Appendix A

References

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Appendix B

List of Acronyms and Abbreviations

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
127 WG	127th Wing Guard
ABD	Average busy day
AFI	Air Force Instruction
AFPD	Air Force Policy Directive
AG	Agricultural Outleasing
AICUZ	Air Installation Compatible Use Zone
ANG	Air National Guard
ANGB	Air National Guard Base
AQMA	Air Quality Management Area
BASH	Bird/Wildlife Aircraft Strike Hazard
BCC	Base Community Council
BH	Bird/Wildlife Aircraft Strike Hazard
BMP	Best Management Practice
CE	Civil Engineering
CECOS	Civil Engineer Corps Officers School
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CISMA	Cooperative Invasive Species Management Area
CLE	Conservation Law Enforcement
CO	Carbon monoxide
CRP	Cultural Resources Protection
CWA	Clean Water Act
CZ	Coastal Zone and Marine Resources Management
CZMA	Coastal Zone Management Act
dB	Decibel(s)
DEQ	Department of Environmental Quality
DNR	Department of Natural Resources
DoD	Department of Defense
DoDI	Department of Defense Instruction
EA	Environmental Assessment
EIS	Environmental impact statement
EO	Executive Order
ESA	Endangered Species Act
ESOHC	Environmental Safety and Occupation Health Council

FEMA	Federal Emergency Management Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FM	Forest Management
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
FWM	Fish and Wildlife Management
GIS	Geographic information system
GM	Grounds Maintenance
HCMA	Huron-Clinton Metropolitan Authority
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IPM	Integrated Pest Management
IRP	Installation Restoration Program
MAJCOM	Major Command
MCMP	Michigan Coastal Management Program
MIANG	Michigan Air National Guard
MiRAM	Michigan Rapid Assessment Method
MMRP	Military Munitions Response Program
MNFI	Michigan Natural Features Inventory
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NGB	National Guard Bureau
NMFWA	National Military Fish and Wildlife Association
NOAA	National Oceanic and Atmospheric Administration
NO_x	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRP	Natural Resources Program Management
NVC	National Vegetation Classification
OR	Outdoor Recreation and Public Access to Natural Resources
PIF	Partners in Flight
PM2.5	Particulate matter less than 2.5 microns in diameter
PM10	Particulate matter less than 10 microns in diameter
PO	Public Outreach
RCRA	Resource Conservation and Recovery Act
SEA	Supplemental Environmental Assessment

SEMCOG	Southeast Michigan Council of Governments
SESC	Soil Erosion and Sediment Control
SO_2	Sulfur dioxide
TARDEC	Tank Automotive Research, Development, and Engineering Center
TE	Threatened and Endangered Species and Habitats
TSCA	Toxic Substances Control Act
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USAG-Selfridge	United States Army Garrison-Selfridge
USC	United States Code
USDA	United States Department of Agriculture
USDA-WS	United States Department of Agriculture-Wildlife Services
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WFM	Wildland Fire Management
WFMP	Wildland Fire Management Plan
WIP	Wetland Identification Program
WP	Wetland Protection
WRP	Water Resources Protection

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Appendix C

Agency Consultation

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NATIONAL GUARD BUREAU
3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

20 April 2016

Jessica Pruden
U.S. Fish and Wildlife Service
East Lansing Field Office
2651 Coolidge Road, Suite 101
East Lansing, MI 48823

Subject: Sikes Act Coordination of the Integrated Natural Resources Management Plan (INRMP) Update for Selfridge Air National Guard Station (ANGS), Michigan

Dear Ms. Pruden:

This letter is to request your assistance in the review and coordination of the Selfridge ANGS INRMP Update. Pursuant to the requirements of the Sikes Act (16 United States Code [U.S.C.] 670a et seq.), the 2010 INRMP is being updated for Selfridge ANGS, Michigan, and is currently in the Draft stage of development. As you know, the Sikes Act requires the preparation of an INRMP in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the appropriate state fish and wildlife agency (i.e., Michigan Department of Natural Resources). In addition, it is required that the resulting Plan reflects the mutual agreement of the parties concerning conservation, protection, and management of fish and wildlife resources.

The INRMP recommends various management practices, in compliance with Federal, state, and local standards, designed to mitigate negative impacts and to enhance the positive effects of the Installation's mission on local ecosystems. The INRMP integrates all aspects of natural resources management with the rest of the Installation's mission, and, therefore, is the primary tool for managing the Installations' ecosystems while ensuring the successful accomplishment of the military mission at the highest possible levels of efficiency. A multiple-use, ecosystem-based management approach is implemented to allow for the presence of mission-oriented activities, as well as the maintenance of environmental quality through the efficient management of natural resources.

The Selfridge ANGS INRMP Update will be developed using an interdisciplinary approach and information gathered from a variety of organizations. An INRMP Task Force will be formed, and will include key Installation personnel and individuals from various agencies and groups that have an interest in Selfridge ANGS and the management of their resources. Representatives from the following Federal and state agencies and groups will comprise the INRMP Task Force: the USFWS – East Lansing Field Office, Michigan Department of Natural Resources, Michigan Department of Environmental Quality, and U.S. Department of Agriculture Wildlife Services. We request your attendance at these meetings. In addition, individual Task Force members will be contacted to obtain further information and guidance. The Task Force ensures that information concerning the natural resources on or in the vicinity of the Installation is accurate and is presented acknowledging local and regional management strategies. The first Task Force Meeting is scheduled for May 12, 2016, at 2:30 pm in the Civil Engineering Building (Building 124). Directions to Building 124 are attached to this letter.

NATIONAL GUARD BUREAU
3501 FETCHET AVENUE
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The collaborative INRMP Task Force is designed to ensure that the management goals, objectives, and actions of the INRMP reflect the goals of your organization. Should you have any questions or issues accessing the installation, please contact Ken Baker at (586) 239-5741. We look forward to our continued working relationship with the USFWS.

Sincerely,

Melanie Frisch
Natural Resources Program Manager

NATIONAL GUARD BUREAU
3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

20 April 2016

Karyn Green
Water Resources Division
Southeast Michigan District
Michigan Department of Environmental Quality (DEQ)
27700 Donald Court, Warren, MI 48092

Subject: Sikes Act Coordination of the Integrated Natural Resources Management Plan (INRMP) Update for Selfridge Air National Guard Station (ANGS), Michigan

Dear Ms. Green:

This letter is to request your assistance in the review and coordination of the Selfridge ANGS INRMP Update. Pursuant to the requirements of the Sikes Act (16 United States Code [U.S.C.] 670a et seq.), the 2010 INRMP is being updated for Selfridge ANGS, Michigan, and is currently in the Draft stage of development. As you know, the Sikes Act requires the preparation of an INRMP in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the appropriate state fish and wildlife agency (i.e., Michigan Department of Natural Resources). In addition, it is required that the resulting Plan reflects the mutual agreement of the parties concerning conservation, protection, and management of fish and wildlife resources.

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Sincerely,

Melanie Frisch
Natural Resources Program Manager

NATIONAL GUARD BUREAU
3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

20 April 2016

Lori Sargent
Wildlife Division
Michigan Department of Natural Resources
P.O. Box 30180
Lansing, MI 48909-7680

Subject: Sikes Act Coordination of the Integrated Natural Resources Management Plan (INRMP) Update for Selfridge Air National Guard Station (ANGS), Michigan

Dear Ms. Sargent:

This letter is to request your assistance in the review and coordination of the Selfridge ANGS INRMP Update. Pursuant to the requirements of the Sikes Act (16 United States Code [U.S.C.] 670a et seq.), the 2010 INRMP is being updated for Selfridge ANGS, Michigan, and is currently in the Draft stage of development. As you know, the Sikes Act requires the preparation of an INRMP in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the appropriate state fish and wildlife agency (i.e., Michigan Department of Natural Resources). In addition, it is required that the resulting Plan reflects the mutual agreement of the parties concerning conservation, protection, and management of fish and wildlife resources.

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Sincerely,

Melanie Frisch
Natural Resources Program Manager

NATIONAL GUARD BUREAU
3501 FETCHET AVENUE
JOINT BASE ANDREWS MD 20762-5157

20 April 2016

Tim Wilson
USDA Wildlife Services
2803 Jolly Rd, Suite 100
Okemos, MI 48864

Subject: Sikes Act Coordination of the Integrated Natural Resources Management Plan (INRMP) Update for Selfridge Air National Guard Station (ANGS), Michigan

Dear Mr. Wilson:

This letter is to request your assistance in the review and coordination of the Selfridge ANGS INRMP Update. Pursuant to the requirements of the Sikes Act (16 United States Code [U.S.C.] 670a et seq.), the 2010 INRMP is being updated for Selfridge ANGS, Michigan, and is currently in the Draft stage of development. As you know, the Sikes Act requires the preparation of an INRMP in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the appropriate state fish and wildlife agency (i.e., Michigan Department of Natural Resources). In addition, it is required that the resulting Plan reflects the mutual agreement of the parties concerning conservation, protection, and management of fish and wildlife resources.

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Sincerely,

Melanie Frisch
Natural Resources Program Manager

Selfridge ANGS
INRMP Task Force Meeting
May 12, 2016 2:00 PM

Meeting Attendees

Melanie Frisch, Natural Resources Manager, ANG
Ken Baker, Environmental Manager, Selfridge ANGB
Jason Cabra, Engineer, Selfridge ANGB
Lt Col Thomas Sierakowski, Base Civil Engineer, Selfridge ANGB
Chris Sanborn, Roads & Grounds Supervisor, Selfridge ANGB
Leonard Brockmann, Pest Manager, Selfridge ANGB
Tim Forys, Pest Manager Coordinator, Selfridge ANGB
Jessica Pruden, Fish & Wildlife Biologist, USFWS
Tim Wilson, Wildlife Biologist, USDA Wildlife Services
Dan Savercool, Senior Biologist, EA Engineering, Science, and Technology, Inc. PBC
Jeannette Matkowski, Biologist, EA Engineering, Science, and Technology, Inc. PBC

1. Introductions

- Brief introductions of the Integrated Natural Resources Management Plan (INRMP) Team were exchanged.

2. Authority

- The Sikes Act requires DOD installations with significant natural resources requiring conservation and management to have an INRMP. The triggers for the Selfridge ANGB INRMP include wetland habitat at the installation, depredation program, and the presence of state-listed species.

3. Purpose of INRMP Task Force Meeting

- INRMPs must be signed by the Regional Director of the USFWS (authority delegated to the local field office), state fish and game agency (Michigan Department of Natural Resources [DNR]), and the Installation Commander.
- Selfridge ANGB will continue coordinating with the Michigan Department of Environmental Quality (DEQ) with respect to wetland impacts.
- The purpose of the Task Force meeting is to include agencies from the beginning of the INRMP process so the agencies are comfortable with the document, which will allow the signature process to go quick and smoothly.

4. Review and Discussion of INRMP Management Concerns, Goals, and Objectives

- During the development of the INRMP, the project team needs to keep in mind that Selfridge ANGB is a military installation with a distinct purpose and mission. While managing natural resources, we cannot deviate from the military mission; however, knowing this ahead of time gives us an advantage while managing the natural resources.
- The 2010 Selfridge ANGB INRMP will be revised to meet the requirements outlined in AFI-32-7064, *Integrated Natural Resources Management* which was revised in 2014.
- The INRMP team went through the list of management areas that would be included in the INRMP For each management area, the team discussed how the resource is currently being managed, what projects have been completed to date, and identified new management goals/projects that should be identified in the 2016 INRMP.

Natural Resources Management

- Ken Baker leads an annual review of the INRMP where each target, goal, and objective in the current INRMP are discussed and updated.

Fish and Wildlife Management

- Selfridge ANGB has a comprehensive list of nuisance wildlife that attract birds which becomes a Bird/Wildlife Airstrike Hazard (BASH). The installation has a depredation permit for deer, goose nest and egg removal, mute swan, mute swan nest and egg removal, bald eagle harassment, and threatened and endangered species if needed.
- Determining locations for the construction of bird nest boxes and developing song bird and reptile habitats is currently a goal in the 2011 INRMP. These goals were a result of a Memorandum of Understanding (MOU) with USFWS in 2006. The installation has looked into these projects, but find that promoting reptile reproduction will encourage raptors onto the property creating a BASH risk. In addition, constructing nest boxes and creating songbird habitat will also be a detriment to BASH. The 2016 INRMP will continue to have these goals because the installation is required to look into these goals due to the USFWS MOU. A discussion of the reasoning of why the projects have not been carried forward will be added to the INRMP. A statement saying the installation will re-evaluate implementation of the projects if conditions on the installation change in the future will also be included.
- There are some areas on the installation where vegetative buffers around aquatic habitat cannot be maintained. These areas and reasoning will be discussed in the INRMP.
- USFWS has requested to avoid any tree cutting between 15 April and 15 August in order to protect the migratory birds. If for some reason, the installation needs to perform tree cutting during this period, coordination with USFWS will occur.
- Continue to allow the Lake Saint Clair Walleye Association and Michigan DNR use and assess to the ponds for a Walleye Stocking Program.

Outdoor Recreation and Public Access to Natural Resources

- The 2016 INRMP should include recreation activities available to military staff and their families on the installation as well as the general public. Projects for recreation can be small and not costly.
- Current activities include the aircraft museum (passes available at the main gate), golf course, ball fields, playgrounds, marina, RV storage areas, picnic areas, fishing on the shoreline, walleye rearing ponds (Michigan DNR and Lake St Clair).
- Macomb County and Harrison Township has plans to construct a bike path. This would be located in the south side of the base and would connect with the marina.
- In 2017, the base will be opened to the public for a 100-year air show. Parking will be provided throughout the installation and will avoid wetlands. Include a Parking Plan as a project in the 2016 INRMP.
- Include the new recreation opportunity figure in the 2016 INRMP.
- Include a Nature Trail in the 2016 INRMP. This could be in conjunction with Phase 2 of the Macomb County bike trail. The installation may be able to get funding from Macomb County for this project. Another option is creating an interpretive nature trail along the path through the golf course. A brochure with birds or other natural area information could be created.

Conservation Law Enforcement

- Currently Michigan DNR is allowed access to the installation to enforce fishing regulations. In addition, the installation's security forces also check fishing regulations and contact the Michigan DNR as needed. This protocol should be explained in the 2016 INRMP.

Management of Threatened and Endangered Species and Habitats

- A Threatened and Endangered Species Survey was completed in 2015. No federally-listed species were documented during the study. Three state listed species were observed – peregrine falcon, short-eared owl, and the common loon. USFWS will have

the opportunity to review and comment on the draft report. This information will also be incorporated into the 2016 INRMP.

- A vegetation survey was conducted in 2015. None of the nine rare plant species that have the potential to occur on the installation were documented.

Water Resource Protection

- Areas with exposed soils are revegetated with native species.

Wetland Protection

- Work with Michigan DEQ to reclassify ditches that transverse wetlands as stormwater conveyances as they were constructed in the 1950s and 1960s to drain upland areas of the airfield or were previously identified county drains that were incorporated into the storm water conveyance system when it was established by the installation during construction of the runway. These are priority areas with stormwater conveyances within wetland where Selfridge ANGB may need to re-accomplish jurisdictional determinations after coordination with Michigan DEQ is completed. There are several other areas where upland areas have been identified within wetlands that were not documented during previous surveys that should be looked ta more closely.
- The 2016 INRMP needs to explain d why the previously forested wetland areas are now being maintained as herbaceous habitat. Areas and acreages of the wetlands should be included in the 2016 INRMP. Several of these herbaceous habitats within the airfield have invasive species present and are difficult to maintain in accordance with the mission requirement due to them being located in a wetland. Therefore, prescribed burns in conjunction with herbicide treatment are being planned as an additional land management method for these areas to reduce BASH issues and to control invasive species.
- Buffers surrounding wetlands should be maintained as herbaceous habitat to protect the wetland. Where buffers cannot be maintained due to the mission, best management practices are employed and wetland and/or soil erosion permits are obtained where required.

Grounds Maintenance

- Stormwater conveyance channels must be maintained.
- Selfridge ANGB will meet with Michigan DEQ because the county drain commissioner cannot come on the installation to maintain the drains.
- The northern area of the installation adjacent to Lake St. Clair needs to be maintained as herbaceous due to deer.
- Endophytic fescue has been planted in wetland areas instead of the typical wetland seed mix to avoid BASH issues. This was approved by Michigan DEQ. The Canada geese do not like the endophytic fescue.

Forest Management

- An urban tree survey was completed in 2009. This survey identified hazard trees and rated the condition of the trees throughout the base. Most trees rated as poor or marked for removal have been removed.
- The 2016 INRMP should include a project to establish annual or biannual surveys of the trees on the installation to assess their condition, perform pruning/landscaping, identify any trees in need of removal, and prioritize the work needed. An arborist will be consulted if necessary.
- Trees were planted 2-3 years ago in areas throughout the installation where there would be no BASH concern. Details on these tree plantings should be included in the 2016 INRMP.

Wildland Fire Management

- The U.S Forest Service is creating burn plans for the installation.
- Prescribed burns are used to maintain wetlands as herbaceous and to control phragmites.

- The installation will coordinate with USFWS during prescribed burns if there are wildlife concerns, specifically bats.

Agricultural Outleasing

- There are no agricultural outleases at Selfridge ANGB.

Integrated Pest Management Program

- Prior to the most recent vegetation survey, only five invasive species were documented at the installation. Based on the recent survey, an additional 14 invasive species have been documented bringing the total to 19 invasive species.
- An invasive species survey should be identified as a project for the 2016 INRMP Update to identify non-native and invasive species, locate them on the installation and to quantify the areas affected by the invasive species. The information should lead to the creation of a management plan for inclusion into the installations Integrated Pest Management Plan.
- The installation should look into possibly working with the Cooperative Invasive Species Management Area (CISMA) for the treatment of non-native and invasive species on a community level.
- Currently, phragmites are treated with herbicides and then removed mechanically.

Bird/Aircraft Strike Hazard (BASH)

- The Safety Office controls/implements the BASH Program at the installation, but works closely with the Pest Management and Environmental staff. Goals of the BASH program should be identified in the Update and the BASH plan should be an appendix of the INRMP. Projects for implementation of the BASH plan are the responsibility of the Safety Office as the lead for BASH implementation. Projects that support natural resources management may be listed as projects in the INRMP.

Coastal Zone and Marine Resources

- The 2016 INRMP should clearly identify the laws and regulations governing coastal zone management for the base and identify what activities, including but not limited to vegetation management will be subject to coastal zone management requirements.

Cultural Resource Protection

- Goals and objectives associated with cultural resources will be addressed through the ANG Cultural Resources Management Program.

Public Outreach

- Continue to attend Base Community Council meetings. Address additional public outreach as needed if any public concerns are raised at the meetings.

Geographic Information Systems

- Projects required to update GIS database should be coordinated with the ANG GeoBase Program at the ANG Readiness Center and identified as necessary in the INRMP Update.

5. INRMP Schedule

- The draft INRMP will be available for review by ANG and Selfridge ANGB by the end of July. There will be a 30 day review period.
- The Final Draft INRMP will be available for agency review at the end of September. This will be a 45 day review. The 10 step process written in AFI 32-7064 will be followed for agency consultation.
- The document will be available for a 30-day public review period.

- The Final INRMP will be sent out in March 2017 for signature from the USFWS, Michigan DNR, and the Installation Commander.

6. Tour of Installation

The following meeting attendees took a tour of the installation: Ken Baker, Jason Cabra, Jessica Pruden, Dan Savercool, and Jeannette Matkowski. Some specific areas observed were previously forested wetlands that are being maintained as herbaceous wetlands, stormwater conveyance channels, wetland areas proposed for prescribed burning, and the walleye rearing ponds.

PHOTOGRAPHIC RECORD

Selfridge ANGB
May 12, 2016

Stormwater conveyance

Previously forested wetland

Wetland proposed for burning.

Fish ponds

Selfridge ANGS

INRMP Task Force Meeting

Meeting Attendees

13 May 2016

Name: DAN SAYERCOOL **Title:** SR. BIOLOGIST **Representing:** EA **Address:** 225 Schilling Circle Suite 400 Hunt Valley, MD 21031 **Phone:** 240.793.5455 **e-mail:** dsayercool@eaest.com	**Name:** Jeannette Matkowski **Title:** Biologist **Representing:** EA Engineering **Address:** 225 Schilling Circle Suite 400 HV, MD 21031 **Phone:** 410 584-7000 **e-mail:** jematkowski@eaest.com
Name: CHRIS SANBORN **Title:** Roads & Grounds Supervisor **Representing:** SANGB **Address:** **Phone:** 586-239-5054 **e-mail:** chris.l.sanborn.civ@mail.mil	**Name:** Tim Wilson **Title:** Wildlife Biologist/Dist. Supervisor **Representing:** USDA Wildlife Services **Address:** 2803 Jolly Rd. Suite 100 Okemos, MI 48864 **Phone:** 517-336-1928 ext 26 **e-mail:** timothy.s.wilson@aphis.usda.gov
Name: Jessica Pruden **Title:** Fish & Wildlife Biologist **Representing:** US FWS **Address:** Coolidge Rd., East Lansing MI **Phone:** 517-351-8245 **e-mail:** jessica_pruden@fws.gov	**Name:** LEONARD BROCKMANN **Title:** PEST MANAGER **Representing:** **Address:** **Phone:** (586) 239-6761 **e-mail:** LEONARD.BROCKMANN@US.AF.MIL

Selfridge ANGS

INRMP Task Force Meeting

Meeting Attendees

13 May 2016

Name: Tim Forys **Title:** Pest Mgt Coordinator **Representing:** 127 CES **Address:** 28890 Selfridge Ave **Phone:** 586-239-6761 **e-mail:** Timothy.j.forys.civ@mail.mil	**Name:** Melanie Frisch **Title:** ANG Natural Resources Mgr **Representing:** ANG **Address:** 3501 Fetchet Ave Joint Base Andrews, MD **Phone:** 240-612-8427 **e-mail:** melanie.a.frisch.civ@mail.mil
Name: Lt Col Thomas Sierakowski **Title:** 127 msg/DEC 127 CES/CC **Representing:** Base Civil Engineer **Address:** **Phone:** 586-239-5521 **e-mail:** thomas.g.sierakowski.mil@mail.mil	**Name:** Ken Baker **Title:** Environmental Mngr **Representing:** 127 CES/CEV **Address:** 28890 Selfridge Ave **Phone:** 586-239-5741 **e-mail:** kenneth.f.baker2.nfg@mail.mil
Name: JASON CABRA **Title:** ENGINEER 127th WING **Representing:** SANGB CES/CEV **Address:** **Phone:** 586-239-5763/248-342-2113 **e-mail:** jason.d.cabra.civ@mail.mil	**Name:** **Title:** **Representing:** **Address:** **Phone:** **e-mail:**

Selfridge Air National Guard Base

2016 Integrated Natural Resources Management Plan Revision (INRMP)

Meeting Agenda

- Introductions
- Authority
- Purpose of INRMP Task Force Meeting
- Review and Discussion of INRMP Management Concerns, Goals, and Objectives
- Additional Agency Comments
- Conclusion

Authority

- The ANG will revise the 2010 INRMP for Selfridge Air National Guard Base (ANGB), Michigan in accordance with the provisions of the Sikes Act (16 U.S.C. 670a et seq.), AFI 32-7064, Integrated Natural Resources Management; AFPD 32-70, Environmental Quality; and DODI 4715.03, Natural Resources Conservation Program.
- The Sikes Act also requires that INRMPs be reviewed as to operation and effect at least once every five years in coordination with state and federal agencies and revised as necessary. The Selfridge ANGB INRMP was prepared in 2011.
- An INRMP is required for installations having significant natural resources requiring conservation and management as determined by the installations ANG Natural Resources Program Manager in consultation with US Fish and Wildlife Service (USFWS) and the state fish and wildlife agency. When the installation includes or borders marine environments, consultation must also include the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS). Selfridge ANGB has wetland habitat, a depredation program, and state listed species.

Authority

AFI 32-7064, Integrated Natural Resources Management

- 3.2.1.6. The installation has significant Bird/wildlife Aircraft Strike Hazard issues that require habitat manipulation outside the managed airfield; or require wildlife hazing or depredation activities that are beyond the scope of standard bird/wildlife prevention, control, and dispersal operations conducted under the auspices of a BASH Plan administered by the Wing Flight Safety office. (T-0).
- 3.2.1.7. Important or unique biological resources are present, such as wetlands, species listed for state protection, candidate species for federal protection, or unique habitats that provide essential loafing, nesting, or foraging areas for migratory birds, bats, or other wildlife protected by state or federal law. The unique character of a biological resource is determined through consultation with the USFWS and state fish and wildlife agency, whereby it is established that ecological issues related to the resource require a level of planning and management that can only be addressed by an INRMP. (T-0).

Purpose of INRMP Task Force Meeting

- Review and discuss pertinent management topics of concern identified during the development of the Draft INRMP and annual reviews with federal and state agencies
- Discuss types of natural resources management projects and identify strategies for implementation
- Coordination of INRMP review and approval process with U.S. Fish and Wildlife Service (USFWS)and Michigan Department of Natural Resources (DNR).
- Continue coordination with Michigan Department of Environmental Quality (DEQ) with respect to wetland impacts.

Overview

- AFI 32-7064, *Integrated Natural Resources Management* was revised in November of 2014. The 2010 Selfridge ANGB INRMP will be revised accordingly to meet the new requirements.
- Review and Discussion of Current and Future INRMP Management Goals and Objectives
  - Natural Resources Program Management
  - Fish and Wildlife Management
  - Outdoor Recreation and Public Access to Natural Resources
  - Conservation Law Enforcement
  - Management of Threatened and Endangered Species and Habitats
  - Water Resource Protection
  - Wetland Protection
  - Grounds Maintenance
  - Forest Management
  - Wildland Fire Management
  - Agricultural Outleasing
  - Integrated Pest management Program
  - Bird/Wildlife Aircraft Strike Hazard (BASH)
  - Coastal Zone and Marine Resource Management
  - Cultural Resource Protection
  - Public Outreach
  - Geographic Information System (GIS)

Natural Resources Program Management

Manage natural resources in a manner that is compatible with and supports the military mission while complying with federal, state, and USAF laws and regulations.

- Current Goals Include:
  - Communicating natural resource management to Selfridge ANGB staff
  - Annual reviews of INRMP
  - INRMP revision
- Additional Future Goals??

Fish and Wildlife Management

Restore and maintain a diversity of wildlife in areas where practicable conservation measures are implemented so that they are not in direct conflict with the military mission.

- Current Goals Include:
  - Nuisance species control – rats, cats, woodchucks, dogs, raccoons, etc
  - Determine locations where construction of bird nest boxes and developing song bird and reptile habitats will not create additional or increase current BASH levels per July 2006 MOU with USFWS
  - Protect aquatic habitat where possible by maintaining vegetative buffers, typically 50 to 100 ft
  - Avoid tree cutting 15 April to 15 August to protect migratory birds
  - Inspect and repair perimeter fence for breaches to control wildlife access to the airfield
- Additional Future Goals??

Outdoor Recreation and Public Access to Natural Resources

Limited outdoor recreation opportunities exist because the installation is closed to the public.

- Current Goals Include:
  - Recreation opportunity figure created
  - Fishing along shoreline
  - Golf course
  - Macomb County & Harrison Township bike path construction
  - Establish an interpretive nature trail
- Additional Future Goals??

Conservation Law Enforcement

There is currently no conservation law enforcement program at Selfridge ANGB. MDNR is allowed access to the installation to enforce fishing regulations. Security armed forces personnel also check fishing licenses on the installation.

- Future Goals??

Management of Threatened and Endangered Species and Habitats

No federal-listed species occur at Selfridge ANGB.

- Current Goals:
  - T&E survey was conducted in 2015
    - No Indiana bats or Northern long eared bats were observed
    - Three state listed species were identified (peregrine falcon, short-eared owl, and common loon).
  - Vegetative survey was conducted in 2015
    - None of the nine rare plants that have the potential to occur on the installation were observed.
- Additional Future Goals??

Water Resource Protection

Concern of water quality at the installation is the deposition of sediment into Lake St. Clair and the Clinton River.

- Current Goals Include:
  - Inspect construction sites to ensure compliance with regulations and plan requirements
  - Screen use of herbicides and pesticides in accordance with the IPM Plan
  - Revegetate areas with exposed soils
- Additional Future Goals??

Wetland Protection

Minimize the impact that Selfridge ANGB missions have on wetlands and floodplains. Create healthy, functional wetlands that can sustain minor operational influences.

- Current Goals:
  - Maintain buffers around wetlands
  - Maintain previously forested wetlands as herbaceous habitat in Clear Zones and Airfield Management Areas
  - Disseminate wetland information materials (VEMO)
  - Remind grounds maintenance staff of wetland regulations and allowable practices
  - Maintain infrastructure in proximity to wetlands
- Additional Future Goals??

Grounds Maintenance

Grounds maintenance helps to maintain and improve the aesthetic appearance of lands controlled by the ANG and can contribute to overall biodiversity and ecosystem health.

- Current Goals Include:
  - Convert unimproved grounds to semi-improved grounds due to BASH and deer concerns where determined necessary
  - Use native species for revegetation and landscaping
  - Maintain drainage ditches (wetlands)
- Additional Future Goals??

Forest Management

There is no income-generating forestry program at Selfridge ANGB; however, Selfridge ANGB manages vegetation to maintain urban forests and other habitats.

- Current Goals:
  - Updated Vision 2020 Landscaping Design Standards to include only native species
  - Continue to accomplish hazard tree removal
  - Annual review of ornamental tree plantings by forester or arborist if necessary
  - Green ash population has been decimated
  - Vegetation mapping updated in 2015
  - Invasive species
- Additional Future Goals??

Wildland Fire Management

There is currently a wildland fire management program at Selfridge ANGB.

- Current Goals:
  - Developed a Wildland Fire Management Plan in July 2015
  - Develop a Burn Plan for burn blocks
  - Determine areas where prescribed fires will be acceptable
- Additional Future Goals??

Agricultural Outleasing

There are no leases at Selfridge ANGB.

Integrated Pest Management

Protection of real estate, control of potential disease vectors, control of undesirable or nuisance plants, and prevent damage to natural resources.

- Current Goals Include:
  - Implement the IPM Plan
  - Nuisance animal control permit for small mammals and birds
  - Control 18 invasive species including common reed, Japanese barberry, and spotted knotweed identified in 2015 Vegetation Survey Report
  - Attend CISMA meetings
  - Attend annual training for wildlife damage prevention and control
- Additional Future Goals??

Bird/Wildlife Aircraft Strike Hazard (BASH)

Selfridge ANGB actively implements a BASH Plan to reduce the potential for a bird strike to occur.

- Current Goals Include:
  - Implement BASH Plan
  - Potential bald eagle activity on the runway (harassment permit obtained)
  - Harass wildlife as necessary in accordance with permits
  - Maintain ditches and wetland vegetation to discourage wildlife
  - Plant endophytic fescue stands
- Additional Future Goals??

Coastal Zone and Marine Resources Management

Selfridge ANGB is located along the shore of Lake St. Clair within Michigan's coastal zone.

- Current Goals Include:
  - Maintain the riprap and berm to ensure the seawall is functioning properly
  - Manage seawall so that it minimizes erosion and sedimentation to Lake St. Clair
- Additional Future Goals??

