

MICHIGAN AIRPORT DEVELOPMENT PROGRAM

AIP CAPITAL IMPROVEMENT PLAN 2013-2023

FEDERAL/STATE/LOCAL



Ann Arbor Municipal Airport

Ann Arbor, MI

Date of Latest ALP - **2008**
ACIP Airport Code - **A**
Airport Identifier - **ARB**



MDOT-AERO
2700 E AIRPORT SERVICE DRIVE
LANSING, MICHIGAN 48906

Prepared by: URS Corporation
Sponsor: City of Ann Arbor
Submitted by: Matt Kulhanek
Date: August 6, 2012

TEN-YEAR AIRPORT CAPITAL IMPROVEMENT PROGRAM (CIP) FY-2013 to FY-2023

Ann Arbor Municipal Airport - ARB

2013	Available Federal Entitlements (NPE) \$566,400 (\$416,400 Carryover from 2012)	
	Final Design and Approach Survey (Phase II) Runway Extension	\$215,000
	Terminal Parking Lot Expansion & Relocate Airport Drive Phase I	\$242,000
	<i>Carryover \$155,100</i>	(Local \$22,850) Total \$457,000
2014	Available Federal Entitlements (NPE) \$305,100	
	Close Airport Drive (Gate and Fence Relocation)	\$111,000
	800' Runway & Taxiway Extension Construction	\$1,920,000
	<i>\$1,522,800 in addition to NPE are needed for this year.</i>	(Local \$101,550) Total \$2,031,000
2015	Available Federal Entitlements (NPE) \$150,000	
	Rehabilitate Existing Airport Access Road	\$327,000
	Airport Signage (Local Only)	\$5,000
	<i>\$144,300 in addition to NPE are needed for this year.</i>	(Local \$16,600) Total \$332,000
2016	Available Federal Entitlements (NPE) \$150,000	
	SRE Equipment (Tractor with Broom)	\$179,000
	<i>\$11,100 in addition to NPE are needed for this year.</i>	(Local \$8,950) Total \$179,000
2017	Available Federal Entitlements (NPE) \$150,000	
	Carryover for Future Project	\$0
	<i>Carryover \$150,000</i>	(Local \$0) Total \$0
2018	Available Federal Entitlements (NPE) \$300,000	
	Terminal Building Expansion and Renovation	\$327,000
	<i>Carryover \$5,700</i>	(Local \$16,350) Total \$327,000
2019	Available Federal Entitlements (NPE) \$155,700	
	Reconstruct SE and NE Taxiways	\$1,138,000
	Taxilanes for New Box Hangars	\$193,000
	<i>\$1,042,200 in addition to NPE are needed for this year.</i>	(Local \$66,550) Total \$1,331,000
2020	Available Federal Entitlements (NPE) \$150,000	
	Rehabilitate and Expand Apron with Lighting	\$1,557,000
	SRE Equipment	\$321,000
	<i>\$1,540,200 in addition to NPE are needed for this year.</i>	(Local \$93,900) Total \$1,878,000
2021	Available Federal Entitlements (NPE) \$150,000	
	Hangar Site Work	\$128,000
	Rehabilitate Rwy and Txy Conc. Joint Seals and Remark	\$80,000
	<i>\$37,200 in addition to NPE are needed for this year.</i>	(Local \$10,400) Total \$208,000
2022	Available Federal Entitlements (NPE) \$184,800	
	Hangar Access Road Phase II	\$353,000
	<i>\$132,900 in addition to NPE are needed for this year.</i>	(Local \$17,650) Total \$353,000
2023	Available Federal Entitlements (NPE) \$150,000	
	<i>Carryover \$150,000</i>	(Local \$0) Total \$0

Costs Include Federal Cost of 90%, State Cost of 5%, and Local Cost of 5%. When costs exceed available Federal Entitlements (NPE), additional funding will be needed from Federal Apportionment, Federal Discretionary, or other funds.

