

**MICHIGAN AIRPORT DEVELOPMENT
PROGRAM PACKAGE
MDOT Airports Division**

**Airport Capital Improvement Plan
2012-2019**

Prepared for:

**Abrams Municipal Airport
Grand Ledge, Michigan**

**October 2011
Final November 2011**

Contact:

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Prepared by:

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**MICHIGAN STATE BLOCK GRANT PROGRAM
AIRPORT CAPITAL IMPROVEMENT PROGRAM (CIP) FY-2012* to FY-2019**

*ACIP includes current development year (2012 already programmed - minor changes acceptable)

Airport Name: Abrams Municipal Airport		Airport Identifier: 4D0				Date prepared: 7/1/11		Revised: 10/4/11			
Associated City: Grand Ledge, MI						Prepared By: Bob Leisenring					
Sponsor: City of Grand Ledge		NPIAS Airport Code: C				Sponsor email address & phone: jbavless@grand-ledge.com : 517-627-2149					
FINAL ACIP due to MDOT AERO: no later than 8/03/11											
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.
	Carryover (Pending Land Acquisition Closure)										
2012	Airfield Joint Repair, Crack Sealing, and Pavement Marking	Yes	RE-TW-IM	64	\$133,000			\$3,500	\$3,500	\$140,000	This project would include repairing cracks on the parallel taxiway to runway 9/27. These cracks are too large to be sealed with normal maintenance operations. The project also includes pavement marking of the airfield. (CAT Ex Required)
2012	ALP Update	N/A	PL-PL-MA	64	\$14,250			\$375	\$375	\$15,000	An ALP update is required to show location of the proposed AWOS and a thru the fence plan for the parcels located along M-100. This is a rough estimate since there is limited information on what the thru-the-fence plan needs to entail. This update will not include any AGIS components.
2012	T Hangar	Yes	ST-BD-MS	31	\$570,000			\$15,000	\$15,000	\$600,000	The airport has constructed an area for 30 t-hangars to the east of the new national guard facility as shown on the attached drawing. The airport constructed 10 t-hangars in 2005 which have been utilized by airport tenants. The next t- Hangar will allow for the growth of the airport to continue. (CAT Ex Required)
	Carryover-\$0										
2013	Automated Weather Observation System (AWOS)	No	ST-EQ-WX	44	\$150,000			\$3,947	\$3,947	\$157,895	An AWOS with better weather information for pilots will increase the usability and safety of the airport, especially with one paved runway. An AWOS will be even more critical once the airports minimums are reduced with the new approaches for runway 9/27. The ALP will be updated once a final site is determined. Tree clearing will be needed for AWOS and selected trees in approach. (CAT Ex Required for tree clearing) The AWOS will be an AWOS IIIp with a total equipment and installation cost of approx. \$128,000.
2013	Land Acquisition for AWOS (Fee)	No	ST-EQ-WX	44	TBD			TBD	TBD	TBD	There may be land acquisition (fee) required for the installation of the AWOS. This line item will be updated after further planning and discussion with MDOT as well as the ALP Update.
	Carryover-\$0										
2014	Replace Windcone, Install T Hangar Taxiway Lighting, Apron & Gate Lighting	Yes	ST-AP-LI	39	\$104,500			\$2,750	\$2,750	\$110,000	The airport would like to complete various electrical upgrade projects. The existing windcone has outlived its useful life and experiences numerous maintenance issues. The apron and entrance to the t hangar area do not have any lighting. So to improve safety, area lights will be added. Also the parallel taxiway lighting does not extend into the midfield hangar area. So to assist pilots with finding that area at night, lights will be added into this area. (CAT Ex Required)
2014	Administration Building Planning	Yes	ST-BD-MS	31	\$14,250			\$375	\$375	\$15,000	This project would include looking at alternatives for the existing administration building. It would assess new construction versus reconstructing the existing facility and the eligibility requirements. There will be site drawings, building sketches, and cost estimates developed.
	Carryover- \$31,250										
2015	Animal Control Perimeter Fencing	Yes	ST-EQ-SE	40	\$181,250	\$398,250		\$15,250	\$15,250	\$610,000	The airport would like to add perimeter fencing to protect the airport from animals. This airport has had many issues with deer incursions onto the runway. The project will replace the existing 6 foot fence along the M-100 frontage and likely require a boundary survey. (Cat Ex Required)
	Carryover-\$0										
2016	Runway 9/27 Rehabilitation, Lighting, and PAPI's	Yes	RE-RW-IM	68	\$150,000	\$961,500		\$29,250	\$29,250	\$1,170,000	The runway pavement and lighting system was last rehabilitated in 1997 and will be approximately 19 years old at this point. The runway is beginning to show the signs of stress with some block cracking now and will be ready for a rehabilitation soon. The PCI is being updated in 2011. (CAT Ex Required)
	Carryover- \$0										
2017	Advance Entitlements for Taxiway/Apron										
	Carryover- \$150,000										
2018	Advance Entitlements for Taxiway/Apron										
	Carryover- \$300,000										
2019	Parallel Taxiway & Apron Rehabilitation	Yes	RE-TW-IM	64	\$161,000	\$551,500		\$18,750	\$18,750	\$750,000	The taxiway was last rehabilitated in 2000 and will be approximately 19 years old at this point. This estimate does not include parallel taxiway lighting. The PCI is being updated in 2011. (CAT Ex Required)