Cultural Resource Protection

An Integrated Cultural Resource Management Plan (ICRMP) has been prepared for Selfridge ANGB. Cultural resource protection will be addressed through the ANG Cultural Resources Management Program.

Public Outreach

Successful community relations are vital to the continued good positive image that Selfridge ANGB has with the public.

- Current Goals Include:
  - Base community council meetings
  - Develop information materials to promote positive aspects of Selfridge ANGB
  - Make public outreach materials available in the operations viewing area
  - Encourage staff to participate in community activities
- Additional Future Goals??

Geographic Information System (GIS)

Having a complete usable GIS dataset and access to software is essential for natural resource management. GIS will be addressed through the ANG GIS Management Program.

- Current Goals Include:
  - Vegetation, invasive species, floodplain, state listed species, and wetland GIS data is being updated
- Additional Future Goals??

INRMP Schedule

- Draft INRMP
  - July 2016
  - 30 day review for Selfridge ANGB and ANG
- Final Draft INRMP
  - September 2016
  - 45 day review for agencies
- 30-day public Review Period
  - February 2017
- Final INRMP
  - March 2017
  - Final Coordination with agencies

Questions?

United States Department of the Interior

FISH AND WILDLIFE SERVICE
East Lansing Field Office (ES)
2651 Coolidge Road, Suite 101
East Lansing, Michigan 48823-6316

IN REPLY REFER TO:

June 24, 2016

Kenneth Baker
Michigan Air National Guard
127 CES/CEV
Selfridge ANGB, MI 48045-5029

RE: U.S. Fish and Wildlife Service recommendation for Selfridge Air National Guard Base 2016 Draft Integrated Resource Management Plan

Dear Mr. Baker:

In accordance with the Sikes Act, as amended, and the Memorandum of Understanding signed by the Department of Defense (DoD), U.S. Fish and Wildlife Service (Service), and the International Association of Fish and Wildlife Agencies, Selfridge Air National Guard Base (ANGB), has solicited comments, provided annual updates, and invited participation from the Service's East Lansing Field Office in continued development and implementation of Selfridge ANGB's Integrated Natural Resource Management Plan (INRMP).

The INRMP integrates natural resource management with the mission of Selfridge ANGB. The INRMP is the primary tool for managing the associated ecosystem and accomplishing the military mission. On May 12, 2016, Selfridge ANGB held the INRMP Task Force Meeting to initiate the revision process of the 2010 INRMP. Participating agencies may provide recommendations for the 2016 Draft INRMP to Selfridge ANGB for consideration. Once the 2016 Draft INRMP is complete, agencies will have 30 days to formally review and comment.

Pollinators have been in severe decline in recent years. The declining trend results from habitat loss and fragmentation, pesticide exposure, disease, parasites, and effects of introduced species. The Service is currently engaged in an effort nationwide to work with partners to enhance habitat for the monarch butterfly (*Danaus plexippus plexippus*) and other pollinators. Selfridge ANGB is located on the western shore of Lake St. Clair and bordered by the Clinton River at the southern boundary. Selfridge ANGB is in an ecologically important area and is uniquely positioned to contribute to pollinator conservation by enhancing habitat for monarchs and other pollinators on the installation.

Management practices are summarized in the 2010 INRMP and were "developed to enhance and maintain biological diversity within the installation boundaries, while providing connectivity to the ecosystems of which the installation is a part". The Service understands that management practices must be balanced with the primary military mission of the installation. Wildlife and

bird aircraft strike hazards (BASH) are a major safety concern at Selfridge ANGB. Thus, ecosystem management activities on the installation must not interfere with airfield activities.

The 2010 INRMP management practices are:

- Minimize habitat fragmentation and promote the natural pattern and connectivity of habitats.
- Protect native species, and discourage nonnative and invasive species.
- Protect rare and ecologically important species.
- Protect unique or sensitive environments.
- Maintain or mimic natural processes
- Protect genetic diversity.
- Restore species, communities, and ecosystems.
- Monitor impacts on biodiversity.

Pollinator habitat enhancement is consistent with the INRMP management practices. If conducted in targeted areas away from the airfield, habitat enhancement activities should not create a potential BASH or compromise the military mission of the installation. The Service recommends that Selfridge ANGB consider incorporating enhancement of pollinator habitat as a management goal for the 2016 Draft INRMP. Selfridge ANGB has open space and recreational areas on the installation where habitat enhancement activities could contribute to pollinator recovery. Plantings of native milkweed and other native pollinator plant species, in targeted areas would create valuable nectar and pollen resources as well as sites for nesting, egg-laying, and overwintering. Information on pollinators and habitat enhancement can be found at https://www.fws.gov/pollinators/. The Service would be happy to provide additional resources on pollinators and guidance on habitat enhancement.

We look forward to a potential partnership with Selfridge ANGB on pollinator conservation. Thank you for considering our recommendation for the 2016 Draft INRMP. Should you have any questions, please contact Jessica Pruden, of this office, Jessica_Pruden@fws.gov or 517-351-8245.

Sincerely,

Acting for Scott Hicks
Field Supervisor

cc: USFWS, Twin Cities, MN (Jeff Gosse)

Appendix D

Annotated Summary of Key Legislation

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ANNOTATED SUMMARY OF KEY LEGISLATION

Federal Public Laws and Executive Orders	
National Defense Authorization Act of 1989, Public Law (P.L.) 101-189; Volunteer Partnership Cost-Share Program	Amends two acts and establishes volunteer and partnership programs for natural and cultural resources management on Department of Defense (DOD) lands.
Defense Appropriations Act of 1991, P.L. 101-511; Legacy Resource Management Program	Establishes a program for the stewardship of biological, geophysical, cultural, and historic resources on DOD lands.
Executive Order (EO) 11988, Floodplain Management	Provides direction regarding actions of federal agencies in floodplains, and requires permits from state and federal review agencies for any construction within a 100-year floodplain.
EO 11990, Protection of Wetlands	Requires federal agencies to avoid undertaking or providing assistance for new construction in wetlands unless there is no practicable alternative, and all practicable measures to minimize harm to wetlands have been implemented.
EO 11514, Protection and Enhancement of Environmental Quality	Federal agencies shall initiate measures needed to direct their policies, plans, and programs to meet national environmental goals. They shall monitor, evaluate, and control agency activities to protect and enhance the quality of the environment.
EO 11593, Protection and Enhancement of the Cultural Environment	All federal agencies are required to locate, identify, and record all cultural resources. Cultural resources include sites of archaeological, historical, or architectural significance.
EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds	The United States Fish and Wildlife Service has the responsibility to administer, oversee, and enforce the conservation provisions of the Migratory Bird Treaty Act, which includes responsibility for population management (e.g., monitoring), habitat protection (e.g., acquisition, enhancement, and modification), international coordination, and regulations development and enforcement.
EO 11987, Exotic Organisms	Agencies shall restrict the introduction of exotic species into the natural ecosystems on lands and waters that they administer.
EO 12088, Federal Compliance With Pollution Control Standards	This EO delegates responsibility to the head of each executive agency for ensuring that all necessary actions are taken for the prevention, control, and abatement of environmental pollution. This order gives the United States Environmental Protection Agency (EPA) authority to conduct reviews and inspections to monitor federal facility compliance with pollution control standards.
EO 12898, Environmental Justice	This EO requires certain federal agencies, including the DOD, to the greatest extent practicable permitted by law, to make environmental justice part of their missions by identifying and addressing disproportionately high and adverse health or environmental effects on minority and low-income populations.
EO 13112, Exotic and Invasive Species	To prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.
EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds	Directs executive departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act.
EO 13352, Facilitation of Cooperative Conservation	To ensure that the Departments of the Interior, Agriculture, Commerce, and Defense EPA implement laws relating to the environment and natural resources in a manner that promotes cooperative conservation, with an emphasis on appropriate inclusion of local participation in federal decision-making, in accordance with their respective agency missions, policies, and regulations.

ANNOTATED SUMMARY OF KEY LEGISLATION

Federal Public Laws and Executive Orders	
EO 13045, Protection of Children from Environmental Health and Safety Risks	This EO makes it a high priority to identify and assess environmental health and safety risks that could disproportionately affect children. It also directs agencies to ensure that policies, programs, activities, and standards address such risks if identified.
EO 13443, Facilitation of Hunting Heritage and Wildlife Conservation	The purpose of this EO is to direct federal agencies that have programs and activities that have a measurable effect on public land management, outdoor recreation, and wildlife management, including the Department of the Interior and United States Department of Agriculture to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.
United States Codes	
National Environmental Policy Act of 1969 (NEPA), as amended; P.L. 91-190, 42 United States Code (U.S.C.) 4321 et seq.	Requires federal agencies to utilize a systematic approach when assessing environmental impacts of government activities. Establishes the use of environmental impact statements. NEPA proposes an interdisciplinary approach in a decision-making process designed to identify unacceptable or unnecessary impacts on the environment.
Council on Environmental Quality Regulations for Implementing NEPA; 40 Code of Federal Regulation Parts 1500–1508	Provides regulations applicable to and binding on all federal agencies for implementing the procedural provisions of NEPA, as amended.
Conservation Programs on Military Installations (Sikes Act), as amended; P.L. 86-797, 16 U.S.C. 670(a) et seq.	Requires federal military installations with adequate wildlife habitat to implement cooperative agreements with other agencies and develop long range Integrated Natural Resources Management Plans. Thereby, it is appropriate to manage natural resources for multipurpose uses and provide the public access to those uses to the extent consistent with the military mission. The act also sets guidelines for the collection of fees for the use of natural resources such as hunting and fishing.
Leases: Non-excess Property of Military Departments, 10 U.S.C. 2667, as amended	Authorizes DOD to lease to commercial enterprises federal land that is not currently needed for public use. Covers agricultural outleasing program.
Federal Land Use Policy and Management Act, 43 U.S.C. 1701–1782	Requires management of public lands to protect the quality of scientific, scenic, historical, ecological, environmental, and archeological resources and values; and to preserve and protect certain lands in their natural condition for fish and wildlife habitat. This Act also requires consideration of commodity production such as timbering.
Clean Air Act, 42 U.S.C. 7401–7671q, 14 July 1955, as amended	This Act, as amended, is known as the Clean Air Act of 1970. The amendments made in 1970 established the core of the clean air program. The primary objective is to establish federal standards for air pollutants. It is designed to improve air quality in areas of the country that does not meet federal standards and to prevent significant deterioration in areas where air quality exceeds those standards.
Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. 1251–1387	The Clean Water Act is a comprehensive statute aimed at restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. Primary authority for the implementation and enforcement rests with EPA.
Migratory Bird Treaty Act 16 U.S.C. 703–712	The Migratory Bird Treaty Act implements various treaties for the protection of migratory birds. Under the Act, taking, killing, or possessing migratory birds is unlawful without a valid permit.

ANNOTATED SUMMARY OF KEY LEGISLATION

Federal Public Laws and Executive Orders	
Endangered Species Act of 1973, as amended; P.L. 93-205, 16 U.S.C. 1531 et seq.	Protects threatened, endangered, and candidate species of fish, wildlife, and plants and their designated critical habitats. Under this law, no federal action is allowed to jeopardize the continued existence of an endangered or threatened species. The Endangered Species Act also requires consultation with the United States Fish and Wildlife Service and the National Marine Fisheries Service and the preparation of a biological assessment when such species are present in an area that is affected by government activities.
National Historic Preservation Act, 16 U.S.C. 470 et seq.	Requires federal agencies to take account of the effect of any federally assisted undertaking or licensing on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register of Historic Places. Provides for the nomination, identification (through listing on the National Register of Historic Places), and protection of historical and cultural properties of significance.
Federal Noxious Weed Act of 1974, 7 U.S.C. 2801–2814	The Act provides for the control and management of no indigenous weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health.
Plant Protection Act of 2000, Public Law 106-224, title IV	The Act provides for the prevention of introduction of plant pests into the United States or the dissemination of plant pests within the United States.
Federal Insecticide, Fungicide, and Rodenticide Act	The Act provides for federal regulation of pesticide distribution, sale, and use. All pesticides distributed or sold in the United States must be registered (licensed) by Environmental Protection Agency.
Sale of certain interests in land, 10 U.S.C. 2665	Authorizes sale of forest products and reimbursement of the costs of management of forest resources.
32 Code of Federal Regulation Part 989, as amended, Environmental Impact Analysis Process	Provides guidance and responsibilities in the Environmental Impact Analysis Process for implementing Integrated Natural Resources Management Plans. Implementation of an Integrated Natural Resources Management Plan constitutes a major federal action and therefore is subject to evaluation through an Environmental Assessment or an Environmental Impact Statement.
DOD Policy, Directives, and Instructions	
DOD Directive 4715.1, Environmental Security	Establishes policy for protecting, preserving, and (when required) restoring and enhancing the quality of the environment. This directive also ensures that environmental factors are integrated into DOD decision-making processes that could impact the environment, and are given appropriate consideration along with other relevant factors.
DOD Instruction 4715.03, Natural Resources Conservation Program	Implements policy, assigns responsibility, and prescribes procedures under DOD Directive 4715.1 for the integrated management of natural and cultural resources on property under DOD control.
DOD Manual 4715.03, Integrated Natural Resources Management Plan	Provides procedure to prepare, review, update, and implement INRMPs in compliance with the Sikes Act.
United States Air Force (USAF) Instructions and Directives	
Air Force Instruction 32-7064, Integrated Natural Resources Management	Implements Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*; DOD Instruction 4715.3, *Environmental Conservation Program*; and DOD Instruction 7310.5, *Accounting for Sale of Forest Products*. It explains how to manage natural resources on USAF property in compliance with federal, state, and local standards.

ANNOTATED SUMMARY OF KEY LEGISLATION

Federal Public Laws and Executive Orders	
Policy Memo for Implementation of Sikes Act Improvement Amendments, Headquarters USAF Environmental Office (USAF/ILEV) on 29 January 1999	Outlines the USAF's interpretation and explanation of the Sikes Act and Improvement Act of 1997.
AFPD 32-70, Environmental Quality	Outlines USAF mission to achieve and maintain environmental quality on all USAF lands by cleaning up environmental damage resulting from past activities, meeting all environmental standards applicable to present operations, planning its future activities to minimize environmental impacts, managing responsibly the irreplaceable natural and cultural resources that it holds in public trust, and eliminating pollution from its activities wherever possible. AFPD 32-70 also establishes policies to carry out these objectives.
Air Force Instruction 32-7062, USAF Comprehensive Planning	Provides guidance and responsibilities related to the USAF comprehensive planning process on all USAF-controlled lands.
Air Force Instruction 32-7065, Cultural Resources Management	This instruction implements AFPD 32-70 and DOD Directive 4710.1, Archaeological and Historic Resources Management. It explains how to manage cultural resources on USAF property in compliance with federal, state, and local standards.

Appendix E

Integrated Pest Management Plan

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Final
Integrated Pest Management Plan

Selfridge Air National Guard Base (ANGB)
Michigan

Approval and Technical Review

Title	Name	Signature	Date
Installation Pest Management Coordinator	**Tim Forys**		
Installation Bioenvironmental Engineer	**TSgt Dean Klovski**		
Public Health Officer	**Colonel Mark Manor**		
Fire Department	**Christopher Ross**		
Safety Officer	**Maj. Tate Whitener**		
Hazmat Pharmacy	**TSgt Damon Todd**		
Unit Training Manager	**Sandra Barber**		
Natural Resource Program Manager	**Kenneth Baker**		
Installation Environmental Manager	**Mark Paasche**		
Public Affairs Officer	**Penelope Carroll**		
Base Civil Engineer	**Lt. Col. Thomas Sierakowski**		
Pest Management Consultant (NGB/A7AN)	**Melanie Frisch**		
Mission Support Commander	**Colonel Daniel Whipple**		
Installation Commander	**BG John Slocum**		

Note: This cover page complies with DoD Instruction 4150.07, Enclosure 5, E5.1.1 (Draft).

After all local installation signatures are entered, except for Mission Support/Installation Commander signatures, forward copy to NGB/A7AN Pest Management Consultant for approval. After requisite

NGB/A7AN signature is obtained, send IPM Plan to Mission Support/Installation Commander for signatures on cover sheet and on Installation Instruction (enclosed). After all approval signatures have been affixed, record distribution of copies, and send electronic copy of entire plan with signatures to NGB/A7AN.

Record of Annual IPM Plan Review and Approval of Pesticide Use Proposal

Annual Review and Approval of Pesticide Use Proposal	Date	Annual Review and Approval of Pesticide Use Proposal Completed*
1	**Tim Forys**	**Annual review**
2		
3		
4		
5	**Full coordination and approval must be completed every 5 years.**	

*This column will be signed by the IPM Coordinator following annual updates to the IPM Plan and approval from the NGB/A7AN Pest Management Consultant on annual Pesticide Use Proposal.

Any routine IPM Plan updates resulting from the Annual Review should be recorded in errata sheets and included with this Plan. For any non-routine updates, confer with the NGB/A7AN Pest Management Consultant prior to execution.

Contents

Tables

Figures

Annexes

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Authority – Installation Instruction

Date: 24 November 2008

From: Installation Commander

Subject: Integrated Pest Management Plan (IPMP) Implementation Authority

Title: Integrated Pest Management Plan, Selfridge ANGB, Michigan.

Purpose: To implement an Integrated Pest Management Plan for Selfridge ANGB, Michigan.

Regulatory References:

- U.S. Department of Defense (DoD) Directive 4150.07.
- U.S. Air Force Pest Management Program, Air Force Instruction (AFI) 32-1053.
- 40 Code of Federal Regulations (CFR) Part 158, Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Federal Insecticide Fungicide and Rodenticide Act (FIFRA), 7 U.S.C. 136, et seq.

Summary: The IPM plan has been prepared in accordance with DoD Instruction 4150.07. The subject IPM Plan is a comprehensive document that will be used by all personnel working at the Selfridge ANGB. It has been designed to ensure installation compliance with federal, state, and US Territory regulations governing pest management.

Security Classification: The title and document are unclassified. The document does not fall within the scope of directives governing the protection of information affecting national security. This IPM Plan will be designated "For Official Use Only."

Applicability: In accordance with DoD Instruction 4150.07, all ANG installations are required to prepare and maintain a pest management plan. All installation personnel and organizations will review the IPM Plan and ensure full compliance. Through implementation and cooperation, a safe, healthy, and clean environment for current and future generations can be ensured. No in-house or contract pest control operations, including pesticide (ex. herbicide, insecticide, rodenticide, etc.) applications, may be conducted on base without prior coordination and approval from installation designated IPM Coordinator.

Action: The IPM Plan is effective as of 24 November 2008, the date of approval by the Selfridge ANGB Environmental, Safety and Occupational Health Council (ESOHC), chaired by the Installation Commander.

Responsibilities: Civil Engineering is the office of primary responsibility for implementation of this IPM Plan. Tasked organizations are authorized to extract and reproduce those portions of the IPM Plan that are essential to accomplish necessary planning and to prepare supporting documents and reports.

Integrated Pest Management Coordinator should ensure necessary coordination among installation personnel for necessary updates to this plan. Mr. Tim Forys is hereby designated installation Integrated Pest Management Coordinator for implementation of this plan.

Distribution: Distribution will be in accordance with established U.S. Air Force (USAF) procedures for unclassified documents. The IPM Plan will be distributed to the titled individuals listed below (indicate how many of each hardcopy/electronic copy has been distributed):

Title	Hard Copies	Electronic Copies
Installation Pest Management Coordinator	**X**	
Installation Environmental Manager		**X**
Installation Bioenvironmental Engineer		**X**
Fire Department		**X**
Base Civil Engineer		**X**
Installation Commander		**X**
Pest Management Consultant		**X**
Supply Officer		**X**
Natural Resources Program Manager		**X**

Management Approval: Full approval is extended by management at a level with authority to commit the necessary resources.

Signature: _____

Name: **BG John D. Slocum**

Title: **127th Wing Commander**

Preface

The Integrated Pest Management Plan for the Selfridge ANGB follows. See the table below for a crosswalk between this Integrated Pest Management Plan and Enclosure 5 (E5) "CONTENT OF INSTALLATION PEST MANAGEMENT PLANS, SUGGESTED FORMAT" of U.S. Department of Defense (DoD) Instruction 4150.07 (Draft).

The following table provides a cross reference to each section of the plan with Enclosure 5 requirements of the latest draft version of DODI 4150.07.

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List of Abbreviations and Acronyms

ACC	**Air Combat Command**
ACES	**Automated Civil Engineering System**
ADC	**Animal Damage Control**
AFCESA	**Air Force Civil Engineer Support Agency**
AFI	**Air Force Instruction**
AFOSH	**Air Force Occupational Safety and Health**
AFP	**Air Force Pamphlet**
AFPD	**Air Force Policy Directive**
AFPMB	**Armed Forces Pest Management Board**
AFSC	**Air Force Specialty Code**
AGE	**Aerospace Ground Equipment**
AGR	**Active Guard Reserve**
ANGB	**Air National Guard Base**
ANGI	**Air National Guard Instruction**
ANGS	**Air National Guard Station**
APHIS	**Animal and Plant Health Inspection Service**
BASH	**Bird Aircraft Strike Hazard**
BCE	**Base Civil Engineer**
BEE	**Bioenvironmental Engineering**
BHWG	**Bird Hazard Working Group**
BX	**Base Exchange**
CDC	**Career Development Course**
CE	**Civil Engineering**
CFETP	**Career Field Education and Training Plan**
CNR	**Cultural/Natural Resource**
COP	**Community of Practice**
DD	**Department of Defense**
DENIX	**Defense Environmental Network & Information Exchange**
DFAR	**Defense Federal Acquisition Regulation**
DoD	**Department of Defense**
DODI	**Department of Defense Instruction**

EIS	**Engineering Installation Squadron**
EESOH-MIS	**Enterprise Environmental Safety Occupational Health- Management Information System**
EPA	**Environmental Protection Agency**
ESA	**Endangered Species Act**
ESOH	**Environment, Safety, and Occupational Health**
ESOHC	**Environmental, Safety and Occupational Health Council**
ESOHCAMP	**Environmental, Safety, & Occupational Health Compliance Assessment and Management Program**
ESPP	**Endangered Species Protection Program**
F	**Degrees Fahrenheit**
FAA	**Federal Aviation Administration**
FAR	**Federal Acquisition Regulation**
FIFRA	**Federal Insecticide, Fungicide, and Rodenticide Act**
FOMA	**Facility Operations & Maintenance Activities**
FTE	**Full Time Equivalent**
FY	**Fiscal Year**
GPM	**gallons per minute**
GSU	**Geographically Separate Unit**
HAZCOM	**Hazard Communication**
IAW	**In Accordance With**
IMPAC	**International Merchant Purchase Authorization Card**
IPM	**Integrated Pest Management**
IPMT	**Integrated Pest Management Techniques**
ISSA	**Inter-Service Support Agreements**
KO	**Contracting Officer**
MC	**Minor Construction**
MCP	**Military Construction Project**
MH	**Military Housing**
MoM	**Measures of Merit**
MRE	**Meals Ready to Eat**
SDS	**Safety Data Sheet**
MSL	**Mean Sea Level**
NEPA	**National Environmental Policy Act**
NGB	**National Guard Bureau**
OCONUS	**Outside Continental US**

OJT	**On-the-Job Training**
OPR	**Office of Primary Responsibility**
OSHA	**Occupational Health and Safety Administration [or Act]**
PAI	**Pounds of Active Ingredient**
PH	**Public Health**
PMC	**Pest Management Consultant**
PMQAE	**Pest Management Quality Assurance Evaluator**
PPE	**Personal Protective Equipment**
PPQ	**Plant Protection and Quarantine**
PWS	**Performance Work Statement**
RCRA	**Resource Conservation and Recovery Act**
RUTA	**Rescheduled Unit Training Assembly**
QAE	**Quality Assurance Evaluator**
QC	**Quality Control**
QCP	**Quality Control Program**
SABER	**Simplified Acquisition of Base Engineering Requirements**
SPRP	**Spill Prevention and Response Plan**
SRM	**Sustainment, Restoration, and Modernization**
TDD	**Telecommunications Devices for the Deaf**
TES	**Threatened or Endangered Species**
TG	**Technical Guide**
TIM	**Technical Information Memorandum**
UFC	**Unified Facilities Criteria**
USAF	**United States Air Force**
USC	**U.S. Code**
USDA	**U.S. Department of Agriculture**
USD - AT&L	**Under Secretary for Defense - Acquisition, Technology and Logistics**
USFWS	**US Fish and Wildlife Service**
UTA	**Unit Training Assembly**
UTC	**Unit Training Code**
WRRB	**Work Request Review Board**

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1.0 Executive Summary

This Integrated Pest Management Plan (IPM Plan) describes how the Selfridge ANGB will comply with the requirements of DoD Instruction 4150.07, "DoD Pest Management Program."

An integrated pest management plan is required for the Selfridge ANGB IAW DODI 4150.07.

This IPM Plan follows the requirements and elements defined in Enclosure 5 of DoD Instruction 4150.07, dated 2006, and in the presentation order specified in Enclosure 5. The IPM Plan addresses each element defined in Enclosure 5 whether the element applies or not. Any revision to the format of this plan, or addition of pesticides, requires advance approval from the NGB/A7AN Pest Management Consultant.

The Office of Primary Responsibility (OPR) for the IPM Plan is Civil Engineering (AFI 32-1053). The Base Civil Engineer (BCE) has primary responsibility, unless responsibilities have been assigned in writing to another office(s).

Salient requirements of this plan include:

- Under AFI 32-1053, Installation Pest Management Coordinator (a.k.a. "Pest Control Supervisor") works in civil engineering and is responsible for installation's pest management program.
- Only those pesticides pre-authorized by the NGB/A7AN Pest Management Consultant may be applied on installation. The "ARMED FORCES PEST MANAGEMENT BOARD (AFPMB) STANDARD PESTICIDES LIST AVAILABLE TO DOD COMPONENTS AND AGENCIES" itemizes pesticides recommended for use at DoD installations; however, the Installation Pest Management Coordinator is responsible for nominating specific pesticides to the NGB/A7AN Pest Management Consultant for approval. Each pesticide nominated for use must be tied to a corresponding pest-specific control strategy.
- Authorized pesticides may only be applied on installation by appropriately certified (DoD or State) pesticide applicators; unless, the applicator is under supervision by a certified applicator under initial training within career field AFSC 3E4X3, or the applicator is a properly trained/instructed participant within the installation self-help program or within a USDA-prescribed quarantine program. Personnel may apply repellents to skin, clothing, or netting for personal protection without pesticide-applicator certification. All pesticide treatments must be in strict accordance with label directions. "The label is the law." Personnel who are in "Federal" status (e.g. AGR, Federal Technician, Title 5 Civil Service employee, or Traditional Guardsman who is currently on UTA/RUTA) may apply pesticides on installation under this IPM Plan if they are appropriately DoD or State certified. However, State employees and Traditional Guardsmen (not in "Federal" status) must be appropriately State - certified in order to apply pesticides under this plan, unless otherwise determined in consultation with NGB-JA (POC: Mr. Randy Chambers, Attorney-Advisor, DSN: 327-2729). This means that DoD pesticide applicator certification generally does not cover personnel who are not in "Federal" status.
- Reporting must be done according to Section 8.5 of this IPM Plan or EESOH, State or DoD findings could result.

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2.0 Background

2.1 Purpose

The purpose of this IPM Plan is to meet DoD policy requirements pursuant to DoD Directive 4715.1, Environment, Safety, and Occupational Health (ESOH), DoD Instruction 4150.07, DoD Integrated Pest Management Program (17 May 2007 Draft Version), and Section 136 of Title 7, U.S. Code; including responsibility of installations to:

- Establish and maintain safe, effective, and environmentally sound IPM programs to prevent or control pests and disease vectors that may adversely impact readiness or military operations by affecting the health of personnel or damaging structures, materiel, or property.
- Ensure that DoD pest management programs achieve, maintain, and monitor compliance with all applicable Executive Orders and applicable federal, state, and local statutory and regulatory requirements.
- Incorporate sustainable IPM philosophy, strategies, and techniques in all aspects of DoD and Component vector control and pest management planning, training, and operations, including installation pest management plans and other written guidance to reduce pesticide risk and prevent pollution.

2.2 Plan Maintenance

Reviews of the Integrated Pest Management Plan and any resulting amendments or changes to the plan will be recorded and kept on file as part of the plan by Civil Engineering. This plan will be reviewed and updated annually by the installation and the installation shall plan the funding for the initial and 5-year revisions to the plan. The NGB/A7AN Pest Management Consultant shall review the IPM programs on-site every 3 years either in person or through an on-site external environmental compliance review and the NGB/A7AN Pest Management Consultant will annually review and technically approve this IPM plan. This plan should be reviewed sooner if a major revision is proposed.

The IPM Plan is subject to change:

- If any applicable laws, regulations, or requirements are altered;
- When any changes occur that increase potential health or environmental impacts from the management of pesticides; or
- At the request of the NGB/A7AN Pest Management Consultant.

Components of the IPM Plan should be reviewed and updated as needed to ensure that all information is as current as possible. Any amendments to the IPM Plan shall be implemented as soon as possible, but no later than 6 months after changes are made (unless legal requirements compel implementation sooner).

2.3 Integrated Pest Management Plan Objectives

The objectives of this Integrated Pest Management Plan (IPM Plan) are to:

- Provide guidance for operating and maintaining an effective integrated pest management program at Selfridge ANGB.
- Ensure that pest management issues do not adversely impact military readiness and mission.
- Comply with pertinent laws and regulations.
- Meet or exceed DoD pest management measures of merit.
- Identify and implement strategies for managing specific pests on the installation.
- Implement judicious use of both non-chemical and chemical control techniques to achieve effective pest management that minimizes economic, health, and environmental risks. Emphasize the use of mechanical, biological, and cultural control techniques, using chemical techniques sparingly with caution. Use chemical controls only after careful consideration of alternative controls.
- Emphasize use of pest monitoring to determine if and when treatments are needed rather than by a predetermined schedule.
- Document coordination with other organizations and agencies.

2.4 Installation/GSU Description and Mission

2.4.1 Selfridge ANGB Description and Mission

Description

Selfridge ANGB is situated in Macomb County, Harrison Township, on the western shore of Lake St. Clair, two miles east of Mt. Clemens, Michigan, and approximately 25 miles northeast of Detroit. Major portions of Selfridge's 3,070.17 acres (Air Force owned) are near the mean elevation of Lake St. Clair, approximately 575 feet above mean sea level (MSL). The base has been in operation since 1922, and has been under the control of the MIANG since 1971. Selfridge ANGB encompasses 3,070.17 acres, of which 3,065.45 are owned/operated by the Air Force, and 5.17 are owned/operated by the Army.

History

In 1818, Macomb County became the third county in Michigan and was named after General Alexander Macomb who was a decorated veteran of the War of 1812. The late 18th century marked the beginnings of permanent European settlements in the area. Regional marshes provided prime opportunities for French fur traders. A group of missionaries called the Moravians established the first organized immigrant settlement along the Clinton River in 1784. Forced to move by the Chippewas, the Moravians relocated a few miles downstream in 1796. This new settlement was established by Christian Clemens and is now Mount Clemens, the county seat of Macomb County, Michigan.