MICHIGAN STATE BLOCK GRANT PROGRAM
TEN-YEAR AIRPORT CAPITAL IMPROVEMENT PROGRAM (CIP) FY-2013* to FY-2023

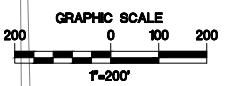
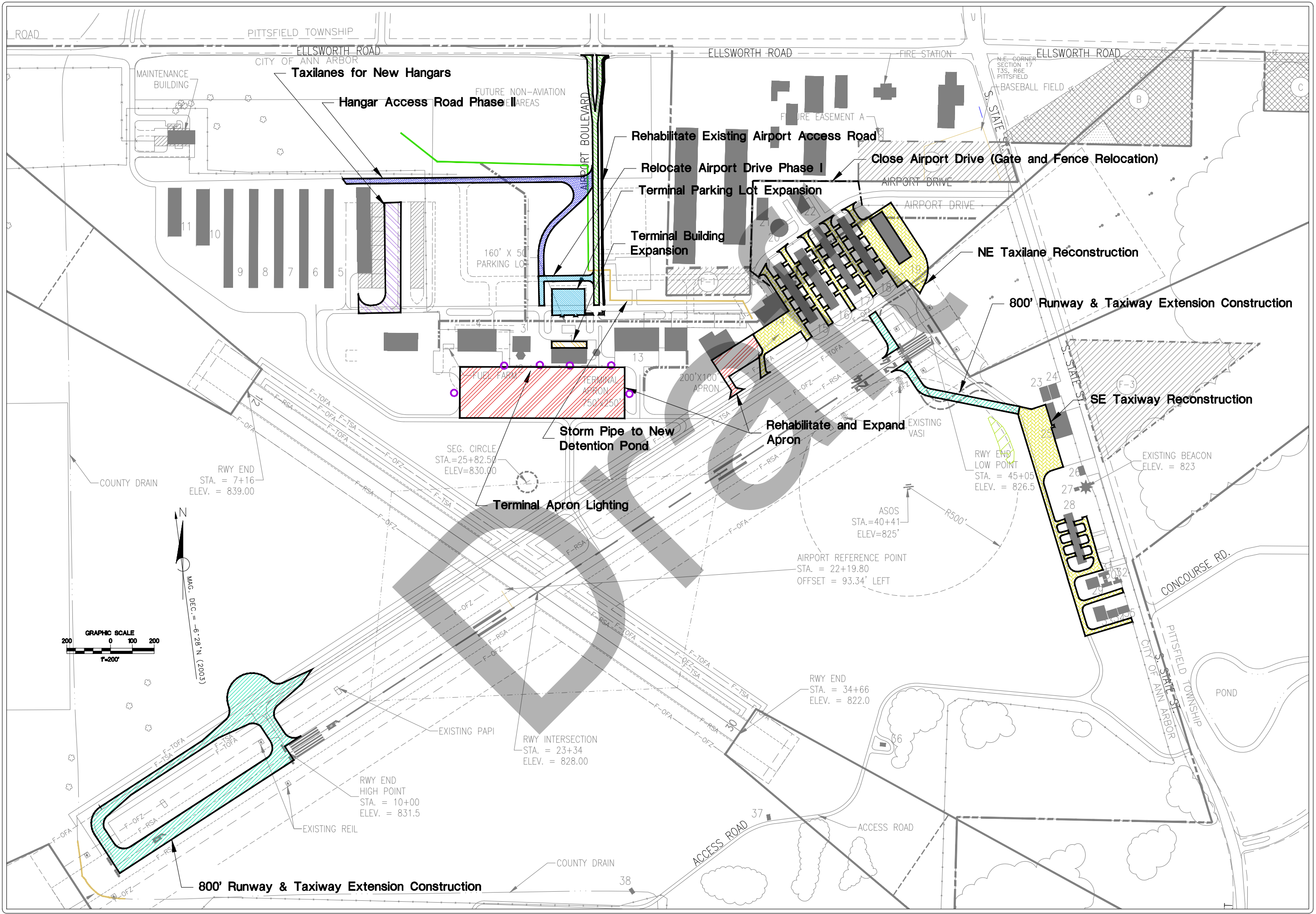
*ACIP includes current development year (2013 already programmed - minor changes acceptable)