* Proposed airport development must be shown on current FAA approved ALP prior to funding project

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

ENGINEERING COST ESTIMATE

PROJECT: Airfield Joint Repair, Crack Sealing, and Pavement Marking
 LOCATION: Abrams Municipal Airport
 CITY: Grand Ledge, MI
 DATE: 6/14/2011
 PREPARED BY: SCT

FINAL DESIGN
 PROJECT PROGRAMMING
 FEASIBILITY STUDY
 STATE PLANNING
 BASED ON FY 2011 DOLLARS

WORK DESCRIPTION: Crack repair on the parallel taxiway and crack sealing and pavement remarking for the rest of the airport beginning with the runway

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 10,000.00	\$ 10,000
Safety & Security	LS	1	\$ 3,000.00	\$ 3,000
Joint/Crack Repair	LFT	5,000	\$ 11.00	\$ 55,000
Overband Crack Sealing	LFT	13,000	\$ 0.80	\$ 10,400
Pavement Marking	LS	1	\$ 30,000.00	\$ 30,000
CONSTRUCTION TOTAL =				\$ 108,400
CONSTRUCTION CONTINGENCIES (5%) =				\$ 5,000
CONSTRUCTION TOTAL =				\$ 113,400
ENGINEERING DESIGN (10%) =				\$ 11,340
CONSTRUCTION ADMIN (12%) =				\$ 13,608
				\$ 138,348
PROJECT YEAR BUDGET ESTIMATE =				\$ 140,000



Note: These costs were developed without the benefit of field surveys or soils investigation.
 A final cost estimate will be dependent upon development of these items and further design.

ENGINEERING COST ESTIMATE

PROJECT: 10 Unit T Hangar
 LOCATION: Abrams Municipal Airport
 CITY: Grand Ledge, MI
 DATE: 11/18/2011
 PREPARED BY: RAL

FINAL DESIGN
 PROJECT PROGRAMMING
 FEASIBILITY STUDY
 STATE PLANNING
 BASED ON FY 2011 DOLLARS

WORK DESCRIPTION: Construction of a 10 Unit T Hangar and Related Sitework

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 20,000.00	\$ 20,000
Safety & Security	LS	1	\$ 2,500.00	\$ 2,500
Hangar Construction	LS	10	\$ 40,000.00	\$ 400,000
Site Work	EA	10	\$ 6,000.00	\$ 60,000
Utility Allowance	LS	5,000	\$ 1.00	\$ 5,000
CONSTRUCTION TOTAL =				\$ 487,500
CONSTRUCTION CONTINGENCIES (5%) =				\$ 24,375
CONSTRUCTION TOTAL =				\$ 511,875
ENGINEERING DESIGN (7%) =				\$ 35,831
CONSTRUCTION ADMIN (10%) =				\$ 51,188
				\$ 598,894
PROJECT YEAR BUDGET ESTIMATE =				\$ 600,000



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 A final cost estimate will be dependent upon development of these items and further design.

