

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

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

Prepared for:

**W. K. Kellogg Airport
Battle Creek, Michigan**

December 2011

Contact:

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Mead&Hunt

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

*ACIP includes current development year (2011 already programmed - minor changes acceptable)

Airport Name: W.K. Kellogg Airport					Date prepared: 7/22/11 DFT					
Associated City: Battle Creek, Michigan					Prepared By: Larry Bowron, Airport Director / Mead & Hunt					
Sponsor: Larry Bowron, Airport Director					Sponsor email address & phone: lcbowron@ci.battle-creek.mi.us 269-966-3570					
Airport Identifier: BTL										

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. See detail sheets for more information.
2012	Runway 5L-23R LED HIRL & Sign Rehabilitation (Includes design)	Yes	RE-RW-LI	72	\$ -	\$ 67,030	\$ 958,970	\$ 27,000	\$ 27,000	\$ 1,080,000	The runway 5L-23R high intensity runway lighting system is nearly 20 years old. The resistance to ground tests indicate the system is barely functional and the wiring system is in dire need of replacement (less than 10 Mohms). There are numerous splices in the system which add to the unreliability of the circuit. The project will involve night work to minimize impacts to civilian and military air traffic.
	Design for Rehabilitation of Taxiway "C" Phase I & Taxiway "B"	Yes	RE-TW-IM	68	\$ 150,000	\$ 16,250	\$ -	\$ 4,375	\$ 4,375	\$ 175,000	See remarks in project description for Rehabilitate Taxiway "C" Phase I. Design of this project should be accomplished a year in advance so that bidding can be completed well before construction season.
	Preliminary Land Acquisition-Part 150 mitigation	No	EN-HO-65	56	\$ -	\$ -	\$ 152,000	\$ 4,000	\$ 4,000	\$ 160,000	The FAR Part 150 study identified 6 parcels that are in the 65 DNL and are eligible for acquisition if the property owners want to sell. This project will take care of the preliminary interview, Phase I environmental site assessment, appraisals, negotiations with property owners.
	Wildlife Hazard Assessment	NA	EN-PL-MA	68					\$ 59,000	\$ 59,000	A wildlife hazard assessment will be conducted to determine if there needs to be any measures taken to reduce wildlife issues at the airport.
2013	Rehabilitate Taxiway "C" Phase I & Taxiway "B" (see remarks for full description)	Yes	RE-TW-IM	68	\$ 150,000	\$ -	\$ 2,415,000	\$ 67,500	\$ 67,500	\$ 2,700,000	This phase of the project will include the rehabilitation of Taxiway C (from TWY B to TWY A), Taxiway E (from RWY 5L/23R to TWY C), and Taxiway B (from RWY 5L/23R to TWY J). These pavements were identified in the last pavement condition index survey (2005) as being the poorest on the airfield. At that time taxiway "B" was rated a 44, which is well below minimum service condition. These taxiways are also very critical to the airport, as most air traffic must transit these taxiways to get to Duncan aviation (FBO), WMU Aviation school, or the Kellogg's Hangar. Due to the primary runway being 10,000 feet long and the presence of the Air National Guard Base, the airport occasionally draws larger group IV aircraft. Most of the taxiways at the airport are 50' wide and there is currently only one way for group IV aircraft to get off the primary runway (TWY A). This project also includes the widening of portions of Taxiway C (North of TWY E to TWY A ~1,650') and Taxiway E (from RWY 5L/23R to TWY C) to accommodate a loop ground movement for group IV aircraft. The widening will give Group IV aircraft two access points to/from the runway that meet current design standards, as well as reduce the need to back taxi on the primary runway, thus reducing potential incursions (inspection/safety/certification item). This project also includes the replacement of the edge lighting along Taxiway C and Taxiway E in areas that are scheduled for widening. The remaining Taxiway C edge lighting will be delayed due to the re-cabling that occurred in 2011.
	Land Acquisition-Part 150 mitigation	No	EN-HO-65	56	\$ -	\$ -	\$ 1,567,500	\$ 41,250	\$ 41,250	\$ 1,650,000	The FAR Part 150 study identified 6 parcels that are in the 65 DNL and are eligible for acquisition through the noise funding if the property owners are willing to sell.
2014	Design for Rehabilitate Taxiway "C" Phase II	Yes	RE-TW-IM	68	\$ 123,500	\$ -	\$ -	\$ 3,250	\$ 3,250	\$ 130,000	See remarks in project description for Rehabilitate Taxiway "C" Phase II. Design of this project should be accomplished a year in advance so that bidding can be completed well before construction season.
2015	Rehabilitate Taxiway "C" Phase II (see remarks for full description)	Yes	RE-TW-IM	68	\$ 176,500	\$ -	\$ 1,714,000	\$ 49,750	\$ 49,750	\$ 1,990,000	This Phase of the project will include the rehabilitation of Taxiway C (south of TWY B) as well as associated connectors along Taxiway C. These pavements were identified in the last pavement condition index survey (2005) to have a rating of 59/68. Currently, this is the only taxiway that services the Runway 5L approach and Duncan Aviation (FBO), thus experiences a high volume of jet traffic. This Phase also includes the expansion of the concrete run-up pad near the Runway 5L approach, allowing the run-up pad to accommodate Group IV aircraft maneuvers. The edge lighting rehabilitation will be delayed due to the re-cabling that occurred in 2011.
2016	Design for Resurface RWY 5L/23R	Yes	RE-RW-IM	72	\$ 150,000	\$ 111,250	\$ (0)	\$ 6,875	\$ 6,875	\$ 275,000	See remarks in project description for resurfacing of runway 5L/23R project. Design of this project should be accomplished a year in advance so that bidding can be completed well before construction season.