Macomb County experienced large population growth during the early 1900s. Between 1920 and 1930, the county doubled in population from 38,103 to 77,146. Two occurrences stimulated this growth: first was the development of Selfridge Field in 1917, second was the urbanization movement northward from the city of Detroit. During the 1940s and 1950s, population spread from the central city to the suburbs. The largest change occurred between 1950 and 1970 when the county's population increased by more than 440,000.

Currently, Macomb County comprises 482 square miles and ranks third in population in the state; 1990 population statistics reported 717,400 people. The county is prosperous in business and industry and was recently given the State of Michigan's "Community of Economic Excellence" award. Although the county has a large population and areas with dense urban characteristics, more than half of the county's land is vacant or used for agriculture.

Selfridge ANGB is named after First Lt. Thomas E. Selfridge, the first military officer to fly an engine-driven aircraft and to be killed in powered flight. Lt. Selfridge was killed on September 17, 1908, when his aircraft crashed while flying with Orville Wright at Fort Meyer, Virginia. In 1917, the Federal government leased the 640-acre property that would later become Selfridge Field from Henry Joy, president of the Packard Motor Car Company. The site was originally known as the Joy Aviation Field. The government built a small flying field to train military pilots, changed the name, and opened Selfridge Field on July 1, 1917. Pilot training began only 2 weeks later on July 16, about 2 months after the start of World War I.

In 1921, the Federal government purchased the field from Mr. Joy. During the 1920s and 1930s, the base served as a Pursuit Base and the home of the renowned First Pursuits Group. Pilots were trained on early biplanes at Selfridge Field and in 1940, some pilots and mechanics stationed at Selfridge Field went to China to form part of the Flying Tigers. After World War II, Selfridge Field expanded to its current size.

In 1947, Selfridge Field changed its name to Selfridge Air Force Base. The base was subsequently transferred to the MIANG on July 1, 1971. Today, the primary purpose of the base is to provide flight and ground support training for the MIANG's 127th Wing (127 WG) and Reserve units from all branches of the Armed Forces, including the Army, Navy, Marines, and Coast Guard. The ANG is the host organization, and maintains authority over base operations.

Selfridge ANGB is the most diverse military installation in the United States dedicated to training ANG and reserve components of the military services. It is the only Reserve forces base to host active-duty units of all five armed services, as well as reserve components of the Army, Navy, Marines, and Air Force. Tenant organizations at Selfridge ANGB represent all five branches of the military.

The primary mission of the Selfridge ANGB is to train and support the host (127 WG) of the MIANG. The 127 WG of the MIANG is the host organization at Selfridge ANGB and includes various support flights and squadrons. The mission of the 127 WG is to provide trained and equipped airlift, fighter, and support resources for the community, state, and nation. As part of the Federal mission, the ANG provides operationally ready combat units and combat support units and qualified personnel for active duty in the Air Force to fulfill war contingency commitments. Under order of state authorities, the MIANG provides protection of life and property, and preserves peace, order, and public safety.

Climate

The climate of southeastern Michigan is classified as humid continental to semi-marine. It is dominated by continental polar air masses in the winter and tropical air masses in the summer. Intensely contrasting seasonal temperature changes, highly variable weather, and abundant precipitation throughout the year results from the interaction of these air masses along with cold fronts associated with east-moving cyclones. Selfridge ANGB averages 166 days between the last occurrence of freezing in late April to early May, and the first freeze, which usually occurs in mid-October. Monthly average temperatures range from 24 degrees Fahrenheit (F) in January, to 72 degrees F in July.

Annual precipitation at the base averages 29.34 inches; on an annual basis, evaporation is approximately 33.3 inches, resulting in a net annual precipitation of -3.96 inches. Greater than one-half of the total yearly precipitation occurs during the period from May through October, and the %-hour rainfall intensity is approximately 2.5 inches. Snowfall in this area averages 30 inches per year.

Geology

The State of Michigan, situated within the Central Lowland Physiographic Province of the Interior Plains, has a physiography which is the result of Pleistocene glaciation. The glaciated terrain of Macomb County, located in the Eastern Lake Section of the Central Lowland Province, is characterized by maturely dissected and glaciated knolls, lowlands, moraines, lakes, and lacustrine plains. Relief in this

area generally varies from moderate in areas of cuestas and moraines, to low in areas of lakes and lacuscine plains.

Selfridge ANGB is located in Macomb County on the northwestern shore of Lake St. Clair on glacial lake bed deposits of ancestral Lake St. Clair. The base is located on relatively flat & main with surface elevations ranging from 585 feet above MSL at the extreme northwestern corner of the base, to 575 feet above MSL at the present shoreline. Relief on-base is due to a combination of natural features influenced by glacial, lacustrine, and fluvial processes and man-made surface features. A large percentage of the base has been reclaimed from the low-lying areas surrounding the lake. The natural topography has been modified by excavation and fill operations during the construction of buildings, runways, taxiways, roads, and landfills.

Selfridge ANGB is located on the southeastern edge of the Michigan Basin, which includes all of the Lower Peninsula of Michigan, parts of several other states, and Canada. The Michigan Basin consists of sedimentary rocks ranging from older Cambrian rocks around the edges to younger Jurassic rocks in the middle of the basin. Beneath the Cambrian rocks are igneous, metamorphic, and sedimentary rocks of Precambrian Age. The unconsolidated overburden at Selfridge ANGB is underlain by the Antrim Shale of late Devonian Age. This formation ranges in thickness from 120 feet, where eroded, to 600 feet in portions of northern Michigan. The Antrim Shale is a dark gray to black and brown, hard, thin-bedded, brittle, carbonaceous shale. The Antrim Shale overlies the Traverse Group, which is of middle to late Devonian Age. The Traverse Group is divided into three units. These units, in descending order, are the Traverse Formation, Traverse Limestone, and Bell Shale. The Traverse Group as a whole ranges in thickness from approximately 100 to 800 feet.

Selfridge ANGB is underlain by unconsolidated materials of three depositional environments : lacustrine, glacial, and fluvial. Previous investigations show the lacustrine clays of ancestral Lake St. Clair, with some sand and gravel lenses, to be the most common and extensive soil within the uppermost 35 to 40 feet of unconsolidated sediments. The upper part of the clays consists of rusty to light brown, stiff, clay to silty clay with brown and reddish mottles, minor admixtures of sand, and some organic material. The lower part consists of olive to dark gray, plastic, clay to silty clay with gray mottling. Glacial till underlies the lacustrine clay unit throughout the base, generally occurring at a depth of 20 to 30 feet below ground surface (BGS). Glacial deposits consist of mixed layers of clays, silts, sands, and gravels. The discontinuous deposits found in the southwestern corner of the base appear to be fluvial deposits of the ancestral Clinton River. The fluvial sands consist of light brown to brown, fine-grained sand to silty sand. Shoreline deposits of ancestral Lake St. Clair are found in the northwestern comer of Selfridge ANGB. The sands are olive brown to brown, massive, medium- to fine-grained with some silt.

Surface Water and Groundwater

Surface water hydrology at Selfridge ANGB is largely controlled by its close proximity to Lake St. Clair and the Clinton River. Due to a lack of relief and natural drainage features on the base, an elaborate system of catch basins, stormwater sewers, and pump/lift stations was constructed to remove stormwater runoff. Man-made ditches in the base interior help to channel stormwater to collection points. All drainage waters from the northern half and eastern edge of the base are directed to Lake St. Clair via three stormwater pump stations (Facilities No. 340, No. 980, and No. 990). The remaining portion of the base is drained southward to the Clinton River via two stormwater pump stations (Facilities No. 507 and No. 508). Groundwater underlying the base discharges to surface water, where it is collected by the stormwater drainage system and is then discharged to either Lake St. Clair or the Clinton River by means of the five stormwater pump/lift stations.

Groundwater generally occurs within 15 feet BGS in the area around Selfridge ANGB and is found within clayey and silty unconsolidated sediments of glacial and lacustrine origin. Typically, yields from wells screened within these sediments are less than 10 gallons per minute (gpm). In some parts of the area, thin

lenses of sand can be found at depths greater than 25 feet BGS. Although yields from these coarser-grained layers may be sufficient for domestic water supplies, the irregular distribution of these layers makes them unreliable as a regionally significant groundwater resource. Groundwater also occurs in the underlying bedrock formations, the Antrim Shale and the Traverse Group, but with yields less than 10 gpm and groundwater which is highly mineralized. They also are not significant groundwater resources. The on-base water table generally occurs within lacustrine clays, with the exception of the southwestern and western edge of the base, where the water table occurs in silty to sandy sediments. Groundwater in the upper portions of the unconsolidated sediments generally flows toward one of two closed potentiometric lows, one located adjacent to Lake St. Clair or the other, located in the southwestern portion of the base. Local variations in the direction of groundwater flow exist and may be induced by backfilled excavations, permeability variations, local topographic depressions, and the presence of the stormwater sewer system.

Soils

The majority of soil at Selfridge ANGB has been disturbed by grading, cutting, and filling. As a result, the dominant soil type mapped by the U. S. Department of Agriculture Soil Conservation Service is Made Land. Most of the naturally-occurring soils at the base are of the Toledo-Pauling association, with soils of the Lanawee-Corunna-Lamson association on the southern portion of the base. The Toledo-Pauling association consists predominantly Corunna-Lamson association consists of clay with silty clay loam. The Lenawee association consists of moderately coarse to medium soils. Both associations consist of nearly level, poorly drained soils (U. S. Department of Agriculture Soil Survey for Macomb County, 1971). The most significant property of the soils at the base affecting potential contaminant migration is their low permeabilities. Combined with the low relief at the base, the low permeability results in surficial ponding of precipitation because both infiltration and runoff are slow. Those conditions necessitated the construction of the extensive stormwater sewer system. Low permeabilities also mean migration via groundwater is slow.

2.4.2 GSU Description

Not applicable.

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3.0 Responsibilities – Overview

3.1 Installation Commander

- Assume overall responsibility of the IPM program.
- Ensure that the installation meets DoD policy requirements as defined in DoD Directive 4715.1, "Environmental Security," Chapter 4.
- Provide implementation authority and necessary resources to carry out the objectives of the IPM program.
- Officially designate, within installation IPM Plan Implementing Instruction, an Integrated Pest Management Coordinator in Civil Engineering to implement the installation IPM program and to maintain the installation IPM Plan.
- Approve and sign the IPM Plan cover page and Implementing Instruction.
- Implement any formal agreements with federal or state regulatory agencies regarding pesticide use on the installation, such as for USDA/APHIS pest quarantine, in coordination with NGB/A7AN Pest Management Consultant.
- Installation commanders initiate formal review of suspected violations of the Federal Insecticide, Fungicide, and Rodenticide Act of 1976 (FIFRA), as amended. Suspected violations, such as pesticide misuse or recorded falsification, shall be reported through appropriate command channels to the office of the certifying official (i.e. NGB/A7AN). [per DoD 4150.07-P].

3.2 Base Civil Engineer (BCE)

- Ensure overall implementation and management of the IPM Plan
- Identify a qualified individual in CE, for written designation by the installation commander within the IPM Plan Implementing Instruction, to serve as installation IPM Coordinator for implementation of this plan.
- Ensure that the designated installation IPM Coordinator has the appropriate authority, educational background, and management skills to implement the IPM Plan.
- Plan and budget for the development and maintenance of the IPM Plan.
- Provide IPM status to the installation Environmental, Safety and Occupational Health Council (ESOHC).
- Ensure coordination of IPM program among all installation organizations.
- Ensures that all installation landscaping projects/contracts preferentially use native species and do not plant invasive species.
- Ensures that facility designs incorporate cost-effective pest-resistant features and pre-construction termiticide specifications, as appropriate.

- As applicable to the installation, ensure pesticide applicators maintain certification as specified in the Armed Forces Pest Management Board document, DoD Plan for Certification of Pesticide Applicators (DoD 4150.07-P).
- Ensure that qualified personnel develop and update the IPM Plan annually. Annually update the IPM plan, coordinate the review and approval of annually updated IPM plans, and plan the funding for initial and 5-year revisions of IPM plans as necessary.
- Ensure that the IPM Coordinator forwards the IPM Plan to the NGB/A7AN Pest Management Consultant for review, technical approval, and signature on the cover sheet.
- Provide review and approval of pesticide monitoring and application contracts consistent with the pest management strategies of this plan using only pesticides pre-approved by NGB/A7AN Pest Management Consultant.
- Review and approve use of Federal and State purchase cards for procurement of pest-control services and pesticides that are on the HAZMAT authorized-use list on a case-by-case basis. Pesticides use must strictly conform to pest-specific strategies described within this IPM Plan.

• 3.2.1 Installation Integrated Pest Management Coordinator

- • Ensure that all pest management operations performed on the installation, except those for personal
- relief, are recorded, and ensure that all records are properly maintained.
- • Ensure that data is reported to the Pest Management Consultant/Certifying Official, Civil Engineer
- Environmental Division (NGB/A7AN Pest Management Consultant) via the Virtual Environmental Management Office (https://www.eis.ang.af.mil/VEMO) or e-mail.
- • Monitor training requirements and certifications of all non-military pesticide applicators on
- installation.
- • Report monthly pesticide applications, using DD Form 1532, Pesticide Management Report, or an
- electronic equivalent (IPMIS forms 2, 6, and 9), to NGB/A7AN via e-mail or VEMO (https://www.eis.ang.af.mil/VEMO) or web based IPMIS.
- • Submit annually to the NGB/A7AN , via e-mail or VEMO, request for renewed approval of
- installation's Authorized Pesticide Use List, as well as any additionally required pesticides.
- • Review and implement requirements defined in "Air Force Self-Help Pest Management Program for
- Military Housing (MH) Occupants and Building Managers."
- Ensure that personnel participating in installation pest management self-help program are provided
- with written instructions and appropriate precautions, beyond those on pesticide labels, to ensure
- proper pesticide application and safety. Maintain current documentation of participant
- acknowledgment of self-help program instructions if program exists.
- • Formally coordinate appropriate portions of the IPM Plan with the installation Environmental
- Manager, Bioenvironmental Engineer, Fire Department, Public Health Officer, Safety Officer, Public
- Affairs Officer, Hazmat Pharmacy Manager, Building Managers, and Aircraft Maintenance
- personnel.
- • Provide Quality Assurance Evaluator (QAE) oversight of pesticide monitoring and application
- contractors if the installation does not have a separately designated PMQAE.
- • Ensure that all State or DoD certified pesticide applicators, and PMQAE personnel, maintain required
- training and certificates, as appropriate. All DoD personnel who apply or supervise the application of
- pesticides shall be trained and certified within 2 years of employment in accordance with DoD
- 4150.07-P.

- Provide pest management education and information to installation-level personnel through building managers.
- Provide monitoring and coordination with base organizations to identify new and recurring pests.
- Provide consultation to the BCE on requests to use IMPAC cards to purchase pesticides.
- Provide notification to the Public Health (PH) Officer of pesticide applications. Notify and coordinate with base organizations, including building managers of pesticide applications; ensure that areas treated with pesticides are properly posted.
- Ensure that the appropriate individuals sign the cover sheet of the IPM Plan.
- Forward the IPM Plan to the NGB/A7AN Pest Management Consultant for review, technical approval, and signature on the cover sheet, after review and signature by base departments including installation IPM Coordinator and BCE. After signature obtained from NGB/A7AN Pest Management Consultant, installation IPM Coordinator forwards plan to mission support commander, wing commander, and installation commander for their signature(s). IPM Plan must be updated and resigned every five years.
- Institute procedures to prevent terrorists from acquiring DoD pesticide dispersal equipment or pesticides, notify the FBI of any suspicious theft of pest control equipment, and ensure that the identity of personnel and pesticide formulations provided by contractors is known and approved by trained pest management QAEs or DoD certified pesticide applicators.
- The responsibilities below are for the Installation Integrated Pest Management Coordinator but they may be delegated to aircraft maintenance personnel for quarantine operations:
- Implement the U.S. Department of Agriculture (USDA) Plant Protection Program (ex. Japanese
- Beetle Quarantine Program).
- Provide recordkeeping and reporting to BCE and USDA.

3.2.2 Pest Management Quality Assurance Evaluator

Provide PMQAE oversight of pest monitoring and pesticide application contractors.

Maintain required PMQAE certification, or DoD pesticide applicator certification, through DoD training at least every three years.

Ensure pre-approval, from NGB/A7AN Pest Management Consultant, of all contract statements of work for installation pest control services.

Ensure that contract statements of work specify only those pesticides that have been pre-approved by NGB/A7AN Pest Management Consultant within installation IPM Plan.

3.2.3 Environmental Management

- Ensure that installation IPM programs are managed to minimize the amount of pesticides that become hazardous wastes.

- Ensure that the IPM Plan identifies areas within the installation that contain threatened or endangered species (TES) or associated habitat and that personnel using pesticides on the installation know the potential impact that pesticide applications could have on TES. The Environmental Manager is responsible, in coordination with installation Natural Resources Manager (if applicable), to initiate consultation with regional USFWS office under Section 7 of the Endangered Species Act for any pest management actions potentially affecting TES. Any “formal” Section 7 consultations must include NGB/A7AN Natural Resources Program Manager.

- Provide review and approval of pesticide monitoring and application contracts.

- Provide environmental advisory support to the IPM Coordinator.
- Coordinate with installation IPM Coordinator to ensure IPM Plan and pest applications comply with all applicable environmental regulations and directives.
- Review Environmental, Safety, & Occupational Health Compliance Assessment and Management Program (ESOHCAMP) protocols with installation Pest Management Coordinator to ensure requirements are being met.

3.2.4 Public Health Officer

- Provide consultation on HAZCOM training and technical matters to supervisors when requested per AFI 90-821, paragraph 1.6.2.1.
- Determine the type, source, and prevalence of vectors, which affect health and efficiency of personnel.
- Recommend preventative and control measures for pests and monitor the effectiveness of installation pest management efforts.
- Conduct appropriate medical surveillance of pest management personnel. With the Occupational Health Working Group, determine the scope of occupational physicals and provide the Flight Medicine Office with a current roster for scheduling occupational physical exams, including baseline exams before pesticide exposure, for all applicable base personnel who apply pesticides.
- Conduct sanitary inspections of facilities to determine need for pesticide application.
- Ensure that pest management personnel receive initial and refresher cholinesterase testing when required.

3.2.5 Bioenvironmental Engineering

- Evaluate potential occupational exposures and provide recommended guidance/controls for 127th Wing pesticide applicators through annual routine assessments.
- Provide review of pesticide authorization requests.
- Ensure Pest management personnel are enrolled in the Respiratory Protection Program and are IAW AFI 48-137 and 29 CFR 1910.134
- Ensure that Pest Management participates with the Hazard Communication Program (HAZCOM), IAW AFI 90-821

3.2.6 Public Affairs Officer

- Provide coordination of public notices, if needed, of pesticide applications.
- Provide news releases, if needed, to off-site public agencies related to the installation IPM program.

3.2.7 Fire Department

- Maintain information of location of chemical storage sites, including pesticides.
- Provide periodic inspection of pesticide storage sites.

3.2.8 Hazmat Pharmacy

- Implement review process for chemical use authorizations, including pesticides.

- Purchase, issue, and track chemical usage, including self-help pesticide use.
- Ensure that all pesticides on HAZMAT authorized-use list are pre-approved in writing by NGB/A7AN Pest Management Consultant within this IPM Plan, updated as appropriate.

3.2.9 Installation Facility/Building Managers

- Manage the self-help program in their facilities, including training to building occupants.
- Initiate requests for chemical/pesticide authorizations through the Hazmat Pharmacy, in coordination with Installation IPM Coordinator.
- Conduct periodic inspections of their buildings and notify installation IPM Coordinator of potential pest issues.
- Review and implement requirements defined in "Air Force Self-Help Pest Management Program for Military Housing (MH) Occupants and Building Managers."

3.2.10 Safety Officer

- Provide support to ensure pesticide operations comply with OSHA and AFOSH standards.
- Provide review and approval of chemical/pesticide authorizations.
- Provide review and approval of pesticide monitoring and application contracts.

3.2.11 Geographically Separate Unit (GSU) QAE POC

- Not applicable

3.2.12 Unit Training Manager

- Support requirements for pest management training.
- Notifies NGB/A7AN Pest Management Consultant when ANG members complete initial training requirements (on-the-job training and correspondence training), in order to be issued initial certification.
- Coordinate with installation Pest Management Coordinator to ensure that certifications and re-certifications do not expire. Schedules re-training of installation personnel to keep certifications (pesticide applicator and PM QAE) current.

3.2.13 NGB/A7AN Pest Management Consultant

- Implement pest management policies and programs for the NGB installations.
- Reviews installation IPM programs on-site every three years; the substitution of environmental compliance on-site external reviews for on-site reviews by a pest management consultant is permitted to meet DoD program requirements.
- Annually reviews and technically approves installation IPM plans, including the installation's pesticide-use proposal for the upcoming year.
- Approve 5-year revisions of installation IPM Plans.
- Certify ANG pest management personnel, when DoD certification requirements are met.

3.2.14 Tenants

All tenant unit of the 127th Wing shall follow this plan and submit a signed Tenant Unit Pesticide Management Conformance Memos as shown in the example included in annex 10 of this plan or develop their own plan which must be approved by the 127th Environmental Management Office, 127th Wing Pest Management Coordinator, and the A7 Pest Management Program Manager.

4.0 Integrated Pest Management

4.1 Legal Mandate

There are many sources of information to obtain regulations for the management of pesticides. Many government personnel have access to DENIX, where ESOHCAMP checklists are available for Federal, State, and ANG regulatory and procedural requirements.

4.1.1 Federal Legislation

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). This act, as last amended in December 1991, 7 U.S. Code (USC) 136-136y, deals with the sale, distribution, and use of pesticides. FIFRA provides the EPA with the authority to oversee, among other things, the registration, distribution, sale and use of pesticides. The Act applies to all types of pesticides, including insecticides, herbicides, fungicides, rodenticides, and antimicrobials. Civil penalties for any commercial applicator who violates any provision of this regulation may be assessed not more than $5,000 for each offense, and any private applicator may be assessed a civil penalty of not more than $1,000 for each offense. Criminal penalties for any commercial applicator who knowingly violates any provision of this act shall be fined not more than $25,000 or imprisoned for not more than 1 year, or both. Criminal penalties for any private applicator who knowingly violates any provision of this act shall be guilty of a misdemeanor and shall on conviction be fined not more than $1,000, or imprisoned for not more than 30 days, or both.

The full text of the *Federal Insecticide, Fungicide, and Rodenticide Act* (FIFRA) can be found at the following:

http://www.epa.gov/region5/defs/html/fifra.htm

The Hazardous Materials Transportation Act of 1975. This act, as last amended in November 1990, 49 USC 1801-1819, et al., is the federal legislation that governs the transportation of hazardous materials, including pesticides, in the nation. The policy of Congress is to improve the regulatory and enforcement authority of the Secretary of Transportation to protect the nation adequately against the risks to life and property that are inherent in the transportation of hazardous materials in commerce (49 USC 1801). Any person that knowingly violates this regulation is liable to the U.S. Government for a civil penalty of at least $250 but not more than $25,000 for each violation.

The US Department of Transportation hazardous materials regulations can be found at the following:

http://www.osha.gov/SLTC/trucking_industry/transportinghazardousmaterials.html

The Endangered Species Act (ESA) of 1973. The purpose of this act, (16 USC 1531-1547, et al., last amended in October, 1988), is to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions for protection of endangered species (16 USC 1531(b)). Under ESA, the policy of Congress is that all Federal departments and agencies must seek to conserve endangered species and threatened species and must use their authorities in furtherance of the purposes of this act. Further, Federal agencies must cooperate with state and local agencies to resolve water resource issues in concert with conservation of endangered species (16 USC 1531(c)). Any person who knowingly violates this regulation may be assessed a civil penalty by the Secretary of up to $25,000 for each

violation. Criminal violations for any person who knowingly violates any provision of this chapter, upon conviction, may be fined not more than $50,000 or imprisoned for not more than one year, or both.

The full text of *The Endangered Species Act (ESA) of 1973*) can be found at the following:

http://www.fws.gov/endangered/esa.html

The Occupational Safety and Health Act (OSHA). This act, last amended in November 1990, 29 USC 651-678, is a Federal statute that governs the issues related to occupational safety and health. The purpose and policy of this act are to assure every working man and woman in the nation safe and healthful working condition and to preserve our human resources by, among other things, providing for the development and publication of occupational safety and health standards, providing for an effective enforcement program, and providing for appropriate reporting procedures with respect to occupational safety and health which procedures will help achieve the objectives of this act and accurately describe the nature of the occupational safety and health (29 USC 651(b)(9)(10)(12)). Any employer who willfully or repeatedly violates the requirements this regulation may be assessed a civil penalty of $5,000 but not more than $70,000 for each violation. Any employer who has received a citation for a violation of the regulation may be assessed a civil penalty of up to $7,000 for each violation. Any employer who fails to correct a violation for which a citation has been issued may be assessed a civil penalty of not more than $7,000 for each day during which such failure or violation continues. Any employer who willfully violates any standard, and that violation caused death to any employee, shall, upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than six months, or by both; except that if the conviction is for a violation committed after a first conviction of such person, punishment shall be by a fine of not more than $20,000 or by imprisonment for nor more than one year, or both.

Access to all of the OSHA regulations can be found at the following:

http://www.osha.gov/comp-links.html

4.1.2 Department of Defense (DoD) Directives, Instructions and Guides

DoD Instruction 4150.07, DoD Pest Management Program. This DoD Instruction, dated of 29 May 2008, sets forth the policy, responsibilities, and procedures for pest management programs and provides the basis for development of base-specific pest management plans. This instruction establishes the DoD policy of maintaining safe, efficient, and environmentally sound integrated pest management programs to prevent or control pests that may adversely affect health or damage structures, material, or property. The DoD Plan for the Certification of Pesticide Applicators stipulates the certification of U.S. Air Force military and civilian pest managers. Requires pesticide application on DoD installations to be performed by appropriately certified personnel.

To access the DoD Instruction 4150.07, as proposed, click on the following hyperlink:
http://www.dod.gov/ResourceDODI\DODI 4150.07 DRAFT as of 17 May 2007.doc

- DoD 4150.07-P, Installation commanders shall initiate a formal review if violations of the Federal Insecticide, Fungicide, and Rodenticide Act of 1976 (FIFRA), as amended, are suspected. Any certified applicator who violates any provision of FIFRA, as amended, or the implementing regulations will have his or her certificate reviewed for possible suspension or revocation. Suspected violations, such as pesticide misuse or record falsification, shall be reported through appropriate command channels to the office of the certifying official (i.e. NGB/A7AN). The certifying official shall review the suspected violation and determine if further action is required. If no action is warranted, the installation commander shall be notified in writing that a review of the suspected violation has been conducted and that it has been determined that a violation of FIFRA has not occurred. If the certifying official determines that a violation may have occurred, he or she shall

initiate action to temporarily suspend the certificate of the applicator(s) and forward the matter to the lead agency, Under Secretary for Defense - Acquisition, Technology and Logistics (USD - AT&L) for review and final action. If the lead agency determines that a violation of FIFRA has occurred, that agency shall report information on the case and action taken by the Department of Defense to the EPA Administrator.

- DOD 4150.07-M outlines the DoD Pest Management Training and Certification Program. The Manual is not intended to conflict with, be used instead of, or supersede other DoD training Directives or Office of Personnel Management Qualification Standards. The purpose of the manual is to establish training goals, provide a uniform training process, training standards, and procedures to prepare DoD pest management personnel to meet DoD pest management policy objectives, as stated in DoD Instruction 4150.07 (reference (a)). The Manual supports DoD policy to maintain safe, efficient, and environmentally sound integrated pest management programs. It promotes prevention and control of pests that may adversely impact readiness or military operations by affecting the health of personnel or damaging structures, materiel, and/or property as established under DoD Instruction 4150.07, reference (a).

Technical Guides (TG). DoD Instruction 4150.07 is supplemented by TGs that provide specific criteria and procedures for the operation of a pest management program. The TGs are guidance only and non-regulatory. The following TGs are appropriate to have on hand. TG 1 "Armed Forces Pest Management Board Publications" provides a comprehensive list of all Armed Forces Pest Management Board publications and the following website provides a link to all of the Technical Guides available online: http://www.afpmb.org/pubs/tims/tims.htm

DoD Directive 4715.1E, Environment, Safety, and Occupational Health (ESOH). This directive, dated 19 March 2005, establishes policies on Environment, Safety, and Occupational Health (ESOH) to sustain and improve the DoD mission. The directive also continues to authorize the Armed Forces Pest Management Board (AFPMB) [Added July 2005].

Quarantine Regulations of the Armed Forces, Headquarters Departments of the Army, the Navy, and the Air Force, 24 January 1992. The regulations are intended to prevent the introduction and dissemination, domestically or elsewhere, of diseases of humans, plants and animals, prohibited or illegally taken wildlife, arthropod vectors and pests of health and agricultural importance. To access these regulations, click on the following web link:

http://www.army.mil/usapa/epubs/pdf/r40_12.pdf

4.1.3 U.S. Air Force Instructions (AFIs) and Policies

AFI 32-1053, Pest Management Program. This AFI, dated 1 April 1999, provides guidance for pest management at Air Force installations. The instruction provides guidance for pest management programs at Air Force installations and it implements Air Force Policy Directive (AFPD) 32-10, Installations and Facilities, 27 Mar 95.

Air Force Self-Help Pest Management Program. This USAF HQ AFCESA/CES memo, dated 13 September 2006, provides guidance on the AF self-help pest management program and gives military housing occupants and building managers the opportunity to obtain specific pest control materials and guidelines.

AFI 32-1074, Aerial Application of Pesticides. This AFI, dated 1 May 1998, provides guidance for in-service and contract aerial application of pesticides projects at Air Force installations. It also provides guidance for the use of Air Force resources on other Federal properties, non-Federal properties, and in foreign countries.

4.1.4 State/Territory Regulations

Pesticide laws and regulations for the State of Michigan can be viewed at:

http://www.michigan.gov/mda/0,1607,7-125-1569_16988_35291---,00.html

Although Federal agencies maintain sovereignty under section 136 of title 7, United States Code, the Department of Defense voluntarily complies with the substantive portions of State pesticide/pest management laws and regulations when such compliance does not adversely impact DoD missions. The AFPMB has signed certain memoranda of agreement with some states and territories. The legal applicability of State or territory pest management requirements to ANG installation property, personnel, and operations must be determined in consultation with NGB-JA (POC: Mr. Randy Chambers, Attorney-Advisor, DSN: 327-2729, e-mail: randy.chambers@ngb.af.mil.

4.1.5 Local Regulations

Pesticide laws and regulations for Macomb County can be at:

http://www.macombcountymi.gov/msuextension/index.html

The legal applicability of any local pest management requirements to ANG installation property, personnel, and operations must be determined in consultation with NGB-JA (POC: Mr. Randy Chambers, Attorney-Advisor, DSN: 327-2729, e-mail: randy.chambers@ngb.af.mil.

4.2 Integrated Pest Management Operations

The cornerstone of the IPM planning effort is development of pest management strategies for each pest and disease vector category present or anticipated at Selfridge ANGB. This IPM Plan adheres to the outline in DoD Instruction 4150.07, Enclosure 5, entitled "SUGGESTED FORMAT FOR IPM OUTLINES" for specific pest management strategies. These strategies will be followed to ensure that pests do not interfere with the military mission, damage real property, increase maintenance costs, or expose installation personnel to diseases.