ENGINEERING COST ESTIMATE

PROJECT: Automated Weather Observation System (AWOS)
 LOCATION: Abrams Municipal Airport
 CITY: Grand Ledge, MI
 DATE: 6/29/2011
 PREPARED BY: RAL

FINAL DESIGN
 PROJECT PROGRAMMING
 FEASIBILITY STUDY
 STATE PLANNING
 BASED ON FY 2011 DOLLARS

WORK DESCRIPTION: Construct new AWOS with Ceiling Option and tree clearing (sponsor/MDOT design and construction administration)

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Furnish and Install AWOS- w/ Ceiling Option	LS	1	\$ 128,000.00	\$ 128,000
Tree clearing for AWOS and selected trees in approach	LS	1	\$ 25,000.00	\$ 25,000
CONSTRUCTION TOTAL = \$				153,000
CONSTRUCTION CONTINGENCIES (15%) = \$				-
CONSTRUCTION TOTAL = \$				153,000
MDOT DESIGN \$				-
MDOT CA \$				-
\$				153,000
PROJECT YEAR BUDGET ESTIMATE = \$				155,000



Note: These costs were developed without the benefit of field surveys or soils investigation. This cost is based on MDOT coordinating installation.

ENGINEERING COST ESTIMATE

PROJECT: Replace Windcone, Install T Hangar Taxiway Lighting, Apron & Gate Lighting
 LOCATION: Abrams Municipal Airport
 CITY: Grand Ledge, MI
 DATE: 6/29/11
 PREPARED BY: JGH, AR

FINAL DESIGN
 PROJECT PROGRAMMING
 FEASIBILITY STUDY
 STATE PLANNING
 BASED ON FY 2011 DOLLARS

WORK DESCRIPTION: Replace existing Windcone, Install MITL's at midfield hangar taxiway. Install two new area lights at apron and one area light at Eaton Hwy./Sheridan Rd. gate.

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 15,000.00	\$ 15,000
Safety & Security	LS	1	\$ 10,000.00	\$ 10,000
Remove and Dispose of Windcone and Foundation	EA	1	\$ 1,500.00	\$ 1,500
New 12' Windcone	EA	1	\$ 7,000.00	\$ 7,000
Cable, 5KV, CIC (incl. Counterpoise)	LF	800	\$ 3.50	\$ 2,800
MIRL/MITL (incl. Lens & Lamp)	EA	17	\$ 800.00	\$ 13,600
Apron Area Light & Pole	EA	2	\$ 5,500.00	\$ 11,000
Gate Area Light & Pole	EA	1	\$ 4,000.00	\$ 4,000
Utility Allowance	LS	1	\$ 10,000.00	\$ 10,000
Turfing and Mulching	AC	1	\$ 3,000.00	\$ 3,000
				CONSTRUCTION TOTAL = \$ 77,900
				CONSTRUCTION CONTINGENCIES (15%) = \$ 11,685
				CONSTRUCTION TOTAL = \$ 89,585
				ENGINEERING DESIGN (10%) = \$ 8,959
				CONSTRUCTION ADMIN (12%) = \$ 10,750
				\$ 109,294
PROJECT YEAR BUDGET ESTIMATE =				\$ 110,000



Note: These costs were developed without the benefit of field surveys or soils investigation.
 A final cost estimate will be dependent upon development of these items and further design.

ENGINEERING COST ESTIMATE

PROJECT: Animal Control Perimeter Fencing
 LOCATION: Abrams Municipal Airport
 CITY: Grand Ledge, MI
 DATE: 6/29/11
 PREPARED BY: RAL

FINAL DESIGN
 PROJECT PROGRAMMING
 FEASIBILITY STUDY
 STATE PLANNING
 BASED ON FY 2011 DOLLARS

WORK DESCRIPTION: Construct 10 ft. high Chain Link Fence (16000lf) and Access Gates around airport perimeter, also construct 6 foot vinyl coated fence along M100 (1100lf)