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. See detail sheets for more information.
2017											
	Resurface RWY 5L/23R	Yes	RE-RW-IM	72	\$ 150,000	\$ -	\$ 3,935,000	\$ 107,500	\$ 107,500	\$ 4,300,000	Runway 5L/23R has a porous friction course for a surface. This was placed in the mid 1990s. It is beginning to show signs of raveling. The structural integrity of the pavement appears to be OK but the raveling of the PFC can cause FOD issues on the runway. It is requested that a new PFC be placed on this runway to avoid the FOD problems that we will likely encounter if nothing is done.
	Design for Construct Service Road	No	OT-GT-SV	22		\$ 28,500		\$ 750	\$ 750	\$ 30,000	See remarks in project description for Construct Service Road. Design of this project should be accomplished a year in advance so that bidding can be completed well before construction season.
2018											
	Construct Service Road	Yes	OT-GT-SV	22			\$ 380,000	\$ 10,000	\$ 10,000	\$ 400,000	As a result of the airport's Periodic Airport Certification/Safety Inspection the FAA recommended that the airport aggressively pursue the elimination of fuel trucks from traveling on the taxiways and reduce runway crossings. This project will consist of the construction of an asphalt service road from the Duncan Aviation (FBO) hangar to the paved service road that begins along TWY B. A road will also be constructed from where the existing paved service road ends (near Old Territorial Road) to the East T-Hangar Area. This will allow vehicular traffic to travel from the FBO to the WMU apron without accessing the AOA.
	Design for Replace Taxiway "C" Lighting	Yes	RE-TW-LI	68		\$ 76,000	\$ -	\$ 2,000	\$ 2,000	\$ 80,000	See remarks in project description for Replace Taxiway "C" Lighting. Design of this project should be accomplished a year in advance so that bidding can be completed well before construction season.
	Design for Construct Taxiway "N"	Yes	CA-TW-CO	61		\$ 175,750	\$ -	\$ 4,625	\$ 4,625	\$ 185,000	See remarks in project description for Construct Taxiway "N". Design of this project should be accomplished a year in advance so that bidding can be completed well before construction season.
	Design for Rehabilitate Taxiway "A"	Yes	RE-TW-IM	68	\$ 150,000	\$ 40,000	\$ -	\$ 5,000	\$ 5,000	\$ 200,000	See remarks in project description for Rehabilitate Taxiway "A". Design of this project should be accomplished a year in advance so that bidding can be completed well before construction season.
2019											
	Replace Taxiway "C" Lighting	Yes	RE-TW-LI	68	\$ -	\$ -	\$ 1,140,000	\$ 30,000	\$ 30,000	\$ 1,200,000	The current stake mounted lighting system on Taxiway C was installed in the late 1980s or early 1990s. The original cable and transformers were replaced in 2011 with new direct burial equipment as stop gap when the circuit failed to operate consistently from the new midfield vault. The existing quartz fixtures are outdated and require constant maintenance to remain operational. This project will replace the existing system with a base mounted LED MITL system that will be re-cabled using Cable in Conduit (CIC).