Airport Name: Ann Arbor Municipal Airport	Date prepared: 08-06-12
Associated City: Ann Arbor, MI	Prepared By: URS Corporation
Sponsor: City of Ann Arbor	Sponsor email address & phone: mjkulhanek@a2gov.org 734-994-2841
Airport Identifier: ARB	FINAL ACIP due to MDOT AERO: no later than 12/1/12

Development Year	Project Description	Shown on ALP? (Yes or No)	ACIP Code**	NPIAS Priority Rating**	Federal Entitlements	Federal Apportionment	Federal Discretionary	State	Local	Total	Remarks/Item Justification - Provide as much detail as possible.
2013					Available Entitlements \$ 566,400 (\$150,000 NPE plus \$416,400 NPE carryover from 2011.)						
	Final Design and Approach Survey (Phase II) Runway Extension	Yes	CA-RW-EX	56	\$ 193,500	\$ -		\$ 10,750	\$ 10,750	\$ 215,000	Final design will be done for the runway and taxiway extension project. An approach survey will also be completed to provide approach procedures for the new runway ends. An approach survey was started in 2009, but the data does not meet current standards.
	Terminal Parking Lot Expansion & Relocate Airport Drive Phase I	Yes	CA-TE-IM	44	\$ 217,800	\$ -		\$ 12,100	\$ 12,100	\$ 242,000	The current parking lot is too small for daily usage. It is frequently at full capacity. To accommodate current demand, additional space is needed. Airport Drive is located north of the parking lot and will need to be relocated to expand the parking lot. If the EA prevents the runway construction from occurring in 2012 this project will be designed and built in 2012.
					\$ -	\$ -				\$ -	
					Carryover \$ 155,100						
2014					Available Entitlements \$ 305,100						
	Close Airport Drive (Gate and Fence Relocation)	Yes	ST-EQ-SE	43	\$ 99,900	\$ -		\$ 5,550	\$ 5,550	\$ 111,000	The current layout of the road and gates in the northeast corner of the airport makes it difficult to control access to the airport. A portion of this road will be closed and the fence and gates relocated to improve the control of access to the airport.
	800' Runway & Taxiway Extension Construction	Yes	CA-RW-EX	56	\$ 205,200	\$ 1,522,800		\$ 96,000	\$ 96,000	\$ 1,920,000	Existing runway will be lengthened to 4300'. Runway will also be shifted 150' to the west to provide clearance over State Road on the East side of the airport. Parallel taxiway will be extended to match the new runway. Connector taxiway on the southeast side will be relocated to the new runway end. All taxiway and runway edge lights will be replaced with LED fixtures.
					\$ -	\$ -				\$ -	
					\$ -	\$ -				\$ -	
2015					Available Entitlements \$ 150,000						
	Rehabilitate Existing Airport Access Road	Yes	OT-GT-AC	23	\$ 150,000	\$ 144,300		\$ 16,350	\$ 16,350	\$ 327,000	Existing access road is over 20 years old and needs rehabilitation. Bulvard will be added at north end for better visibility and signage. Signage will be a local only item.
	Airport Signage (Local Only)	Yes	OT-GT-AC	23	\$ -	\$ -		\$ -	\$ 5,000	\$ 5,000	Signage will be added at north end of access road to increase visibility.
					\$ -	\$ -				\$ -	
					\$ -	\$ -				\$ -	
2016					Available Entitlements \$ 150,000						
	SRE Equipment (Tractor with Broom)	NA	ST-EQ-SN	48	\$ 150,000	\$ 11,100		\$ 8,950	\$ 8,950	\$ 179,000	Existing equipment from city is aging and will need to be replaced. No FAA funding has been used for existing Snow Removal Equipment.
					\$ -	\$ -				\$ -	
					\$ -	\$ -				\$ -	
					\$ -	\$ -				\$ -	
