CONTROL EQUIPMENT LISTED HEREIN.
- 2.) EXISTING GATE OPERATOR IS POWERED FROM AN EXISTING 20A-2P CIRCUIT BREAKER IN A LOAD CENTER LOCATED WEST OF THE TERMINAL BUILDING. PROPOSED GATE OPERATOR SHALL ALSO BE POWERED FROM THIS CIRCUIT BREAKER. EXISTING POWER WIRING SHALL REMAIN IN SERVICE AND BE RECONNECTED TO PROPOSED GATE OPERATOR.
- 3.) DISCONNECT EXISTING POWER CABLE AND, AT NEAREST HANDHOLE (SEE FENCING PLAN), RETRACT EXISTING POWER CABLE TO PROTECT IT DURING REMOVAL OF EXISTING OPERATOR FOUNDATION. PLACE A NEW OPERATOR FOUNDATION PER MANUFACTURE'S INSTRUCTIONS AND CONNECT EXISTING POWER WIRING TO NEW OPERATOR. INSTALL A NEMA-3R JUNCTION BOX AT NEW OPERATOR IF NECESSARY TO SPLICE TO EXISTING WIRING.
- 4.) GATE OPERATOR IS TO INCLUDE 10 PROGRAMMABLE RADIO TRANSMITTERS, FURNISHED WITH GATE OPERATOR. TRANSMITTERS ARE TO BE HAND HELD AND INCLUDE CLIP FOR ATTACHMENT TO VEHICLE SUN VISOR. TRANSMITTERS ARE TO BE LINEAR MODEL #105015 OR EQUIVALENT.
- 5.) GATE OPERATOR INCLUDE INTERNAL TWO—CHANNEL RECEIVER, ONE CHANNEL FOR SAFTEY EDGE TRANSMITTER, THE OTHER FOR RADIO TRANSMITTERS. RECEIVER WILL BE LINEAR MODEL 203102 OR EQUIVALENT.
- 6.) GATE OPERATOR INCLUDES WEATHERPROOF REMOTE CARD READERS, FURNISHED WITH GATE OPERATOR. CARD READERS WILL BE LOCATED IN SIMILAR MANNER AS EXISTING CARD READERS. CARD READERS WILL BE POWERED BY GATE OPERATOR. REMOVE EXISTING CARD READERS AND TURN THEM OVER TO THE AIRPORT. CARD READERS WILL BE PROGRAMMABLE. CONTRACTOR IS TO INSTALL 3/4" GRS CONDUIT WITH ONE 2/C #16 CABLE (POWER) AND ONE 2/C #16 CABLE (CONTROL) FROM KEYPAD TO GATE OPERATOR. CARD READERS WILL BE HID PROXPRO 5355 OR EQUIVALENT.
- 7.) GATE OPERATOR INCLUDES THREE IN-PAVEMENT LOOP DETECTORS. ONE IN-PAVEMENT LOOP INSTALLED "OUTSIDE" GATE AND ANOTHER IN-PAVEMENT LOOP INSTALLED "INSIDE" GATE. THESE TWO LOOPS WILL BE USED AS "SAFETY" LOOPS WHEN ENTERING AND EXITING. A THIRD LOOP WILL BE USED AS AN "OPEN" LOOP WHEN EXITING. WIRING WILL BE AS DETAILED. NEW SAW KERF WILL BE SEALED WITH LOOP SEALANT PER DETECTOR LOOP DETAILS ON DETAIL SHEET 2.
- 8.) GATE OPERATOR WILL OPERATE ON REMOTE CONTROLLED "OPEN" (FROM RADIO TRANSMITTERS), BY CARD READER STATION, OR BY "OPEN LOOP" AND AUTOMATIC ADJUSTABLE 0-90 SECOND INTERNAL TIMER CONTROLLED "CLOSE" ("SAFETY" LOOP INITIATES TIMING CYCLE).