	Construct Taxiway "N"	Yes	CA-TW-CO	61	\$ 150,000	\$ -	\$ 2,605,000	\$ 72,500	\$ 72,500	\$ 2,900,000	After the construction of Runway 5R-23L, GA aircraft moving south along Taxiway A to Runway 5R-23L will be in direct conflict with jet traffic/military traffic taxiing north along Taxiway A to 23R. This is occurs due to the parallel taxiway for Runway 5L-23R (TWY C) intersecting Taxiway A at the WMU apron, rather than at the 23R approach. Instead of constructing a full parallel taxiway to 5L-23R a partial parallel taxiway to Taxiway A (between TWY A1 and TWY E) is proposed in the grass islands between Taxiway A and the WMU Apron. This alternative is significantly less expensive than the primary parallel taxiway and still achieves aircraft separation/reduction of conflicts. The number of conflicts on Taxiway A in front of the WMU apron is significant. The WMU aviation school has 60+ based aircraft used by student pilots that primarily taxiway along Taxiway A to use Runway 5R-23L. Once this parallel taxiway was in operation, ATC will direct the student pilots south along the taxiway and keep the corporate/military aircraft moving North on Taxiway A. This project also includes rehabilitation of the pavement in the East T-Hangar area. This pavement area was not part of the PCI evaluation that was done in 2005, but is among the worst at the airport.
	Rehabilitate Taxiway "A"	Yes	RE-TW-IM	68	\$ -	\$ -	\$ 2,850,000	\$ 75,000	\$ 75,000	\$ 3,000,000	The pavement along Taxiway A had a PCI of 71 during the last pavement condition survey (2005). It is expected that by 2019 it will be well below the acceptable minimum service level. The current taxiway lighting has been tested and has very low resistance to ground which causes sporadic outages. As part of this project, a new MITL system will be installed.
2020											
	Design Rehabilitate Taxiway E		RE-TW-IM	68	\$ 114,000	\$ -	\$ -	\$ 3,000	\$ 3,000	\$ 120,000	See remarks in project description for the rehabilitate taxiway E project. Design of this project should be accomplished a year in advance so that bidding can be completed well before construction season.
2021											
	Rehabilitate Taxiway E	Yes	RE-TW-IM	68	\$ -	\$ -	\$ 1,805,000	\$ 47,500	\$ 47,500	\$ 1,900,000	This taxiway was given a PCI rating of 85 during the latest pavement condition survey (2005). By 2021 it is likely going to be in need of rehabilitation to continue service. The current MITL system has already surpassed it designed service life and will most likely be in serious need of replacement by this time as well.
	Design for Construct Taxiway "M" Phase I	Yes	CA-TW-CO	61	\$ 166,250	\$ -	\$ -	\$ 4,375	\$ 4,375	\$ 175,000	See remarks in project description for the construct phase I of taxiway M project. Design of this project should be accomplished a year in advance so that bidding can be completed well before construction season.
2022											
	Construct Taxiway "M" Phase I	Yes	CA-TW-CO	61	\$ 169,750	\$ -	\$ 2,395,250	\$ 67,500	\$ 67,500	\$ 2,700,000	Several inquiries have been made regarding aviation development on the west side of the airport. This taxiway will allow access to the runway from the west side of the field. Construction of new asphalt taxiway "M" will be 50' wide to accommodate corporate aircraft taxiing to a future run-up area.