2017					Available Entitlements \$ 150,000						
	Carryover for Future Project				\$ -	\$ -		\$ -	\$ -	\$ -	0
					\$ -	\$ -				\$ -	
					\$ -	\$ -				\$ -	
					\$ -	\$ -				\$ -	
					Carryover \$ 150,000						
2018					Available Entitlements \$ 300,000						
	Terminal Building Expansion and Renovation	Yes	CA-TE-IM	44	\$ 294,300	\$ -		\$ 16,350	\$ 16,350	\$ 327,000	Existing terminal building is too small to meet current needs. Additional insulation will be added to existing building to conserve energy. Renovations will be necessary to meet current ADA and other codes.
					\$ -	\$ -				\$ -	
					Carryover \$ 5,700						
2019					Available Entitlements \$ 155,700						
	Reconstruct SE and NE Taxiways	Yes	RE-TW-IM	68	\$ 155,700	\$ 868,500		\$ 56,900	\$ 56,900	\$ 1,138,000	Pavements are aging and will need replacement. PCI was 80 and 82 for these pavements in 2005.
	Taxilanes for New Box Hangars	Yes	ST-PB-MS	40	\$ -	\$ 173,700		\$ 9,650	\$ 9,650	\$ 193,000	New taxilanes will be needed for additional hangars. Hangars will be build with local funding. This will be on the back side of the existing Box Hangars built in 2009.
					\$ -	\$ -				\$ -	
2020					Available Entitlements \$ 150,000						
	Rehabilitate and Expand Apron with Lighting	Yes	RE-AP-IM	62	\$ 150,000	\$ 1,251,300		\$ 77,850	\$ 77,850	\$ 1,557,000	Apron pavement is aging and will need reconstruction. 6" concrete overlay will provide cost effective construction. There has been a steady growth in transient corporate flights into the airport along with the continual expansion of helicopter activity requiring increased aircraft parking. The airport is also experiencing a growth in tie-down activity in conjunction with an increased activity on football weekends and other similar community and University event days. The terminal aircraft parking apron is frequently full on many weekdays with large corporate aircraft and tie-down users. Apron lights are old and require replacement. LED replacement lights will be installed. PCI in the Apron was 90 in 2005.
	SRE Equipment	NA	ST-EQ-SN	48	\$ -	\$ 288,900		\$ 16,050	\$ 16,050	\$ 321,000	Existing equipment from city is aging and will need to be replaced. No FAA funding has been used for existing Snow Removal Equipment.
					\$ -	\$ -				\$ -	
2021					Available Entitlements \$ 150,000						
	Hangar Site Work	Yes	ST-PB-MS	40	\$ 115,200	\$ -		\$ 6,400	\$ 6,400	\$ 128,000	Currently, a detention pond is blocking development of additional corporate hangar space. Relocation of the pond will develop new corporate hangar space and apron. Pipe will need to tie into drainage system that outlets in pond to the northwest. Pavements will be crossed by pipe and will be restored.
	Rehabilitate Rwy and Txy Conc. Joint Seals and Remark	Yes	RE-RW-IM	72	\$ 34,800	\$ 37,200		\$ 4,000	\$ 4,000	\$ 80,000	Preventative maintenance on existing pavements. Repair failed concrete joints. Markings will be faded. Remark all existing markings.
					\$ -	\$ -				\$ -	
2022					Available Entitlements \$ 150,000						
	Hangar Access Road Phase II	Yes	OT-GT-AC	23	\$ 150,000	\$ 167,700		\$ 17,650	\$ 17,650	\$ 353,000	Road will provide better access for users of hangars. Will increase safety and security by providing them with separate access road.
					\$ -	\$ -				\$ -	
					\$ -	\$ -				\$ -	
2023					Available Entitlements \$ 150,000						
					\$ -	\$ -				\$ -	
					\$ -	\$ -				\$ -	
					Carryover \$ 150,000						