It is DoD policy (DoDI 4715.1) to establish and maintain safe, effective, and environmentally sound integrated pest management (IPM) programs to prevent or control pests and disease vectors that may adversely impact readiness or military operations by affecting the health of personnel or damaging structures, materiel, or property.

IPM is a planned program, incorporating continuous monitoring, education, record-keeping, and communication to prevent pests and disease vectors from causing unacceptable damage to operations, people, property, materiel, or the environment. IPM uses targeted, sustainable (effective, economical, environmentally sound) methods including education, habitat modification, biological control, genetic control, cultural control, mechanical control, physical control, regulatory control, and where necessary, the judicious use of least-hazardous pesticides.

A pest management plan is a long-range, comprehensive installation planning and operational document that establishes the strategy and methods for conducting a safe, effective, and environmentally sound integrated pest management program. Written pest management plans are required as a means of establishing and implementing an installation pest management program.

IPM is the method of choice for DoD pest management and disease vector control. IPM is a sustainable approach to managing pests and controlling disease vectors by combining applicable pest management tools in a way that minimizes economic, health, and environmental risks. IPM uses regular or scheduled monitoring to determine if and when treatments are needed and employs physical, mechanical, cultural, biological, genetic, regulatory, chemical, and educational tactics to keep pest numbers low enough to prevent unacceptable damage or impacts. Treatments are not made according to a predetermined schedule; they are made only when and where monitoring has indicated that the pest will cause unacceptable economic, medical, or aesthetic damage. Treatments are chosen and timed to be most effective and least disruptive to natural controls of pests. Least hazardous, but effective, pesticides are used as a last resort.

DoD Instruction 4150.07, DoD Pest Management Program, also requires that pesticide use during deployed military operations be recorded and archived. Pesticide applicators must record applications of all pesticides, except skin and clothing repellents, performed during military operations, using DD Form 1532-1, Pest Management Maintenance Record, or a computer generated equivalent. If this is not possible, the same information will be recorded in the unit logbook, staff journal or in a similar expedient manner. Required information includes: 1) Date applied; 2) Area/Site/Building and country where the pesticide was used; 3) Target pest; 4) Pesticide name and EPA Registration Number (EPA Reg. No.); 5) Percent final concentration used; 6) Method of application; 7) Amount used; and 8) Who (name and rank) applied the pesticide. Different rules concerning the application of pesticides may apply in areas outside the jurisdiction of the Environmental Protection Agency (EPA). Follow the Final Governing Standards (FGSs) for installations in each host country. These standards, which include pesticide applications, were developed by comparing an overseas environmental baseline (based on U.S. laws and regulations) with the host nation's standards. For countries without FGSs, or for operations outside a military installation, you should adhere to EPA requirements or the Overseas Environmental Baseline Guidance Document (OEBGD), whichever is more restrictive. For NATO operations, STANAG 2048, Chemical Methods of Insect and Rodent Control, provides a list of pesticides approved for use by member nations. For further information on contingency operations see: AFPMB Technical Guide #24, at: http://www.afpmb.org/pubs/tims/TG24/TG24.htm, and the current DoD Contingency Pesticides list, at: http://www.afpmb.org/pubs/standardlists/dod%20contingency%20pesticides%20list.pdf.

Finally, the contingency pest management Community of Practice website can be found at:

https://wwwd.my.af.mil/afknprod/ASPs/docman/DOCMain.asp?Tab=0&FolderID=OO-EN-CE-23-10&Filter=OO-EN-CE-23

All pest and weed management activities at Selfridge ANGB are conducted by the staff in the Pest Management Shop. This includes applying materials labeled as self-help. Pest Management personnel are also responsible for the Bird/Wildlife Aircraft Strike Hazard (BASH) program.

Examples of IPM strategies at Selfridge ANGB include nonchemical methods such as the use of mouse and ant traps, and the use of a vacuum cleaner to remove spiders and other insects from inside offices and buildings. Other examples of mechanical and physical control methods are harborage elimination through caulking or filling voids, screening, and other barriers to prevent entry into buildings. Mowing to remove weeds, brush and other unwanted vegetation are also examples of mechanical and physical control methods used at Selfridge ANGB. Examples of cultural methods used at Selfridge ANGB include the elimination of food and water for pests through good sanitary practices.

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5.0 Priority of Pest Management Work

Installation-specific pests have been identified at Selfridge ANGB. Table 5.1 represents pests that are present at the installation[s]. For each of the applicable pest/disease vector categories where pests exist at the installations, IPM strategies are presented. Integrated pest management outlines can be found in #Annex_1 and in the Resource Toolbox, 5.0 Priority of Pest Management Work, IPM Strategies for Selfridge ANGB.

TABLE 5.1

Priority of Pest Management Work – Selfridge ANGB

Category	***Selfridge ANGB***	*Note and References*
1. Public Health-Related Pests	• *Mice* • *Various Cockroaches* • *Ticks* • *Mosquitoes* • *Bees, Hornets and Wasps* • *Spiders; venomous and non-venomous* • *Ants* • *Filth Flies* • *Fleas* • *Mites* • *Chiggers* • *Bed Bugs* • *Fabric Pests* • *Biting Flies*	*Monthly inspection of all buildings* *Monthly inspection of all buildings* *Possible, but no observations in recent years* *No treatments in recent years* *Monthly inspection of exterior of all buildings* *Treatment as needed* *Treatment as needed* *Possible issue* *Possible, but no observations* *Treatment as needed* *Treatment as needed* *Possible, but no observations* *Treatment as needed* *Treatment as needed*
2. Pests Found In and Around Buildings	• *Stored Product Pests*	*Treatment as needed*
3. Structural Pests	• *Wood-Decaying Fungi*	*Treatment as needed*

TABLE 5.1

Priority of Pest Management Work – Selfridge ANGB

Category	***Selfridge ANGB***	*Note and References*
4. Noxious or Invasive Plants and Animals	• *European starlings* • *House sparrows* • *Canada goose* • *Feral cats and dogs* • *Coyotes* • *White-tailed deer* • *Lawn and Landscaping Pests* • *Gypsy Moth* • *Snails*	*Depredation permit** *Taken to a local pound if found on Base* *Depredation permit** *Depredation permit** *The following link is a table of commonly used turfgrass fungicides and the diseases they control.*
5. Undesirable Vegetation	• *Vegetative Overgrowth* • *Broadleaf Weeds*	*The following link provides lists of state and federal noxious weeds:* http://plants.usda.gov/java/noxiousDriver The U.S. Environmental Protection Agency (USEPA) provides lawn and landscaping information at: http://www.epa.gov/oppfead1/Publications/lawncare.pdf
6. Quarantine and Regulated Pests	• *Japanese Beetles* • *Emerald Ash Borer Beetle*	*Tree removal in the winter by Roads and Grounds*
7. Vertebrate Pests	• *Birds* • *Mammalian Feral Animals and Wildlife Pests* • *Bats* • *Snakes*	*Possible, one occurrence in 12 years*

***** The depredation permits for Selfridge ANGB are kept in the Natural Resource Program Manager's office, and in the Pest management office.

6.0 Health and Safety

6.1 Medical Surveillance of Pest Management Personnel

The Selfridge ANGB installation IPM Coordinator is responsible for ensuring that contractors comply with the contract requirements as defined by the statement of work. All contractor pest management personnel need to be certified as pesticide applicators by the State of Michigan or the Department of Defense.
The installation IPM program will only employ those personnel for pesticide application who are appropriately protected by medical screening, surveillance, and PPE. Air Force Instruction 32-1053, Pest Management Program, dated 1 April 1999, DoD Instruction 6055.5, Medical Surveillance, and AFOSHSTD 48-137 define specific requirements for physical exams, testing, and surveillance. The Public Health Officer and the Bioenvironmental Engineer at Selfridge ANGB implements the following steps for workers involved with pesticide application. The steps are:

1. Schedule occupational health exam
2. Develop scope-of-work duties
3. Complete OSHA respiratory questionnaire
4. Perform physical exam
5. Conduct respiratory fit testing
6. Establish baseline cholinesterase
7. Conduct annual follow-up
8. Develop a written respiratory protection plan.

The following staff completes this process:

- Civil Engineering entomologists
- Aircraft Maintenance Personnel involved with the USDA Quarantine Program
- Outside Continental US (OCONUS) deployment personnel
- Others as identified by the IPM, the Bioenvironmental Engineer or Public Health.

Other procedures to protect IPM personnel and the environment from pesticide spills are included in the Selfridge ANGB Spill Prevention, Control and Countermeasure Plan (SPCC).

6.2 Hazard Communication

The hazard communication program provides the initial approach to reducing potential hazards to workers at Selfridge ANGB. At Selfridge ANGB, all IPM personnel receive HAZCOM training through the Public Health Officer or the Integrated Pest Management Coordinator, if applicable. A written worker HAZCOM program is in place that contains the following:

- Training to inform employees of issues such as Material Safety Data Sheets (MSDS) and hazardous materials labels and other warning signs
- A list of the hazardous chemicals known to be present
- Directions for requesting self-help pesticide products

- Methods used to inform employees of the hazards associated with non-routine tasks.
- Access to MSDSs for each hazardous chemical that employees may be exposed to while working.

Herbicides and pesticides are stored in a separate storage area in Building 837, the pest management shop. The HAZMAT Pharmacy stores items such as wasp spray and personal relief items such as insect repellants. MSDSs are kept in Building 837 and in the HAZMART Pharmacy.

Pesticides are mixed in Building 837, the pest management shop. Located outside and on the west side of the facility are two yellow control valves that extend out of the ground to approximately 5 feet. The eastern most valve, closest to the building, controls the sanitary outflow from the building to outside sanitary lines. The western most valve, furthest from the building, controls the storm water outflow from the cement mixing pad's storm drain containment to storm water outflow transportation lines. When mixing pesticides from within the building, the outside sanitary control valve must be secured in the closed position. The closed position is attained when the control valve handle is turned clockwise to the extent that no further movement of the handle is possible in that direction. When mixing pesticides outside, the outside cement mixing pads storm water outflow valve must be secured in the closed position. The closed position is attained when the control valve handle is turned clockwise to the extent that no further movement of the handle is possible in that direction. If no spills have occurred during the mixing process, the valve(s) must be reopened. Reopen valves by reversing the closing process. If a spill occurs during mixing operations the amount, the pesticides common name, chemical constituents of the pesticide and location shall be reported to the base Fire Department. Recovery efforts will include the reuse of the recovered product in pest control operations if possible. If reuse is not possible Environmental Management will be contacted for disposition.

Pesticides will never be transferred into a drinking container, such as a water bottle or milk jug. All pesticide products should have a legible EPA registered product label identifying the product name, registration number, active ingredients, application directions, health and safety information, and other pertinent information. Wet and dry products should be stored separately.

6.3 Personal Protective Equipment

All Personal Protective Equipment (PPE) and safety equipment is specific to each individual pesticide product used on base. Confirmation of appropriate PPE is coordinated through the Chemical/Hazardous Material Request Authorization process. The appropriate PPE is approved for each individual product requested through the Enterprise Environmental, Safety & Occupational Health Management Information System (EESOH-MIS). The correct PPE is reviewed and approved by the Bioenvironmental Engineering and Safety Office.

TABLE 6.1
Personal Protective Equipment

Building #	Building Name	PPE Description	Number	Unit of Measure	NSN
837	**Pest Management Shop**	**goggles, industrial, non-vented**	**3**	**EA**	**Local Purchase**
837	**Pest Management Shop**	**industrial face shield**	**3**	**EA**	**Local Purchase**

TABLE 6.1
Personal Protective Equipment

Building #	Building Name	PPE Description	Number	Unit of Measure	NSN
837	**Pest Management Shop**	**protector, hearing**	**3**	**EA**	**Local Purchase**
837	**Pest Management Shop**	**neoprene gloves**	**VARIES**	**EA**	**Local Purchase**
837	**Pest Management Shop**	**ear plugs**	**VARIES**	**EA**	**Local Purchase**
837	**Pest Management Shop**	**mask, surgical, disposable, paper (medical code, S9M)**	**VARIES**	**BX**	**Local Purchase**
837	**Pest Management Shop**	**coveralls, men's, long sleeve, olive drab**	**VARIES**	**EA**	**Local Purchase**
837	**Pest Management Shop**	**respirator**	**2**	**EA**	**Local Purchase**

6.4 Fire Protection

The base fire department maintains information of location of chemical storage sites, including pesticides stored on Selfridge ANGB. The fire department also conducts periodic inspection of the pesticide storage sites. The following web-site provides a summary of fire protection planning for pesticide fires: www.afpmb.org/pubs/tims/tim16.htm.

6.5 Pest Management Vehicles

TABLE 6.2
Pest Management Vehicles

Vehicle Real Property Number	Pest Management Vehicle Description
04B 1380	**4x4 pick up truck**
NA	**300-Gallon Demco Boom-Sprayer**

Vehicles dedicated for pesticide transport and application should be securely stored when not in use. Pest control vehicles should only be operated by authorized personnel. Park vehicles containing pesticides over a spill-containment impermeable area.

FIGURE 6.1. Pest Management Vehicle with 300-Gallon Boom-Sprayer

(*Vehicle is Parked on the Pest Management Shop's Containment Mixing Pad*)

6.6 Protection of the Public

Pesticide applications at Selfridge ANGB do not impact off-site locations or adjacent land. Should there be a potential for on-site pesticide applications to affect off-site locations, the installation IPM Coordinator will coordinate with the Public Affairs Officer to perform any notifications to local government agencies.

6.7 Pesticide Inventory

Only pesticides that have been pre-approved by the NGB/A7AN Pest Management Consultant may be used on ANG property. Non-authorized pesticides shall not be procured for use on Selfridge ANGB.

Minimizing the need for pesticide disposal begins with careful planning and identification of an installation's pesticide requirements. USERS SHOULD STOCK ONLY THOSE PESTICIDE QUANTITIES THEY WILL USE IN A REASONABLE PERIOD OF TIME, USUALLY THROUGH ONE PEST CONTROL SEASON. While pesticides used for indoor pests can be applied year round, most of these pesticides should not be stored for more than two years. The AFPMB strongly recommends that an installation's strategic and operational environmental plans incorporate and utilize Integrated Pest Management Techniques (IPMT) when establishing short-term (yearly) and long-term pesticide requirements.

Table 6.3 provides a summary of the pesticide product inventory.

Annex 6 [Annex 6] contains a table showing the projected annual pesticide requirements.

The Contingency Pesticide List at:
http://www.afpmb.org/pubs/standardlists/dod%20contingency%20pesticides%20list.pdf provides basic information on pesticides approved by the AFPMB Contingency Advisory Group for control of disease vectors and pests during field operations worldwide. Pesticides should be used only as a part of an integrated pest management program (IPM). The Contingency Pesticide List does not constitute procurement authority for pesticides listed therein.

Installation should periodically check any pesticides and associated materiel stored for deployment against current list posted on the Air Force Portal UTC Community of Practice. See:
https://www.my.af.mil/faf/FAF/fafHome.jsp

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Table 6.3 Pesticide Product Inventory

Trade Name	Description Name	EPA Registration #	Manufacturer	Unit of Issue	Approximate Quantity (count)	Active Ingredient	CAS #	% Concentration	Formulation	Maximum Quantity Authorized	National Stock Number/ AFPMB Approved	Authorization Expiration Date	Current State Registration (Y/N)
Acclaim	Herbicide	432-950	Bayer			Fenoxaprop-p-ethyl	71283-80-2	6.59%	Liquid		No		Y
Ace Bug Spray	Insecticide		Ace			Permethrin	5131-66-8	0%	Aerosol				Y
Aloft	Insecticide	66330-365	Arysta			Bifenthrin	82657-04-3	24.70%	Liquid		No		Y
Anderson Millemium	Fertilizer & Herbicide	228-343-9198	Anderson			2, 4-D	16752-77-5	1.11	Granular		No		Y
AquaPro	Herbicide	62719-324-67690	SePRO			Glyphosate	038641-94-0	53.80%	Liquid				Y
Arena	Insecticide	59639-152	Valent BioSciences			Clothianidin	210880-92-5	50%	Liquid		No		Y
Banol	Herbicide	432-942	Bayer			Propamcarb		67%	Liquid				Y
Barricade	Herbicide	100-834	Protection			Prodiamine	29091-21-2	65%	Liquid		No		Y
Bifenthrin	Herbicide	53883-165-73220	Quali-Pro			Bifenthrin	82657-04-3	7.90%	Liquid		No		Y
Black Night	Insecticide	901-82	Airosol,Inc			3-phenoxybenzyl	811-97-2	2.00%	Aerosol		Yes		Y
CLT 720	Fungicide	86064-2	Armor tech			Tetrachloroisophthalonitrile	1897-45-6	54.00%	Liquid		No		Y
Curalan	Fungicide	7969-224	BASF Corp			Vinclozolin	50471-44-8	50%	Liquid		No		Y
Delta Dust	Insecticide	432-772	Bayer			Deltamethrin	52918-63-5	1%	Solid				Y
DeltaGard G	Insecticide	432-836	AgoEvo			Deltamethrin	52918-63-5	0.1	Granular		No		Y
Demand CS	Insecticide	100-1066	Protection			cyhalothrin	91465-08-6	9.7	ated		01-428-6646/ Yes		Y
Drive 75 DF	Herbicide	7969-130	BASF Corp			Quincloroac	84087-01-4	75%	Solid		No		Y
Dylox 80	Insecticide	432-1289	Bayer			Trichlorfon	52-68-6	80%	Solid		No		Y
Emerald	Fungicide	7969-196	BASF Corp			Boscalid	188425-85-6	70%	Liquid		No		Y
Enclave	Herbicide	53883-309	Quali-Pro			Enclave		51%	Liquid				Y
Glyfos X-Tra	Herbicide	4787-23	Cheminova			Glyphosate	38641-94-0	41%	Liquid		Yes		Y
Glypro Plus	Herbicide	62719-322	Dow			Glyphosate	038641-94-0	41	EC		01-108-9578 / Yes		Y
Golden Malrin	Insecticide	2724-274	Wellmark International			Methomyl	16752-77-5	1.10%	Granular		Yes		Y
Habitat	Herbicide	241-426	BASF Corp			Imazapyr	81510-83-0	28.70%	Liquid				Y
Hot Shot	Insecticide	5481-348-8845	United Industries			Dichlorvos	62-73-7	18.60%	Solid		Yes		Y
IP 233	Fungicide	81959-4	Etigra			Iprodione	36734-19-7	23.30%	Liquid		No		Y
Iprodione Pro	Fungicide	66330-305-7969	BASF Corp			Iprodione	36734-19-7	23.30%	Liquid		No		Y
Kaput	Rodenticide	72500-7	Scimetrics			Warfarin	81-81-2	0.03%	Solid				Y
Lifeguard WSP	Herbicide	62719-445-10404	Lesco			Dithiopyr	36734-19-7	23%	Liquid		No		Y
Malathion	Insecticide	65-777	Prentiss, Inc			Malathion	64742-95-6	57%	Liquid		Yes		Y
Maxforce Ant Killer Gel	Insecticide	64248-21	Maxforce			Fipronil	120068-37-4	0.001	Gel		01-500-4579/ Yes		Y

Table 6.3 Pesticide Product Inventory

Trade Name	Description Name	EPA Registration #	Manufacturer	Unit of Issue	Approximate Quantity (count)	Active Ingredient	CAS #	% Concentration	Formulation	Maximum Quantity Authorized	National Stock Number/ AFPMB Approved	Authorization Expiration Date	Current State Registration (Y/N)
Maxforce FC Ant Bait Stations	Insecticide	64248-10	Maxforce			Fipronil	120068-37-3	0.01	Bait		01-298-1122/ Yes		Y
Maxforce Roach Bait Killer Gel	Insecticide	64248-14	Maxforce			Fipronil	120068-37-3	0.01	Gel		01-471-5650/ Yes		Y
Maxforce Roach Bait Stations	Insecticide	432-1257	Bayer			Fipronil .05%	120068-37-3	0.05	Bait		01-180-0167/Yes		Y
Merit .5	Insecticide	432-1328	Bayer			Imadacloprid	138261-41-3	0.50%	Granular		Yes		Y
Merit 75 WP	Insecticide	10404-932-1314	Bayer			Imidaclorprid	138261-4-3	75%	Solid		No		Y
Millennium Ultra	Herbicide	228-332	Nufarm			Diethylamine salt	7447-40-7	37.32%	Solid		No		Y
Mosquito Dunks	Larvacide	6218-47	Bayer			Bacillus Thuringiensis		10.31%	Solid		Yes		Y
Moth Balls	Insecticide	1475-74	Enoz			Napthaline	91-20-3	99.90%	Solid				Y
Oust XP	Herbicide	352-601	Dupont			Sulfometuron	74222-9702	75	WP		01-356-8891/ Yes		Y
Pennant magnum	Herbicide	100-950	Syngenta Crop Protection			S-metolachor	87392-12-9	83.70%	Liquid		No		Y
Permethrin	CLOTHING	63120-3	Lab			Permethrin	52645-53-1	10	Aerosol		01-278-1336/ Yes		Y
Polaris	Herbicide	228-534	Nufarm			Imazapyr	81510-83-0	27.70%	Liquid				Y
Pramitol 25E	Herbicide	66222-22-34704	Makhteshim-Agan of North America			Prometon	1610-18-0	25	EC		00-145-0013/ Yes		Y
Preen	Herbicide	961-280	Lebanon Corp			Trifluralin	1582-09-8	1.47%	Granular		No		Y
Pro Star	Herbicide	432-1223	Bayer			Flutolanil		70.00%	WP				Y
Propiconazole Pro	Fungicide	86064-4	United Turf			Propicanazole	60207-90-1	14.30%	Liquid		No		Y
Quicksilver	Herbicide	279-3265	FMC Corp			Carfentrazone-ethyl	128639-02-1	21.30%	Liquid		No		Y
Quintox Mouse Seed Bait	Rodenticide	12455-57	Bell Laboratories			Cholecalciferol 0.075%	67-97-0	0.075	Seed Bait		No		Y
Ranger Pro	Herbicide	524-517	Monsanto			Glyphosate	38641-94-0	41.00%	Liquid				Y
Razor	Herbicide	228-366	Riverdale			Glyphosate	38641-94-0	41	EC		No		Y
Razor Pro	Herbicide	228-366	Nufarm			Glyphosate	38641-94-0	41.00%	Liquid				Y
Renovate 3	Herbicide	62719-37-67690	SePRO			Triclopyr	057213-69-1	44.40%	Liquid		No		Y
Rodeo	Herbicide	62719-324	Dow			Glyphosate IPA	038641-94-0	53.80%	Liquid		No		Y
Round Up Pro	Herbicide	524-475	Monsanto			Glyphosate	38641-94-0	41%	Liquid		Yes		Y
Round up Quick pro	Herbicide	524-535	Monsanto			Glyphosate	114370-14-8	73.30%	Liquid		No		Y
Round Up RTU	Herbicide	71995-33	Monsanto			Glyyphosate	38641-94-0	2.00%	Liquid				Y
Round Up Ultra	Herbicide	524-475	Monsanto			Glyphosate	38641-94-0	41	EC		01-388-0142/Yes		Y
Round Up Ultra Max	Herbicide	524-512	Monsanto			Glyphosate	38641-94-0	50.2	EC		No		Y
Roundup RTU Weed and Grass Killer	Herbicide	71995-33	Monsanto			Glyphosate 2%, Pelargonic Acid 2%	38641-94-0 112-05-0	4	Ready to use, dilute mixture		01-377-7113/ Yes		Y
Spra-Kil 13	Herbicide	34913-15	SSI Maxim			Tebuthiuron	34014-18-1	1.00%	Solid				Y
Subdue WSP	Fungicide	100-795	Syngenta Crop Protection			Mefenoxam	70630-17-0	45%	Liquid		No		Y

Table 6.3 Pesticide Product Inventory

Trade Name	Description Name	EPA Registration #	Manufacturer	Unit of Issue	Approximate Quantity (count)	Active Ingredient	CAS #	% Concentration	Formulation	Maximum Quantity Authorized	National Stock Number/ AFPMB Approved	Authorization Expiration Date	Current State Registration (Y/N)
Talon G	Rodenticide	100-1057	Syngenta Crop Protection			Brodifacoum	56073-10-0	0.01%	Granular		Yes		Y
Talpirid	Rodenticide	12455-101	Bell Laboratories			Bromathalin	63333-35-7	0.03%	Liquid		No		Y
Talstar P	Insecticide	279-3206	FMC Corp			Bifenthrin	82657-04-3	7.90%	Liquid		Yes		Y
Tempo 20 WP	Insecticide	3125-377	Bayer			Cyfluthrin	68359-37-5	20%	WP		Yes		Y
Termidor	Termiteicide	7969-210	BASF Corp			Fipronil	120068-37-3	9.10%	Liquid		Yes		Y
TruPower 2	Herbicide	228-499	Nufarm			Dimethylamine Salt of 2, 4-D	2008-39-1	31.30%	Liquid		No		Y
VectoBac G	Insecticide	73049-10	Valent BioSciences			Bacillus Thuringiensis 2.8%	68038-71-1	2.8	Granular		01-377-7049/Yes		Y
Wasp Freeze	Insecticide	499-362	Whitmire			d-trans Allethrin .129% Phenothrin .120%	124-38-9 64742-48-8	0.249	Aerosol		00-459-2443/ Yes		Y
Weedestroy AM-40 Amine Salt	Herbicide	228-145	Nufarm			Dimethylamine Salt of 2, 4-D	16752-77-5	47.3	EC		00-664-7060/ No		Y
XL 2G Surflan	Herbicide	70506-45-AA-38167	Setre Chemical Company			benefin 1% oryzalin 1%	1861-40-1	2	Granular		No		Y
Zinc Phosphide	Rodenticide	56228-14	USDA			Zinc Phosphide	1314-84-7	2.00%	Solid				Y
Color Key	Use to depletion	Non-standard pesticides be disposed of	Installation use	Self-help									

Notes: Data maintained IAW SANGBI 23-11

Trade Name	Common name of product (example: RoundUp)
Description Name	Generalized identifier from EMIS database (example: Insecticide, house and garden)
EPA Registration #	Self explanatory (can be found on every EPA and state registered product)
Manufacturer	Self explanatory
Unit of Issue	Amount of individual units (example: gallons, pounds-lbs., ounces-oz.)
Approximate Quantity	Estimate of the actual quantity of product on hand
Active Ingredient	Chemical name (listed on product label)
% Concentration	Percent volume of active and inert ingredients listed on product label
Formulation	Form of product (example: powder-P, concentrated liquid-CL, emulsifiable concentrate-EC)
Maximum Quantity Authorized	This amount is to be determined by estimating the amount of pesticide needed and obtaining approval from the ANG PM Consultant

Table 6.3 Pesticide Product Inventory

Trade Name	Description Name	EPA Registration #	Manufacturer	Unit of Issue	Approximate Quantity (count)	Active Ingredient	CAS #	% Concentration	Formulation	Maximum Quantity Authorized	National Stock Number/ AFPMB Approved	Authorization Expiration Date	Current State Registration (Y/N)
National Stock Number	NSN identifier from EMIS database												
Authorization Expiration Date	Date authorization of product use expires												
Current State Registration (Y/N)	Yes or No that the product is currently state registered												

6.8 Pesticide Authorization Procedure

Table 6.4 provides a summary of the requirements and procedure to obtain base authorization for pesticide acquisition through the base Hazardous Material Pharmacy using the EESOH-MIS tracking database. In accordance with AFI 32-7086, Hazardous Materials Management, pesticide use must be tracked using the approved Hazardous Materials tracking database (EESOH-MIS). This includes government, contractor, and any use of pesticides by a tenant on the installation.

NGB/A7AN Pest Management Consultant approval will be integrated with the base authorization process. Section 8.10 contains a summary of the current steps to obtain approval from the NGB/A7AN Pest Management Consultant.

TABLE 6.4
Summary of EMIS Chemical/Hazardous Material Request Authorization Process for Pesticides

1. User	**Includes product, purpose, exposure potential, application location, PPE, waste and disposal. Pesticide is identified by EPA Reg. #.**
2. Requesting Unit Supervisor	**Certifies request.**
3. Hazardous Materials Pharmacy	**Ensures completeness, match MSDS, compile paperwork, constituents, manufacturer, etc.**
4. Bio-Environmental Engineering	**Evaluates constituent hazard and exposure potential.**
5. Safety	**Ensures compliance with OSHA and AFOSH standards.**
6. Fire Department	**Reviews for location of hazardous materials locations and storage.**
7. Environmental Manager	**Review for compliance with environmental regulations and potential impacts to base environmental aspects.**
8. Installation Pest Management Coordinator	**Determines if pesticide is listed by Armed Forces Pest Management Board. Confirms state registration of pesticide. Drafts revision to affected pest-specific control strategy in IPM Plan Annex 1, in coordination with installation ESOH Council; and, incorporates revised strategy into IPM Plan after approval by ANG Pest Management Consultant. Obtains pre-approval from NGB/A7AN Pest Management Consultant (see #Annex_2). Executes order through Hazmat Pharmacy**
9. NGB/A7AN Pest Management Consultant	**Review and approval.**
10. Hazardous Materials Pharmacy	**Order is executed. Pesticide is added to installation authorized-use list.**

6.9 Pesticide Storage Methods and Facilities

The following reference documents may be useful to assist in managing pesticides stored on your facility.

Pesticide Facility Design:

http://www.afpmb.org/pubs/tims/tim17.htm#site

ANGI 32-1023, Criteria and Standards for Air National Guard Construction:

Pesticides can be stored in warehouses, flammable-safe cabinets or in specially-designed storage facilities. At Selfridge ANGB, pesticides are stored in the pesticide storage room in Building 837, pesticide storage building at the Golf Course, and in the HAZMART Pharmacy in specially-designed storage facilities.

Figure 6.2 presents a photograph of the Pest Management Shop's chemical storage room. As pesticide use has diminished due to implementation of integrated pest management strategies, many of these structures have been used for non-pesticide storage as they provide an effective, regulatory-compliant storage system for other hazardous materials. These structures exhibit appropriate design features that provide built-in secondary containment, ventilation systems, security, weatherproofing, and appropriate signage for pesticides storage when in effect ("Danger Pesticides - Keep Out").

All faucets and spigots used by pest control operations must be appropriately fitted with properly operating backflow prevention devices.

The design of pesticide storage facilities shall comply with the standards described in AFPMB Technical Guide 17, "Military Handbook, Design of Pest Management Facilities." Click on the following link to access this Technical Guide: http://www.afpmb.org/pubs/tims/tim17.htm. Also, the following link will provide access to the entire list of Technical Guides: http://www.afpmb.org/pubs/tims/tims.htm.

FIGURE 6.2. PEST MANAGEMENT SHOP CHEMICAL STORAGE ROOM

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7.0 Environmental Considerations

7.1 Sensitive Areas

Selfridge ANGB is on the western shore of Lake St. Clair. A wetland delineation conducted in December 2007 indicated that several wetland types occur on the base. A total of to 377.5 acres of wetlands were identified on the base, and are derived from two systems: the Lacustrine System and the Palustrine System (ANG 2008).