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

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ENGINEERING COST ESTIMATE

PROJECT: Rehabilitate TWY C Phase 1 & Taxiway B
 LOCATION: W.K. Kellogg Airport
 CITY: Battle Creek, Michigan
 DATE: 7/26/11
 PREPARED BY: JET
 REVIEWED BY: RJE

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

WORK DESCRIPTION: Rehabilitate TWY B (from 5L-23R to Taxiway J), Taxiway C (from TWY B to TWY A) and TWY E (from 5L-23R to TWY C).
 Widen TWY C (from RWY 13/31 to TWY A) and TWY E.

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 150,000.00	\$ 150,000
Safety and Security	LS	1	\$ 75,000.00	\$ 75,000
Bituminous Surface (5")	TON	16,865	\$ 70.00	\$ 1,180,550
Full Depth Cold Mill (5")	SYD	51,350	\$ 2.00	\$ 102,700
Pulverize Existing Pavement (3")	SYD	51,350	\$ 1.00	\$ 51,350
Aggregate Base Course (6")	CYD	900	\$ 35.00	\$ 31,500
Sand Subbase (25")	CYD	3,715	\$ 16.00	\$ 59,440
Unclassified Excavation (36")	CYD	5,350	\$ 5.00	\$ 26,750
Fine Grade and Compact Pulverized Base Course	SYD	51,350	\$ 1.00	\$ 51,350
Pavement Marking	SFT	10,825	\$ 0.30	\$ 3,248
Soil Erosion and Sedimentation Controls	LS	1	\$ 10,000.00	\$ 10,000
Underdrain	LFT	5,000	\$ 10.00	\$ 50,000
Drainage	LS	1	\$ 35,000.00	\$ 35,000
Cable (5KV CIC)	LFT	5,745	\$ 4.00	\$ 22,980
Cable (Direct Burial)	LFT	1,550	\$ 1.20	\$ 1,860
Counterpoise	LFT	5,745	\$ 0.75	\$ 4,309
Existing Electrical Removals	LS	1	\$ 15,000.00	\$ 15,000
Electrical Handhole	EA	8	\$ 1,800.00	\$ 14,400
Electrical Manhole	EA	2	\$ 5,000.00	\$ 10,000
Duct (Directional Bore)	LFT	500	\$ 80.00	\$ 40,000
LED Medium Intensity Taxiway Light (MITL)	EA	100	\$ 1,100.00	\$ 110,000
Signs (Guidance, Distance Remaining, Hold Short)	EA	16	\$ 4,000.00	\$ 64,000
Turfing and Mulching	AC	6	\$ 3,500.00	\$ 21,000
CONSTRUCTION TOTAL =				\$ 2,130,436
CONSTRUCTION CONTINGENCIES (15%) =				\$ 319,565
CONSTRUCTION TOTAL =				\$ 2,450,002
ENGINEERING DESIGN (7%) =				\$ -
CONSTRUCTION ADMIN (10%) =				\$ 245,000
\$				2,695,002
PROJECT YEAR BUDGET ESTIMATE =				\$ 2,700,000



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 TWY C Phase II
 LOCATION: W.K. Kellogg Airport
 CITY: Battle Creek, Michigan
 DATE: 7/26/11
 PREPARED BY: JET
 REVIEWED BY: RJE

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

WORK DESCRIPTION: Rehabilitate TWY C (South of TWY B), connectors, and Expand run-up pad

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 100,000.00	\$ 100,000
Safety and Security	LS	1	\$ 40,000.00	\$ 40,000
Bituminous Surface (5")	TON	14,125	\$ 75.00	\$ 1,059,375
Cold Mill Existing Pavement (5')	SYD	47,085	\$ 2.00	\$ 94,170
Pulverize Existing Pavement (3")	SYD	47,085	\$ 1.00	\$ 47,085
Fine Grade and Compact Pulverized Base Course	SYD	47,085	\$ 1.00	\$ 47,085
Unclassified Excavation	CYD	2,055	\$ 6.00	\$ 12,330
Sand Subbase (21")	CYD	1,030	\$ 20.00	\$ 20,600
Aggregate Base Course (8")	CYD	390	\$ 40.00	\$ 15,600
Concrete Pavement (13")	SYD	1,600	\$ 60.00	\$ 96,000
5KV Cable	LFT	1,000	\$ 4.00	\$ 4,000
Relocate MITL	EA	20	\$ 800.00	\$ 16,000
Pavement Marking	SFT	25,400	\$ 0.30	\$ 7,620
Restoration	LS	2	\$ 3,500.00	\$ 7,000
CONSTRUCTION TOTAL = \$				1,566,865
CONSTRUCTION CONTINGENCIES (15%) = \$				235,030
CONSTRUCTION TOTAL = \$				1,801,895
ENGINEERING DESIGN (7%) =				
CONSTRUCTION ADMIN (10%) = \$				180,189
				\$ 1,982,084
PROJECT YEAR BUDGET ESTIMATE = \$				1,990,000



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: Runway 5L-23R LED HIRL & Sign Rehabilitation
 LOCATION: W.K. Kellogg Airport
 CITY: Battle Creek, Michigan
 DATE: 7/26/11
 PREPARED BY: JET
 REVIEWED BY: RJE

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

WORK DESCRIPTION: Replace Runway Lighting, Signage, and cabling for Runway 5L-23R.

