

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

**Ten Year Airport Capital Improvement Plan
2012-2022**

Prepared for:

**Brooks Field
Marshall, Michigan**

November 2011

Contact:

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Prepared by:

Mead&Hunt

**MICHIGAN STATE BLOCK GRANT PROGRAM
TEN-YEAR AIRPORT CAPITAL IMPROVEMENT PROGRAM (CIP) FY-2012* to FY-2022**

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

Airport Name: Brooks Field										Date prepared: 6/17/11, Rev. 10/19/11
Associated City: Marshall, Michigan										Prepared By: Mead & Hunt, Inc. Rodney Nettleton
Sponsor: City of Marshall										Sponsor email address & phone: John Riske - (269) 781-5183 , JRiske@cityofmarshall.com
Airport Identifier: RMY										NPIAS Airport Code C

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.
2012	Major Rehabilitation of Parallel Taxiway	Yes	RE TW IM	64	\$323,450	\$18,550	\$0	\$9,000	\$9,000	\$360,000	The existing taxiway has a PCI of 63 and rehabilitation of approximately 113,700 sq ft of pavement is planned. Carryover of 2010 & 2011 funds: \$173,450
2012	Tree Clearing for Runway 28 Approach										Tree clearing for Runway 28 approach will be completed locally.
2013	AWOS Replacement Parts	NA	ST EQ WX	44	\$57,000	\$0		\$1,500	\$1,500	\$60,000	The existing AWOS equipment will need to be replaced to address the lack of new replacement parts.
	Carryover of 2013 funds \$93,000										
2014	Taxistreet Rehabilitation including crack sealing and paint marking for the runway	No	RE TW IM	64	\$243,000	\$23,000	\$0	\$7,000	\$7,000	\$280,000	The most recent PCI rated these pavements at 43, major rehabilitation according to the Pavement Condition Index. Since these pavements service the majority of the hangars on the field, they need to be maintained and kept free of debris.
2015	Terminal Building Improvements	No	CA TE IM	41	\$150,000	\$0	\$0	\$3,750	\$3,750	\$157,895	The existing terminal building, due to it's age, requires improvements to maintain the use of the building. This includes a new roof, as well as general improvements. Coordination with SHPO is required in the design stages.
2016	Runway Extension Justification Study	Yes	CA RW EX	53	\$23,750	\$0	\$0	\$625	\$625	\$25,000	Since more than ten years will have elapsed since the ALP update, it will be necessary to assess current FAA criteria related to the runway layout, as well as provide justification for the runway extension which will be used in the purpose and need section of the environmental assessment.
2016	Environmental Assessment for Runway Extension to 4,300'	Yes	EN PL MA	64	\$95,000	\$0	\$0	\$2,500	\$2,500	\$100,000	An EA will be necessary to document any potential environmental issues associated with the runway extension.
2016	Preliminary Engineering for Runway Extension to support EA efforts	Yes	EN PL MA	64	\$23,750	\$0	\$0	\$625	\$625	\$25,000	Preliminary engineering will be necessary to determine grading limits and general runway layout for the EA document. This will include approach assessments for obstruction removal
	Carryover of 2016 funds \$7,500										
2017	Carry forward for land acquisition \$150,000 Cumulative \$157,500										
2018	Land Acquisition for Runway Extension	Yes	CA RW EX	53	\$237,500	\$0	\$0	\$6,250	\$6,250	\$250,000	Property will be necessary for the extension of the runway for safety areas and approach clearance.
	Carryover of 2018 funds \$70,000										
2019	Final Design Runway Extension	Yes	CA RW EX	53	\$57,000	\$0	\$0	\$1,500	\$1,500	\$60,000	Provide final design for runway extension based upon EA findings and carry remainder of NPE carried to 2019 project
	Carryover of 2020 funds \$163,000										
2020	Carry forward for runway construction \$150,000 Cumulative :\$313,000	Yes	NA	NA	\$0	\$0	\$0	\$0	\$0	\$0	Carry funds over to 2019 for runway extension project
2021	Runway 10/28 Extension	Yes	CA RW EX	53	\$463,000	\$686,500	\$0	\$30,250	\$30,250	\$1,210,000	Runway will be extended by 800' to reach 4,300' length with MIRL
2022	Fuel Farm Upgrade	No	OT OT FF	18	\$150,000	\$0	\$0	\$3,947	\$3,947	\$157,895	CAT-EX, The airport has a significant amount of jet traffic and would benefit from the installation of a Jet A fuel farm to provide fueling options to service these aircraft.

*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 should be completed

(Refer to Airport Code spreadsheet provided on MDOT Aeronautics website under Block Grant Program for specific airport code)

ENGINEERING COST ESTIMATE

PROJECT: Major Rehabilitation of Parallel Taxiway
 LOCATION: Brooks Field
 CITY: Marshall
 DATE: 7/19/2011
 PREPARED BY: RGN

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

WORK DESCRIPTION: Major rehabilitation of parallel taxiway, 113,700 sf., (MDOT PCI Report)(PCI 63)