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

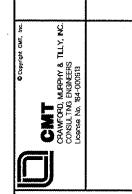
UNIVERSITY OF ILLINOIS
WILLARD AIRPORT
REHABILITATE AIR CARRIER RAMP, PHASI

SHEET

**DETAILS** 

GATE

ELECTRIC



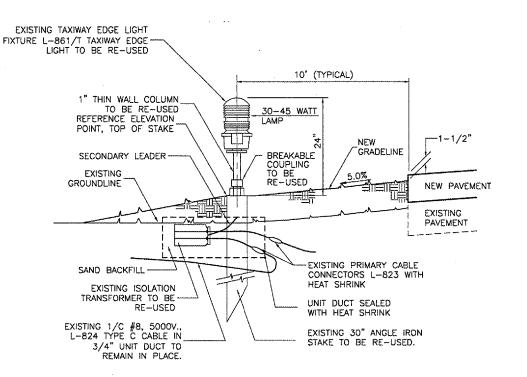
DESIGN BY: CMT
DRAWN BY: CMT
CHECKED BY: STINS
APPROVED BY: STINS

JOB No: 0305903 CMI-3663

DATE:

3-17-0016-XX SHEET 39 OF 49 SHEETS

4/27/2007



## METHOD OF CONSTRUCTION

- 1.) ADJUST SHOULDERS TO GRADE.
- 2.) EXCAVATE STAKE MOUNTED LIGHT AND TRANSFORMER AND SET AT NEW ELEVATION.
- 3.) BACKFILL EXCAVATED MATERIAL.

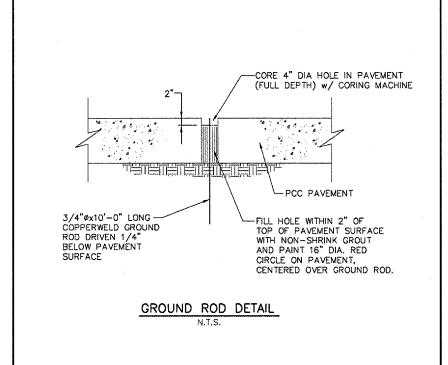
# TAXIWAY STAKE MOUNTED LIGHT ADJUSTMENT

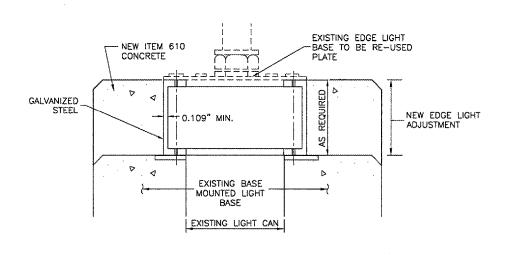
CENTERLINE OF LIGHT EXISTING TAXIWAY EDGE LIGHT FIXTURE L-861/T TO-BE RE-USED EXISTING BREAKABLE - COUPLING TO BE RE-USED NEW ITEM 610 CONCRETE, 24" ROUND OR SQUARE (MATCH-EXISTING BASE PLATE
TO BE RE-USED EXISTING SHAPE) NEW FINISHED %" CHAMFER - TYPICAL ALL SIDES OF STRUCTURE GRADELINE -EXISTING GRADELINE 1 - 1/2"-NEW FINISHED GRADELINE -5.0% NEW SHOULDER EDGE OF NEW EMBANKMENT MATERIAL PAVEMENT NEW 1/2" GALVANIZED - ANCHOR BOLT -- 4 EQUALLY SPACED PER EDGE LIGHT EXISTING GRADELINE-- #3 REBAR HOOP TOP OF EXISTING LIGHT CAN. CONTRACTOR SHALL RE-TAP MIDWAY IN ADJUSTMENT EXISTING BOLT HOLES FOR NEW NEW 1/2" DIA. CONCRETE EXTENSION RING BOLTS. ANCHOR, 4 EACH PER LIGHT. THIS WORK SHALL BE INCLUDED IN THE COST TO ADJUST EACH EXTENSION RING -BASE MOUNTED LIGHT. SEE DETAILS THIS SHEET EXISTING RUNWAY LIGHT BASE

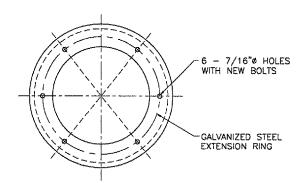
# METHOD OF CONSTRUCTION

- 1.) ADJUST SHOULDERS TO GRADE.
- 2.) EXCAVATE BASE MOUNTED LIGHT AND INSTALL NEW EXTENSION RING AND CONCRETE TO PROPER GRADE.
- 3.) BACKFILL EXCAVATED MATERIAL.

