

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

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

Prepared for:

**Tuscola Area Airport
Caro, Michigan**

**July 2011
Final November 2011**

Contact:

Mr. Eric Engler
Tuscola Area Airport
1750 Speirs Dr.
Caro, MI 48723
989-673-4301
fax 989-673-2517

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: Tuscola Area Airport										Date prepared: 7/25/2011 Revised on 11/10/2011	
Associated City: Caro, MI										Prepared By: GWS	
Sponsor: Tuscola Area Airport Authority										Sponsor email address & phone: caroairport@hotmail.com	
Airport Identifier: CFS										FINAL ACIP due to MDOT AERO: no later than 12/01/11	
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.
2011	Carryover Remainder of GA entitlement (\$161,495)										
2012	Restripe Runway 5/23	Yes	RERWIM	70	\$14,250			\$375	\$375	\$15,000	Most recent airport inspection (July 8, 2011) noted that runway markings are faded and need to be restriped.
	EA for Future Crosswind Runway 10/28 (3200' x 60')	Yes	CARWCO	63	\$95,000			\$2,500	\$2,500	\$100,000	Lack of adequate crosswind coverage and limited seasonal use of existing turf runway necessitates both relocation and extension of runway. Environmental assessment will be required in preparation for crosswind runway.
	Preliminary Engineering for Future Crosswind Runway 10/28 (3200' x 60')	Yes	CARWCO	63	\$76,000			\$2,000	\$2,000	\$80,000	Preliminary engineering will provide engineering and support to environmental consultant during preparation of environmental assessment. Project will also help to better identify project issues and provide more accurate preliminary cost estimate. Included with this task will be ALP revision to show larger RPZ's and also crosswind justification summary.
	Carryover Remainder of GA entitlement (\$126,245)										
2013	Carryover GA entitlement (\$150,000)										
2014	Wetland Mitigation Design and Construction	Yes	CARWCO	63	\$47,500			\$1,250	\$1,250	\$50,000	Based upon preliminary site inspection, it is expected that some wetland mitigation will be required prior to construction of crosswind runway. Wetland impacts cannot be determined precisely until environmental assessment is underway.
	Land Acquisition for Future Crosswind Rwy 10/28 (3200' x 60')	Yes	CARWCO	63	\$370,500			\$9,750	\$9,750	\$390,000	Land acquisition will be required at northwest side of project to construct new crosswind runway and associated safety area.
	Carryover Remainder of GA entitlement (\$8,245)										
2015	Design for Future Crosswind Runway 10/28 (3200' x 60')	Yes	CARWCO	63	\$158,245	\$7,055		\$4,350	\$4,350	\$174,000	Final design of crosswind runway will finalize design and plans started under preliminary design.
2016	Carryover GA entitlement (\$150,000)	NA									
2017	Carryover GA entitlement (\$150,000)	NA									
2018	Construct Crosswind Runway 10/28 (3200' x 60')	Yes	CARWCO	63	\$450,000	\$2,899,700		\$88,150	\$88,150	\$3,526,000	Lack of adequate crosswind coverage and limited seasonal use of existing turf runway necessitates both relocation and extension of runway.
2019	Carryover GA entitlement (\$150,000)	NA									
2020	Carryover GA entitlement (\$150,000)	NA									
2021	Rehabilitate Rwy 5/23 (Crack Repair/PFC)	NA	SPRWFR	84	\$450,000	\$1,250		\$11,875	\$11,875	\$475,000	It is anticipated that runway 5/23 (PCI 75 in 2008) will require crack sealing by 2021. Addition of porous friction course will enhance friction characteristics of runway.
2022	Carryover GA entitlement (\$150,000)	NA									
2023	Carryover GA entitlement (\$150,000)	NA									
2024	Purchase SRE equipment	NA	STEQSN	47	\$407,142			\$10,714	\$10,714	\$428,571	Airport will add considerable pavement with the construction of crosswind runway. Additional SRE will help the airport keep pavements clear of snow.