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 20,000.00	\$ 20,000
Safety and Security	LS	1	\$ 5,000.00	\$ 5,000
Sawcut	LFT	200	\$ 2.50	\$ 500
Cold Mill/Pulverize Existing Pavement	SY	12,700	\$ 2.00	\$ 25,400
Fine Grade & Compact Aggregate Base	SY	12,700	\$ 2.00	\$ 25,400
Remove Waste Material	CYD	800	\$ 6.00	\$ 4,800
Bituminous Surface (3")	TON	2,300	\$ 80.00	\$ 184,000
Pavement Marking (Taxiway)	LS	1	\$ 3,000.00	\$ 3,000
Turfing and Mulching	AC	4	\$ 3,000.00	\$ 12,000
				CONSTRUCTION TOTAL = \$ 280,100
				CONSTRUCTION CONTINGENCIES (15%) = \$ 42,015
				CONSTRUCTION TOTAL = \$ 322,115
				ENGINEERING DESIGN COST OF \$24,000 NOT IN TOTAL
				CONSTRUCTION ADMIN (10%) = \$ 32,212
				\$ 354,327
				PROJECT YEAR BUDGET ESTIMATE = \$ 360,000



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: Rehabilitate Taxistreets
 LOCATION: Brooks Field
 CITY: Marshall
 DATE: 07/19/2011
 PREPARED BY: RGN

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

WORK DESCRIPTION: Rehabilitation of taxistreets in hangar area, 69,300 sf., (MDOT PCI Report)(PCI 43)

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 15,000.00	\$ 15,000
Safety and Security	LS	1	\$ 10,000.00	\$ 10,000
Sawcut	LFT	70	\$ 2.50	\$ 175
Cold Mill/Pulverize Existing Pavement	SY	7,700	\$ 2.00	\$ 15,400
Fine Grade & Compact Aggregate Base	SY	7,700	\$ 2.00	\$ 15,400
Bituminous Surface (3")	TON	1,400	\$ 90.00	\$ 126,000
Pavement Marking (Taxiway)	LS	1	\$ 3,500.00	\$ 3,500
Turfing and Mulching	AC	1	\$ 4,000.00	\$ 4,000
CONSTRUCTION TOTAL = \$				189,475
CONSTRUCTION CONTINGENCIES (15%) = \$				28,421
CONSTRUCTION TOTAL = \$				217,896
ENGINEERING DESIGN (7%) = \$				15,253
CONSTRUCTION ADMIN (10%) = \$				21,790
\$				254,939
ANTICIPATED CONSTRUCTION YEAR =				2014
RATE OF INFLATION =				2.00%
PROJECT YEAR TOTAL COST = \$				270,543
PROJECT YEAR BUDGET ESTIMATE = \$				280,000



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

LOCATION: Brooks Field
 CITY: Marshall, Michigan
 DATE: 6/20/05
 PREPARED BY: RAL
 REVISED: RGN 7/19/2011

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

WORK DESCRIPTION: Extend Runway 10/28 (800'x75'), Install MIRL's, REIL's, and PAPI's

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$50,000.00	50,000.00
Safety and Security	LS	1	\$25,000.00	25,000.00
Clearing and Grubbing	AC	7	\$3,500.00	22,750.00
Fence Removal	STA	15	\$500.00	7,500.00
Unclassified Excavation	CY	10,000	\$5.00	50,000.00
Sand Subbase	CY	4,700	\$18.00	84,600.00
Aggregate Base Course	CY	1,150	\$35.00	40,250.00
Bituminous Pavement, 4"	TON	1,700	\$80.00	136,000.00
Pavement Marking	LS	1	\$5,000.00	5,000.00
Fencing (10')	LF	6,500	\$25.00	162,500.00
Underdrains	LF	1,700	\$10.00	17,000.00
RCCP Pipe	LF	1,200	\$35.00	42,000.00
Turfing and Mulching	AC	9	\$1,000.00	9,000.00
Runway Lighting	EA	30	\$650.00	19,500.00
Duct Banks	LF	150	\$35.00	5,250.00
Counterpoise	LF	1,700	\$1.50	2,550.00
Cable	LF	6,000	\$2.50	15,000.00
Vault Equipment	LS	1	\$15,000.00	15,000.00
Approach Aids	LS	1	\$35,000.00	35,000.00
CONSTRUCTION TOTAL =				743,900.00
CONSTRUCTION CONTINGENCIES (15%) =				\$111,585
CONSTRUCTION TOTAL =				\$855,485
ENGINEERING DESIGN (7%) =				\$59,884
CONSTRUCTION ADMIN (10%) =				\$85,549
				\$1,000,917
ANTICIPATED CONSTRUCTION YEAR =				2021
RATE OF INFLATION =				2%
PROJECT YEAR TOTAL COST =				\$1,202,288.23
BUDGET ESTIMATE =				\$1,210,000



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.

<p>YEAR - 2012</p> <p>A REHABILITATE PARALLEL TAXIWAY RWY 28 TREE CLEARING-COMPLETED LOCALLY</p>
<p>YEAR - 2013</p> <p>B AWOS REPLACEMENT PARTS</p>
<p>YEAR - 2014</p> <p>C TAXISTREET REHABILITATION INCLUDING RUNWAY CRACK SEALING AND PAINT MARKING</p>
<p>YEAR - 2015</p> <p>D TERMINAL BUILDING IMPROVEMENTS</p>
<p>YEAR - 2016</p> <p>E RUNWAY EXTENSION JUSTIFICATION STUDY E ENVIRONMENTAL ASSESSMENT FOR RUNWAY 10/28 EXTENSION E PRELIMINARY ENGINEERING FOR RUNWAY 10/28 EXTENSION</p>
<p>YEAR - 2018</p> <p>E LAND ACQUISITION FOR RUNWAY 10/28 EXTENSION</p>
<p>YEAR - 2019</p> <p>E FINAL DESIGN FOR RUNWAY 10/28 EXTENSION</p>
<p>YEAR - 2021</p> <p>E RUNWAY 10/28 EXTENSION</p>
<p>YEAR - 2022</p> <p>F FUEL FARM UPGRADE</p>