# TAXIWAY BASE MOUNTED LIGHT ADJUSTMENT







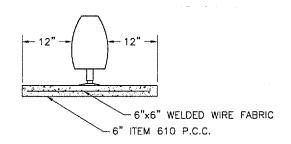
THE CONTRACTOR SHALL FIELD VERIFY EXISTING LIGHT BASE TYPE (MOST ARE L-867, 12" DIA. CLASS 1) AND CALCULATE REQUIRED HEIGHT ADJUSTMENT DIMENSION BASED ON PROPOSED SHOULDER ELEVATION AND THE ELEVATION OF THE TOP OF THE EXISTING LIGHT BASE. NO ADDITIONAL PAYMENT WILL BE MADE FOR ALTERNATE LIGHT CAN TYPES. RETAPPING EXISTING BOLT HOLES IF REQUIRED AND SHALL, BE CONSIDERED INCIDENTAL TO THE UNIT PRICE FOR LIGHT

EXTENSION RING DETAIL

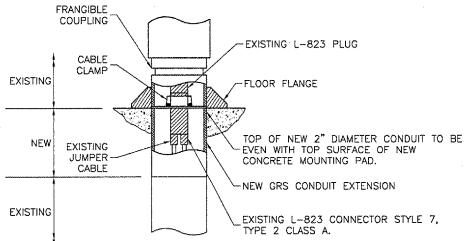
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SHEET 40 OF 49 SHEETS



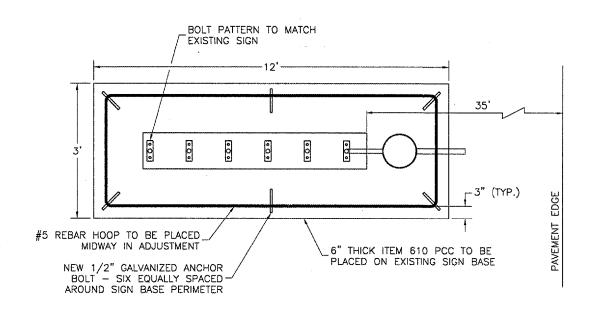
# ELEVATION VIEW NOT TO SCALE



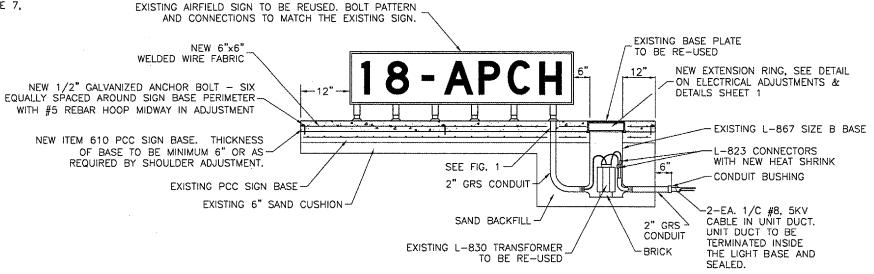
# ELECTRICAL CONNECTION DETAIL FIGURE 1

# NOTES FOR ADJUSTED SIGN

- THE EXISTING AIRFIELD GUIDANCE SIGN AND LEGEND IS TO BE REMOVED, PRESERVED AND RE-USED AT THE EXISTING SIGN LOCATION.
- 2. THE ADJUSTED SIGN WILL BE REMOUNTED ON THE CONCRETE BASE (ITEM 610) AFTER THE BASE HAS BEEN VERTICALLY ADJUSTED. THE SIGN BASE ADJUSTEMENT WILL INCLUDE THE 6-INCH MINIMUM CONCRETE SLAB POURED IN-PLACE ON TOP OF THE EXISTING SIGN BASE WITH WIRE FABRIC, ANCHOR BOLTS AND REBAR HOOP, 2-INCH DIAMETER GRS CONDUIT EXTENSION, L-867 BASE EXTENSION RING AND HEAT SURBING
- 3. THE ADJUSTED SIGN WILL RE-USE THE EXISTING TRANSFORMER AND 3/8" STEEL COVER WITH GASKET.
- 4. THE CONTRACTOR MUST REPLACE IN KIND ANY MOUNTING HARDWARE DAMAGED BY THE ADJUSTMENT PROCESS.