Fisheries habitat is available in three constructed ponds adjacent to Lake St. Clair on the base. Two of the ponds are used to raise walleyes. The third pond has fish, but is not used for rearing walleyes. The Lake St. Clair Walleye Association (Association), which is administered by the MIDNR, is responsible for stocking the ponds with fish, and for maintaining the ponds (i.e., maintaining water levels and repairing leaks). Grounds maintenance personnel from Selfridge ANGB assist the Association in maintaining the ponds, primarily by providing equipment that the Association otherwise does not have access to for necessary repairs. The two walleye ponds are drained into Lake St. Clair following removal of the fish each year. The two walleye ponds are bordered by emergent wetland vegetation. The third pond has emergent and floating leaved vegetation throughout the pond (ANG 2008).

See Annex_5 for a map showing location the wetland areas on Selfridge ANGB. Pesticide applications in the vicinity of wetlands and open water bodies should strictly follow label instructions and permits where applicable must also be obtain when any standing water is present in these areas. Pesticide label directions must be closely followed to protect environmentally sensitive areas.

7.2 Endangered/Protected Species and Critical Habitats

The EPA identifies pesticides with potential to affect federally listed threatened and endangered species or their critical habitat. The EPA, Endangered Species Protection Program (ESPP), requires pesticide applicators to, when directed by the label, visit the EPA website or call the indicated toll free number to see if a local county Bulletin contains relevant information. Even if the information contained in the county Bulletin is not relevant to the intended use of the pesticide, applicators must still copy or download the county Bulletin. Bulletins will be good for six months, at which time applicators will need to revisit the website (or call the toll free number) to again obtain the county Bulletin. EPA has stated that pesticides bearing label directions only for use indoors, and where the applied product remains indoors, will not be subject to ESPP.

Applicators who ignore label language directing them to obtain a county Bulletin from the EPA website, or toll free number, run the risk of violating labeling directions. Applications that adversely impact a federally listed threatened or endangered species could constitute an Endangered Species Act violation, in addition to an enforceable label violation. Pesticide applicators are encouraged to visit the ESPP Web site at http://www.epa.gov/espp and familiarize themselves with the county Bulletins.

To comply with the ESPP regulations, follow these steps:

1. Review the label of every product you use to determine whether it contains endangered species prohibitions.

2. If the label does contain endangered species language, check the EPA website: http://www.epa.gov/espp/bulletins.htm , or call EPA's toll-free number: 1-800-447-3813, before using the product.

3. Review Endangered Species Protection Program U.S. State maps at: http://www.epa.gov/espp/usa-map.htm

4. Do not use the product in a manner inconsistent with the county Bulletin (which is an extension of the product's label).

5. Maintain a copy of the county Bulletin in your files.

6. Recheck the labels of products you use at least once every six months for the generic label statement about county Bulletins.

If proposed application of pesticide has potential to affect any threatened, endangered, or otherwise protected species, the base EM must contact the local USFWS office for an informal consultation under Section 7 of the Endangered Species Act (ESA) or for coordination under the Migratory Bird Treaty Act (MBTA) and other applicable regulation. If the USFWS requests a formal consultation, and preparation of a biological assessment, Unit must contact NGB/A7AN Natural Resources Manager for coordination.

All native migratory birds are protected under the Migratory Bird Treaty Act. Please review the following link to access the US Fish and Wildlife Service Migratory Species brochure:

There are currently no Federal or state-listed Endangered species on Selfridge. There are three State listed Threatened species on or in the waters adjacent to Selfridge. Those are the Short-Eared Owl, Peregrine Falcon, and Common Loon. Several federal T&E species or those currently under consideration for listing were identified as potential concerns by USFWS. The installation is coordinating with USFWS to address this potential concern. Appropriate permits are obtained and/or consultation is accomplished as needed. During Semi Annual INRMP working group meetings T&E species that could potentially be found at Selfridge ANGB are discussed.

7.3 Environmental Documentation

AFI 32-1074 outlines the requirements for the Environmental Impact Analysis Process (EIAP) should your installation consider aerial pesticide applications.

There are no National Environmental Policy Act (NEPA) requirements for the implementation of this IPM plan. Documentation for aerial application projects shall be in accordance with DoD, USAF, and ANG environmental requirements including compliance with the requirements of the NEPA. A designated pest management consultant at the major command level or higher, who is certified in the aerial application pest control category, and the NGB/A7AN Natural Resources Manager must pre-approve all proposed pest management projects that involve the aerial application of pesticides. Any pesticides to be used must be pre-approved by NGB/A7AN Pest Management Consultant specifically for use in aerial application. For routine pest management operations, FIFRA's substantive and procedural provisions for the protection of the environment satisfy the objectives of NEPA [Merrell v. Thomas, 608 F. Supp. 644 (D. Or. 1985), aff'd, 807 F.2d 776 (9th Cir. 1986), cert. denied, 108 S. Ct. 145, 98 L.Ed.2d 101 (1987).].

7.4 Pesticide Spills and Remediation

Should there be a spill of pesticides; the Selfridge ANGB SPCC Plan will be followed.

The base will avoid use of household disposal route for disposal of empty pesticides containers as this is not a household use; the "household waste exemption" is not applicable to any pesticides disposed.

7.5 Disposal Procedures and Methods

Residue rinsate from pesticide containers may be utilized as part of normal pesticide applications. All pesticide waste will be properly disposed of following established base procedures in coordination with installation environmental manager. Waste from pesticide operations must be carefully characterized. Care must be taken to distinguish between hazardous waste and acute hazardous waste because their residues and containers must be handled differently. Under the Resource Conservation and Recovery Act (RCRA), a container that has held an acute hazardous waste can be considered "empty" if it has been appropriately triple rinsed (see 40 CFR 261.7(b)(3)), but State regulations might be more restrictive. Empty containers should be made un-reusable by cutting a hole in the bottom of the container, unless contrary to label directions (ex. "do not puncture" for some aerosol cans). Empty containers (see 40 CFR 261.7) can generally be disposed of through the solid waste disposal path. Likewise, other equipment and supplies should be decontaminated, as appropriate, and either processed for reutilization or disposed. Any contaminated equipment or supplies must be evaluated for disposal as hazardous waste. Any de-registered or surplus pesticides will be inventoried through the base hazardous materials pharmacy and reutilized through normal base procedures; this is typically through the Defense Reutilization and Marketing Office (DRMO).

The following link presents Frequently Asked Questions regarding Household Hazardous Waste. http://www.epa.gov/region09/waste/solid/house.html

The following link provides access to the Federal Register dated Wednesday August 16, 2006 and provides the final rule on Pesticide Management and Disposal; Standards for Pesticides Containers and Containment.

For further guidance on disposal procedures and methods refer to AFPMB TG-21 'Pesticide Disposal Guide for Pest Control Shops. http://www.afpmb.org/pubs/tims/tims.htm].

7.6 Operations Involving Aerial Application

Aerial pesticide applications are not performed at this installation.

7.7 Golf Course Pest Management Operations

According to NGR 5-1, section 33-7. b. 3, FOMA funding will not be used to support Golf course and/or pro shop. The Golf course is required to follow this plan and submit a signed Tenant Unit Pesticide Management Conformance Memos as shown in the example included in annex 10 of this plan or develop their own plan which must be approved by the 127th Environmental Management Office, 127th Wing Pest Management Coordinator, and the A7 Pest Management Program Manager.

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8.0 Program Administration

8.1 Pest Management Operations

8.1.1 Pest Management Organization Structure

Figure 8.1 provides a summary of the organization structure and team members supporting the pest management program at Selfridge ANGB.

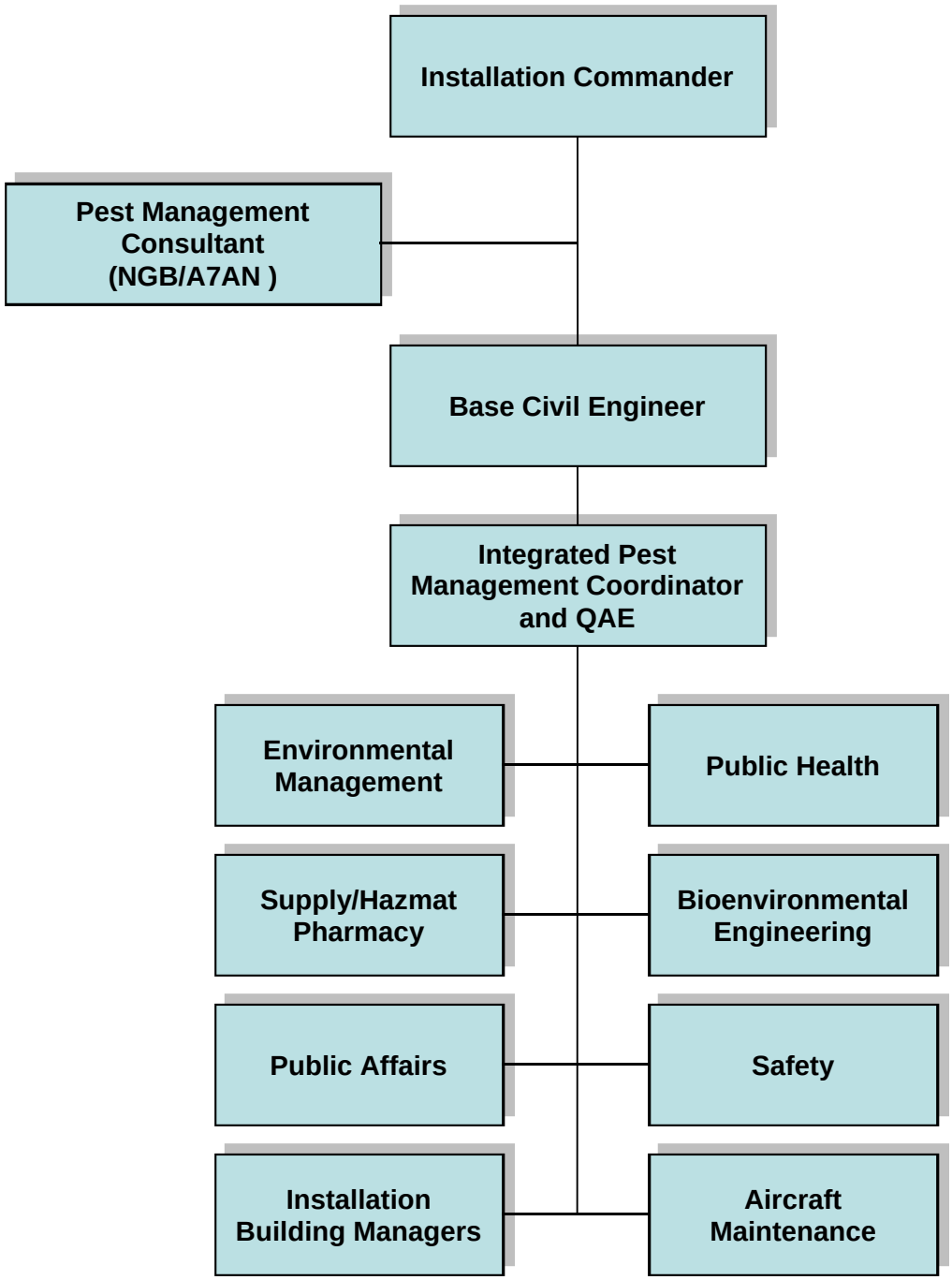
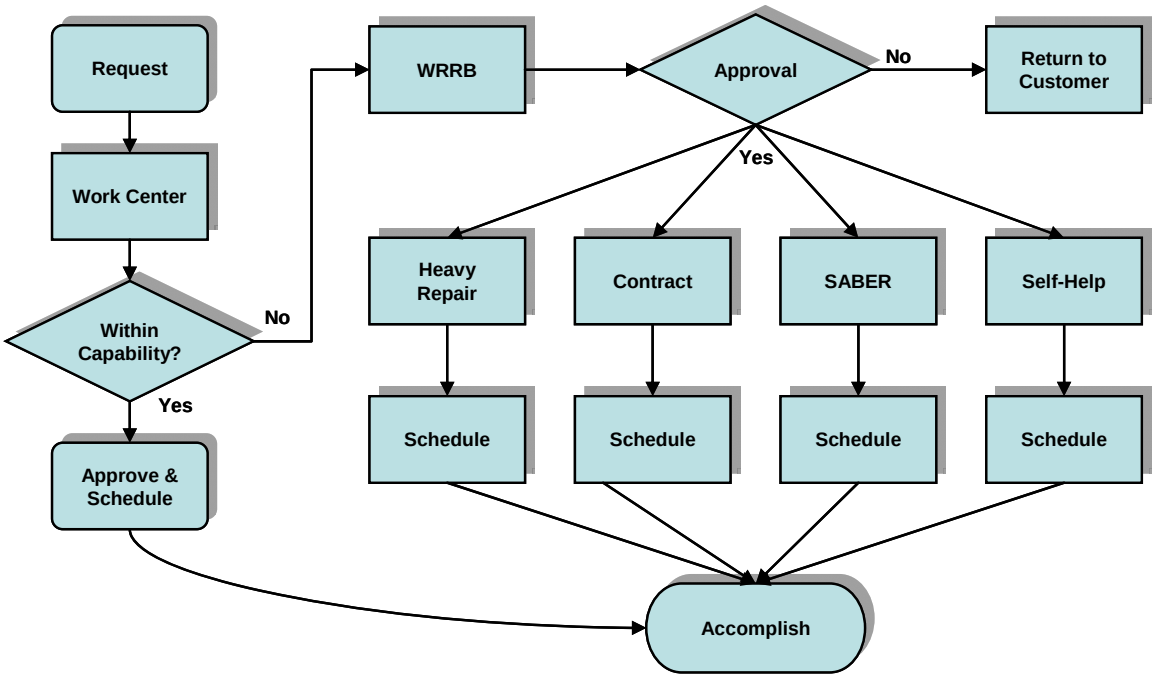


FIGURE 8.1
Pest Management Organization Structure

8.1.2 Work Order Process

Air Force Pamphlet 32-1004, Volume 3, dated 1 September 1998, describes the activities required to operate, maintain, repair, and construct real property using an in-house military and civilian work force and recurring and non-recurring service contracts. The pamphlet provides detailed guidance on the work (job) order process, including the review process, evaluation of work orders, management of work orders, and tracking requests. Figure 8.2 provides a summary flow of a typical work order program.



WRRB = Work Request Review Board
SABER = Simplified Acquisition of Base Engineering Requirements

FIGURE 8.2
Work Order Process

8.1.3 Funding

Air National Guard Instruction (ANGI) 32-1023, dated 2 October 1998, prescribes the procedures and reports necessary to implement Military Construction Projects (MCP), Minor Construction (MC) projects, and Sustainment, Restoration, and Modernization (SRM) projects needed to support the pest management program at Selfridge ANGB.

The Environmental, Safety, Occupational Health Compliance Assessment, and Management Program (ESOHCAMP) is a tool to identify potential opportunities to obtain funding to address pest management non-compliance findings. External assessments are conducted every 3 years and internal assessments are conducted every year. For Selfridge ANGB, the last external assessment occurred on 8 July 2008.

Currently there are no pending projects associated with pest management at Selfridge ANGB.

Normally pesticides are to be purchased through the installation hazardous materials pharmacy. However, installations are authorized to make local purchases, of pesticide on the installation's Authorized Pesticide Use List, using IMPAC cards where the amount being acquired is so small that it should not be purchased through the authorization and supply system.

The Automated Civil Engineering System (ACES) website https://aces.csd.disa.mil/ provides project programming documentation and associated training. Any funds expended for PMP materials through Facility Operations & Maintenance Activities (FOMA) must be approved by the BCE.

8.1.4 Self-Help and Poison Control

Self Help

The Air Force has published self-help program guidance document entitled "AIR FORCE SELF-HELP PEST MANAGEMENT PROGRAM FOR MILITARY HOUSING (MH) OCCUPANTS AND BUILDING MANAGERS." This document can be found on the following web-site and Resources Toolbox:

http://www.afcesa.af.mil/shared/media/document/AFD-070613-048.pdf

Under the "Search" feature type in "Pesticides" and hit the "Go" button; a link to the document will appear. The guidance document provides frequently asked questions and responses addressing the directive driving the program, facilities impacted, typical pests found, BCE assistance, available pesticides, and program responsibilities. The document also includes an attachment with an example "Acknowledgment of Understanding" to be signed by the facility occupant stating that the instruction has been read and understood.

Poison Control

Until recently, each of the 65 poison-control centers in the country had a different phone number. Now, a single toll-free number will provide help no matter where: 1-800-222-1222. Dialing the new hotline will connect to the nearest poison-control center. The number is not just for emergencies, it is available for information and professional advice on poison prevention, pesticide use, drug interactions, and related topics.

Other local poison control contacts include:

The Michigan Department of Community Health's Toxic Hotline:

1-800-MI-TOXIC (1-800-648-6942)

http://www.michigan.gov/documents/MDCH_Pesticide_webpage_9-05_138249_7.pdf

Michigan Department of Agriculture
Pesticide & Plant Pest Management Division
611 W. Ottawa Street, Fourth Floor
P.O. Box 30017
Lansing, MI 48909
(517) 373-1087

8.2 Contracts/Quality Assurance

Major pesticide applications are performed by staff at Selfridge ANGB. Table 8.1 provides a placeholder for a summary of future contracts at the installation.

TABLE 8.1
Summary of Selfridge ANGB Pesticide Contracts

Installation	Contract # or Service Provider	SOW Title	Period of Performance	Frequency	Locations

The DoD will use pest management contracts when cost-effective or when advantageous for non-routine, large-scale, or emergency services, especially when specialized equipment or expertise is needed. Contracts for installation pest management must be monitored by persons either certified as a State or DoD pesticide applicator, or as a Pest Management Quality Assurance Evaluator (PMQAE).

#Annex_9 provides a tool to conduct cost comparison analysis between using base personnel versus contractors for pest management services.

When supported by Annex # 9 economic analysis comparing base personnel versus contractors for pest management services, contracts are appended within Annex # 7; samples of contract SOW language for monitoring and pesticide application contract services are available through this link. To avoid conflict of interest issues, it is highly recommended that pest monitoring/surveillance services contractor be separate (by either base personnel or contractor) from pesticide application contractor. Currently, the U.S. Navy and the U.S. Army offer a 3-day course for quality assurance evaluators, environmental and natural resources personnel, contract administrators and writers, and other personnel who are involved with or provide oversight of pesticide operations or who inspect or will inspect contracts where pesticides are applied. This and other courses can be accessed on the web at:

http://www.afpmb.org/pubs/courses/courses.htm

https://www.cecos.navy.mil/coursedetail.cfm?courseid=86

8.3 Outleases – Agricultural and Housing

Agricultural and housing outleasing or outgranting is defined as the use of DoD lands under a lease, license, or permit to an agency, organization, or person for growing crops, grazing animals or leasing property. The following link to the Integrated Natural Resource Management Planning AFI provides guidance and requirements for outleasing and related pest management activities.

This installation does not lease lands.

8.4 Inter-Service Support Agreements

Table 8.2 provides a summary of the Inter-Service Support Agreements (ISSA) that address support provided by the Selfridge ANGB related to pest management. See the specific ISSAs for details regarding support provided.

TABLE 8.2
Summary of ISSAs Provided by Selfridge ANGB

Receiving Entity	Agreement #	Effective Date	Expiration Date	ISSA Reference to Pest Management
MI Army National Guard	**FB6221-02059-039**	**12 Jun 2006**	**Indefinite**	**Entomology services on an as needed basis to facilities1405, 1422, 1425, 1492, 1493, and 3492.**
MI Army National Guard-TARDEC	**FB6221-05266-0024**	**26 March 2007**	**Indefinite**	**Entomology services on an as needed basis and a yearly inspection to facilities 194, 833, 1424, and 350.**
US Coast Guard Air Station-Detroit	**FB6221-06125-0008**	**12 Feb 2007**	**Indefinite**	**Entomology services on an as needed basis to US Coast Guard owned facilities.**
Receiving Entity	Agreement #	Effective Date	Expiration Date	ISSA Reference to Pest Management
Second Naval Construction Brigade	**FB6221-97120-015**	**6 Nov 2000**	**Indefinite**	**Entomology services on an as needed basis to facilities 515, 516, 517, 518, 519, and 520.**
Civil Air Patrol Michigan Wing	**FB6221-06003-0004**	**12 Feb 2007**	**Indefinite**	**Entomology services on an as needed basis to**

				facilities 1506 and 1519.
DLA disposition Services	**FB6221-05222-0019**	**5 Feb 2007**	**Indefinite**	**Entomology services on an as needed basis to facilities 527, 538, 535, and 590.**
US Coast Guard Group, Detroit	**FB6221-06226-0037**	**14 Aug 2006**	**Indefinite**	**Entomology services on an as needed basis to facility 825.**
US Coast Guard Air Station-Detroit	**FB6221-02087-008**	**21 Jun 2003**	**Indefinite**	**Entomology services on an as needed basis to US Coast Guard owned facilities.**
Marine Wing Support Group 47	**FB6221-02155-0006**	**29 Jul 2003**	**Indefinite**	**Entomology services on an as needed basis to facilities 1434, 1457, 1430, and 1446.**

8.5 Reports and Records

8.5.1 Reports

Below are the primary environmental documentation requirements for the IPM program.

Monthly Pesticide Use Reporting Through Virtual Environmental Management Office (VEMO)

VEMO online reporting is structured as a series of questionnaires organized by topical area (Base Info, Cultural Resources, Natural Resources, Pest Management). The following ANG procedures must be followed for submitting monthly pesticide use reports through the VEMO Database.

- In accordance with DoDI 4150.07, DoD Pest Management Program, installation must record all pesticide applications using DD Form 1532 or an equivalent computer product such as the Integrated Pest Management System (IPMIS).
- The Air National Guard requires that copies of the pesticide use reports (1532 or equivalent) be submitted to the NGB/A7AN Pest Management Consultant on a monthly basis.
- Submission of monthly reports to ANG is required to be done using the VEMO Database, or e-mail to NGB/A7. The installation Pest Management Coordinator is responsible for submitting the reports or delegating the responsibility.

- If the individual responsible for uploading monthly reports does not have an active CNR account, they should either request a new user account using the link provided on the homepage, or contact the NGB/A7AN Pest Management Consultant.
- Within the CNR, the user should choose "Questions", then "Pest Management", then "Pesticide Use Reporting" questionnaire. They select the month and year being reported, and either manually enter pounds of active ingredient (PAI) if no electronic copies are available or upload the electronic version of the report. Installations may also choose to upload a pesticide inventory if available.
- If there are any questions about using the CNR, installation should consult the CNR User's Manual or contact the NGB/A7AN Pest Management Consultant.

Annual Reporting of Measures of Merit

DoD's strategic plan for environmental security, drafted in 1993, mandates a reduction in the environmental risk from pesticides used in DoD programs and provides three Measures of Merit for Pest Management.

Measure of Merit 1 – Installation Pest Management Plans. Through the end of FY 2010, 100% of DoD installations will have pest management plans prepared, reviewed, and updated annually by pest management professionals.

Measure of Merit 2 – Pesticide Use Reduction. Through the end of FY 2010, DoD will maintain the achieved reduction in annual pesticide use on DoD installations. This reduction is set at an average of the FY 2002 and 2003 usage, which is 389,000 pounds of active ingredient (45% of the original 1993 baseline – a 55% reduction). Pesticide applications by contractors shall be included.

Measure of Merit 3 – Installation Pesticide Applicator Certification. Through the end of FY 2010, 100% of DoD's installation pesticide applicators will be properly certified (either by DoD or the appropriate State). Direct-hire DoD employees have a maximum of 2 years to become certified after initial employment. Contract employees should have appropriate State certification when the contract is let.

The following ANG procedures must be adhered to for reporting on Measures of Merit (MoM) through the VEMO Database.

- In October of each year, the DoD, and subsequently the ANG, will issue a datacall for annual pest management MoM. These responses must be submitted through the VEMO Database.
- Installation Pest Management Coordinators or their designee should enter responses to the five MoM questions by choosing "Questions", then "Pest Management", then the "Measures of Merit" questionnaire.
- Installations need to submit this MoM information only once per year, between 1 October and 1 November.
- If there are any questions about MoM requirements or the VEMO, installations should contact the NGB/A7AN Pest Management Consultant.

Annual Review of Installation IPM Program and Technical Approval of Pesticide Use Proposal

The NGB/A7AN Pest Management Consultant reviews installation IPM programs on-site every three years and annually reviews and technically approves installation IPM plans, including the installation's pesticide use proposal for the upcoming year. During the annual installation review of this IPM Plan, submit the updated "Annual Pesticide Use Proposal" (see Annex_2) for approval by the NGB/A7AN Pest

Management Consultant. The substitution of environmental compliance on-site external reviews for on-site reviews by a pest management consultant is permitted to meet DoD program requirements.

Hazardous Materials Transactional Issue Reports

All pesticide use must be tracked using the AF-EMIS or EESOH-MIS hazardous materials tracking database, including in-house applications, contractor applications, and application of pesticides by a tenant on the installation. The AF-EMIS or EESOH-MIS will generate a transactional issue report for all installation authorized pesticides.

8.5.2 Records

The following records will be maintained to document pesticide applications at Selfridge ANGB. The Selfridge ANGB BCE will maintain and dispose of records IAW AFI 37-138, Information Management, Records Disposition – Procedures and Responsibilities, dated 31 March 1994, and Air Force Manual 37-139 Information Management – Records Disposition Schedule, dated 1 March 1996, Table 32-33.

The following records will be maintained by the Selfridge ANGB BCE:

- Pesticide-Use Reports - DD Form 1532-1 “Pest Management Maintenance Report”
- USDA Animal and Plant Health Inspection Service (APHIS) Emergency Action Notification PPQ Form 523
- DoD IPM/QAE Training Certification

8.6 Training and Certification

All pertinent certificates of training/competency can be found in Annex_4. The original hard copies of certificates can be found in the Pest Management Shop, Building 837.

8.6.1 Training

The following training items and actions may be necessary for an effective IPM program at Selfridge ANGB.

- Base IPM Coordinator/QAE Training. The U.S. Navy and U.S. Army offer a 3-day course for quality assurance evaluators, environmental and natural resources personnel, contract administrators and writers, and other personnel who are involved with or provide oversight of pesticide operations, or who inspect, or will inspect contracts where pesticides are applied. This and other courses can be accessed on the web at:

  http://www.afpmb.org/pubs/courses/courses.htm

  OR

  https://www.cecos.navy.mil/coursedetail.cfm?courseid=86

- USDA Quarantine Program Training (e.g., Japanese beetle program). The following web link and link to the Resource Toolbox provides access to “The Japanese Beetle Program for Airports”:

  http://www.aphis.usda.gov/ppq/manuals/domestic/pdf_files/Japanese_Beetle.pdf

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/jb_poster8-03.pdf

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/id_card_jb.pdf

- Termite Inspection Training to meet USDA annual, biannual, or triennial inspection requirement.
- Base Self-Help. See Section 8.1.4
- Implementation of the installations' HAZCOM program in accordance with OSHA requirements, including training on Material Safety Data Sheets (MSDSs). See Section 6.2.
- The DoD Career Field Education and Training Plan (CFETP) for IPM professionals can be found at:

  https;//www.afcesa.af.mil/ Training and Certification\Career Field Progression

- The AFCESA 3E4X3 webpage can found at:

  https://wwwmil.afcesa.af.mil/Directorate/CEO/Training/QTPs/ceof_3e4x3.htm

- A web link to the AFSC "Community of Practice" can be found at:

  https://afkm.wpafb.af.mil/ASPs/Users/login.asp?Filter=OO-EN-CE-46

- The US Army Medical Zoology Branch, Department of Preventive Health services provides training materials for 3 pest management courses (MD0141, MD0142, and MD0143) at:

  http://139.161.100.20/dphs/MedZoo/study.htm

- The POC information for the Air Force Career Field Manager for AFSC 3E4X3 is:

  MSgt Kevin "RED" Delaney, USAF
  HQ AFCESA/CEOF
  DSN 523-6381
  COMM 850-283-6381
  kevin.delaney@tyndall.af.mil.

8.6.2 DoD Certification

The following ANG Procedures address obtaining DoD certification for pesticide applicators. Note that:

- ANG members in Air Force Specialty Code (AFSC) 3E4X3 who do not hold a valid DoD Pesticide Applicator Certificate (DD 1826) are NOT AUTHORIZED to apply pesticides to DoD property without supervision of a certified applicator or a valid state certification in that specialty.
- ANG members in AFSC 3E4X3 who do not hold a valid DD 1826 are not eligible for deployment as a pesticide applicator.
- Traditional Guardsmen who are DoD pesticide applicator certified, but are not currently in "Federal" status (e.g. AGR, Federal Technician, or UTA/RUTA), must also be State certified in order to apply pesticides on installation [unless otherwise determined by NGB-JA].

Initial Certification

All ANG members assigned to AFSC 3E4X3, Pest Management, are required to attend Apprentice Training (Technical School) at Sheppard AFB, course number J3ABR3E453-00AA. Schedules are available through either the Armed Forces Pest Management Board http://www.afpmb.org or the Air Education and Training Center's Education and Training Course Announcements https://etca.randolph.af.mil/. The duration of the Technical School is 6 weeks. Upon successful completion of the Technical School, notification is sent from Sheppard AFB to the CE Unit Training Manager and the NGB/A7AN Pest Management Consultant. The NGB/A7AN Pest Management Consultant adds the member's information, including scores and completion date, to the ANG DoD Certified Applicator Database.

IAW the AFSC 3E4X3 Career Field Education and Training Plan (CFETP) and the DoD 4150.07-P DoD Plan for Certification of Pesticide Applicators, the member must complete two additional training requirements, one year of on-the-job training (OJT) and the correspondence Career Development Courses (CDCs). The Unit Training Manager is responsible for ensuring that the member completes the OJT and CDCs within two years of Technical School graduation.

Once the OJT and CDC training requirements are met, the Unit Training Manager must provide the completion dates to the NGB/A7AN Pest Management Consultant via e-mail or memorandum. Initial certification is issued for a period of up to three years. The NGB/A7AN Pest Management Consultant will then issue an initial DoD Pesticide Applicator Certificate (DD 1826) and wallet card (DD 1826-1). The certificate will be mailed to the unit's BCE for their signature and presentation to the member. The expiration date on the certificate will be three years from the date of completion of the final training requirement.

Recertification

Prior to the expiration date on the DD 1826, the member must attend a 1-week recertification course. Initial certification is issued for a period of up to three years. The member may take the Air Force recertification course, J3ARR3E453-002 or J3AWR3E453-01AA or J7ART3E453-00AA, or another military service's equivalent. The complete course list for all services is available through the Armed Forces Pest Management Board website. http://www.afpmb.org

If the member attends a recertification course through the Air Force, the scores will be sent by the instructors to NGB/A7AN Pest Management Consultant, and a new certificate, valid for three years, will be issued. If the member attends another service's course, either the member or the Unit Training Manager should ensure that notification of the scores and completion date are sent to the NGB/A7AN Pest Management Consultant so a new certificate can be issued.

Certification Extension

If a DoD-certified pesticide applicator is unable to complete recertification prior to the expiration date of their certificate, that individual, or the cognizant Unit Training Manager, may apply to the NGB/A7AN Pest Management Consultant/Certifying Official for a certification extension.