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

ENGINEERING COST ESTIMATE

PROJECT: Land Acquisition for crosswind runway
 LOCATION: Tuscola Area Airport
 CITY: Caro, MI
 DATE: 12/3/10
 PREPARED BY: sadw

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

WORK DESCRIPTION: Acquisition of approximately 65 acres of vacant farm property in fee - 4 parcels

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Consultant costs - land services	EA	4	\$ 15,000.00	\$ 60,000
Consultant costs - land survey and property description	EA	4	\$ 8,000.00	\$ 32,000
Acquisition	AC	65	\$ 4,500.00	\$ 292,500
		0	\$ -	-
		0	\$ -	-
		0	\$ -	-
CONSTRUCTION TOTAL = \$				384,500
CONSTRUCTION CONTINGENCIES (15%) = \$				-
CONSTRUCTION TOTAL = \$				384,500
ENGINEERING DESIGN (7%) = \$				-
CONSTRUCTION ADMIN (10%) = \$				-
				\$ 384,500
PROJECT YEAR BUDGET ESTIMATE = \$				390,000



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 Crosswind Runway
 LOCATION: Tuscola Area Airport
 CITY: Caro, MI
 DATE: 7/7/09
 PREPARED BY: BJH
 REVIEWED BY: GWS 11-10-2011

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

WORK DESCRIPTION: Construct 10/28 crosswind runway (3200' x 60')

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 220,000.00	\$ 220,000
Safety and Security	LS	1	\$ 50,000.00	\$ 50,000
Engineers Field Office	LS	1	\$ 30,000.00	\$ 30,000
Runway Strip Marker or Circle Segment, Steel Frame	EA	20	\$ 500.00	\$ 10,000
Runway Approach Surface Marker	EA	8	\$ 200.00	\$ 1,600
Runway Centerline Monument	EA	2	\$ 250.00	\$ 500
Airport Windcone, 12', Lighted	EA	2	\$ 3,500.00	\$ 7,000
Cable, 600V, CIC (incl. Counterpoise)	LF	36,000	\$ 2.00	\$ 72,000
Cable, 5kv, CIC (incl. Counterpoise)	LF	21,000	\$ 2.50	\$ 52,500
Elec. Manhole	EA	6	\$ 5,000.00	\$ 30,000
Elec. Handhole	EA	10	\$ 1,500.00	\$ 15,000
Electrical Duct	LF	500	\$ 50.00	\$ 25,000
HIRL (incl. Lens & Lamp)	EA	50	\$ 750.00	\$ 37,500
Vault Equipment / Regulator	EA	1	\$ 40,000.00	\$ 40,000
Remove HIRL/MIRL/MITL, Base Mounted	EA	12	\$ 150.00	\$ 1,800
Guidance / Hold Short Signs / Dist Remaining Signs	EA	12	\$ 2,700.00	\$ 32,400
Remove Guidance / Hold Short Signs / Dist Remaining Signs	EA	4	\$ 150.00	\$ 600
REIL	SET	2	\$ 10,000.00	\$ 20,000
PAPI	SET	2	\$ 15,000.00	\$ 30,000
Clear & Grub	AC	25	\$ 4,000.00	\$ 100,000
Unclassified Excavation (34")	CY	325,000	\$ 1.75	\$ 568,750
Sand Subbase (24")	CY	20,000	\$ 12.00	\$ 240,000
Gravel Base (6")	CY	4,900	\$ 35.00	\$ 171,500
Bituminous Surface (4")	TON	5,900	\$ 75.00	\$ 442,500
Cold Mill/Pulverize Existing Pavement	SY	9,400	\$ 1.50	\$ 14,100
Salvage Pulverized Material (4")	CY	1,200	\$ 3.00	\$ 3,600
Fine Grade & Compact Aggregate Base	SY	9,400	\$ 1.50	\$ 14,100
Pavement Marking (Runway)	LS	1	\$ 15,000.00	\$ 15,000
Drainage Pipe	LF	3,000	\$ 75.00	\$ 225,000
Underdrain	LF	12,000	\$ 15.00	\$ 180,000
Drainage Structure (incl cover)	EA	12	\$ 2,500.00	\$ 30,000
Soil Erosion & Sedimentation Controls	LS	1	\$ 20,000.00	\$ 20,000
Turfing and Mulching	AC	55	\$ 1,500.00	\$ 82,500
CONSTRUCTION TOTAL = \$				2,782,950
CONSTRUCTION CONTINGENCIES (15%) = \$				417,443
CONSTRUCTION TOTAL = \$				3,200,393
PRELIMINARY ENGINEERING = \$				80,000
FINAL ENGINEERING = \$				174,000
CONSTRUCTION ADMIN (10%) = \$				320,039
				\$ 3,774,432
PROJECT YEAR BUDGET ESTIMATE = \$				3,780,000