PLAN VIEW
NOT TO SCALE

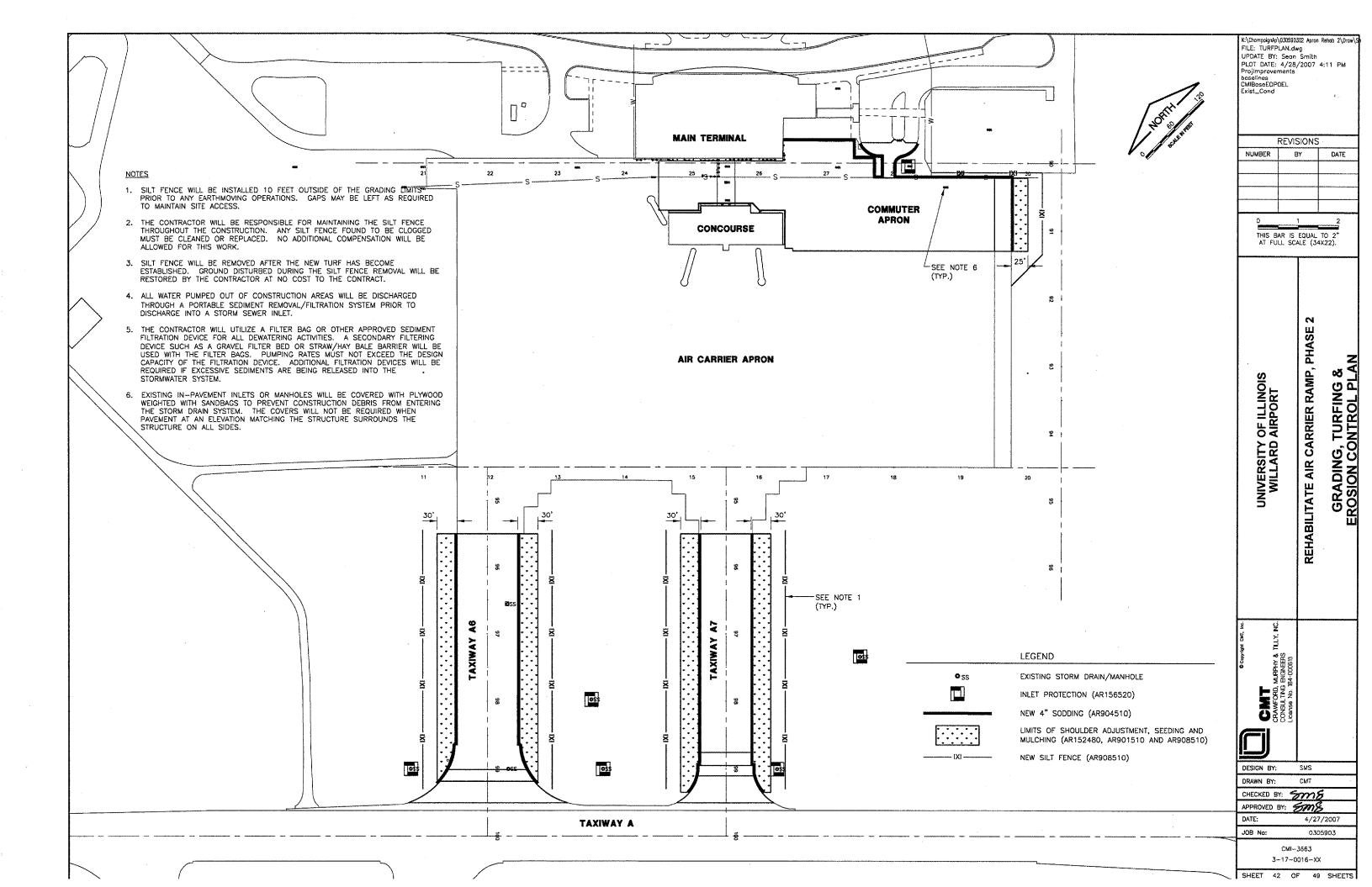


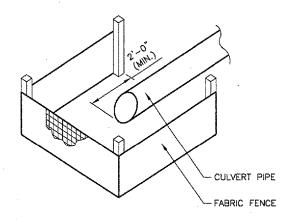
ELEVATION VIEW
NOT TO SCALE

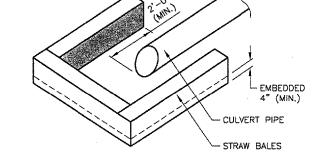
NEW ADJUSTED EXISTING AIRFIELD GUIDANCE SIGN DETAIL