DoD-Certified applicators must attend a DoD pest management recertification training course and take and pass proctored written and performance-based category tests to maintain DoD certification. The certifying official may extend an individual's certification for cause (e.g., illness, family emergency, unscheduled military deployment). For civilian personnel, certification may be extended for a period of not more than six months. For military personnel, certification may be extended for a period of not more than twelve months. Only one extension may be approved for an individual during each certification period. Recertification training is conducted to meet the requirements of changing technology and to assure a continuing level of competency and ability to use pesticides safely and properly.

Members who are approved for a certification extension will be issued a new wallet card (DD 1826-1) with the revised expiration date.

Extension of the two-year training period prior to initial DoD-certification is not authorized.

Certification After Initial/Recertification Period has Lapsed

Members that 1) exceed the two-year training period for initial certification or 2) allow certification to expire and are not eligible for an extension, must attend a four-week Air Force certification course, J3AZR3E453-003 or J3AZR3E453-02AA, or another service's equivalent.

Points of Contact

For information on any courses listed above, members or Unit Training Managers should contact the Air Force Career Field Manager or the Air National Guard Readiness Division (NGB/A7CX). Point of contact information is available on the AFCESA website: https://wwwmil.afcesa.af.mil/Directorate/CEO/Training/QTPs/ceof_3e4x3.htm or on the AF Portal webpage for NGB/A7CX.

For questions about certification, members or Unit Training Managers should contact the NGB/A7AN Pest Management Consultant.

8.6.3 State Certification

To apply for certification from the State of Michigan, individuals must submit the completed application and $45 application fee. To receive certification, individuals must pass a minimum of two exams.

1. The general standard exam (CORE); and
2. A minimum of one category and/or subcategory exam in the applicant's area of pesticide application. Additional standards are required for individuals who use fumigant pesticides or apply pesticides by aircraft.

Training manuals for pesticide applicator certification and registration may be obtained from the County Cooperative Extension Service or by contacting the MSU Distribution Center at (517) 353-6740.

Pesticide Applicator and Registered Applicator exams are offered by the Michigan Department of Agriculture. Exam sites are located at several locations throughout the state. Click the following link to find the dates, times, and locations for all exam sessions: http://www.mi.gov/mda. Exams are given by appointment only. More information can be obtained by contacting the Michigan Department of Agriculture at:

Michigan Department of Agriculture
Pesticide and Plant Pest Management Division
PO Box 30017
Lansing, MI 48909
Contact Faye Burns
Phone: 517-373-9752
Email: burnsf@michigan.gov

The Pesticide and Plant Pest Management Division's web site provides more information and the applicable forms at http://www.michigan.gov/mda/0,1607,7-125-1569_16988---,00.html

8.7 Pesticide Security

All pesticides stored on Selfridge ANGB are within the secure fence line of the base. See TG 7, Installation Pesticide Security (August 2003) http://www.afpmb.org/pubs/tims/tims.htm. The Installation IPM Coordinator shall institute procedures to prevent terrorists from acquiring DoD pesticide dispersal equipment or pesticides, notify the FBI of any suspicious theft of pest control equipment, and ensure that the identity of personnel and pesticide formulations provided by contractors is known and approved by trained pest management QAEs or DoD certified pesticide applicators.

8.8 Emergency Disease Vector Surveillance and Control

Certain pests are known to transmit human diseases (ex. malaria, rabies, etc). Efficient communication and coordination with community public health and pest control officials can arrest epidemics and even prevent disease outbreak. The installation public health office should research, in advance, any local/state/regional plans and cooperative agreements for the control of disease vectors. The installation public health office should also have current contact information for key local officials with epidemiological responsibilities for vector control.

Michigan Department of Agriculture
26400 Lahser Road, Ste. 415
Southfield, MI 48033-7158
Phone: (248) 356-1701
Fax: (248) 356-0374
http://www.michigan.gov/emergingdiseases

Macomb County Health Department
Division of Health Promotion/Disease Control
43525 Elizabeth Road
Mt. Clemens, MI 48043
Phone: 586-469-5373

http://www.macombcountymi.gov/publichealth/

Additionally, the public health office should be familiar with ANG roles within established state and local disease response plans. Col. Mark Manor is the liaison for Selfridge ANGB for the Macomb County Health Department. If an issue arises in the county, the Health Department will contact Col Manor.

AFI 48-102 Medical Entomology Program, dated 1 July 2004, assigns responsibilities for prevention of vector-borne disease and control of medical pests using an integrated pest management approach.

The unclassified version of the USAF Guide to Operational Surveillance of Medically Important Vectors and Pests is available on the AFPMB's web page at:

http://www.afpmb.org/coweb/guidance_targets/vector_and_pestcontrol/Operational_Surveillance_Guide.pdf

8.9 Coordination – DoD, Other Federal, State, and Local

The Selfridge ANGB provides coordination with off-base organizations and agencies for pest-related activities. Several Memoranda of Understandings have been set up with various organizations and agencies.

- Memorandum of Understanding between the U.S. Environmental Protection Agency and the U.S. Department of Defense with Respect to Integrated Pest Management, dated 20 March 1996.
- Memorandum of Understanding between the U.S. Department of Defense and U.S. Department of Agriculture Animal and Plant Health Inspection Service on Animal Damage Control (ADC), dated 28 August 1990.
- Memorandum of Agreement between the Federal Aviation Administration, the U.S. Air Force, the U.S. Army, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture to Address Aircraft-Wildlife Strikes, many signatories and dates, the last of which is 29 July 2003.
- Protocol for Military Clearance, April 2004, To prevent the introduction or dissemination of exotic plant pests and animal disease agents into the United States, by establishing and implementing guidelines, regulations, and policies that mitigate risks associated with military movement of troops, vehicles, equipment, and vessels of conveyance.
- Coordination between the Selfridge ANGB and the USDA on the Japanese Beetle Quarantine Program based on a USDA APHIS Emergency Action Notification dated 19 July 2005, that requires the Selfridge ANGB "to apply remedial measures for an injurious agricultural pest" (Japanese beetle). The Japanese beetle is a highly destructive plant pest. The objective of the Japanese Beetle Quarantine is to protect the agriculture of the Western U.S. and prevent the artificial spread (spreading to a new area by other than natural means) of the Japanese beetle from the Eastern U.S. The Quarantine is specifically designed to reduce artificial spread of Japanese beetles by aircraft.
- Selfridge ANGB Bird Aircraft Strike Hazard (BASH) Plan, 2008.
- Selfridge ANGB Integrated Natural Resources Management Plan, 2005. Cooperative Agreement among Selfridge Air National Guard Base, Michigan Air National Guard, the U.S. Fish and Wildlife Service (Region 3), and the Michigan Department of Natural Resources for the Management and Conservation of Natural Resources.

8.10 Pesticide Approval Process

#Annex_6 provides a list of pesticides currently used at Selfridge ANGB.

The following steps need to be taken to ensure the pesticides used on base are properly approved.

1.) Access the approved list of State pesticides via the following link: http://state.ceris.purdue.edu/state.htm or http://www.kellysolutions.com

2.) Match current pesticides used on base with state list and determine if any of the pesticides are not authorized.

3.) Go to the AFPMB website: http://www.afpmb.org/. Under "Resources" select **DoD Standard Pesticides and Pest Control Equipment Lists**

The document "ARMED FORCES PEST MANAGEMENT BOARD (AFPMB) STANDARD PESTICIDES LIST AVAILABLE TO DOD COMPONENTS AND AGENCIES October 1, 2006" can either be opened as a PDF file or can be downloaded to your computer. Compare the list of pesticides used at the base with the Authorized Use List from Armed Forces Pest Management Board. Note that MSDSs and labels can be obtained from this document.

8.11 Sale and Distribution of Pesticides

Wherever the sale of pesticides is authorized on base (e.g., commissary or BX), a clearly-legible sign with the following statement must be prominently posted alongside the EPA-registered products: "Only those EPA-registered pesticides that have been authorized within the installation Integrated Pest Management (IPM) Plan may be used on installation." For questions, please contact BCE IPM Coordinator."

Pesticides that were available in the Selfridge ANGB BX include:

- Ortho Rose Pride Disease Control, EPA Registration Number: 239-2435
- Ortho Mosquito B Gone, EPA Registration Number: 1021-1258-239
- D-CON Rodenticide, EPA Registration Number: 3282-81
- Bug-getta Snail and Slug Bait, EPA Registration Number: 71096-7-239
- Ortho Indoor Insect Fogger, EPA Registration Number: 239-2626
- Safer Roach and Ant Powder, EPA Registration Number: 47692-3-42697
- Green Light Many Purpose Dust, EPA Registration Number: 869-237
- Grant's Ant and Spider Killer, EPA Registration Number: 28293-328-1663

- Ortho Ant B-Gone Dust, EPA Registration Number: 1021-1749-235
- Terro Mosquito Killer, EPA Registration Number: 1021-1667-149
- Ortho Max Lawn and Garden Insect Killer, EPA Registration Number: 239-2685
- Spectracide Insect Killer, EPA Registration Number: 9688-183-8845
- Terro Liquid Ant Bait, EPA Registration Number: 149-8
- Grant's Kills Ants, EPA Registration Number: 1663-15
- Ortho Ant B Gone, EPA Registration Number: 506-137-239
- Ortho Rose and Flower Insect Killer, EPA Registration Number: 239-2668.

Pesticides that were available from the HAZMART Pharmacy at Selfridge ANGB included Prescription Treatment Wasp-Freeze Wasp & Hornet Killer, EPA Registration Number: 499-362/ NSN: 00-459-2443.

8.12 IPM References and Links

Some links to key IPM websites follow.

DoD Pest Management Instruction (DODI) 4150.07

http://www.afpmb.org/pubs/dir_inst/dod4150.07-i.pdf

DoD Unified Facilities Criteria (UFC) 4-218-10N, Design: Pest Management Facilities

http://www.wbdg.org/ccb/DoD/UFC/ufc_4_218_10n.pdf

Armed Forces Pest Management Board (AFPMB) Publications

http://www.afpmb.org/

USAF Pest Management Program, Air Force Instruction (AFI) 32-1053

http://www.afpmb.org/military_entomology/usafento/files/afi32-1053.pdf

U.S.A.F. Air Combat Command (ACC) Pest Management Program Guidance

https://ce.acc.af.mil/ceo/ceoo/Pest_Management/ACC_Pest_Management_Home_Page.html
[Although not specific to ANG, this guidance is based on common DoD requirements.]

U.S. Army Environmental Center "Guidelines to Prepare Pest Management Plans for Army Installations and Activities," September 1996

http://aec.army.mil/usaec/pest/pestmgmtplans0996.pdf

[Although not specific to ANG, this guidance is based on common DoD requirements.]

The U.S. Environmental Protection Agency pesticide information website:

http://www.epa.gov/pesticides/

Air Force Civil Engineering Support Activity guidance "Air Force Self-Help Pest Management Program for Military Housing (MH) Occupants and Building Managers:"

http://www.afcesa.af.mil/shared/media/document/AFD-070613-048.pdf

U.S. Army Pest Management Model Plan

http://chppm-www.apgea.army.mil/ento/plan/model.htm

U.S. Army Center for Health Promotion and Preventative Medicine (CHPPM)

http://chppm-www.apgea.army.mil/

U.S. Army Environmental Center - Pesticide Applicator Certification Equivalents

http://aec.army.mil/usaec/pest/pest05.html

U.S. Environmental Protection Agency (EPA) Pesticide Program

http://www.epa.gov/pesticides/

U.S. E.P.A. Endangered Species Protection Program (Pesticide Use Limitations)

http://www.epa.gov/espp/usa-map.htm

U.S. E.P.A. Integrated Pest Management Program for Schools (IPM examples)

http://www.epa.gov/pesticides/ipm/schoolipm/

U.S. E.P.A. ECOTOX Database

http://www.epa.gov/ecotox

U.S. Department of Agriculture Japanese Beetle Control Program Manual

http://www.aphis.usda.gov/ppq/manuals/domestic/pdf_files/Japanese_Beetle.pdf
http://www.aphis.usda.gov/publications/plant_health/content/printable_version/jb_poster8-03.pdf
http://www.aphis.usda.gov/publications/plant_health/content/printable_version/id_card_jb.pdf

U.S.D.A. Plant Protection and Quarantine Program

http://www.aphis.usda.gov/plant_health/

National Plant Board website (includes identification of plant pest issues)

http://nationalplantboard.org/index.html

National Invasive Species Council

http://www.invasivespecies.gov/

Integrated Pest Management Information By States

http://www.ipmcenters.org/producers/homepages/state.html

National Pesticide Information Center

http://npic.orst.edu/index.html

Invasive Species Assessment Protocol (NatureServe)

http://www.natureserve.org/getData/plantData.jsp

Noxious Weeds in U.S. and Canada

http://invader.dbs.umt.edu/Noxious_Weeds/

U.S. Geological Survey West Nile Virus Mapping

http://westnilemaps.usgs.gov/

Annexes

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ANNEX 1

Integrated Pest Management Strategies

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ANNEX 2

Annual Pesticide Use Proposal

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At the beginning of each fiscal year, in conjunction with review of pest-specific management strategies, each installation shall propose a list of pesticides for approval by the NGB/A7AN Pest Management Consultant. The pesticides proposed are those intended for use on installation (by contractors or by base personnel) to control pests identified, or anticipated to occur, on installation during the upcoming fiscal year (see: DoD Instruction 4150.07 Section 5.4.11.). Pesticide use approval is submitted through the Air National Guard Virtual Environmental Management Office using the Pesticide Use Approval questionnaire shown in this Annex.

1) Review prior year pest-monitoring information and pest management strategies contained in installation integrated pest management plan. Determine whether any new pest management strategies are needed, or old strategies need to be updated or removed.

2) Identify pesticides suitable for the installation pest-specific strategies. The installation Pest Management Coordinator must preferentially nominate pesticides that are on the current AFPMB Standard Pesticides Available to DoD Components and All Federal Agencies list ,for updated list see: http://www.afpmb.org/standardlist.htm .

For installation self-help program, if any, identify pesticides to be nominated from current Air Force Self-Help Pest Management Program guidance, see:

http://www.afcesa.af.mil/ces/docs/Self-HelpSep06.pdf

The following sources of information are available on state pesticide registrations:

http://ppis.ceris.purdue.edu/npublic.htm

http://www.kellysolutions.com/

http://npic.orst.edu/state1.htm#map

ANNEX 3

Points of Contact

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USDA

http://www.aphis.usda.gov/plant_health/

Local USDA Point of Contact (POC):

Michigan Wildlife Services State Director, (517) 336-1928 ext. 22

http://www.aphis.usda.gov/ppq/manuals/domestic/pdf_files/Japanese_Beetle.pdf

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/jb_poster8-03.pdf

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/id_card_jb.pdf

Poison Control

Nationwide

1-800-222-1222

The Michigan Department of Community Health's Toxic Hotline:

1-800-MI-TOXIC (1-800-648-6942)

http://www.michigan.gov/documents/MDCH_Pesticide_webpage_9-05_138249_7.pdf

US Navy QAE Courses

http://www.afpmb.org/pubs/courses/courses.htm

https://www.cecos.navy.mil/coursedetail.cfm?courseid=86

Career Training

https://wwwmil.afcesa.af.mil/Directorate/CEO/Training/QTPs/PubFiles/cfetp3e4x3.pdf

https://wwwmil.afcesa.af.mil/Directorate/CEO/Training/QTPs/ceof_3e4x3.htm

Air Force Career Field Manager for AFSC 3E4X3:

MSgt Christopher Beach, USAF
HQ AFCESA/CEOF
DSN 523-6381
COMM 850-283-6381
christopher.beach@tyndall.af.mil.

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FAX: 301-836-7427
e-mail: melanie.frische.civ@mail.mil

University of California Integrated Pest Management

The following link provides a comprehensive list of links to sites developed by government agencies or educational institutions through the University of California. This link also includes web-links to IPM centers affiliated with land-grant universities and National USDA Regional IPM Centers.

http://www.ipm.ucdavis.edu/

National Pesticide Information Retrieval System (NPIRS)

The National Pesticide Information Retrieval System (NPIRS) is a collection of pesticide-related databases available by subscription. NPIRS is under the administration of the Center for Environmental and Regulatory Information Systems, CERIS, at Purdue University in West Lafayette, Indiana. Click on the "State" tab to search your state's pesticide registration data by clicking the state abbreviation in the map or by clicking the state name in the list.

http://state.ceris.purdue.edu/

Installation POCs

The following table can be used to document internal installation POCs.

SELFRIDGE ANGB INTERNAL POCS

Installation POC Name	Rank/Title	Office	DSN Telephone Number	Commercial Telephone Number
Tim Forys	**Pest Controller**	**127 CES/CEOP**	**273-6761**	**586-239-6761**
Chris Sanborn		**Pavements and Roads**	**273-5054**	**586-239-5054**
Ken Baker	**Natural Resource Program Manager**	**127 WG/CEV**	**273-5741**	**586-239-5741**
Moe Arif	**Environmental Manager**	**127 WG/CEV**	**273-6259**	**586-239-6259**
Colonel Mark Manor	**Lieutenant Col./ Public Health Officer**	**127 Medical Group**	**273-8523**	**586-239-8523**
TSgt Damon Todd	**Tech. Sergeant**	**HAZMART Pharmacy**	**273-6104**	**586-239-6104**
Penelope Carroll	**Public Affairs Officer**	**Public Affairs**	**273-5576**	**586-239-5576**
Lt. Col. Tom Sierakowski	**Base Civil Engineer**	**127 CES/CC**	**273-5631**	**586-239-5631**
TSgt Dean Klovski	**Bioenvironmental Engineer**	**127 Bio. Environmental**	**273-5540**	**586-239-5540**
Chris Ross	**Fire Chief**	**Fire Department**	**273-4103**	**586-239-4103**
Maj. William Rundell	**Safety Officer**	**127 WG/SEF**	**273-4489**	**586-239-4489**

ANNEX 4

Certificates of Training/Competency

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Installation Integrated Pest Management Coordinator is responsible for inserting copies, within this Annex, of all:

- Current pesticide applicator certificates (State or DoD) of every military or civilian certified installation pesticide applicator, and
- "Acknowledgements of Understanding" (to be renewed/re-signed annually) for every participant in installation self-help pest management program who is eligible to apply self-help pesticide at prescribed installation locations, (see the "Acknowledgment of Understanding" on page 7 of the following: http://www.afcesa.af.mil/ces/docs/Self-HelpSep06.pdf
- Current pesticide applicator State certificates for every contractor who applies pesticides on installation. (Note: the Installation IPM Coordinator must coordinate with installation contracting office to ensure that only appropriately State-certified contractor personnel apply pesticides on installation. Even if the State regulations allow for non-certified contract personnel to apply pesticides under supervision of a certified individual, DoD (see DODI 4150.07) requires that each pesticide applicator is individually currently certified within the appropriate category.),
- Documentation of training from USDA for installation personnel application of any prescribed pesticides under authorized quarantine procedures, and
- Current certificates of installation Pest Management Quality Assurance Evaluators (PMQAEs) who are qualified to provide quality assurance/control of installation pest management contract(s).

Summarize the information on training and certification of pesticide applicators and PMQAEs in the following tables:

INSTALLATION CERTIFIED CIVILIAN PESTICIDE APPLICATORS

Name	Rank	Certifying Authority (State/DoD)	Date of certification (mm/dd/yyyy)	Certificate expiration date (mm/dd/yyyy)	Certificate number	Categories in which certified
Tim Forys		**DoD**	**09/30/2013**	**09/30/2016**	**AF-212-02-0910**	**3,5,6,7,8**
Chris Ballor		**DoD**	**07/30/2013**	**07/31/2016**	**AF-876-10-0713**	**3,5,6,7,8**
James R. Blauvelt		**State of MI**	**2/9/2013**	**12/31/2016**	**C007000260**	**3A, 3B, 5, and 6**
Tim Forys		**State of MI**	**09/30/2013**	**12/31/2016**	**C007090414**	**3A, 3B,5, 6, 7A, 7B, 7D, 7F, 8**

INSTALLATION CERTIFIED MILITARY PESTICIDE APPLICATORS

Name	Job title	Certifying Authority (State/DoD)	Date of certification (mm/dd/yyyy)	Certificate expiration date (mm/dd/yyyy)	Certificate number	Categories in which certified

INSTALLATION SELF-HELP PARTICIPANTS

Name	Rank / Job title	Installation Work location (ex. BLDG #)	Date "Acknowledgement of Understanding" signed (update annually)	Authorized self-help pesticide / materiel [and target pest(s)]

CERTIFIED CONTRACTOR PESTICIDE APPLICATORS

Name of applicator	Company Name (and contract #)	Date of certification (mm/dd/yyyy)	Certificate expiration date (mm/dd/yyyy)	State Certificate number	Categories in which certified

INSTALLATION QUARANTINE PROGRAM PESTICIDE APPLICATORS

Name	Rank / Job title	Installation Work location (ex. BLDG #)	Date of USDA training / instruction [attach and update documentation annually]	Authorized USDA Quarantine pesticide / materiel [and target pest(s)]

INSTALLATION PEST MANAGEMENT QUALITY ASSURANCE EVALUATORS (PMQAES)

Name of PMQAE	Date of PMQAE certificate issuance (mm/dd/yyyy) [to be renewed every 3 yrs.]	Certifying Schoolhouse (USAF/Army/Navy)	Contract Nos. (and contractors) monitored [and target pest(s)]

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ANNEX 5

Installation Map(s)

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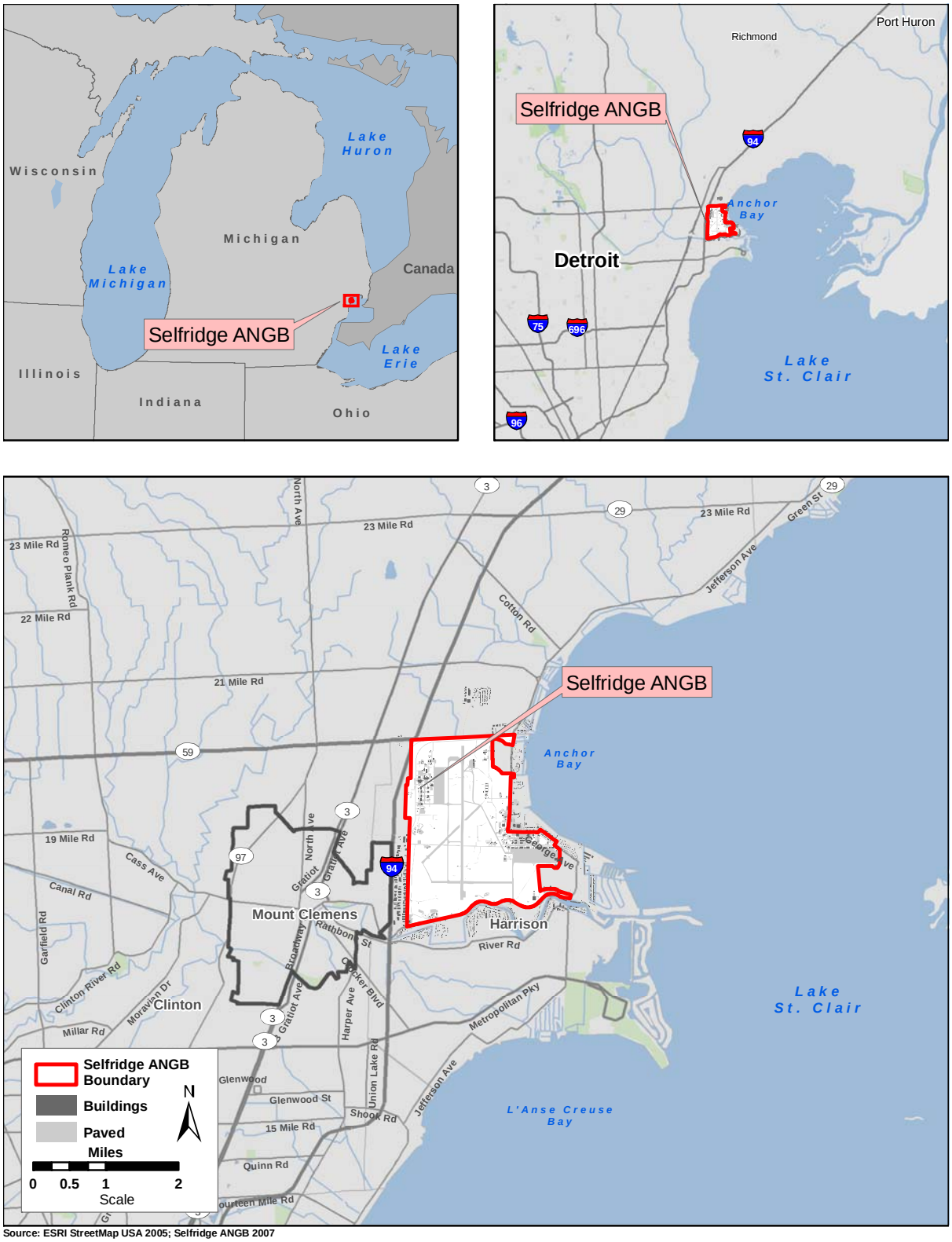
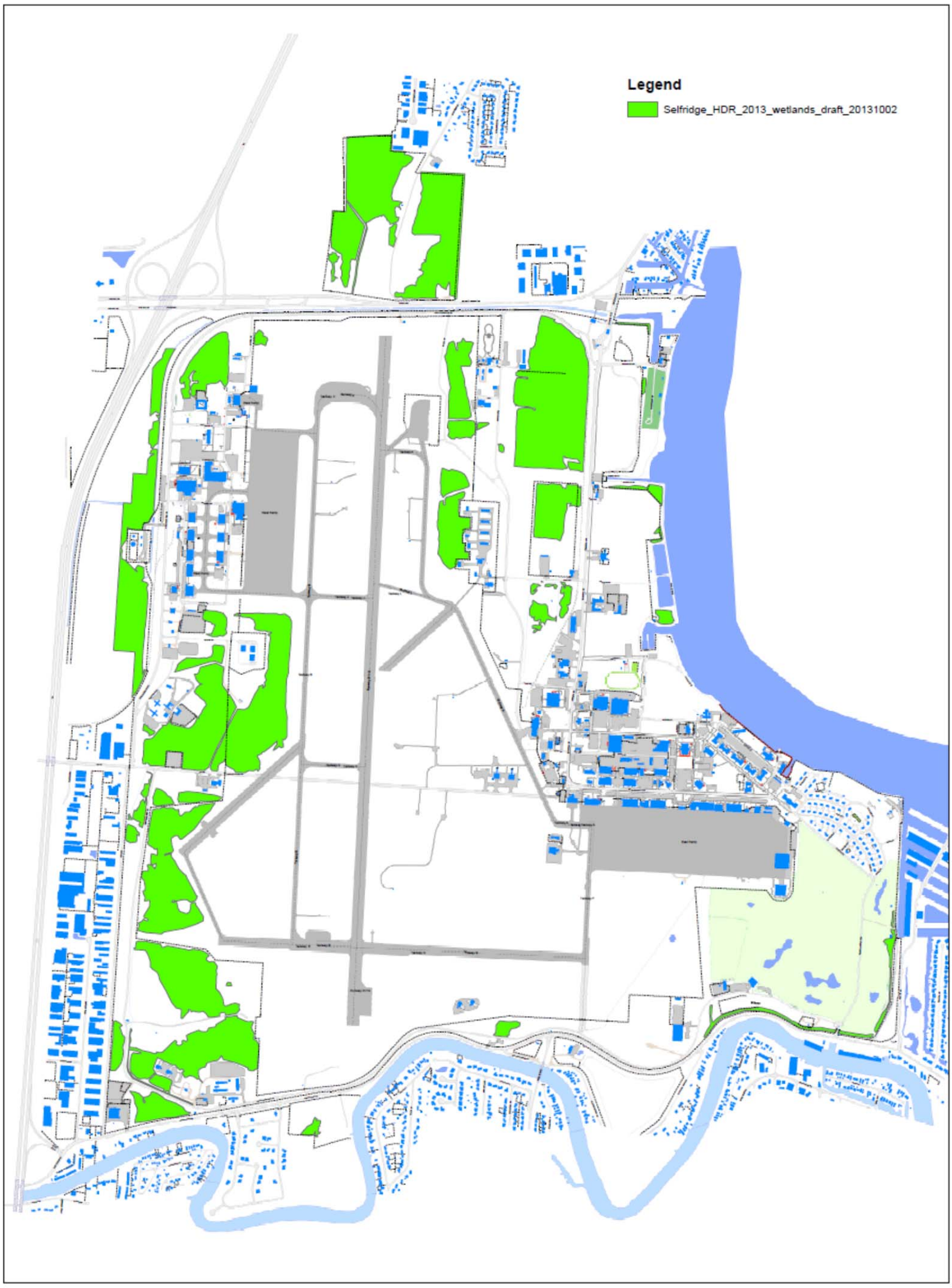


Source: ESRI StreetMap USA 2005; Selfridge ANGB 2007

SELFRIDGE ANGB LOCATION MAP

MAP OF SELFRIDGE ANGB SHOWING LOCATION OF WETLANDS



USAF Real Property Inventory Detail Report

An Electronic PDF of the report is available in the Resource Toolbox in the Annex 5 Folder
The “7115” report contains a listing of installation real property along with facility measurements that can assist in formulation of annual pesticide-use projections (see: Annex 6).

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ANNEX 6

Projected Annual Pesticide Requirements

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Minimizing the need for pesticide disposal begins with careful planning and identification of an installation's pesticide requirements. USERS SHOULD STOCK ONLY THOSE PESTICIDE QUANTITIES THEY WILL USE IN A REASONABLE PERIOD OF TIME, USUALLY THROUGH ONE PEST CONTROL SEASON. While pesticides used for indoor pests can be applied year round, most of these pesticides should not be stored for more than two years. The AFPMB strongly recommends that an installation's strategic and operational environmental plans incorporate and utilize Integrated Pest Management Techniques (IPMT) when establishing short-term (yearly) and long-term pesticide requirements. Be sure to develop projections for installation self-help program, if any.

This spreadsheet contains "pick lists" of the pests listed in Chapter 5, table 5.1 of this plan (5.0 Priority of Pest Management Work), and assists the user in determining the "Projected Annual Requirement" for each pesticide used and based on "Quantities in Stock", the tool will provide an "Amount Required to Purchase."

Instructions for completing the spreadsheet:

For each pesticide used at the installation, obtain the "Product Coverage Area", "Application Rate", and the corresponding units of each, from the pesticide label or directions and enter data in the green shaded boxes. In the yellow shaded boxes, estimate the "Treatment Amount," using the same units as the "Product Coverage Area", and the "Application Frequency per YEAR" for your specific base. Determine and enter, in the blue shaded boxes, the "Purchase Unit" (i.e., what unit the product is sold in, e.g., case of sodapop) and the "Issue Unit" (i.e. bottle of sodapop), # of Issue Units per Purchase Unit (i.e. how many bottles of sodapop in the case), and the "Size of Issue Unit" (how many ounces in the bottle of sodapop). The "Size of Issue Unit" must be in the same units as the "Application Rate". Finally, enter the "Quantity in Stock" in the orange shaded boxes. The "Purchase Unit Size" (ounces of sodapop in the entire case), "Quantity Needed" (total number of ounces needed for the year) and "Projected Annual Requirement" (total number of cases for the year) will be calculated automatically. The "Projected Annual Requirement" is rounded up to the nearest whole number.