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 60,000.00	\$ 60,000
Safety and Security	LS	1	\$ 25,000.00	\$ 25,000
Cable (1/C 5KV CIC)	LFT	30,200	\$ 3.00	\$ 90,600
Cable (1/C 5KV Trench or Duct)	LFT	3,500	\$ 1.00	\$ 3,500
Counterpoise	LFT	30,200	\$ 0.75	\$ 22,650
Existing Electrical Removals	LS	1	\$ 30,000.00	\$ 30,000
Electrical Handhole	EA	16	\$ 1,800.00	\$ 28,800
Electrical Manhole	EA	6	\$ 5,000.00	\$ 30,000
Duct (Directional Bore)	LFT	1,000	\$ 80.00	\$ 80,000
High Intensity Runway Light (HIRL)	EA	112	\$ 1,200.00	\$ 134,400
In-pavement HIRL	EA	8	\$ 3,000.00	\$ 24,000
Signs (Guidance, Distance Remaining, Hold Short, Exit)	EA	50	\$ 4,000.00	\$ 200,000
Night Work Shift Premium	LS	1	\$ 50,000.00	\$ 50,000
Turfing and Mulching	AC	5	\$ 3,500.00	\$ 17,500
				CONSTRUCTION TOTAL = \$ 796,450
				CONSTRUCTION CONTINGENCIES (15%) = \$ 119,468
				CONSTRUCTION TOTAL = \$ 915,918
				ENGINEERING DESIGN (7%) = \$ 64,114
				CONSTRUCTION ADMIN (10%) = \$ 91,592
				\$ 1,071,623
				PROJECT YEAR BUDGET ESTIMATE = \$ 1,080,000



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: Resurface RWY 5L/23R
 LOCATION: W.K. Kellogg Airport
 CITY: Battle Creek, Michigan
 DATE: 7/27/11
 PREPARED BY: JET
 REVIEWED BY: RJE

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

WORK DESCRIPTION: Resurface RWY 5L/23R with a new Porous Friction Course (PFC). The project will also include joint/crack repairs.

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 50,000.00	\$ 50,000
Safety and Security	LS	1	\$ 25,000.00	\$ 25,000
Cold Mill (4")	SYD	16,667	\$ 2.00	\$ 33,334
Bituminous Surface Course (3 1/4")	TON	32,300	\$ 80.00	\$ 2,584,000
Porous Friction Course	TON	6,000	\$ 100.00	\$ 600,000
Joint/Crack Repair	LFT	20,000	\$ 3.00	\$ 60,000
Pavement Marking	SFT	136,000	\$ 0.25	\$ 34,000
Restoration	LS	1	\$ 5,000.00	\$ 5,000
CONSTRUCTION TOTAL = \$				3,391,334
CONSTRUCTION CONTINGENCIES (15%) = \$				508,700
CONSTRUCTION TOTAL = \$				3,900,034
ENGINEERING DESIGN (7%) =				
CONSTRUCTION ADMIN (10%) = \$				390,003
				\$ 4,290,038
PROJECT YEAR BUDGET ESTIMATE = \$				4,300,000



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: Construct Service Road
 LOCATION: W.K. Kellogg Airport
 CITY: Battle Creek, Michigan
 DATE: 7/26/11
 PREPARED BY: .RJC (7/14/2010)
 REVIEWED BY: RJE

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

WORK DESCRIPTION: Construct Service Road from Duncan Aviation to East T-Hangar area

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 20,000.00	\$ 20,000
Safety and Security	LS	1	\$ 10,000.00	\$ 10,000
Bituminous Surface (4")	TON	1,960	\$ 90.00	\$ 176,400
Aggregate Base (8")	CYD	1,890	\$ 35.00	\$ 66,150
Unclassified Excavation (12")	CYD	2,830	\$ 5.00	\$ 14,150
Pavement Marking	LS	1	\$ 8,000.00	\$ 8,000
Drainage Pipe	LFT	100	\$ 20.00	\$ 2,000
End Sections	EA	8	\$ 150.00	\$ 1,200
Seed and Mulch	AC	4	\$ 4,000.00	\$ 16,000
CONSTRUCTION TOTAL = \$				313,900
CONSTRUCTION CONTINGENCIES (15%) = \$				47,085
CONSTRUCTION TOTAL = \$				360,985
ENGINEERING DESIGN (7%) = \$				-
CONSTRUCTION ADMIN (10%) = \$				36,099
\$				397,084
PROJECT YEAR BUDGET ESTIMATE = \$				400,000



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: Construct TWY N
 LOCATION: W.K. Kellogg Airport
 CITY: Battle Creek, Michigan
 DATE: 7/26/11
 PREPARED BY: .RJC, JPH (7/14/2010)
 REVIEWED BY: RJE

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

WORK DESCRIPTION: Construction of New Parallel Taxiway "N" along Taxiway "A" between taxiways "A1" & "E" and rehab of the paements in the East T-Hangar area. (Rehabilitation will consist of pulverizing half of the area and fully reconstructing the other half.)