NOT TO SCALE

:\ChampaignAp\030590302 Apron Rehab 2\Draw\ FILE: ELECDET2.dwg UPDATE BY: Sean Smith PLOT DATE: 4/28/2007 4:11 PM REVISIONS NUMBER BY: THIS BAR IS EQUAL TO 2' AT FULL SCALE (34X22). **DETAILS** CARRIER RAMP, PHASE Š ADJUSTMENTS & UNIVERSITY OF ILLINOI WILLARD AIRPORT REHABILITATE AIR ECTRICAL 닙 DESIGN BY: \_\_\_\_ DRAWN BY: Sms CHECKED BY: APPROVED BY: Smo DATE: 4/27/2007 JOB No: 0305903 CM1-3663 3-17-0016-XX SHEET 41 OF 49 SHEETS

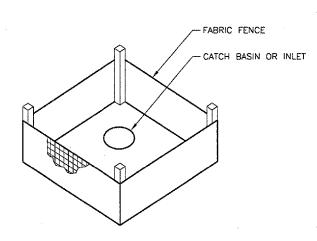


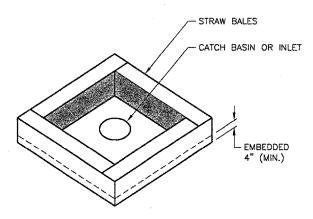




# CULVERT PROTECTION WITH FABRIC

CULVERT PROTECTION WITH STRAW BALES
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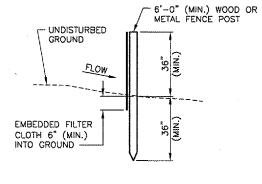


INLET PROTECTION WITH FABRIC

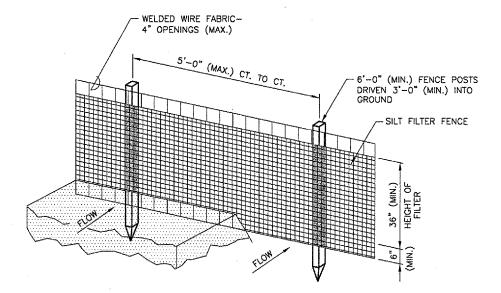
INLET PROTECTION WITH STRAW BALES

### NOTES

- IF SILT FENCE IS USED FOR INLET PROTECTION, THE FENCE CONSTRUCTION WILL CONFORM TO THE EROSION CONTROL FABRIC FENCE DETAIL ON THIS SHEET.
- INLET PROTECTION USED AROUND FLARED END SECTIONS OR CULVERTS WILL ONLY REQUIRE 3 SIDES AND WILL BE PAID FOR AS INLET PROTECTION.



SECTION



PERSPECTIVE VIEW

EROSION CONTROL FABRIC FENCE DETAIL

### NOTES

- WELDED WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WELDED WIRE FENCE WITH TIES SPACED EVERY 12".
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY MUST BE OVERLAPPED BY 6" MINIMUM AND FOLDED.
- 4. MAINTENANCE WILL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. MAINTENANCE, WHICH INCLUDES THE REPLACEMENT OF DAMAGED FENCE, WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE EROSION CONTROL FENCE.

K:\ChampaignAp\030390302 Apron Rehab 2\Draw\5 FILE: EROSIONDET.dwg UPDATE BY: Sean Smith PLOT DATE: 4/28/2007 4:11 PM REVISIONS NUMBER BY DATE THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22). REHABILITATE AIR CARRIER RAMP, PHASE DETAILS UNIVERSITY OF ILLINOIS WILLARD AIRPORT **EROSION CONTROL** CMT DESIGN BY: SMS CMT CHECKED BY: 8000g DATE:

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