**In accordance with FAA Order 5100.39A, Appendix 6 - Fields need to be completed

M:\Projects\12940723\CADD\PDSS\5 YEAR PLAN.dwg (PLOT) Jul 21, 2011 2:00pm Plotted by Jon Van Duinen
 XREFS: ..\UTIL\GR34.dwg ..\CIVIL\PROP.dwg ..\CIVIL\BASE.dwg M:\Projects\12940723\CADD\CIVIL\FUT3.dwg



RWY END
 STA. = 7+16
 ELEV. = 839.00

SEG. CIRCLE
 STA. = 25+82.50
 ELEV. = 830.00

ASOS
 STA. = 40+41
 ELEV. = 825'

AIRPORT REFERENCE POINT
 STA. = 22+19.80
 OFFSET = 93.34' LEFT

RWY END
 LOW POINT
 STA. = 45+05
 ELEV. = 826.5

EXISTING BEACON
 ELEV. = 823

RWY INTERSECTION
 STA. = 23+34
 ELEV. = 828.00

RWY END
 HIGH POINT
 STA. = 10+00
 ELEV. = 831.5

RWY END
 STA. = 34+66
 ELEV. = 822.0

800' Runway & Taxiway Extension Construction

DATE	ISSUED FOR
12/17/07	MOOT DRAFT REVIEW
03/27/08	EAM INSURANCE REVIEW
06/27/08	ALP PUBLICATION

IN CHARGE	W. MALINOWSKI
CC	OC
SQC DR	PM
RUC	D/E JW

CRANDALL PAPER, INC.
 3550 SPARKS DR. S.E.
 616 574-8500

ANN ARBOR MUNICIPAL AIRPORT
 AIRPORT LAYOUT PLAN
 5 YEAR PLAN

ANN ARBOR, MICHIGAN

STATE NUMBER	81-1
DRAWING	1
PROJECT NUMBER	12940723

Ann Arbor Municipal Airport

YEAR (PROJECT NUMBER): 2014(2)

DESCRIPTION: 800' Runway & Taxiway Extension Construction

Work Item Description	Quantity	Unit	Price	Amount
Mobilization and Safety Security	1	Lump Sum	\$ 170,000.00	\$ 170,000
Pavement Removal	3,500	SYD	\$ 17.00	\$ 59,500
New Rwy Lights with LED Lamp	30	Each	\$ 950.00	\$ 28,500
New Txy Lights with LED Lamp	20	Each	\$ 950.00	\$ 19,000
#8 Cable in Conduit	3,800	LFT	\$ 3.25	\$ 12,350
#6 Solid Counterpoise Wire	3,800	LFT	\$ 2.75	\$ 10,450
Replace Existing Txy Lights with LED Lamp	218	Each	\$ 650.00	\$ 141,700
Replace Existing Rwy Lights with LED Lamp	40	Each	\$ 650.00	\$ 26,000
Relocate Existing VAS	1	Each	\$ 10,000.00	\$ 10,000
Relocate REIL	2	Set	\$ 5,000.00	\$ 10,000
Relocate PAPI	1	set	\$ 10,000.00	\$ 10,000
Unclassified Excavator	40,000	CYD	\$ 4.50	\$ 180,000
Drainage	1	Lump Sum	\$ 40,000.00	\$ 40,000
Underdrains	3,800	LFT	\$ 8.50	\$ 32,300
12 Inch Subbase	5,400	CYD	\$ 14.75	\$ 79,650
6 Inch Aggregate Base Course	2,700	CYD	\$ 32.00	\$ 86,400
6 Inch Concrete Pavement	15,000	SYD	\$ 46.00	\$ 690,000
Runway Grooving	12,000	SYD	\$ 2.00	\$ 24,000
Turfing & Mulching	5	Acres	\$ 2,500.00	\$ 12,500
Marking	1	Lump Sum	\$ 50,000.00	\$ 50,000
Approach Markers	8	Each	\$ 450.00	\$ 3,600
Centerline monument	2	Each	\$ 1,200.00	\$ 2,400
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -

