



MICHIGAN AIRPORT DEVELOPMENT PROGRAM PACKAGE

TEN YEAR AIRPORT CAPITAL IMPROVEMENT PLAN

Fiscal Years 2012 - 2022

GRAYLING ARMY AIRFIELD

Grayling, Michigan

Submitted By: Dept. of Military and Veterans Affairs

Date: 28-Jul-11

MAP Meeting Date: 31-Oct-11

Revision Date: 6-Dec-11

Prepared By:



**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: Grayling Army Airfield	Date prepared: 07/27/11	Revised: 12/06/11
Associated City: Grayling	Prepared By: QoE Consulting	
Sponsor: Department of Military and Veterans Affairs	Sponsor email address & phone: chris.cook4@us.army.mil (989) 344-4300	
Airport Identifier: GOV	FINAL ACIP due to MDOT AERO: no later than 12/15/11	

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 funds				0						Carryover funds to assist in funding for future projects
2012	Fuel Farm for General Aviation Area (Phase 2)	Yes	OT/EQ/FF	17	150,000			3,947	3,947	157,895	Jet A fuel system
2013	Fuel Farm Apron Expansion (Phase 3)	Yes	OT/EQ/FF	17	106,400			2,800	2,800	112,000	Fuel area apron expansion
2013	Design - Rehab and Shift Rwy 14-32	Yes	RE/RW/IM	66	43,600	312,650		9,375	9,375	375,000	Runway has a PCI of 65, shift is to relocate rwy 32 end to move RPZ on airport property
2014	Const Rehab and Shift Rwy 14-32	Yes	RE/RW/IM	66	150,000		3,198,750	88,125	88,125	3,525,000	Runway has a PCI of 65, shift is to relocate rwy 32 end to move RPZ on airport property
2015	Design - Rehabilitate Taxiways A, B, C, D & E	Yes	RE/TW/IM	62	150,000	35,250		4,875	4,875	195,000	Taxiways have reached their expected design life - PCI's - twys A,B,C - PCI of 42; twys D,E - PCI of 65
2016	Rehabilitate Taxiways A, B, C, D & E	Yes	RE/TW/IM	62	150,000	1,523,900		44,050	44,050	1,762,000	Taxiways have reached their expected design life - PCI's - twys A,B,C - PCI of 42; twys D,E - PCI of 65
2017	Install GA Area Lighting	Yes	ST/AP/LI	38	73,150			1,925	1,925	77,000	Overhead lighting planned for the existing Entrance Road and Parking Lot of the GA Area
2017	Install Lighted Wind Cone	Yes	ST/OT/IN	39	2,850			75	75	3,000	Currently GOV does not have a lighted wind cone
2017	Carryover funds	Yes			74,000						Carryover funds to assist in funding for future projects
2018	Construct 8-unit T-hangar	Yes	ST/BD/MS	29	213,750			5,625	5,625	225,000	Anticipation of a waiting list for pilots wanting to store their aircraft
2018	Carryover funds				10,250			0	0		Carryover funds to assist in funding for future projects
2019	Construct Box Hangar	Yes	ST/BD/MS	29	160,250	0		18,125	546,625	725,000	Anticipation of having an FBO on the airfield.
2020	Rehabilitate Runway 5-23 (military funds only)	Yes	RE/RW/IM	45	0	0		0	2,500,000	2,500,000	Runway 5-23 has received multiple slab replacements and needs to be rehabed completely. Reconstruction is proposed to be funded by the military
2021	Install Txy C, D, and E Lighting (MITL)	Yes	ST/TW/LI	42	150,000	249,000		10,500	10,500	420,000	Light existing taxiways for nighttime operations
2022	Install Txy A and B Lighting (MITL)	Yes	ST/TW/LI	42	150,000	287,000		11,500	11,500	460,000	Light existing taxiways for nighttime operations
2023	Install GA Txy F Lighting (MITL)	Yes	ST/TW/LI	42	71,250	0		1,875	1,875	75,000	Light existing GA Area taxiway for nighttime operations
2023	Carryover funds				78,750						Carryover funds to assist in funding for future projects