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 125,000.00	\$ 125,000
Safety and Security	LS	1	\$ 62,500.00	\$ 62,500
Concrete Surface (8")(TWY N)	SYD	19,560	\$ 40.00	\$ 782,400
Bituminous Surface (3") (East T-Hangars)	TON	3,100	\$ 75.00	\$ 232,500
Aggregate Base (8")(TWY N)	CYD	4,750	\$ 35.00	\$ 166,250
Aggregate Base (3") (East T-Hangar)	CYD	715	\$ 35.00	\$ 25,025
Sand Subbase (24") (TWY N)	CYD	15,410	\$ 16.00	\$ 246,560
Sand Subbase (18")(East T-Hangars)	CYD	4,300	\$ 16.00	\$ 68,800
Unclassified Excavation (40") (TWY N)	CYD	27,660	\$ 4.00	\$ 110,640
Unclassified Excavation (East T-Hangar)	CYD	6,500	\$ 4.00	\$ 26,000
Pavement Marking	LS	1	\$ 5,000.00	\$ 5,000
Drainage Pipe (TWY N)	LFT	1,800	\$ 50.00	\$ 90,000
Underdrains (TWY N)	LFT	5,800	\$ 10.00	\$ 58,000
Catch Basins/Inlets (TWY N)	EA	25	\$ 1,200.00	\$ 30,000
Drainage (East T-Hangars)	LS	1	\$ 15,000.00	\$ 15,000
LED MITL	EA	70	\$ 1,200.00	\$ 84,000
CIC & Counterpoise	LFT	6,960	\$ 4.00	\$ 27,840
Vault Work	LS	1	\$ 12,000.00	\$ 12,000
Signage	EA	12	\$ 3,500.00	\$ 42,000
Removal and Disposal of Bituminous Pavement (East T-Hangars)	SYD	8,590	\$ 2.00	\$ 17,180
Pulverize Asphalt (East T-Hangars)	SYD	8,590	\$ 0.75	\$ 6,443
Fine Grade and Compact Pulverized Base Course (East T-Hagars)	SYD	17,180	\$ 1.50	\$ 25,770
Salvage Pulverized Material (3")	CYD	715	\$ 1.50	\$ 1,073
Seed and Mulch	AC	8	\$ 3,500.00	\$ 28,000
CONSTRUCTION TOTAL =				\$ 2,287,980
CONSTRUCTION CONTINGENCIES (15%) =				\$ 343,197
CONSTRUCTION TOTAL =				\$ 2,631,177
ENGINEERING DESIGN (7%) =				
CONSTRUCTION ADMIN (10%) =				\$ 263,118
				\$ 2,894,295
PROJECT YEAR BUDGET ESTIMATE =				\$ 2,900,000



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 TWY A
 LOCATION: W.K. Kellogg Airport
 CITY: Battle Creek, Michigan
 DATE: 7/27/11
 PREPARED BY: .RJC (7/14/2010)
 REVIEWED BY: RJE

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

WORK DESCRIPTION: Rehabilitate TWY A and including new MITL system

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 125,000.00	\$ 125,000
Safety and Security	LS	1	\$ 85,000.00	\$ 85,000
Bituminous Surface (8")	TON	19,100	\$ 80.00	\$ 1,528,000
Cold Mill/Pulverize Existing Pavement	SYD	37,920	\$ 2.00	\$ 75,840
Salvage Pulverized Material	CYD	5,060	\$ 5.00	\$ 25,300
Fine Grade and Compact Agg Base Course	SYD	37,920	\$ 3.00	\$ 113,760
Pavement Marking	LS	1	\$ 7,000.00	\$ 7,000
Vault Work	LS	1	\$ 12,000.00	\$ 12,000
Cable, 5KV, CIC w/ Counterpoise	LFT	9,000	\$ 4.00	\$ 36,000
Electrical Manhole	EA	2	\$ 5,000.00	\$ 10,000
Electrical Handhole	EA	3	\$ 1,500.00	\$ 4,500
Duct (Directional Bore)	LFT	360	\$ 80.00	\$ 28,800
MITL (LED)	EA	120	\$ 1,200.00	\$ 144,000
Electrical Removals	LS	1	\$ 20,000.00	\$ 20,000
Drainage Pipe	LFT	1,200	\$ 50.00	\$ 60,000
Underdrains	LFT	7,500	\$ 10.00	\$ 75,000
Seed and Mulch	AC	6	\$ 3,500.00	\$ 21,000