TOTAL CONSTRUCTION		\$ 1,698,350.00
ENGINEERING FINAL DESIGN		
CONSTRUCTION ADMIN.		\$ 140,000.00
CONTINGENCY	5%	\$ 81,000.00
TOTAL*		\$ 1,920,000.00

TOTAL FEDERAL DOLLARS	90%	\$ 1,728,000
TOTAL STATE DOLLARS	5.0%	\$ 96,000
TOTAL LOCAL DOLLARS	5.0%	\$ 96,000

* Amount rounded up to the nearest thousand dollars.

DESCRIPTION AND JUSTIFICATION:

Existing runway will be lengthened to 4300'. Runway will also be shifted 150' to the west to provide clearance over State Road on the East side of the airport. Parallel taxiway will be extended to match the new runway. Connector taxiway on the southeast side will be relocated to the new runway end. All taxiway and runway edge lights will be replaced with LED fixtures.

ALP STATUS	ENV.	PURPOSE:	Capacity	7
Yes	EA in previous year	COMPONENT:	Runway	10
		TYPE:	Extension/Expansion	6
		PRIORITY NUMBER		56

Ann Arbor Municipal Airport

YEAR (PROJECT NUMBER): 2019(2)

DESCRIPTION: **Taxilanes for New Box Hangars**

Work Item Description	Quantity	Unit	Price	Amount
Mobilization	1	Lump Sum	\$ 10,000.00	\$ 10,000
Safety & Security	1	Lump Sum	\$ 1,500.00	\$ 1,500
Unclassified Excavator	2,400	CYD.	\$ 4.00	\$ 9,600
Granular Sub-base 12'	1,600	CYD.	\$ 12.00	\$ 19,200
Aggregate Base Course 6	800	CYD.	\$ 28.00	\$ 22,400
Bituminous Pavement 3'	900	Ton	\$ 85.00	\$ 76,500
Marking	1	Lump Sum	\$ 1,000.00	\$ 1,000
Underdrain	1,800	LFT.	\$ 8.00	\$ 14,400
Restoration	1	LS	\$ 3,000.00	\$ 3,000
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -

TOTAL CONSTRUCTION		\$	157,600.00
ENGINEERING DESIGN		\$	12,000.00
CONSTRUCTION ADMIN.		\$	15,000.00
CONTINGENCY	5%	\$	7,880.00
TOTAL*		\$	193,000.00

TOTAL FEDERAL DOLLARS	90%	\$	173,700
TOTAL STATE DOLLARS	5.0%	\$	9,650
TOTAL LOCAL DOLLARS	5.0%	\$	9,650

* Amount rounded up to the nearest thousand dollars.

DESCRIPTION AND JUSTIFICATION:
 New taxilanes will be needed for additional hangars. Hangars will be build with local funding. This will be on the back side of the existing Box Hangars built in 2009.

ALP STATUS	ENV.	PURPOSE:	Standards	6
Yes	Categorical Ex. Expected	COMPONENT:	Public Bldg	7
		TYPE:	Misc.	5
		PRIORITY NUMBER		40

Ann Arbor Municipal Airport

YEAR (PROJECT NUMBER): 2020(1)