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



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	Jet A Fuel System

FUNDING YEAR	
Local Plan:	2012
Mtg. Decision:	

ESTIMATE COST	
Total:	\$157,895
Federal:	\$150,000
State:	\$3,947
Local:	\$3,947

ITEM IS ON ALP? YES
 NO

FAA Approval Date:	5/31/2007
---------------------------	------------------

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

In 2011 a 10,000 gallon 100LL AvGas fueling facility with 24/7 credit card reader was built. Phase 2 adds in the 10,000 gallon tank for Jet A fuel. Due to funding constraints, the fueling apron expansion will be delayed until 2013 (Phase 3).



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	Fuel Area Apron Expansion

FUNDING YEAR	
Local Plan:	2013
Mtg. Decision:	

ESTIMATE COST	
Total:	\$112,000
Federal:	\$106,400
State:	\$2,800
Local:	\$2,800

ITEM IS ON ALP? YES
 NO

FAA Approval Date:	5/31/2007
---------------------------	------------------

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

In 2011 a 10,000 gallon 100LL AvGas fueling facility with 24/7 credit card reader was built and a 10,000 gallon Jet A tank is planned to be installed in 2012.. Due to funding constraints, the 2011 project and 2012 projects did not include the entire fueling apron required. Phase 3 will expand the fuel apron to the design size..



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	Design
	Rehab Runway 14-32 (4420'x 150')
	Shift and Light Runway 14-32 (580' x 150') and Connecting Taxiway (1000' x 50'); Replace Runway 14-32
	Lighting

FUNDING YEAR	
Local Plan:	2013
Mtg. Decision:	

ESTIMATE COST	
Total:	\$375,000
Federal:	\$356,250
State:	\$9,375
Local:	\$9,375

ITEM IS ON ALP? YES
 NO

FAA Approval Date:	5/31/2007
--------------------	-----------

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

Runway 14-32 is a bituminous runway that was rehabilitated in 1988. The runway was rehabilitated by cracking and seating the existing concrete and overlaying with bituminous pavement. The Military has been maintaining the pavement by crack sealing. However, pavement reconstruction is now necessary in order to provide a safe useable pavement for aircraft operations. The runway will also be shifted to the north east to eliminate the displaced threshold on the 32 end.



QoE Consulting
4100 CAPITAL CITY BLVD., FLR 2
LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	Construction
	Rehab Runway 14-32 (4420' x 150')
	Shift and Light Runway 14-32
	(580' x 150') and Connecting Taxiway
	(1000' x 50'); Replace Runway 14-32
	Lighting

FUNDING YEAR	
Local Plan:	2014
Mtg. Decision:	

ESTIMATE COST	
Total:	\$3,525,000
Federal:	\$3,348,750
State:	\$88,125
Local:	\$88,125

ITEM IS ON ALP? YES
 NO

FAA Approval Date: 5/31/2007

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

Runway 14-32 is a bituminous runway that was rehabilitated in 1988. The runway was rehabilitated by cracking and seating the existing concrete and overlaying with bituminous pavement. The Military has been maintaining the pavement by crack sealing. However, pavement reconstruction is now necessary in order to provide a safe useable pavement for aircraft operations. The runway will also be shifted to the north east to eliminate the displaced threshold on the 32 end.



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ENGINEERING COST ESTIMATE

Airport:	Grayling Army Airfield	<input type="checkbox"/>	Final Design
Location:	Grayling, MI	<input checked="" type="checkbox"/>	Project Programming
Project No.:		<input type="checkbox"/>	Feasibility Study
Contract No.:		<input type="checkbox"/>	State Planning
Date:	June 21, 2011		Based on FY 2011 Dollars
Revised:			

Work Description:

Rehab Runway 14-32 (4420' x 150'); Shift & Light Runway 14-32 (580' x 150') and Conn. Txy. (1000' x 50');
 Replace Runway 14-32 Lighting