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Projected Annual Pesticide Requirements

Pest	Trade Name	Formulation	EPA Registration Number/ NSN Number	Type of Application	Product Coverage		Application Rate		Treatment Amount		Application Frequency /YEAR	Purchase Unit	Issue Unit	# of Issue Units Per Purchase Units	Size of Issue Unit		Purchase Unit Size	Quantity Needed	Projected Annual Requirement		Quantity in Stock	Amount Required to Purchase
					Amount	Units	Rate	Units	Amount	Units					Size	Units			Amount	Units		
Broadleaf Weeds	Round up Pro	Emulsion	524-475/ 01-388-0142	Manual Pesticide Application	3.7	Acres	2.5	Gallons	3.7	Acres	2	box	1	2	2.5	gallon		1	$141	box		141
Broadleaf Weeds	Roundup Ready to Use	Emulsion	71995-33/ 01-377-7113	Manual Pesticide Application	1000	Square Feet	24	Fluid Ounces	1000	Square feet	2	bottle	1	1	24	fluid ounces		1	$7	bottle		7
Broadleaf Weeds	Arsenal Proline	Emulsion	241-431/ 01-356-8902	Manual Pesticide Application	5	Acres	0.5	Gallons	5	Acres	2	box	1	2	2.5	Gallons		1	$2,154	box		2,154
Broadleaf Weeds	Oust XP	Dust/Granule	352-601/ 01-356-8891	Manual Pesticide Application	12	Acres	4	Dry Ounces	12	Acres	2	container	1	1	48	Dry Ounces		1	$790	container		790
Broadleaf Weeds	Glypro Plus	Emulsion	627919-322/ 01-108-9578	Manual Pesticide Application	5	Acres	0.5	Gallons	5	Acres	2	box	1	2	2.5	gallon		1	$141	box		141
Ants	Demand CS	Emulsion	100-1066/ 01-428-6646	Manual Pesticide Application	4000	Square Feet	0.2	Fluid Ounces	4000	Square Feet	12	box	1	8	8	Fluid Ounces	64	1	$356	box		356
Ticks	Premethrin	Aerosol	63120-3/ 01-278-1336	Other Pest Control	1.42	Each	405	Fluid Ounces	1.42	Each	1	case	1	12	6	Fluid Ounces	72	1	$60	case		60
Ants	Maxforce FC Ant Bait Stations	Bait	64248-10/ 01-298-1122	Baiting	1	Square Feet	1	Grams	1	Square Feet	1	package	1	96	1	Grams	96	1	$91	package		91
Cockroaches	Maxforce Roach Bait Killer Gel	Bait	64248-14/ 01-471-5650	Baiting	1	Square Feet	1	Grams	1	Square Feet	1	box	1	4	30	Grams	120	1	$21	box		21
Ants	Maxforce Ant Killer Gel	Bait	64248-21/ 01-500-4579	Baiting	1	Square Feet	1	Grams	1	Square Feet	1	box	1	4	30	Grams	120	1	$25	box		25
Bees, Hornets, and Wasps	Wasp Freeze	Aerosol	499-362/ 01-067-2137	Manual Pesticide Application	1.75	Square Feet	17.5	Fluid Ounces	10	Square Feet	1	BOX	1	12	17.5	Fluid Ounces	210	1	$83	BOX		83
										0						0	0		0			0
										0						0	0		0			0
										0						0	0		0			0
										0						0	0		0			0
										0						0	0		0			0

For each pesticide used at the installation, obtain the "Product Coverage Area", "Application Rate", and the corresponding units of each, from the pesticide label or directions and enter data in the green shaded boxes. In the yellow shaded boxes, estimate the "Treatment Amount", **using the same units as the "Product Coverage Area"**, and the "Application Frequency per YEAR" for your specific base. Determine and enter, in the blue shaded boxes, the "Purchase Unit" (i.e. what unit the product is sold in, e.g. case of sodapop) and the "Issue Unit" (i.e. bottle of sodapop), # of Issue Units per Purchase Unit (i.e. how many bottles of sodapop in the case), and the "Size of Issue Unit" (how many ounces in the bottle of sodapop). **The "Size of Issue Unit" must be in the same units as the "Application Rate".** Finally, enter the "Quantity in Stock" in the orange shaded boxes. The "Purchase Unit Size" (ounces of sodapop in the entire case), "Quantity Needed" (total number of ounces needed for the year) and "Projected Annual Requirement" (total number of cases for the year) will be calculated automatically. The "Projected Annual Requirement" is rounded up to the nearest whole number.

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ANNEX 7

Statements of Work for Pest Monitoring/Surveillance and Control Services

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Introduction

Many ANG installations are reliant upon the services of outside pest control contract services. The installation decision whether to use contract pest control services should be based upon economic analysis described in Annex 9. Pest control services are normally funded under "entomology" within the State-Federal cooperative agreement Facility Operations and Maintenance Activities (FOMA). The AFPMB encourages use of IPM contract services where the installation has determined that they are economically advantageous or when advantageous for non-routine, large-scale, or emergency services, especially when specialized equipment or expertise is needed. However, use of contract services does require close monitoring and recordkeeping. Regularly scheduled, periodic pesticide applications are not approved for DoD property except in situations where the installation pest management plan clearly documents that no other technology or approach is available to protect personnel or property of high value. Installations shall not use preventive pesticide treatments, to include automated misting devices, unless the ANG pest management consultant has given approval based upon current surveillance information or records documenting past disease vector or pest problems that require this approach.

Any installation using contractor pest control services, including termiticide applications for new construction, should have a properly trained DoD employee who is a designated Pest Management Quality Assurance Evaluator (PMQAE). Under AFI32-1053, if an installation's pest management contract efforts are less than 0.25 work year annually, the presence of a trained PMQAE at the installation is not mandatory; except that DoD-certified pesticide applicators or PMQAEs must inspect contract applications of pesticides for the control of termites and other wood-destroying organisms (DODI 4150.07, Section E4.1.8.17.2.].

A PMQAE in the Air Force is defined as: "A quality assurance inspector who is an Air Force employee, trained in pest management, who protects the Government's interest through on-site performance evaluation of commercial pest management contracts or other contracts that involve the use of pesticides" [AFI 32-1053, Attachment 1, Glossary]. Only a DoD employee may directly oversee Federal contracts. And, the AFI specifically states that the person must be an "Air Force employee," (i.e., a Federal employee). None of the PMQAE duties may be delegated to a non-Federal employee. Each installation PMQAE must be either a DoD certified pesticide applicator, or obtain DoD PMQAE training and certification. The requisite PMQAE training may be obtained through any of the DoD Service schoolhouses. Training opportunities are listed on the AFPMB website at: http://www.afpmb.org/pubs/courses/courses.htm

Pesticides proposed for use on ANG installations, and contracts, must be pre-approved by the ANG Pest Management Consultant (NGB/A7AN) via the VEMO on-line database. The AFPMB pesticides committee reviews a wide range of EPA-registered pesticides for potential use on DoD installations. The pesticides are reviewed not only for active and inactive ingredients, but also for label directions, before listing on the AFPMB STANDARD PESTICIDES LIST AVAILABLE TO DOD COMPONENTS AND AGENCIES, available at http://www.afpmb.org/standardlist.htm. Active ingredient is not the sole determinant of whether a product is accepted. Substitution of products with differing EPA registration numbers is not allowed without prior authorization from the ANG Pest Management Consultant (NGB/A7AN). Placement of a pesticide on the AFPMB standard list does not, in itself, authorize use of that pesticide on any ANG installation. Specific advance authorization must be obtained from the ANG Pest Management Consultant (NGB/A7AN) for use of the product within a pest-specific control strategy for identified grounds or facilities, whether for application by certified contractor or for application by qualified installation personnel.

Whether or not pest control contract services are provided to the installation through an umbrella State contract, each proposed SOW submitted for approval to the NGB/A7AN Pest Management Consultant should include the following provisions, among others:

1) Only pesticides pre-approved by the NGB/A7AN Pest Management Consultant within pest-specific management strategies of the currently-approved installation IPM Plan may be applied. Contractor shall review and comply with pest-specific strategies of installation IPM Plan for each targeted pest. If need for any additional pesticide is identified, contractor shall preferentially nominate only products that are on the current Armed Forces Pest Management Board (AFPMB) STANDARD PESTICIDES LIST AVAILABLE TO DOD COMPONENTS AND AGENCIES (available at: http://www.afpmb.org/pubs/standardlists/dod%20pesticides%20list.pdf).

2) Contractor shall only use State-certified pesticide applicators that are qualified in the appropriate pest-control categories. Each individual pesticide applicator shall be State-certified, even if State otherwise allows non-certified personnel to apply pesticides under supervision.

3) Contractor shall operate consistent with principles of integrated pest management (IPM), using effective pesticides that are safest to human health and the environment, except when more-toxic pesticides are specifically required for pre-construction termiticide applications. For pre-construction application of termiticides, the SOW shall specify that termiticides are applied at the highest EPA-labeled concentration and application rate (per DODI 4150.07, Section E4.1.8.17.1).

4) Contractor shall prepare and maintain daily records of all pest management efforts, both chemical and non-chemical, including surveillance using DD Form 1532-1 and associated directions. Contractor shall promptly provide signed copies of completed reports to installation IPM Coordinator through Contracting Officer.

ANNEX 8

DD Form 1532-1 Pest Management Maintenance Record and USDA PPQ Form 523 Emergency Action Notification

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DD Form 1532-1 and instructions for its use can be found at the following links.
https: www. dtic.mil

Electronic copies of DD Form 1532-1 and instruction are also available via the following links:
https: www.dtic.mil/directives/forms

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BUILDING/AREA					SIZE	TYPE OF CONSTRUCTION	USE DESIGNATION				
Date	Units Serviced	Work Origin	Unit of Measure	Target Pest	Control Operation	If Pesticide is Used				Labor Time	Appli-cator Initials
						Name	EPA Reg	% Conc	Amount		

Form Approved. OMB No. 0704-0188 **REPORT CONTROL SYMBOL:**

PEST MANAGEMENT MAINTENANCE RECORD

MEASUREMENT UNITS
MSF = 1,000 square feet
MCF - 1,000 cubic feet
LFF = Linear feet
AC = Acres

ORIGIN OF WORK
SW = Scheduled work
WR = Work request
SC = Service or trouble call
R = Routine inspection

TYPE OF CONSTRUCTION
CO = Concrete
BL = Block
BV = Brick veneer
ST = Steel, sheet metal
WO = Wood
OT = Other

DD FORM 1532-1, AUG 96

Date	Units Serviced	Work Origin	Unit of Measure	Target Pest	Control Operation	If Pesticide is Used				Labor Time	Applicator Initials
						Name	EPA Reg	% Conc	Amount		

REMARKS

Remarks.

DD FORM 1532-1 (BACK), AUG 96

Reset

(Attach additional card to continue record)

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information is 0579-0102. The time required to complete this information collection is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

FORM APPROVED - OMB NO. 0579-0102

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE

EMERGENCY ACTION NOTIFICATION

SERIAL NO.

1. PPQ LOCATION | 2. DATE ISSUED

3. NAME AND QUANTITY OF ARTICLE(S)

4. LOCATION OF ARTICLES

5. DESTINATION OF ARTICLES

6. SHIPPER

7. NAME OF CARRIER

8. SHIPMENT ID NO.(S)

9. OWNER/CONSIGNEE OF ARTICLES

Name:

Address:

PHONE NO. | FAX NO.

SS NO. | TAX ID NO.

10. PORT OF LADING | 11. DATE OF ARRIVAL

12. ID OF PEST(S), NOXIOUS WEEDS, OR ARTICLE(S)

12a. PEST ID NO. | 12b. DATE INTERCEPTED

13. COUNTRY OF ORIGIN | 14. GROWER NO.

15. FOREIGN CERTIFICATE NO.

15a. PLACE ISSUED | 15b. DATE

Under Sections 411, 412, and 414 of the Plant Protection Act (7 USC 7711, 7712, and 7714) and Sections 10404 through 10407 of the Animal Health Protection Act (7 USC 8303 through 8306), you are hereby notified, as owner or agent of the owner of said carrier, premises, and/or articles, to apply remedial measures for the pest(s), noxious weeds, and or article(s) specified in Item 12, in a manner satisfactory to and under the supervision of an Agriculture Officer. Remedial measures shall be in accordance with the action specified in Item 16 and shall be completed within the time specified in Item 17.

AFTER RECEIPT OF THIS NOTIFICATION, ARTICLES AND/OR CARRIERS HEREIN DESIGNATED MUST NOT BE MOVED EXCEPT AS DIRECTED BY AN AGRICULTURE OFFICER. THE LOCAL OFFICER MAY BE CONTACTED AT:

16. ACTION REQUIRED

☐ TREATMENT: _____

☐ RE-EXPORTATION: _____

☐ DESTRUCTION: _____

☐ OTHER: _____

Should the owner or owner's agent fail to comply with this order within the time specified below, USDA is authorized to recover from the owner or agent cost of any care, handling, application of remedial measures, disposal, or other action incurred in connection with the remedial action, destruction, or removal.

17. AFTER RECEIPT OF THIS NOTIFICATION COMPLETE SPECIFIED ACTION WITHIN (Specify No. Hours or No. Days):

18. SIGNATURE OF OFFICER:

ACKNOWLEDGMENT OF RECEIPT OF EMERGENCY ACTION NOTIFICATION

I hereby acknowledge receipt of the foregoing notification.

SIGNATURE AND TITLE: | DATE AND TIME:

19. REVOCATION OF NOTIFICATION

ACTION TAKEN:

SIGNATURE OF OFFICER: | DATE:

PPQ FORM 523 (JULY 2002) Previous editions are obsolete.

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ANNEX 9

Cost Comparison Analysis Tool

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Cost Comparison Analysis						
Annual Cost for In-House Services						
CATEGORY	**TYPE**	**DESCRIPTION**	**QUANTITY**	**UNIT**	**ESTIMATED UNIT PRICE**	**EXTENSION**
Labor	Salary and Benefits (Monitoring, Application, Recordkeeping, Reporting)	Michigan Mean Income per US Census $44,800 Equal to GS-8 Step 2 AFCEE Accumulator Schedule C 2.31% $103,488 Tim estimates $25/hour x two people x 500 hours each for spring and summer($25/hr x 2 people = $50/hr, $50/hr x 500 hours = $25,000. Then Monthly inspections/service calls at 20 hours per week for each person(20 hours/wk/person x 52 weeks/year = 1040 hours per year per person. 1040 hrs x 2 people = 2080 hours, 2080 hrs x $25/hr = $52,000. The sum of spring/summer ($25,000) plus the sum of Monthly inspections/service ($52,000) is a sub-total of $77,000 $77,000 x AFCEE Accumulator Schedule C 2.31 is a grand total of $177,870.	2	Hours 3080	177,870	$117,870
Training	Travel Expenses and Fees	Annual training	2	1	10,000	$20,000
Labor	Respirator Fit Program	Annual fit test	2	Hours 8	200	$400
Equipment	Supplies, Vehicles, Facilities	Chevrolet Silverado 1500, Full size, 4WD V8 MSRP $28,770 50 gal tank, pump, motor, hose reel, 150 ft hose, Spray nozzle $2,000, with tree spraying pump $2,650 Building wood/metal construction $175/sqft Masonry Block $250/sqft Sump area with back flow prevention $25,000 Hand sprayer $294 Repair Kits $569 Bulb Duster, tool kit, IPM bags, flash lights, etc	1	Each	933027	$933,027
Materials	Cost of Pesticides	Selfridge, MI	1	Each	5,500 - 6000	$6,000
PPE	Personal Protective Equipment	Dust Masks, Respirator, filters, Gloves, Boots, Bump Hat, Face Shield, Coveralls	2	Each	400	$800
TOTAL						**$1,078,097**
Annual Cost for Contract Services						
Contractor Bid	**Price**					
Bid 1 - Application and Monitoring		Weed Control- 500 hours/8 hrs per day = 62.5 days x 5 acres per day = 312.5 acres, $600/acre = $187,500	1	annual	$187,500	$187,500
Bid 1 - Application and Monitoring		Pest Control- 2080 hours/8 hrs per day =260 days x $500 minimum per day $130,000	1	annual	130,000	$130,000
Contract Admin and QAE Oversight	Salary and Benefits (Monitoring, Application, Recordkeeping, Reporting)	Michigan Mean Income per US Census $44,800 Equal to GS-8 Step 2 AFCEE Accumulator Schedule C 2.31% $103,488	1	Hours 2080	103,488	$103,488
TOTAL		.				**$420,988**

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Selfridge ANGB Cost Comparison Analysis

The technician's estimate of labor costs is $177,870, which includes their salaries and benefits. This estimate was calculated using information furnished by the technician and is not the exact labor cost. The technician provided the following information for the spring/summer (weed control) applications, $25/hour for two people and used about 500 hours for each. $25/hr multiplied by 2 technicians equals $50/hr. $50/hr multiplied by 500 hours equals $25,000. The rest of the year is spent on monthly monitoring and service calls. This is 20 hours per week per person. 20 hours multiplied by 52 weeks per year equals 1,040 hours. 1,040 hours multiplied by 2 people equals 2,080 hours. 2,080 hours multiplied by $25/hr equals $52,000. The subtotal of the spring/summer applications ($25,000) plus the monitoring and service calls ($52,000) is a total of $77,000. To calculate overhead and benefits, multiply the $77,000 by AFCEE Accumulator Schedule C which is 2.31%. $77,000 multiplied by 2.31 equals $177, 870 total labor cost per year.

If an estimate of $10,000 per technician is added for travel expenses and fees for training and the estimated total becomes $197,870. Add an estimate of one day per year for the annual respirator fit testing for each tech at $200 and the estimated total becomes $198,270.

Selfridge ANGB already has a building, PPE, a mixing and loading facility and fully equipped truck, so there is no need to add these costs in this analysis. The cost of maintaining these items is a factor for in-house costs.

Selfridge ANGB reported to have spent $5,500 to $6,000 on chemicals last year. This brings the estimated total to $204,270.

All ANG bases require a Pest Management Coordinator and Quality Assurance Evaluator, which in many cases are the same person. So, there is no cost savings in this area with either an in-house or contracted pest management program.

The estimated cost to contract a commercial pest management company is based on the hours the two existing technicians spent performing the pest management duties. 500 hours of weed control at an average rate of five acres per 8 hour day is 312.5 acres. The average cost to apply a post emergent herbicide, (i.e. Round-up) is $600 per acre. $600 multiplied by 312.5 acres is $187, 200.

The monitoring and treatment for service calls took a total of 2,080 hours per year. 2,080 per day divided by 8 hours per day comes to 260 days. The minimum revenue the average pest control technician generates per 8 hour day is $500. Using this formula, 260 days of pest control multiplied by a minimum of $500 per day is a total of $130, 000.

The total for 312.5 acres of weed control ($187,200) and 260 days of pest monitoring and treatment ($130,000) is a total of $317, 200.

Comparing the in-house total of $204,270 to the same amount of outside contracted service of $317, 200 illustrates that on the surface in-house is more cost effective. These numbers are not accurate measurements of the true costs involved in both the in-house or contracted pest management.

A pest control contract would most likely not cost $317,200. To service all of the buildings on a monthly contract would be closer to $30,000 annually (based on a monthly cost of $2,500). The weed control is most likely closer to 100 acres of fence-line and miscellaneous spraying. 100 acres of weed control multiplied by $600 per acre is $60,000. A contractor cannot provide time on the base that the in-house technicians can, and would not have familiarity with the facilities.

Selfridge ANGB has a robust and mature pest management. The two technicians have the pest problems well under control. Their experience with historic pest activities, annual pests, and relationship building occupants would all be lost should the pest management program be turned over to outside contractors.

ANNEX 10

Tenant Unit Pesticide Management Conformance Memos

Organization Header

DATE

MEMORANDUM FOR : 127WG/CEV
127WG/CEOP

FROM: Tenant Organization

SUBJECT: Pesticide Conformance

1. Tenant Organization has reviewed the Integrated Pest Management Plan (IPMP) for Selfridge Air National Guard Base (SANGB), and will comply with all requirements outlined in the plan.

2. It is understood that this includes providing usage reports and inventory reports monthly for pesticide use to 127th CES Pest Mgt Shop.

3. All Tenant Organization personnel working at SANGB that will be applying pesticides must have current DoD or State of Michigan pesticide applicator certifications. A copy of the Tenant Organization's current list of certified pesticide applicators is attached.

4. In accordance with the IPMP all contracted pesticide applications will be approved through the 127th CES Pest Mgt Shop. Copies of certifications for the commercial contracted applicators must be provided along with usage reports by the end of the month in which applications were made.

Signature

Name
Title

Attachments:
I. Pesticide Inventory List
II. List of and copy of Tenant's Organization Certified Pesticide Applicators

Appendix F

Wildland Fire Management Plan

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FINAL

WILDLAND FIRE MANAGEMENT PLAN

FOR

SELFRIDGE AIR NATIONAL GUARD BASE, MICHIGAN

Prepared by:
ERT, Inc.
14401 Sweitzer Lane, Suite 300
Laurel, MD 20707
(301) 361-0620
Contract No.: W9133L-14-D-0005, 9F01

July 2015

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LIST OF TABLES

LIST OF APPENDICES

ACRONYM LIST

AFI	Air Force Instruction
ANG	Air National Guard
ANGB	Air National Guard Bureau
AQMA	Air Quality Management Area
ES	Emergency Stabilization
ESA	Endangered Species Act
FES	Fire and Emergency Services
FMU	Fire Management Unit
IC	Incident Commander
IMT	Incident Management Team
INRMP	Integrated National Resources Management Plan
IRPG	Interagency Response Pocket Guide
IST	Installation Support Team
MDEQ	Michigan Department of Environmental Quality
MDNRE	Michigan Department of Natural Resources
MIANG	Michigan Air National Guard
MISHPO	Michigan State Historic Preservation Office
MSL	mean sea level
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
NWCG	National Wildfire Coordinating Group
SMP	Smoke Management Program
USAFMS	United States Air Force Fire Management Information System
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United Stated Fish and Wildlife Service
WFDSS	Wildland Fire Decision Support System
WFMP	Wildland Fire Management Plan
WG	Wing
°F	degrees Fahrenheit

1.0 Introduction

The objective of the Selfridge Air National Guard Base (ANGB) Wildland Fire Management Plan (WFMP) is to support mission sustainability by addressing invasive plant species that are threatening mission activities through a partnering wildland fire program.

Much of Selfridge ANGB has been altered by development and fill operations, with few natural areas. The primary firefighting mission at the base is structural and aircraft fire suppression. Selfridge does not have a wildland fire program and has never had a wildfire or set a prescribed fire, but in the future Selfridge does plan to utilize prescribed fire as a tool for managing plant communities. The Integrated National Resource Management Plan (INRMP) requires routine maintenance of herbaceous habitat in flight safety areas with respect to Bird Air Strike Hazards; mechanical methods for this management will be implemented, but due to terrain conditions, weather conditions, and wetland regulations, prescribed burns may be considered a more viable option for maintenance in some areas especially where stands of *Phragmites* are present. Since the base is not adequately staffed or trained for conducting prescribed fires, Selfridge will partner with the U.S. Forest Service (USFS), U.S. Fish and Wildlife Service (USFWS), and/or Michigan Department of Natural Resources (MDNR) to perform prescribed burns.

1.1 Purpose of the WFMP

This WFMP is written to:

- Describe the wildland fire management program for Selfridge ANGB.
- Meet Department of Defense Instruction requirements that every installation with burnable vegetation must have an approved Wildland Fire Management Plan.
- Establish wildland fire management actions that assist in implementing and accomplishing the goals and objectives of the approved Selfridge AFB INRMP.

1.2 General Description

Selfridge ANGB is in Macomb County, Michigan, and is approximately 25 miles north of downtown Detroit (see Figure 1 in Appendix A). The installation occupies 3,075 acres (about five square miles) of Federal Fee Land, which is managed by the ANG for the Air Force (see Figure 2 in Appendix A). Interstate Highway 94 is the primary regional road west of Selfridge ANGB. The installation is bounded by the Clinton River to the south and Anchor Bay (portion of Lake St. Clair) to the east. To the north are the Wm. P. Rosso Highway and single-family homes that have been built along the estuaries associated with Lake St. Clair. Areas to the west of the installation have been developed with light commercial facilities along major transportation corridors leading to Detroit.

The area surrounding Selfridge ANGB consists of residential housing, light industry, commercial development, and open space. Within Macomb County, urban land use has increased over the past few decades, and as of 2003, approximately 50 percent of the county was in an urban land use category (see Figure 3 in Appendix A). Although urban development has decreased the amount of vacant land (cultivated lands, grasslands, and shrublands) in the county, this category is still the largest single land use category, accounting for 38 percent of the county's total land area (U.S. Air Force, 2010). The Township of Chesterfield, Harrison, and Clinton, and the City

of Mt. Clemens surround the installation. The political jurisdictions are responsible for administering local zoning regulations (Selfridge ANGB, 2001).

Selfridge ANGB land use is divided into four general categories: open space, airfield and direct mission areas, industrial and special categories areas, and command and support. Land Uses on the installation are further subdivided and describe in more detail in Table 1-1. The runway and airfield essentially divide the installation into functional halves, with aircraft maintenance and support facilities west of the airfield complex, and dense administrative, residential, recreational, and industrial land use on the eastern side. Recreational resources on the installation include a golf course and athletic fields. The installation perimeter is composed primarily of open space (Selfridge ANGB, 2000). From a recreational perspective, Lake St. Clair is among the most heavily used areas of the Great Lakes.

Table 1-1. Brief Descriptions of Land Use Categories on Selfridge ANGB

Land Use Category	Description
Open Space	This land use category includes all the undeveloped land on the installation and surface waters, including the small arms range and fire training areas.
Airfield Operations	This land use category includes several operational categories such as Restricted Safety/Environmental Zones, Airfield Pavements, Airfield Maintenance, and Airfield Operations.
Restricted Safety/ Environmental Zones	This land use category includes zones surrounding species category areas; runway, taxiway, and apron clearances; and environmental zones including designated wildlife/plant life habitats and other conservation areas.
Airfield Pavements	This land use category includes runways, taxiways, aprons, paved shoulders, arm/disarm pads, hush houses, and aircraft arresting barriers.
Airfield Maintenance	This land use category includes maintenance hangars, shops, docks, nondestructive inspection shops, fuel cells and fuel system maintenance docks, aircraft engine shops, weapon systems maintenance buildings, corrosion control areas, avionics shops, electronic countermeasure buildings, and aerospace ground equipment shops.
Airfield Supervision	This land use category includes installation operations buildings, control towers, alert crew readiness areas, squadron operations buildings, flight simulators, survival equipment shops, and fire crash rescue stations.
Hazardous Materials Storage	This land use category includes petroleum, oil, and lubricants operations; liquid oxygen storage; munitions maintenance and storage areas; hazardous waste storage areas; jet fuel storage; vehicle maintenance shops and refueling areas; civil engineering operations and maintenance buildings; installation supply and equipment warehouses; heating plants; water storage towers; and pump-houses.
Administration	This land use category includes all cantonment and other areas that do not fit into the above categories, including administrative buildings, medical services, and community and recreational facilities. Specific facilities and buildings within this category include installation headquarters; communications centers; training buildings; security police areas; dining halls; hospitals; clinics; and other morale, welfare and recreation areas.

Selfridge ANGB is predominantly managed as improved space. Grounds are categorized based on operational needs and the intensity of maintenance required: improved, semi-improved, forested, and other areas as shown in Table 1-2 and Figure 4 in Appendix A. Note that in accordance with Section 4.5.2. of the 2010 INRMP various tree removal activities have occurred; however, these changes have not yet been documented in an updated grounds category figure. The following burn units shown on Figure 10 are no longer forested: 1, 2, 3, 4, 5, 10, 15, 16, and 17.

Table 1-2. Grounds Categories at Selfridge ANGB

Grounds Category	Description
Improved	Development and maintenance are performed primarily to obtain a pleasing appearance, including lawns, planted trees, and planted shrubs surrounding buildings.
Semi-improved	Maintenance is performed primarily to provide an erosion-resistant stand of grass, to control weeds and brush, and to reduce fire hazard. Includes road shoulders; ditch slopes; and drainage canals, ditches, swales, and much of the open space.
Forested	Shrublands and woodlands dominated by broadleaf deciduous forests. Concentrated in the southwestern and northeastern corners of the installation property, as well as along the western perimeter.
Other Areas	Pavement, roads, buildings, and land not available for productive use. Presently, there are no agricultural out leases at the installation, and none of the lands are considered unimproved.

1.3 Military Mission

Selfridge ANGB is dedicated to training ANG and reserve components of the military services, and is one of the only Reserve forces bases to host units from all five armed services, and reserve components of the Army, Navy, Marines, and Air Force. The ANG is administered by the National Guard Bureau, a joint bureau of the Army and the Air Force. ANG missions at the state level are funded by those individual states, and include disaster relief, search and rescue, protection of vital public services, and civil defense support (Selfridge ANGB, 2001). The Michigan National Guard has the following three missions:

1. *Federal*: to assist the Federal government in defending the sovereign interests of the United States when they are threatened or violated
2. *State*: to protect the lives and property of Michigan citizens during times of natural disaster and to preserve peace, order, and public safety at the direction of the Governor
3. *Local*: to contribute to communities in which its units are based and provide resources and equipment, as applicable regulations allow, to the communities (Selfridge ANGB, 2001).

The primary mission of Selfridge ANGB is to train and support the 127 Wing (WG) of the Michigan Air National Guard (MIANG), which is the host organization at Selfridge ANGB. The mission of the 127 WG is to provide trained and equipped air refuelers, attack aircraft, and support resources for the community, state, and nation (Selfridge ANGB, 2001). As part of the Federal mission, the ANG provides operationally ready combat units, combat support units, and qualified personnel for active duty in the Air Force to fulfill war contingency commitments. Under order of state authorities, the MIANG provides protection of life and property, and

preserves peace, order, and public safety (Selfridge ANGB, 2001). There are also a variety of tenant organizations on Base, notably the Army, Navy, Air Force, Marine Corps, Coast Guard, and Defense Logistics Agency (see Table 1-3).