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 5/23 Crack Repair and Porous Friction Course
 LOCATION: Tuscola Area Airport
 CITY: Caro, MI
 DATE: 7/7/09 Checked 7/29/11 - GWS
 PREPARED BY: BJH

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

WORK DESCRIPTION: Repair cracks on runway 5/23 and place 3/4" porous friction course (4300' x 75')

ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	ITEM COST
Mobilization and General Conditions	LS	1	\$ 45,000.00	\$ 45,000
Safety and Security	LS	1	\$ 20,000.00	\$ 20,000
Porous Friction Course (1")	TON	1,478	\$ 90.00	\$ 133,031
Crack Repair (mill 2', compact aggregate, pave asphalt)	LF	8,900	\$ 15.00	\$ 133,500
Pavement Marking (Runway)	LS	1	\$ 25,000.00	\$ 25,000
Turfing and Mulching	AC	3	\$ 3,000.00	\$ 9,000
CONSTRUCTION TOTAL = \$				365,531
CONSTRUCTION CONTINGENCIES (10%) = \$				36,553
CONSTRUCTION TOTAL = \$				402,084
ENGINEERING DESIGN (7%) = \$				28,146
CONSTRUCTION ADMIN (10%) = \$				40,208
				\$ 470,439
PROJECT YEAR BUDGET ESTIMATE = \$				475,000



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.