Item Description	Unit	Total Qty	Unit Price	Total Amount
mobilization and general conditions	ls	1	\$250,000.00	\$250,000.00
safety and security	ls	1	\$140,000.00	\$140,000.00
1/C #8, 5kv, installed	lft	12,000	\$3.00	\$36,000.00
2/C #8, 5kv, installed	lft	1,300	\$5.00	\$6,500.00
#6 bare copper counterpoise	lft	12,300	\$3.00	\$36,900.00
electrical duct	lft	300	\$30.00	\$9,000.00
electrical vault equipment	ls	1	\$10,000.00	\$10,000.00
MIRL removal	ea	72	\$100.00	\$7,200.00
MIRL, base mounted	ea	75	\$700.00	\$52,500.00
lens & lamp for MIRL	ea	75	\$50.00	\$3,750.00
taxiway guidance sign	ea	3	\$3,000.00	\$9,000.00
relocate REIL system	set	2	\$10,000.00	\$20,000.00
relocate PAPI unit, 4 box	set	2	\$15,000.00	\$30,000.00
unclassified excavation	cyd	10,000	\$6.00	\$60,000.00
aggregate base, 12"	cyd	5,600	\$35.00	\$196,000.00
bituminous milling, 4"	syd	74,000	\$3.00	\$222,000.00
bituminous pavement	ton	23,500	\$70.00	\$1,645,000.00
pavement marking	sft	30,000	\$1.00	\$30,000.00
shoulder construction	sta	100	\$250.00	\$25,000.00
turfing & mulching	acre	15	\$3,000.00	\$45,000.00
miscellaneous	ls	1	\$286,150.00	\$286,150.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
Construction Subtotal:				\$3,120,000
Const Engineering & Administration:				\$405,000
Project Total:				\$3,525,000



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	Design
	Rehabilitate Taxiways A, B, C, D & E

FUNDING YEAR	
Local Plan:	2015
Mtg. Decision:	

ESTIMATE COST	
Total:	\$195,000
Federal:	\$185,250
State:	\$4,875
Local:	\$4,875

ITEM IS ON ALP? YES
 NO

FAA Approval Date:	5/31/2007
---------------------------	------------------

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The existing taxiways are concrete and were constructed in 1944. The taxiways have considerable cracking, spalling and deteriorated concrete. The Military has been replacing slabs over the years. However, pavement reconstruction is now necessary in order to provide a safe useable pavement for aircraft operations.



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	Construction
	Rehabilitate Taxiways A, B, C, D & E

FUNDING YEAR	
Local Plan:	2016
Mtg. Decision:	

ESTIMATE COST	
Total:	\$1,762,000
Federal:	\$1,673,900
State:	\$44,050
Local:	\$44,050

ITEM IS ON ALP? YES
 NO

FAA Approval Date:	5/31/2007
--------------------	-----------

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The existing taxiways are concrete and were constructed in 1944. The taxiways have considerable cracking, spalling and deteriorated concrete. The Military has been replacing slabs over the years. However, pavement reconstruction is now necessary in order to provide a safe useable pavement for aircraft operations.



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	General Aviation Area
	Entrance Road Lighting and Lighted
	Wind Cone

FUNDING YEAR	
Local Plan:	2017
Mtg. Decision:	

ESTIMATE COST	
Total:	\$80,000
Federal:	\$76,000
State:	\$2,000
Local:	\$2,000

ITEM IS ON ALP? YES
 NO

FAA Approval Date:	5/31/2007
--------------------	-----------

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The Civilian General Aviation Area is open to the public and there needs to be overhead lighting installed along the Entrance Road. This project also includes installing a lighted wind cone. Currently the Grayling Army Airfield has a tetrahedron which is not lighted.



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	Construct 8-unit T-hangar

FUNDING YEAR	
Local Plan:	2018
Mtg. Decision:	

ESTIMATE COST	
Total:	\$225,000
Federal:	\$213,750
State:	\$5,625
Local:	\$5,625

ITEM IS ON ALP? YES
 NO

FAA Approval Date:	5/31/2007
---------------------------	------------------

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The Crawford County Airport Board would like to construct an 8-unit T-hangar to meet future demand for aircraft storage at Grayling Army Airfield.