DESCRIPTION: Rehabilitate and Expand Apron with Lightin

Work Item Description	Quantity	Unit	Price	Amount
Rehab				
Mobilization	1	Lump Sum	\$ 15,000.00	\$ 15,000
Safety & Security	1	Lump Sum	\$ 5,000.00	\$ 5,000
Mill Existing Pavemen	21,000	SYD	\$ 1.50	\$ 31,500
6" Concrete Overlay	21,000	SYD	\$ 40.00	\$ 840,000
				\$ -
Expansion				
Unclassified Excavator	3,200	CYD.	\$ 4.00	\$ 12,800
Aggregate Base Course 6	1,500	CYD.	\$ 30.00	\$ 45,000
Bituminous Surface 3"	1,700	Tons	\$ 90.00	\$ 153,000
Trenching	800	LFT.	\$ 1.00	\$ 800
Underground Cable, 1/C #€	2,400	LFT.	\$ 2.00	\$ 4,800
Counterpoise Wire, #€	800	LFT.	\$ 3.00	\$ 2,400
Galvanized Steel Conduit, 2" Direct Burie	100	LFT.	\$ 35.00	\$ 3,500
Apron Lights	6	Each	\$ 7,000.00	\$ 42,000
Markings (Center & Edge)	1,200	SFT.	\$ 0.50	\$ 600
Seeding & Mulching	2	Acres	\$ 2,000.00	\$ 3,700
Tie-Downs	60	Each	\$ 600.00	\$ 36,000
				\$ -
Lighting				
Underground Cable , 1/C, #€	2,000	LFT.	\$ 2.00	\$ 4,000
Counterpoise Wire, #€	600	LFT.	\$ 2.00	\$ 1,200
Apron Lights	8	Each	\$ 9,000.00	\$ 72,000
				\$ -
				\$ -
				\$ -
				\$ -

TOTAL CONSTRUCTION		\$ 1,273,300.00
ENGINEERING DESIGN		\$ 100,000.00
CONSTRUCTION ADMIN.		\$ 120,000.00
CONTINGENCY	5%	\$ 63,665.00
TOTAL*		\$ 1,557,000.00

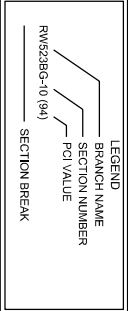
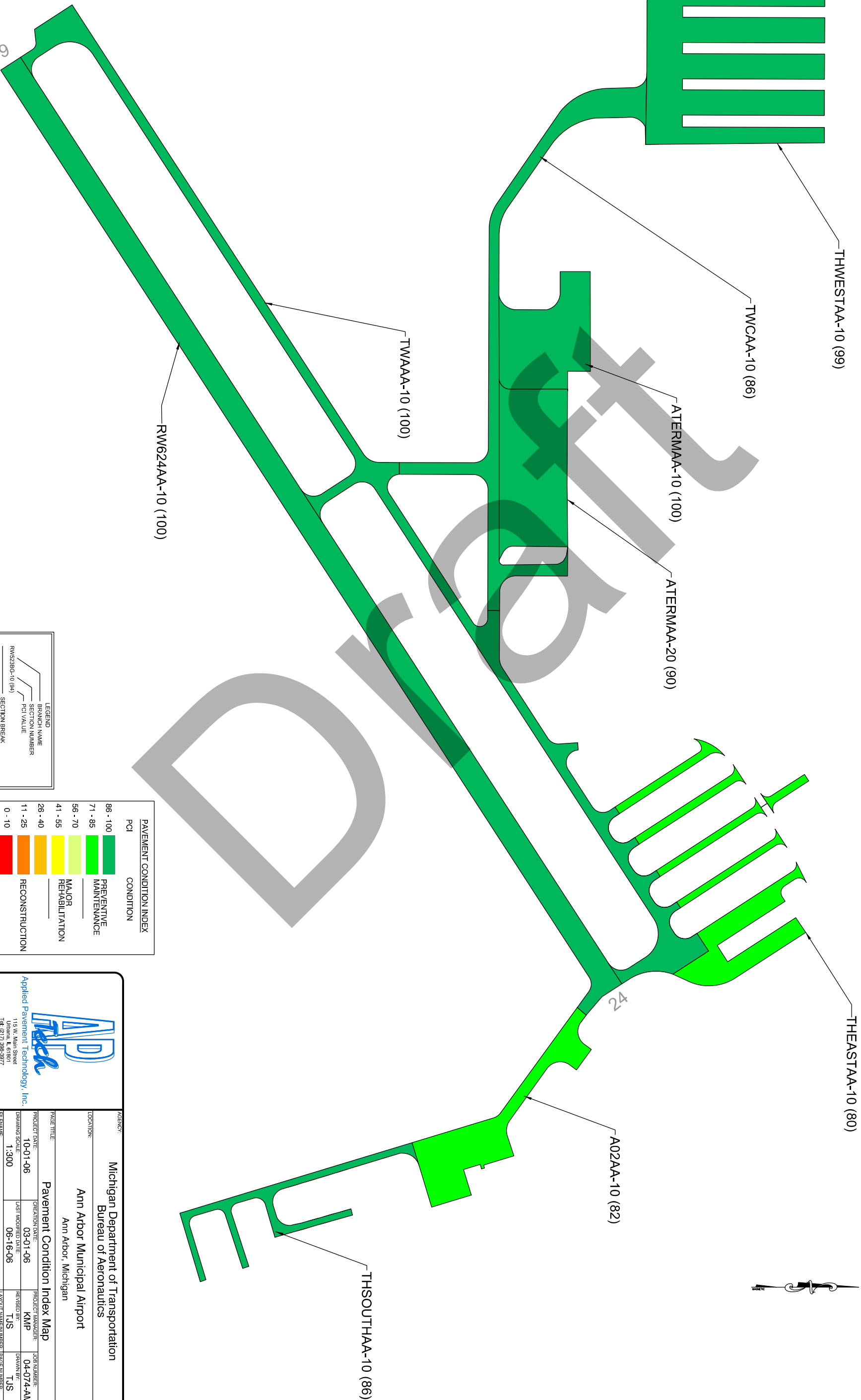
TOTAL FEDERAL DOLLARS	90%	\$ 1,401,300
TOTAL STATE DOLLARS	5.0%	\$ 77,850
TOTAL LOCAL DOLLARS	5.0%	\$ 77,850