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions/Safety & Security	LS	1	\$ 20,000.00	\$ 20,000
10' Perimeter Fencing	LF	16,000	\$ 22.00	\$ 352,000
20' Double Leaf Swing Gate	EA	5	\$ 1,500.00	\$ 7,500
20' wide double-leaf swing gate	EA	2	\$ 3,500.00	\$ 7,000
6' vinyl-coated fence	LF	1,100	\$ 25.00	\$ 27,500
20' wide vinyl-coated double-leaf swing gate	EA	2	\$ 2,500.00	\$ 5,000
Fencing Removal	LF	1,100	\$ 8.00	\$ 8,800
Warning Signs	EA	40	\$ 85.00	\$ 3,400
Turfing and Mulching	AC	6	\$ 2,500.00	\$ 15,000
				CONSTRUCTION TOTAL = \$ 446,200
				CONSTRUCTION CONTINGENCIES (15%) = \$ 66,930
				CONSTRUCTION TOTAL = \$ 513,130
				ENGINEERING DESIGN (7%) = \$ 35,919
				CONSTRUCTION ADMIN (10%) = \$ 51,313
				\$ 600,362
PROJECT YEAR BUDGET ESTIMATE =				\$ 610,000



Note: These costs were developed without the benefit of field surveys or soils investigation.


ENGINEERING COST ESTIMATE

PROJECT: Runway 9/27 Rehabilitation, Lighting, and PAPI's
 LOCATION: Abrams Municipal Airport
 CITY: Grand Ledge, MI
 DATE: 6/29/10
 PREPARED BY: BJH/RAL

FINAL DESIGN
 PROJECT PROGRAMMING
 FEASIBILITY STUDY
 STATE PLANNING
 BASED ON FY 2011 DOLLARS

WORK DESCRIPTION: Rehabilitate Runway 9-27 & Replace MIRL's & PAPI's

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 50,000.00	\$ 50,000
Safety and Security	LS	1	\$ 20,000.00	\$ 20,000
Permit Fee Allowance	LS	1,000	\$ 1.00	\$ 1,000
Engineer's Field Office and Laboratory	LS	1	\$ 2,500.00	\$ 2,500
MIRL w/lens	EA	56	\$ 700.00	\$ 39,200
5KV Cable w/ Counterpoise	LF	12,000	\$ 3.00	\$ 36,000
600V Cable w/ Counterpoise	LF	10,000	\$ 2.00	\$ 20,000
PAPI	SET	2	\$ 20,000.00	\$ 40,000
Taxiway guidance signs	EA	6	\$ 3,000.00	\$ 18,000
Bituminous Surface (3")	TON	5,400	\$ 90.00	\$ 486,000
Pulverize Existing Pavement (~5")	SY	30,000	\$ 1.50	\$ 45,000
Fine Grade & Compact Aggregate Base	SY	30,000	\$ 1.50	\$ 45,000
Salvage Pulverized Material (2")	CY	1,700	\$ 5.00	\$ 8,500
Salvage Pulverized Material	CY	1,500	\$ 12.00	\$ 18,000
Pavement Marking	LS	1	\$ 10,000.00	\$ 10,000
Shoulder Reconstruction	STA	70	\$ 300.00	\$ 21,000
Turfing and Mulching	AC	2	\$ 3,000.00	\$ 6,000

	CONSTRUCTION TOTAL = \$	866,200
	CONSTRUCTION CONTINGENCIES (15%) = \$	129,930
	CONSTRUCTION TOTAL = \$	996,130
	ENGINEERING DESIGN (7%) = \$	69,729
	CONSTRUCTION ADMIN (10%) = \$	99,613
		\$ 1,165,472
PROJECT YEAR BUDGET ESTIMATE = \$		1,170,000

Note: These costs were developed without the benefit of field surveys or soils investigation.
 A final cost estimate will be dependent upon development of these items and further design.

ENGINEERING COST ESTIMATE

PROJECT: Parallel Taxiway & Apron Rehabilitation
 LOCATION: Abrams Municipal Airport
 CITY: Grand Ledge, MI
 DATE: 6/29/11
 PREPARED BY: JGH/RAL