	CONSTRUCTION TOTAL =	\$ 2,371,200
	CONSTRUCTION CONTINGENCIES (15%) =	\$ 355,680
	CONSTRUCTION TOTAL =	\$ 2,726,880
	ENGINEERING DESIGN (7%) =	-
	CONSTRUCTION ADMIN (10%) =	\$ 272,688
		\$ 2,999,568
PROJECT YEAR BUDGET ESTIMATE =		\$ 3,000,000

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: Replace TWY C Lighting
 LOCATION: W.K. Kellogg Airport
 CITY: Battle Creek, Michigan
 DATE: 7/27/11
 PREPARED BY: JET
 REVIEWED BY: RJE

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

WORK DESCRIPTION: Taxiway C lighting and signage rehabilitation

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 80,000.00	\$ 80,000
Safety and Security	LS	1	\$ 40,000.00	\$ 40,000
Cable, 5KV, CIC (incl. Counterpoise)	LFT	40,000	\$ 4.00	\$ 160,000
Electrical Handhole	EA	30	\$ 1,500.00	\$ 45,000
Electrical Manhole	EA	8	\$ 5,000.00	\$ 40,000
Electrical Duct (Directional Bore)	LFT	400	\$ 80.00	\$ 32,000
MITL (LED)	EA	315	\$ 1,200.00	\$ 378,000
Guidance/Hold Short Signs	EA	45	\$ 3,500.00	\$ 157,500
MITL/Guidance Sign Removals	EA	6	\$ 150.00	\$ 900
Trufing and Mulching	AC	4	\$ 3,500.00	\$ 14,000
CONSTRUCTION TOTAL = \$				947,400
CONSTRUCTION CONTINGENCIES (15%) = \$				142,110
CONSTRUCTION TOTAL = \$				1,089,510
ENGINEERING DESIGN (7%) =				
CONSTRUCTION ADMIN (10%) = \$				108,951
				\$ 1,198,461
PROJECT YEAR BUDGET ESTIMATE = \$				1,200,000



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 TWY E
 LOCATION: W.K. Kellogg Airport
 CITY: Battle Creek, Michigan
 DATE: 7/27/11
 PREPARED BY: .RJC (7/14/2010)
 REVIEWED BY: RJE

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

WORK DESCRIPTION: Rehabilitation will include full depth milling and resurfacing, as well as replacing the lights, signs and circuitry.

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 75,000.00	\$ 75,000
Safety and Security	LS	1	\$ 40,000.00	\$ 40,000
Cold Mill (8")	SYD	45,000	\$ 1.50	\$ 67,500
Fine Grade & Compact Aggregate Base Course	SYD	45,000	\$ 2.00	\$ 90,000
Bituminous Surface Course (8")	TON	10,800	\$ 80.00	\$ 864,000
Cable, 5KV, CIC (incl. Counterpoise)	LFT	20,000	\$ 3.50	\$ 70,000
Electrical Manhole	EA	4	\$ 5,000.00	\$ 20,000
Electrical Handhole	EA	8	\$ 1,500.00	\$ 12,000
Duct (Directional Bore)	LFT	450	\$ 80.00	\$ 36,000
MITL (LED)	EA	134	\$ 1,200.00	\$ 160,800
Guidance/Hold Short Signs	EA	5	\$ 2,700.00	\$ 13,500
Electrical Removals	LS	1	\$ 15,000.00	\$ 15,000
Pavement Marking	LS	1	\$ 20,000.00	\$ 20,000
Trufing and Mulching	AC	3	\$ 3,500.00	\$ 10,500
CONSTRUCTION TOTAL = \$				1,494,300
CONSTRUCTION CONTINGENCIES (15%) = \$				224,145
CONSTRUCTION TOTAL = \$				1,718,445
ENGINEERING DESIGN (7%) =				
CONSTRUCTION ADMIN (10%) = \$				171,845
\$				1,890,290
PROJECT YEAR BUDGET ESTIMATE = \$				1,900,000



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: Construct TWY M Phase I
 LOCATION: W.K. Kellogg Airport
 CITY: Battle Creek, Michigan
 DATE: 7/27/11
 PREPARED BY: .RJC (7/14/2010)
 REVIEWED BY: RJE