* Amount rounded up to the nearest thousand dollars.

DESCRIPTION AND JUSTIFICATION:

Apron pavement is aging and will need reconstruction. 6" concrete overlay will provide cost effective construction. There has been a steady growth in transient corporate flights into the airport along with the continual expansion of helicopter activity requiring increased aircraft parking. The airport is also experiencing a growth in tie-down activity in conjunction with an increased activity on football weekends and other similar community and University event days. The terminal aircraft parking apron is frequently full on many weekdays with large corporate aircraft and tie-down users. Apron lights are old and require replacement. LED replacement lights will be installed. PCI in the Apron was 90 in 2005.

ALP STATUS	ENV.	PURPOSE:	Reconstruction	8
Yes	Categorical Ex. Expected	COMPONENT:	Apron	5
		TYPE:	Improvements	8
		PRIORITY NUMBER		62



PAVEMENT CONDITION INDEX

PCI	CONDITION
86 - 100	PREVENTIVE MAINTENANCE
71 - 85	MAJOR REHABILITATION
56 - 70	RECONSTRUCTION
41 - 55	
26 - 40	
11 - 25	
0 - 10	

Applied Pavement Technology, Inc.
115 W. Main Street
Ann Arbor, MI 48107
Tel: (734) 996-8977
Fax: (248) 398-4877

AGENCY: Michigan Department of Transportation Bureau of Aeronautics			
LOCATION: Ann Arbor Municipal Airport Ann Arbor, Michigan			
PAGE TITLE: Pavement Condition Index Map			
PROJECT DATE: 10-01-06	OPERATION DATE: 03-01-06	PROJECT MANAGER: KMP	LOG NUMBER: 04-074-AM1
DRAWING SCALE: 1:300	USJ1 MODIFIED DATE: 06-16-06	REVISION BY: TJS	DRAWN BY: TJS
FILE NAME: AnnArborMunicipal.dwg	DATE OF ISSUE: PCI	DATE OF ISSUE: PCI	PAGE NUMBER: Figure 8