FINAL DESIGN
 PROJECT PROGRAMMING
 FEASIBILITY STUDY
 STATE PLANNING
 BASED ON FY 2011 DOLLARS

WORK DESCRIPTION: Rehabilitate Parallel Taxiway and Apron

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 35,000.00	\$ 35,000
Safety and Security	LS	1	\$ 35,000.00	\$ 35,000
Permit Fee Allowance	LS	1	\$ 2,000.00	\$ 2,000
Engineer's Field Office and Laboratory	LS	1	\$ 2,500.00	\$ 2,500
Bituminous Surface (3")	TON	4,100	\$ 85.00	\$ 348,500
Pulverize Existing Pavement (~5")	SY	25,000	\$ 2.00	\$ 50,000
Fine Grade & Compact Aggregate Base	SY	25,000	\$ 2.00	\$ 50,000
Salvage Pulverized Material (2")	CY	1,500	\$ 5.00	\$ 7,500
Pavement Marking	LS	1	\$ 10,000.00	\$ 10,000
Tiedowns	EA	12	\$ 200.00	\$ 2,400
Turfing and Mulching	AC	3	\$ 3,000.00	\$ 9,000
CONSTRUCTION TOTAL =				\$ 551,900
CONSTRUCTION CONTINGENCIES (15%) =				\$ 82,785
CONSTRUCTION TOTAL =				\$ 634,685
ENGINEERING DESIGN (7%) =				\$ 44,428
CONSTRUCTION ADMIN (10%) =				\$ 63,469
\$				742,581
PROJECT YEAR BUDGET ESTIMATE =				\$ 750,000



Note: These costs were developed without the benefit of field surveys or soils investigation.
 A final cost estimate will be dependent upon development of these items and further design.