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	Construct box hangar
	(5,500 sf +/-)

FUNDING YEAR	
Local Plan:	2019
Mtg. Decision:	

ESTIMATE COST	
Total:	\$725,000
Federal:	\$160,250
State:	\$18,125
Local:	\$546,525

ITEM IS ON ALP? YES
 NO

FAA Approval Date:	5/31/2007
--------------------	-----------

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The Crawford County Airport Board would like to construct a 5,500 sft +/- box hangar in efforts to support a Fixed Base Operator (FBO).



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	Rehabilitate Runway 5-23
	(5,000' x 150')
	Military Funds Only

FUNDING YEAR	
Local Plan:	2020
Mtg. Decision:	

ESTIMATE COST	
Total:	\$2,500,000
Federal:	\$0
State:	\$0
Local:	\$2,500,000

ITEM IS ON ALP? YES
 NO

FAA Approval Date:	5/31/2007
--------------------	-----------

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

Runway 5-23 is a concrete runway that was constructed in 1944. The runway has considerable cracking, spalling, and deteriorated concrete. The Military has been replacing slabs over the years. However, pavement reconstruction is now necessary in order to provide a safe useable pavement for aircraft operations.



QoE Consulting
 4100 CAPITAL CITY BLVD., FLR 2
 LANSING, MI 48906

P: 517-327-1980

F: 517-327-1982

ITEM SHEET

ITEM	Light Taxiways A, B, C, D, E and Taxiway F (to GA Apron)

FUNDING YEAR	
Local Plan:	2021-2023
Mtg. Decision:	

ESTIMATE COST	
Total:	\$955,000
Federal:	\$907,250
State:	\$23,875
Local:	\$23,875