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

WORK DESCRIPTION: Construction of TWY M (south of TWY D) with LED Medium Intensity Lighting

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 130,000.00	\$ 130,000
Safety and Security	LS	1	\$ 70,000.00	\$ 70,000
Unclassified Excavation (38")	CYD	42,600	\$ 3.00	\$ 127,800
Sand Subbase (24")	CYD	17,200	\$ 16.00	\$ 275,200
Aggregate Base Course (6")	CYD	4,300	\$ 35.00	\$ 150,500
Bituminous Surface Course (8")	TON	13,000	\$ 80.00	\$ 1,040,000
On-site Borrow	CYD	6,000	\$ 5.00	\$ 30,000
Drainage	LS	1	\$ 75,000.00	\$ 75,000
Cable, 5KV, CIC (incl. Counterpoise)	LFT	23,000	\$ 2.50	\$ 57,500
Electrical Handhole	EA	4	\$ 1,500.00	\$ 6,000
Electrical Duct	LFT	300	\$ 50.00	\$ 15,000
MITL (LED)	EA	56	\$ 1,200.00	\$ 67,200
Vault Equipment	LS	1	\$ 15,000.00	\$ 15,000
Guidance/Hold Short Signs	EA	6	\$ 3,500.00	\$ 21,000
MITL/Guidance Sign Removals	EA	6	\$ 150.00	\$ 900
Pavement Marking	LS	1	\$ 15,000.00	\$ 15,000
Trufing and Mulching	AC	15	\$ 3,000.00	\$ 45,000

	CONSTRUCTION TOTAL =	\$ 2,141,100
	CONSTRUCTION CONTINGENCIES (15%) =	\$ 321,165
	CONSTRUCTION TOTAL =	\$ 2,462,265
	ENGINEERING DESIGN (7%) =	-
	CONSTRUCTION ADMIN (10%) =	\$ 246,227
		\$ 2,708,492
PROJECT YEAR BUDGET ESTIMATE =		\$ 2,710,000

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.

W. K. KELLOGG AIRPORT

BATTLE CREEK, MICHIGAN



TEN-YEAR DEVELOPMENT PLAN - YEARS 2012 TO 2022

FAA IDENTIFIER: BTL
STATE ID: 13-01

YEAR - 2012	<ul style="list-style-type: none"> A — DESIGN AND CONSTRUCT RUNWAY 5L-23R HIRL & SIGN REHABILITATION B — DESIGN FOR REHABILITATION OF TAXIWAY "C" PHASE I & TAXIWAY "B" C — PRELIMINARY LAND ACQUISITION - PART 150 MITIGATION WILDLIFE HAZARD ASSESSMENT
YEAR - 2013	<ul style="list-style-type: none"> B — REHABILITATE TAXIWAY "C" PHASE I & TAXIWAY "B" C — LAND ACQUISITION FOR NOISE COMPATIBILITY
YEAR - 2014	<ul style="list-style-type: none"> D — DESIGN FOR REHABILITATION OF TAXIWAY "C" PHASE II
YEAR - 2015	<ul style="list-style-type: none"> D — REHABILITATE TAXIWAY "C" PHASE II
YEAR - 2016	<ul style="list-style-type: none"> E — DESIGN FOR RESURFACE RUNWAY 5L/23R
YEAR - 2017	<ul style="list-style-type: none"> E — RESURFACE RUNWAY 5L/23R F — DESIGN FOR CONSTRUCTION OF SERVICE ROAD
YEAR - 2018	<ul style="list-style-type: none"> F — CONSTRUCT SERVICE ROAD G — DESIGN FOR REPLACE TAXIWAY "C" LIGHTING H — DESIGN FOR CONSTRUCT TAXIWAY "N" I — DESIGN FOR REHABILITATE TAXIWAY "A"
YEAR - 2019	<ul style="list-style-type: none"> G — REPLACE TAXIWAY "C" LIGHTING H — CONSTRUCT TAXIWAY "N" I — REHABILITATE TAXIWAY "A"
YEAR - 2020	<ul style="list-style-type: none"> J — DESIGN FOR REHABILITATION OF TAXIWAY "E"
YEAR - 2021	<ul style="list-style-type: none"> J — REHABILITATE TAXIWAY "E" K — DESIGN FOR CONSTRUCT OF TAXIWAY "M" PHASE I
YEAR - 2022	<ul style="list-style-type: none"> K — CONSTRUCT TAXIWAY "M" PHASE I