TUSCOLA AREA AIRPORT

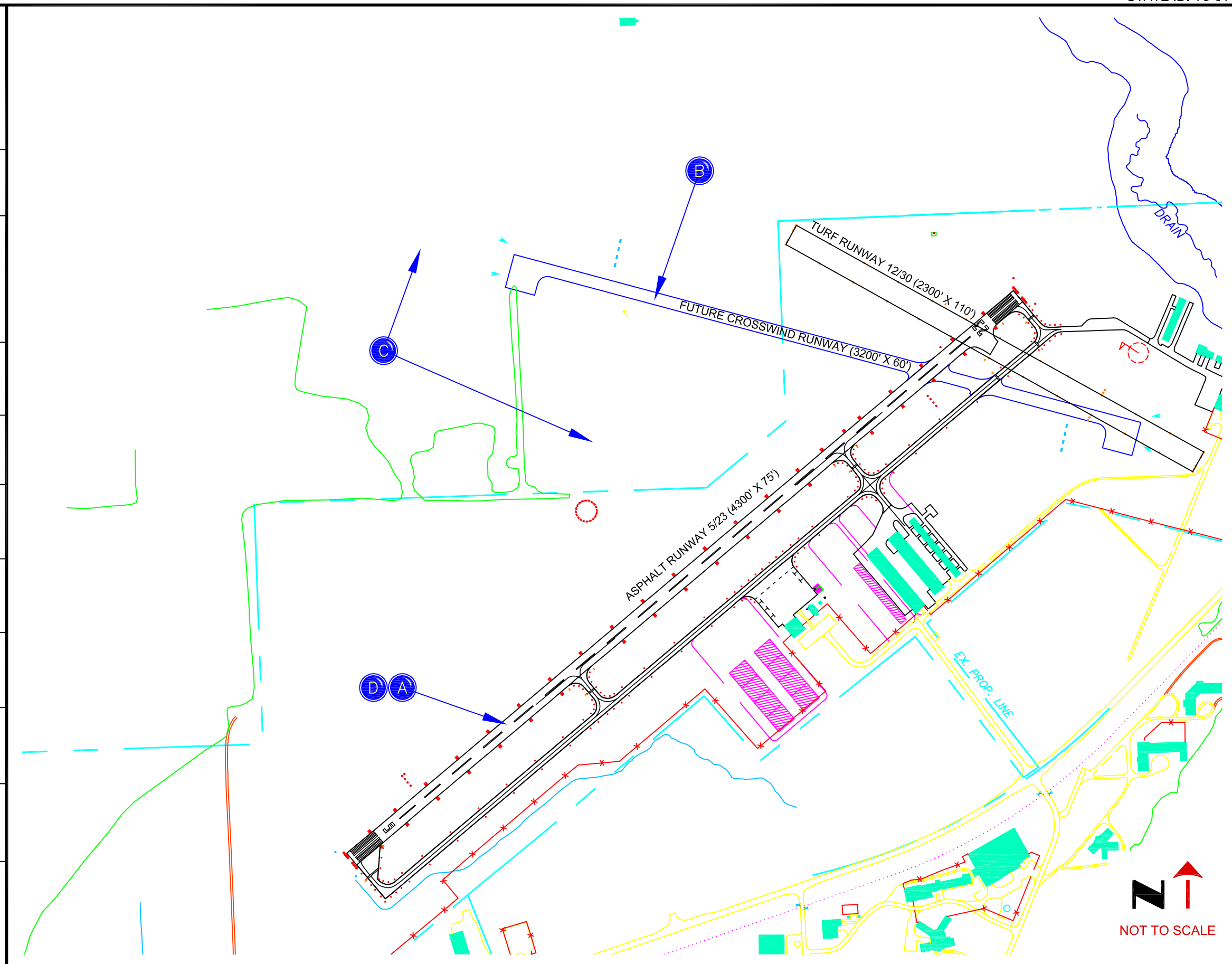
CARO, MICHIGAN



TEN-YEAR DEVELOPMENT PLAN - YEARS 2012 TO 2022

FAA IDENTIFIER: CFS
STATE ID: 79-01

<p>YEAR - 2012</p> <ul style="list-style-type: none"> A — RESTRIPE RUNWAY 5/23 B — ENVIRONMENTAL ASSESSMENT FOR CROSSWIND RUNWAY B — PRELIMINARY ENGINEERING FOR CROSSWIND RUNWAY
<p>YEAR - 2013</p> <p>CARRY OVER GA ENTITLEMENT (\$150,000)</p>
<p>YEAR - 2014</p> <ul style="list-style-type: none"> B — WETLAND MITIGATION DESIGN AND CONSTRUCTION (CROSSWIND RUNWAY) C — LAND ACQUISITION FOR FUTURE CROSSWIND RUNWAY 10/28
<p>YEAR - 2015</p> <ul style="list-style-type: none"> B — DESIGN FOR FUTURE CROSSWIND RWY 10/28
<p>YEAR - 2016</p> <p>CARRY OVER GA ENTITLEMENT FOR CONSTRUCTION OF CROSSWIND RWY (\$150,000)</p>
<p>YEAR - 2017</p> <p>CARRY OVER GA ENTITLEMENT FOR CONSTRUCTION OF CROSSWIND RWY (\$150,000)</p>
<p>YEAR - 2018</p> <ul style="list-style-type: none"> B — CONSTRUCT CROSSWIND RWY 10/28 (3200' x 60')
<p>YEAR - 2019</p> <p>CARRY OVER GA ENTITLEMENT (\$150,000)</p>
<p>YEAR - 2020</p> <p>CARRY OVER GA ENTITLEMENT (\$150,000)</p>
<p>YEAR - 2021</p> <ul style="list-style-type: none"> D — REHABILITATE RWY 5/23 (CRACK REPAIR/PFC)
<p>YEAR - 2022</p> <p>CARRY OVER GA ENTITLEMENT FOR FUTURE SRE EQUIPMENT PURCHASE (\$150,000)</p>



MICHIGAN AIRPORT PROGRAM (MAP) MEETINGS

Attendance Sheet

Airport: Caro

Date: November 9, 2011

PLEASE PRINT

<u>Name</u>	<u>Representing</u>	<u>Phone</u>	<u>E-mail</u>
Betsy Steudle	MDOT-AERO (Programming)	517-335-8359	steudleb@michigan.gov
Laura Wise	MDOT-AERO (Proj Mgr)	517-335-9951	wisel2@michigan.gov
Chip Kraus	MDOT-AERO (LAND)	517-335-9755	krausf@michigan.gov
Ralph Sims	MDOT-AERO (ALP)	517-335-9857	simsr@michigan.gov
Molly Lamrouex	MDOT-AERO (ENV)	517-335-9866	lamrouexm@michigan.gov
Gary Siegfried	Mead & Hunt	517-321-8334	gary.siegfried@meadhunt.com
Stephanie Ward	Mead & Hunt	517-321-8334	Stephanie.Ward@M&H.com
Steve Schultz	MDOT-AERO (weather)	517-335-9627	schultz5@michigan.gov
ERIC ENGELER	AIRPORT MGR		or telephone

NP = Not Present