ABRAMS MUNICIPAL AIRPORT

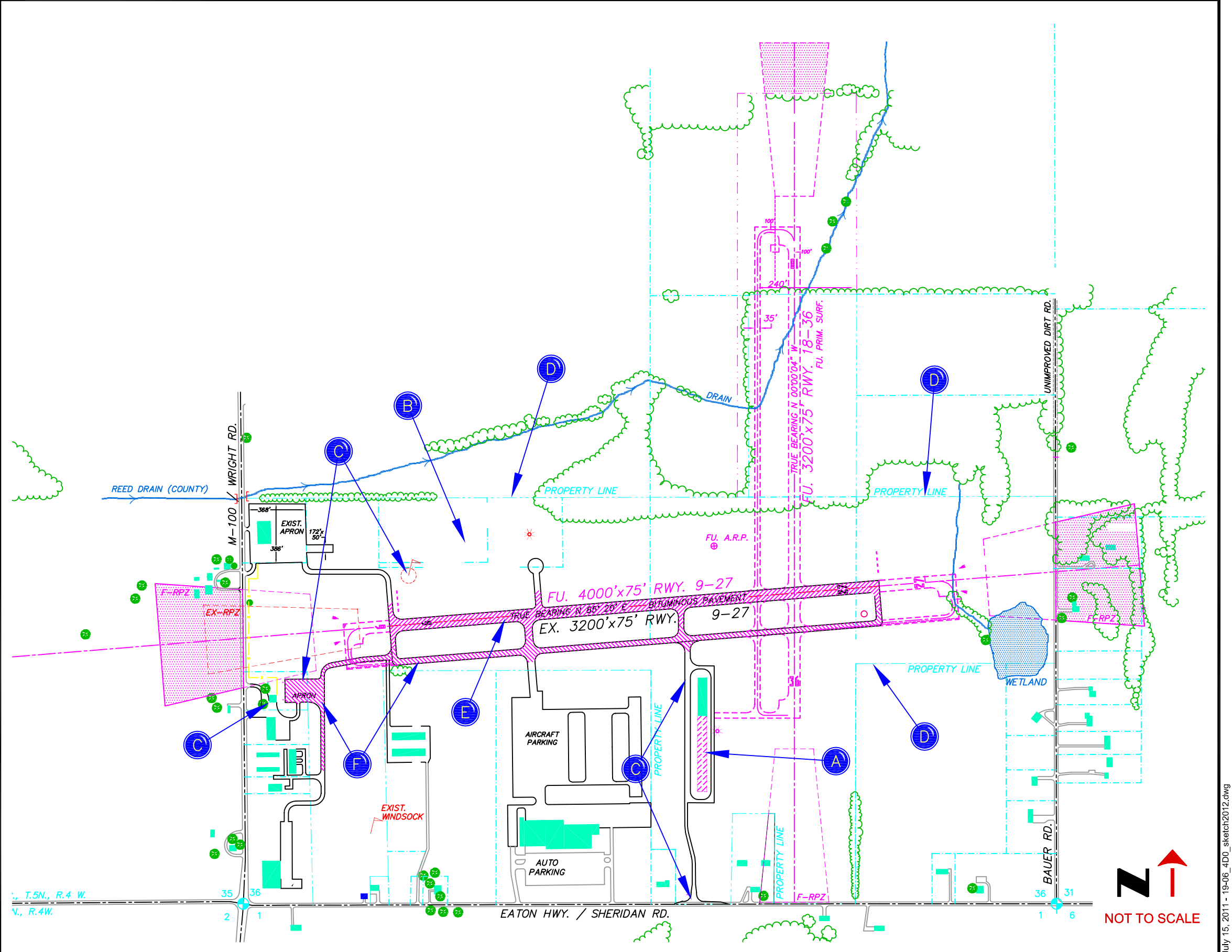
GRAND LEDGE, MICHIGAN

TEN-YEAR DEVELOPMENT PLAN - YEARS 2012 TO 2019



FAA IDENTIFIER: 4D0
STATE ID: 19-60

<p>YEAR - 2012</p> <ul style="list-style-type: none"> AIRFIELD JOINT REPAIR, CRACK SEALING, AND PAVEMENT MARKING ALP UPDATE T HANGAR
<p>YEAR - 2013</p> <ul style="list-style-type: none"> AUTOMATED WEATHER OBSERVATION SYSTEM (AWOS) LAND ACQUISITION FOR AWOS (EASEMENT)
<p>YEAR - 2014</p> <ul style="list-style-type: none"> REPLACE WINDCONE, INSTALL T HANGAR TAXIWAY LIGHTING, APRON & GATE LIGHTING ADMINISTRATION BUILDING PLANNING
<p>YEAR - 2015</p> <ul style="list-style-type: none"> ANIMAL CONTROL PERIMETER FENCING
<p>YEAR - 2016</p> <ul style="list-style-type: none"> RUNWAY 9/27 REHABILITATION, LIGHTING, AND PAPI'S
<p>YEAR - 2017</p> <ul style="list-style-type: none"> ADVANCE ENTITLEMENTS FOR TAXIWAY/APRON
<p>YEAR - 2018</p> <ul style="list-style-type: none"> ADVANCE ENTITLEMENTS FOR TAXIWAY/APRON
<p>YEAR - 2019</p> <ul style="list-style-type: none"> PARALLEL TAXIWAY AND APRON REHABILITATION



July 15, 2011 - 19-06_4D0_sketch2012.dwg

MICHIGAN AIRPORT PROGRAM (MAP) MEETINGS

Attendance Sheet

Airport: Grand Ledge

Date: October 3, 2011

PLEASE PRINT

Name	Representing	Phone	E-mail
Betsy Steudle	MDOT-AERO (Programming)	517-335-8359	steudleb@michigan.gov
Amanda Hopper	MDOT-AERO (Proj Mgr)	517-335-9246	hoppera@michigan.gov
Chip Kraus	MDOT-AERO (LAND)	517-335-9755	krausf@michigan.gov
NP = Ralph Sims	MDOT-AERO (ALP)	517-335-9857	simsr@michigan.gov
Molly Lamrouex	MDOT-AERO (ENV)	517-335-9866	lamrouexm@michigan.gov
Bob Leberino	Meed + Hunt	517 321 8334	bob.leberino@meedhunt.com
John Rowland	Grand Ledge Ad Board	517-627-9124	VIKING@VOYAGER.NET
J. DAVID POWERS	GRANDAIR AVIATION	517-627-9557	DAVE@GRANDAIRAVIATION.CO
David Kuntzsch	Grand Ledge Advisory Bd	517-925-8649	david@kbsincorporated.com
Jim Winstanley	Grand Ledge Advisory Bd.	517 626-2481	jimwinstanley@gmail.com
Jon Bayless	City of Grand Ledge	517-627-2149	j.bayless@grand-ledge.com
Stephanie Ward	Meed + Hunt, Inc.	517-321-8334	stephanie.ward@meedhunt.com
BARRY MERRILL	Grand Ledge Ford Advisory	517-627-8100	bmerrill@grandledgefod.com

NP = NOT PRESENT