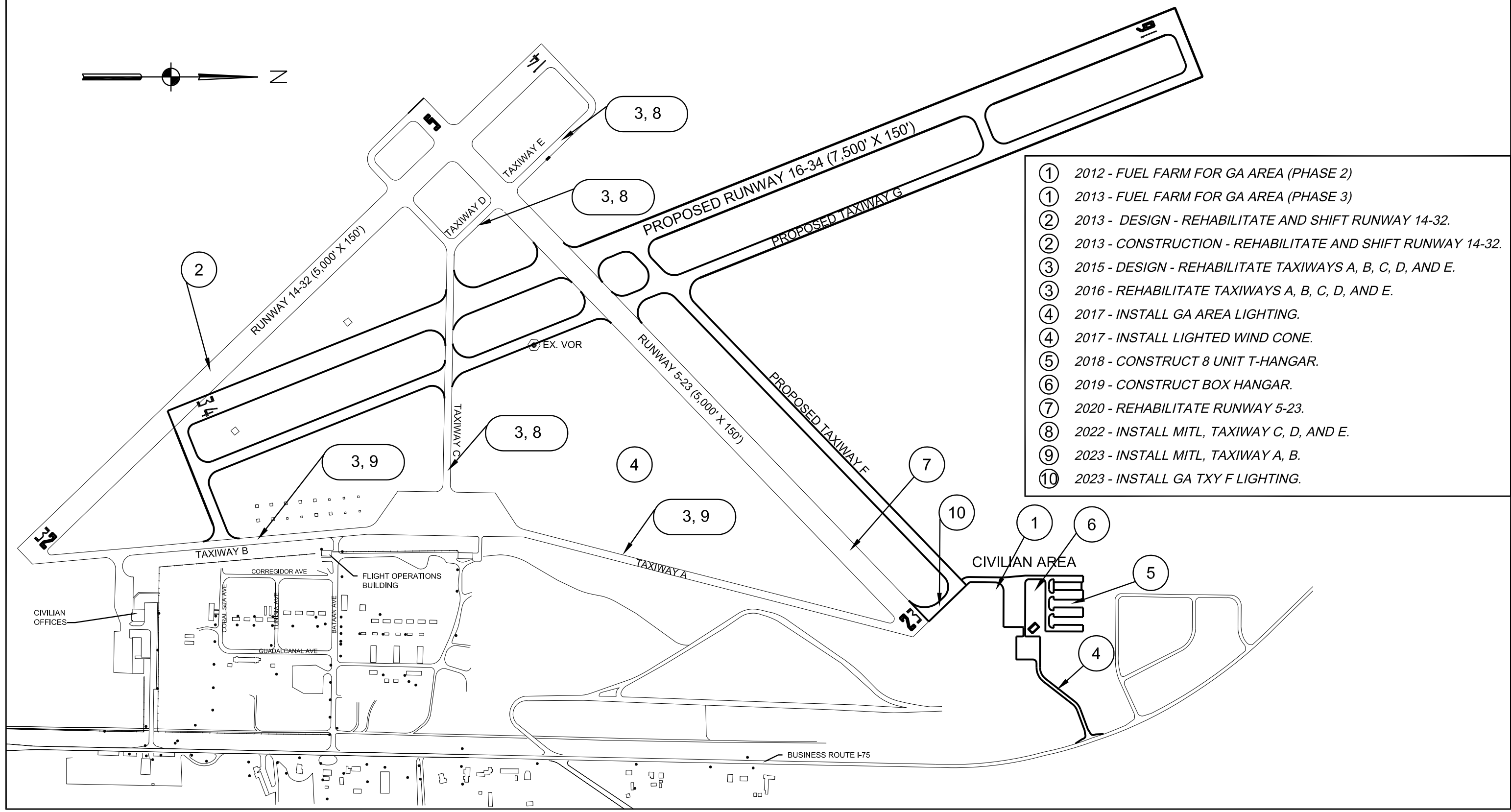
ITEM IS ON ALP? YES
 NO

FAA Approval Date:	5/31/2007
---------------------------	------------------

Instructions:

List all reasons/need for this project, including detailed descriptions of existing conditions, i.e. pavement age, thickness, distresses, increase in aircraft/vehicle weight and/or usage, etc. Use additional sheets as needed.

The existing taxiway system at the airport is currently not lighted. Existing runways 14-32 and 5-23 have MIRLS. The taxiway system should have edge lights and lighted taxiway guidance signs to provide safer taxiing at night and during low visibility.



- ① 2012 - FUEL FARM FOR GA AREA (PHASE 2)
- ① 2013 - FUEL FARM FOR GA AREA (PHASE 3)
- ② 2013 - DESIGN - REHABILITATE AND SHIFT RUNWAY 14-32.
- ② 2013 - CONSTRUCTION - REHABILITATE AND SHIFT RUNWAY 14-32.
- ③ 2015 - DESIGN - REHABILITATE TAXIWAYS A, B, C, D, AND E.
- ③ 2016 - REHABILITATE TAXIWAYS A, B, C, D, AND E.
- ④ 2017 - INSTALL GA AREA LIGHTING.
- ④ 2017 - INSTALL LIGHTED WIND CONE.
- ⑤ 2018 - CONSTRUCT 8 UNIT T-HANGAR.
- ⑥ 2019 - CONSTRUCT BOX HANGAR.
- ⑦ 2020 - REHABILITATE RUNWAY 5-23.
- ⑧ 2022 - INSTALL MITL, TAXIWAY C, D, AND E.
- ⑨ 2023 - INSTALL MITL, TAXIWAY A, B.
- ⑩ 2023 - INSTALL GA TXY F LIGHTING.

File Name: M:\Grayling\ACIP\2012\2012 GAAF TYP.dwg - 112811
 Modified / By: November 28, 2011 3:20:55 PM / ssmith
 Plotted / By: December 6, 2011 1:46:02 PM / Scott Smith



4100 Capital City Blvd., Flr 2
 Lansing, MI 48906
 PH 517.327.1980 // FX 517.327.1982
 QoEConsulting.com

GRAYLING ARMY AIRFIELD

TEN YEAR ACIP SKETCH

DECEMBER 6, 2011