Table 1-3. Tenant Organizations

Organization	Unit
Army	88th Regional Recruiters Chinook Helicopters Tank-Automotive and Armaments Command • Integrated Logistics Support Center • Tank Automotive Research, Development and Engineering Center • Joint Combat Support Systems • Military Outreach Program • Joint Project Office Robotics U.S. Army Garrison - Detroit • Family and Morale, Welfare and Recreation - golf course and marina • Child Development Center
Army National Guard	405th Surface Maintenance
Navy	U.S. Marine Corps Construction Battalion (Seabees) Reserves
National Guard Bureau	Human Resources Contracting Stock-Fund
Military Intelligence	Joint Reserve Intelligence Center
Department of Homeland Security	U.S. Customs and Border Protection (Air / Marine division) U.S. Customs and Border Protection (Marine and Vessel Maintenance) U.S. Border Patrol U.S. Coast Guard
Quasi-Government and Non-government Tenants	Army and Air Force Exchange Service Central Macomb Community Credit Union Civil Air Patrol Defense Commissary Agency Defense Reutilization and Marketing Office Federal Aviation Administration Federal Emergency Management Act – Disaster Medical Assistance Team Macomb Community College – Criminal Justice Training Center Michigan Air Guard Historical Association Northwood University Starbase Tri-CARE U.S. Post Office Vincennes University

1.3.1 Wildland Fire Impacts to Military Mission

Although Selfridge ANGB has not previously conducted prescribed fires and has not documented any wildfires, mission operations are potentially at risk from future planned prescribed fires and from unplanned ignitions (wildfires). Smoke management is one of the largest concerns with fire on Selfridge ANGB. Certain missions are visibility sensitive, and could be impacted from smoke associated with wildfires or prescribed fires. Significant smoke in work areas and on roadways could create health and human safety problems that lead to mission delays. However, the small scale of prescribed fire at Selfridge ANGB should have minimal negative impacts due to various preventative measures that will be implemented for smoke management. Smoke plume modeling and notifications will be performed for every planned burn. Due to close proximity of the burns to the runway and radars, Flight Safety, Ground Safety, and numerous other Selfridge entities will be coordinated with to mitigate potential impacts from smoke. While any smoke may be considered a temporary nuisance to installation personnel, any nuisance is expected to be minor if proper smoke management techniques are followed.

1.3.2 Military Mission Impacts to Wildland Fire Activities

Potential delay of prescribed fire is possible if Selfridge ANGB has flight requirements that cannot be impacted. Security screening to allow burn personnel from USFS and/or MDNR on base may impact the timeline of prescribed burning.

1.4 Significant Values to Protect

Significant values to protect include manmade and natural infrastructure, including the runway and associated air shed, Air Force structures, firing ranges, munitions storage areas, recreational areas (i.e., Golf course). Most prescribed burning will be in ditches and wetlands where invasive *Phragmites* occurs and no values to protect are in any of the burn units. A figure showing the locations of *Phragmites* is shown in Figure 6 in Appendix A.

1.5 Effects of Climate Change on Biotic Composition and Impacts to Wildland Fire Management

Global climate change is predicted to alter temperature and precipitation conditions, with a general increase in storm intensity and frequency of droughts. Forecasting local responses to climate change is difficult, and the severity, frequency, and direction of these changes will vary across the landscape. The uncertainties surrounding climate change will require an adaptive management approach to the evaluation and implementation of management responses. With respect to Selfridge habitats and wildland fire, some of the areas of uncertainty include how climate change will affect:

- Frequency and severity of wildfires
- Intensity of prescribed fires
- Hydrologic regime, water temperature, water chemistry, vegetation, and fire susceptibility of wetlands
- Spread of invasive non-native plant and animal species

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2.0 Policy, Land Management Planning, and Partnerships

2.1 USAF Wildland Fire Policy

2.1.1 Federal Interagency Wildland Fire Policy

The Selfridge ANGB WFMP meets the Air Force Instruction (AFI) and Federal Wildland Fire Management Policy by implementing and following these guiding principles:

- Make firefighter and public safety the first priority in every fire management activity
- Support the Air Force military mission by managing wildland fire fuels
- During the planning process, incorporate wildland fire as an essential ecological process and natural change agent
- Set objectives for the use and desired future condition of the various public lands in the INRMP and pertinent resource management plans
- Use wildland fire management plans, programs, and activities to support land and resource management plans and their implementation
- Understand, analyze, communicate, and manage risks and uncertainties of wildland fire management activities as they relate to the cost of either doing or not doing an activity
- Ensure wildland fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives
- Base wildland fire management plans and activities upon the best available science
- Incorporate public health and environmental quality considerations into wildland fire management plans and activities
- Incorporate Federal, State, tribal, local, interagency, and international coordination and cooperation in wildland fire activities.
- Ensure policies and procedures for wildland fire management is standardized with other Air Force installations

Air Force Wildland Fire Cost Effectiveness Policy

Maximizing cost effectiveness of a fire operation is the responsibility of all involved, including those who authorize, direct, and implement operations. Cost effectiveness is the most economical use of resources necessary to accomplish project or incident objectives. Accomplishing objectives safely and effectively will not be sacrificed for the sole purpose of "cost-saving." Appropriate oversight will ensure that expenditures are commensurate with values to be protected. Other factors besides those in the biophysical environment may influence decisions, including those from the social, political, and economic realms. The Wildland Fire Center will provide direction and support in this area.

2.1.2 National Fire Plan

This WFMP meets the direction in the Federal National Fire Plan because it emphasizes the following primary goals of the United States Forest Services, *Ten Year Comprehensive Strategy and Cohesive Strategy for Protecting People and Sustaining Natural Resources (2000)*:

- Improving fire prevention and suppression
- Reducing hazardous fuels
- Restoring fire-adapted ecosystems
- Promoting community assistance

2.1.3 Air Force Instruction

The Selfridge ANGB WFMP incorporates and adheres to AFI policy by giving full consideration to the use of wildland fire as a natural process and as a tool in the land management planning process and by providing for the following:

- Wildfires, whether on or adjacent to lands administered by the Air Force, which threaten life, improvements, or are determined to be a threat to natural and cultural resources or improvements under the Air Force's jurisdiction, will be considered emergencies and their suppression given priority over other Air Force programs.
- Selfridge ANGB shall cooperate in the development of interagency preparedness plans to ensure timely recognition of approaching critical wildfire situations, to establish processes for analyzing situations and establishing priorities, and for implementing management responses to these situations
- Selfridge ANGB will enforce rules and regulations concerning the unauthorized ignition of wildfires, and aggressively pursue violations

This WFMP applies procedures and guidelines in AFI interim policy:

- Firefighter and public safety is the first priority of the wildland fire management program and all associated activities.
- Only trained and qualified leaders and agency administrators will be responsible for, and conduct, wildfire management duties and operations.
- Trained and certified employees will participate in the wildfire management program as the situation requires, and non-certified employees will provide support as necessary.
- Fire management planning, preparedness, wildfire and prescribed fire operations, other hazardous fuel operations, monitoring, and research will be conducted on an interagency basis with involvement by all partners to the extent practicable.
- The responsible agency administrator has coordinated, reviewed, and approved this WFMP to ensure consistency with approved land management plans, values to be protected, and natural and cultural resource management plans, and that it addresses public health issues related to smoke and air quality.
- Fire, as an ecological process, has been integrated into the INRMP and related resource management plans and activities on a landscape scale, across agency boundaries, based upon the best available science.
- Wildfire is used to meet identified resource management objectives and benefits when appropriate.

- Prescribed fire and other treatment types will be employed whenever they are the appropriate tool to reduce hazardous fuels and the associated risk of wildfire to human life, property, and cultural and natural resources and to manage Air Force lands for habitats as mandated by statute, treaty, and other authorities.
- Management response to wildfire will consider firefighter and public safety, cost effectiveness, values to protect, and natural and cultural resource objectives.
- Staff members will work with local cooperators and the public to prevent unauthorized ignition of wildfires on Air Force lands.

2.1.4 Installation Specific Fire Management Policy

There are no Selfridge ANGB-specific policies relating to wildland fire management.

2.2 Land/Resource Management Planning

2.2.1 Land Management Plans

The Selfridge ANGB INRMP and Pest Management Plan include strategies to use prescribed fire in combination with herbicide application and mowing to kill the invasive non-native *Phragmites*. The Michigan Department of Environmental Quality also describes the use of prescribed fire in its *Guide to the Control and Management of Invasive Phragmites* (MDEQ, 2014).

2.2.2 Environmental Compliance, 813 Process

To determine the extent of required The National Environmental Policy Act (NEPA) documentation, Selfridge ANGB will need to submit an Air Force Form 813 describing prescribed burning plans. If the burns cannot be Categorically Excluded off of a previously analyzed activity, then an Environmental Assessment will be required. Northern Long Eared Bat (NLEB) was recently listed as Threatened under the endangered species act, and this species of bat was documented at the installation during acoustical surveys in 2010, therefore consultation under the Endangered Species Act will be required prior to accomplishing prescribed fires at Selfridge. State listed species have been observed at Selfridge to include Short-Eared Owl, Peregrine Falcon, and common loon. Both the Peregrine Falcons and Short Eared Owl have been observed during summer periods, but nesting has not been documented at the installation. The Common Loon has been observed adjacent to the shoreline of the installation in Lake St. Clair. If timing of prescribed fires could affect these species coordination would be accomplished with the MDNR. Mitigation measures to minimize potential impacts to State and Federal listed species would be incorporated into any burn plans developed. All WFMP actions/decisions comply with Section 106 of the National Historic Preservation Act per the terms of the working agreement between the Air Force and the State Historic Preservation Offices.

Selfridge ANGB complies with the Clean Water Act (of 1963. The base complies with all regulations pertaining to delineated wetland areas, and ditches and drains leading into Lake St. Clair. During July and August 2006, a wetland survey was performed within 18 separate Areas of Concern on the installation and approximately 378.1 acres of wetlands in the Lacustrine and Palustrine Systems were identified. The wetland delineation was "verified" by the Michigan Department of Natural Resources and Environment (pursuant to the Michigan Department of

Natural Resources and Environment wetland verification program) and USACE in October 2006 and by the Michigan Department of Natural Resources and Environment again in August 2007. All wetland areas are protected in accordance with the Clean Water Act.

Selfridge ANGB complies with the Clean Air Act of 1972. Selfridge ANGB is in the Metro Detroit-Port Huron Intrastate Air Quality Management Area (AQMA). This AQMA is designated as a maintenance area for ozone, with a portion also designated as nonattainment for carbon monoxide; however, Selfridge ANGB is in attainment for PM2.5, ozone, and carbon monoxide (ref. http://michigan.gov/deq/0,4561,7-135-3310_70310_70940_31129---,00.html). Potential emissions at Selfridge ANGB are a major source for Title V permitting purposes. The installation is classified as a Category I Facility because it has the potential to emit greater than 100 tons per year of nitrogen dioxide and sulfur dioxide. Selfridge ANGB limits its actual annual emissions to levels beneath the major source thresholds by obtaining a Title V Synthetic Minor permit. Emissions at the installation are controlled via specific practices according to fuel type and process. If emissions were to increase and exceed the Title V thresholds, a Title V Operating Permit must be obtained (Selfridge ANGB 2000).

The base also complies with the Archeological Resources Protection Act of 1979. Selfridge ANGB has worked with the MIANG and the Michigan State Historic Preservation officer (MISHPO) to identify and characterize cultural sites. No sites are currently listed on the National Register of Historic Places (NRHP); however, some existing structures do meet some criteria to be listed in the NRHP; see Section 3.1.3.9 for more information on cultural resources.

2.3 Wildland Fire Management Partnerships

2.3.1 Internal Partnerships

Selfridge ANGB does not have any wildland fire staff, but the Natural Resources Program Manager serves as the liaison with other installation organizations on wildland fire issues. The Natural Resources Program Manager is working with the Pest Management group, Fire Department, Civil Engineering Operations, Public Affairs, Grounds Maintenance, and direct mission support groups regarding future plans for prescribed burning of *Phragmites*.

2.3.2 External Partnerships

The Selfridge ANGB WFMP was developed in coordination with the Air Force Wildland Fire Center, and was reviewed by the United States Department of Agriculture (USDA) Forest Service, MDNR, and USFWS. The Air Force plans to provide funding to the USDA Forest Service to conduct *Phragmites* control burns.

3.0 Wildland Fire Management Unit (FMU) Characteristics

3.1 Area Wide Management Considerations

Selfridge is considered a single fire management unit due to the similarities of objectives, fuels, and interface found throughout. This section describes overall wildland fire management program guidance and characteristics.

3.1.1 WFM Goals, Strategies, and Guidance

The primary driver for the use of prescribed fire at Selfridge ANGB lands is to control the invasive non-native species, *Phragmites*, which is impeding the flow of water in drainage ditch systems, causing ponding of water. A secondary driver is to maintain herbaceous habitat per the INRMP. Pest Management is leading a program to address *Phragmites*, in coordination with various organizations on the installation. Selfridge ANGB has an aquatic nuisance control permit from the Michigan Department of Environmental Quality (MDEQ) for *Phragmites*, and has sprayed *Phragmites* areas on the installation in and along ditches and at various other locations on the installation. It is anticipated that two to three years of herbicide applications will be required to address *Phragmites*, in conjunction with removal of dead vegetation. Selfridge is evaluating the use of prescribed burns as the primary method for the removal of dead vegetation, with mowing or cutting as a secondary method, and dredging as a final option. Cutting or mowing of vegetation below the ordinary high water mark and/or dredging within wetlands or below, the ordinary high water mark would require permits.

At the December 2013 Selfridge INRMP Working Group meeting, the following objective was developed: Prepare a management plan for *Phragmites* and mission impacts on the environment associated with fire management. There are currently no other wildland fire-related objectives in the Selfridge INRMP. This Selfridge ANGB WFMP describes plans to use prescribed fire for *Phragmites* control, and examines impacts to the mission and the environment from wildland fire management.

3.1.2 WFM Guidance and Standards from Other Sources

The MDEQ regulates and permits the removal of aquatic invasive species. They have multiple publications and online guidance for the chemical and mechanical removal of invasive species including *Phragmites*. Guidance for the management of *Phragmites* includes different combinations of chemical, and mechanical (including prescribed burns) solutions, with the most favorable being chemical treatment followed by prescribed burns for larger and more rural areas, while chemical and mowing is more effective for smaller and more urban areas.

The Great Lakes Phragmites Collaborative also provides guidance for the treatment and management of *Phragmites* including treatment via herbicide, prescribed fire, mechanical removal, grazing, flooding, and smothering. Guidance from this group states that fire alone is not effective, however in addition to chemical treatment is extremely effective. More guidance can be found at http://greatlakesphragmites.net/.

3.1.3 Characteristics of the Selfridge FMU

Characteristics that are shared across the Selfridge FMU are described in this section.

3.1.3.1 Climate

The climate of Macomb County is classified as humid continental to semi-marine and is characterized by long cold winters and short warm summers. Nevertheless, the local climate is somewhat moderated by Lake St. Clair and Lake Erie. Continental polar air masses pass through during the winter, while tropical air masses pass through in the summer. The interaction of these air masses, along with cold fronts associated with east-moving cyclones create extreme contrasting seasonal temperature changes, highly variable weather, and abundant precipitation throughout the year (Selfridge ANGB, 2001).

Selfridge ANGB has an average of 166 days between the last freeze of spring and the first freeze of fall. Mean winter and summer temperatures are 25 degrees Fahrenheit (ºF) in January and 73ºF in July. The average yearly temperature is 49ºF. Annual precipitation at the installation averages 27.6 inches, while snowfall averages about 30 inches per year, varying considerably from year to year (Selfridge ANGB, 2001). Prevailing winds at Selfridge ANGB are westerly; however, during the summer months the predominant wind direction is southwesterly. During the winter months, the prevailing wind direction shifts to a westerly-northwesterly pattern. Daily and weekly wind directions shift frequently due to the sizable variation of high and low pressure systems moving across the Midwest (Selfridge ANGB, 2000).

3.1.3.2 Soils

The soils underlying Selfridge ANGB originated in three depositional environments: lacustrine, glacial, and fluvial. Soils associated with lacustrine clays from Lake St. Clair are the most common and extensive soils occurring on the installation. The dominant soil series mapped on the installation include poorly drained and low permeability soils (Selfridge ANGB, 2001).

Figure 5 in Appendix A shows the locations of the soil-mapping units on Selfridge ANGB. Detailed descriptions of the soils mapped on Selfridge ANGB are available on the USDA Soil Data Mart Website at:
http://soildatamart.nrcs.usda.gov/Report.aspx?Survey=MI099&UseState=MI.

The two most extensive naturally occurring soil associations mapped on the installation are the Toledo- Paulding association and the Lanawee-Corunna-Lamson association, which is mapped at the southern end of the installation. Toledo-Pauling soils consist mostly of clay and silty clay loam. The Lanawee-Corunna-Lamson soils consist primarily of moderately coarse soils (Selfridge ANGB 2001). The dominant soil-mapping unit on the installation is Made land. Made land consists of soils that have been altered as a result excavation, placement of fill material, and contouring associated with construction or other land disturbing activities. Natural topography at the installation has been altered by excavation and fill operations during the construction of buildings, runways, taxiways, and landfills (Selfridge ANGB, 2001).

3.1.3.3 Water Resources

Water resources presented in this INRMP include surface and groundwater resources. Surface water resources are comprised of lakes, rivers, and streams and are important for a variety of reasons including economic, ecological, recreational, and human health. Groundwater properties are often described in terms of depth to aquifer, aquifer or well capacity, water quality, and surrounding geologic composition. The quality and availability of surface and groundwater and potential for flooding are addressed in this section. Other issues relevant to water resources

include watershed areas affected by existing and potential runoff and hazards associated with 100-year floodplains.

Selfridge ANGB, which is characterized by flat topography, poorly drained soils, and poor surface drainage, is built upon filled wetlands. The most notable surface water features in the vicinity of Selfridge ANGB are Lake St. Clair to the east and the Clinton River to the south. The original elevation of the area occupied by the installation was below the elevation of Lake St. Clair and the Clinton River. Shoring and filling have raised the elevation throughout most of the installation, with the exception of undeveloped areas adjacent to the Clinton River. In the areas adjacent to the river, seasonal high water table levels during periods of high rainfall range between below-surface levels to approximately 2 feet above surface level. This condition results in intermittent standing water in some low-lying areas. In all other areas of the installation, the water table remains below the surface year-round as a result of continuous pumping (Selfridge ANGB, 2000). Figure 7 in Appendix A shows the installation's surface waters, wetlands, and floodplains.

At Selfridge a series of catch basins, storm water sewers, and pump/lift stations have also been installed to remove storm water runoff channeling storm water to collection points throughout the installation. All runoff from the northern and eastern portions of the installation is channeled into Lake St. Clair through three storm water pump/lift stations. The rest of the installation is drained to the south into the Clinton River by two storm water pump/lift stations (Selfridge ANGB, 2001).

Floodplains are low-lying areas along creeks and rivers that are prone to flooding during seasonal snowmelt and spring or other high rainfall events. The principal concern with flooding is the potential loss of or damage to property. The frequency and duration of flood events depends on the natural features of a watershed as well as regional weather patterns. Floodplain management (i.e., restrictions on the type and density of development allowed in floodplains) is a policy intended to minimize or avoid flood damage by monitoring development in areas subject to flooding.

Fluctuation of water levels and periodic flooding along the shoreline of Lake St. Clair are a concern at Selfridge ANGB. Additionally, flood hazard areas and 100-year floodplains occur on and in the vicinity of Selfridge ANGB. Much of the eastern section of the installation is within the 100-year floodplain. The 500-year floodplain extends to the west of the 100-year floodplain on the installation and also encompasses much of the southern section of the installation. The extent of the 100-year and the 500-year floodplain on the installation is shown in Figure 7 in Appendix A. Flooding impacts the mission through costly delays, cleanup, and repairs. The area to the north of the installation, the Clinton River, and the Lake St. Clair shoreline are recognized flood hazards.

Groundwater beneath Selfridge ANGB generally occurs within 15 feet below ground surface within clayey and silty unconsolidated sediments of glacial and lacustrine origin. Yields from these layers are sufficient for domestic water sources; however, the irregular distribution of these sources makes them unreliable as a groundwater resource. Additionally, some wells in the area have produced mineralized water containing elevated levels of chloride, magnesium, sodium, and potassium, but still meet safe drinking water standards (Selfridge ANGB, 2000). Groundwater also occurs in underlying Antrim Shale, and the Traverse Group bedrock

formations; however, yields are less than 10 gallons per minute and withdrawn water is highly mineralized (Selfridge ANGB, 2001).

3.1.3.4 Topography

Elevations within the county vary from 575 feet above mean sea level (MSL) at Lake St. Clair to 1,167 feet above MSL at the top of Trombley Mountain in western Bruce Township. The Clinton River and its tributaries, which drain into Lake St. Clair, are relatively close to Selfridge ANGB. Consequently, and due to the absence of natural relief and drainage features, these waterways affect surface hydrology on the installation (Selfridge ANGB, 2001) (see Figure 8 in Appendix A).

3.1.3.5 Access and Public Use

Selfridge ANGB is gated and has restricted access. Guests must obtain passes in order to enter the base.

Selfridge ANGB offers limited outdoor recreation activities. Outdoor recreation resources at Selfridge ANGB include jogging and biking routes, an exercise course, a golf course, baseball fields, a marina, and fishing areas along the seawall. Limited development of outdoor recreation activities has occurred in the past at Selfridge ANGB, other than the golf course.

People and social uses/needs are an integral part of ecosystem management. The outdoor recreation program is based on providing quality experiences while sustaining ecosystem integrity. Activities that have a direct effect on species populations will be monitored to determine effects, and adaptive management (i.e., water bars on trails) incorporated to mitigate negative impacts. Special consideration is given to protecting sensitive areas from negative impacts due to outdoor recreation or ecosystem management activities.

3.1.3.6 Cover and Habitat Types

Vegetation at Selfridge ANGB is best described as human-maintained prairie interspersed with fragmented wetlands consisting of mixed hardwood woodlands that occasionally support scrub species. Marshes occur in the wetter portions of the installation. Much of the natural vegetation has been removed from the improved and semi-improved areas of Selfridge ANGB to accommodate the development of runways and other facilities in support of the military mission.

The vegetation classification for Selfridge ANGB includes 13 vegetative alliance types composed of six closed-canopy forest types, three woodland types, 1 shrubland type, and three herbaceous types. Many of the plant community types occurring on the installation are typical of the disturbed land of the Midwest due to changes in soil structure and chemistry. Many of the vegetative signatures are not likely to match areas that have experienced less human disturbance. Figure 9 in Appendix A shows the delineation of vegetative alliances on Selfridge ANGB. A more thorough account of the vegetation is covered in the discussion on vegetative alliances in the Final Comprehensive Biological Survey Report (ANG, 2004).

As stated in section 1.2 Selfridge ANGB is predominantly managed as improved space. Grounds are categorized based on operational needs and the intensity of maintenance required: improved, semi-improved, forested, and other areas (see Figure 4 in Appendix A).

3.1.3.7 Wildlife

A list of potential and documented bird species on Selfridge ANGB is located in Appendix D of the Selfridge INRMP (Selfridge ANGB, 2010); additional species were located during acoustical surveys conducted in January 2011. The residential status of each species was assigned, designating them as being year round residents; spring/fall migrants; or primarily summer, winter, fall, or spring residents. Other species whose ranges are primarily to the south or west might also be sighted at Selfridge as transients, or, less likely, as seasonal breeders. Migratory birds are protected through International Treaties and the Migratory Bird Treaty Act. Federal regulations and Executive Order 13186 provide the framework for regulation of migratory bird take and possession

Raptors (i.e., birds of prey) that have the potential to migrate through or reside at Selfridge ANGB include owls, the sharp-shinned hawk (*Accipiter striatus*), American kestrel (*Falco sparverius*) and turkey vulture (*Cathartes aura*). The red-tailed hawk (*Buteo jamaicensis*), peregrine falcon (*Falco peregrinus*), short-eared owl (*Asio Flammeus*) and Cooper's hawk (*Accipiter cooperii*) have been observed on the installation. Raptors prey on small mammals, including mice and shrews, reptiles, insects, and other birds.

Small marshes, bogs, and bordering irrigation reservoirs provide limited habitat for wading birds, shorebirds, or waterfowl on Selfridge ANGB. However, the installation is bordered by Lake St. Clair and there is potential for wading birds, shorebirds, and waterfowl to migrate through or reside at Selfridge ANGB. Some of these bird species include the American bittern (*Botaurus lentiginosus*), mallards (*Anas platyrhynchos*), the Canada goose (*Branta canadensis*), the great blue heron (*Ardea herodias*), the blue- winged teal (*Anas discors*), the black duck (*Anas rubripes*), and the wood duck (*Aix sponsa*). The state threatened common loon (*Gavia Immer*) has been observed adjacent to the shoreline of the installation in Lake St. Clair.

A list of potential and documented mammal species on Selfridge ANGB is located in Appendix D of the Selfridge INRMP (Selfridge ANGB, 2010). Coyote (*Canis latrans*), red fox (*Vulpes vulpes*), mink (*Mustela vison*), and feral cat (*Felis catus*) have been observed on the installation. Common carnivorous species with the potential to reside at Selfridge ANGB include the gray fox (*Urocyon cinereoargentus*), badger (*Taxidea taxus*), raccoon (*Procyon lotor*), and long-tailed weasel (*Mustela frenata*). These species are an important component to the local ecosystems. These predators prey on rodents, rabbits, and insects providing a natural means of controlling potential pest populations. They can also effectively remove nesting and flocking birds. In addition, studies have shown that removing high-level predators, such as the coyote, can indirectly lead to increased animal strikes involving prey species as their populations increase.

Ungulates such as white-tailed deer (*Odocoileus virginianus*) utilize the forage available at Selfridge ANGB. Deer occur throughout the installation, including the developed and undeveloped areas. However, deer numbers have been reduced through the installation of a perimeter fence line. Greater numbers of deer occur outside the installation's boundary as evidenced by browse lines on trees and visual observations.

Cottontail rabbit (*Sylvilagus floridanus*), eastern gray squirrel (*Sciurus carolinensis*), fox squirrel (*Tamiasciurus hudsonicus*), muskrat (*Ondatra zibethicus*), striped skunk (*Mephitis mephitis*), and woodchuck (*Marmota monax*) have been observed on the installation. Common small mammals

with the potential to reside at Selfridge ANGB include the meadow vole (*Microtus pennsylvanicus*) and the Virginia opossum (*Dedelphis marsupialis*).

Reptile and amphibian documentation is limited at Selfridge ANGB. However, a list of amphibians and reptiles with the potential to migrate through or reside at Selfridge ANGB is provided in Appendix D of the Selfridge INRMP (Selfridge ANGB, 2010). Amphibian and reptile species observed on the installation include the American toad (*Bufo americanus*), northern leopard frog (*Rana pipiens*), the green frog (*Rana clamitans*), and the common garter snake (*Thamnophis sirtalis*). Due to the topographic and regional conditions present on Selfridge ANGB, several additional species have the potential to reside at Selfridge ANGB. These include the blue racer (*Coluber constrictor foxi*), eastern fox snake (*Elaphe vulpine gloydi*), wood frog (*Rana sylvatica*), and the western chorus frog (*Pseudacris triseriata*).

3.1.3.8 Threatened and Endangered Species

Northern Long Eared Bat (NLEB) was recently listed as Threatened under the endangered species act, and this species of bat was documented at the installation during acoustical surveys in 2010. State listed species have been observed at Selfridge to include Short-Eared Owl, Peregrine Falcon, and common loon. Both the Peregrine Falcons and Short Eared Owl have been observed during summer periods, but nesting has not been documented at the installation. The Common Loon has been observed adjacent to the shoreline of the installation in Lake St. Clair. Table 3-1 lists Federal and state listed threatened and endangered species documented to occur in Macomb County, Michigan.

Table 3-1. Federal and State-Listed Threatened and Endangered Species Documented for Macomb County, Michigan

Common Name	Scientific Name	Federal Status	State Status
Mammals			
Indiana bat	*Myotis sodalis*	E	E
Northern long-eared bat	*Myotis septentrionalis*	T	C
Birds			
Short-eared owl	*Asio Flammeus*		E
Long-eared owl	*Asio otus*		T
American bittern	*Botaurus lentiginosus*		SC
Red-shouldered hawk	*Buteo lineatus*		T
Rufa red knot	*Calidris canutus rufa*	C	T
Black tern	*Chlidonias niger*		SC
Northern harrier	*Circus cyaneus*		SC
Peregrine falcon	*Falco peregrinus*		E
Common loon	*Gavia immer*		T
Prothonotary warbler	*Protonotaria citrea*		SC
King rail	*Rallus elegans*		E
Forster's tern	*Sterna forsteri*		T

Table 3-1. Federal and State-Listed Threatened and Endangered Species Documented for Macomb County, Michigan

Common Name	Scientific Name	Federal Status	State Status
Common tern	*Sterna hirundo*		T
Reptiles			
Spotted turtle	*Clemmys guttata*		T
Eastern fox snake	*Pantherophis gloydi*		T
Eastern massasauga	*Sistrurus catenatus catenatus*	C	SC
Fishes			
Lake sturgeon	*Acipenser fulvescens*		T
Eastern sand darter	*Ammocrypta pellucida*		T
Mooneye	*Hiodon tergisus*		T
Silver chub	*Macrhybopsis storeriana*		SC
Pugnose shiner	*Notropis anogenus*		E
Brindled madtom	*Noturus miurus*		SC
Channel darter	*Percina copelandi*		E
River darter	*Percina shumardi*		E
Invertebrates			
Elktoe	*Alasmidonta marginata*		SC
Slippershell mussel	*Alasmidonta viridis*		T
Purple wartyback	*Cyclonaias tuberculata*		T
Snuffbox	*Epioblasma triquetra*	E	E
Wavy-rayed lamp mussel	*Lampsilis fasciola*	E	T
Eastern pondmussel	*Ligumia nasuta*		E
Black sandshell	*Ligumia recta*		E
Sealed globelet	*Mesodon mitchellianus*		SC
Hickorynut	*Obovaria olivaria*		E
Round hickorynut	*Obovaria subrotunda*		E
Depressed ambersnail	*Oxyloma peoriense*		SC
Round pigtoe	*Pleurobema sintoxia*		SC
Kidney shell	*Ptychobranchus fasciolaris*		SC
American burying beetle	*Nicrophorus americanus*	E	X
Lilliput	*Toxolasma parvus*		E
Deertoe	*Truncilla truncata*		SC
Rayed bean	*Villosa fabalis*	E	E
Rainbow	*Villosa iris*		SC
Vascular Plants			
Gattinger's gerardia	*Agalinis gattingeri*		E

Table 3-1. Federal and State-Listed Threatened and Endangered Species Documented for Macomb County, Michigan

Common Name	Scientific Name	Federal Status	State Status
Missouri rock-cress	*Arabis missouriensis var. deamii*		SC
Lake cress	*Armoracia lacustris*		T
Davis's sedge	*Carex davisii*		SC
False hop sedge	*Carex lupuliformis*		T
Richardson's sedge	*Carex richarsonii*		SC
Hill's thistle	*Cirsium hillii*		SC
Pumpkin ash	*Fraxinus profunda*		T
Showy orchis	*Galearis spectabilis*		T
Downy gentian	*Gentiana puberulenta*		E
Stiff gentian	*Gentianella quinquefolia*		T
Panicled hawkweed	*Hieracium paniculatum*		T
Goldenseal	*Hydrastis canadensis*		T
Winged monkey flower	*Mimulus alatus*		X
Heart-leaved plantain	*Plantago cordata*		E
Orange or Yellow fringed orchid	*Plantanthera ciliaris*		E
Shumard's oak	*Quercus shumardii*		SC
Clinton's bulrush	*Scirpus clintonii*		SC
Rosinweed	*Silphium integrifolium*		T

Source: Michigan Natural Features Inventory: http://mnfi.anr.msu.edu/data/cnty_dat.cfm?county=50
Status Descriptions:
X – listed as extirpated, if rediscovered will automatically be listed as threatened
E – listed as endangered by the State of Michigan or the Endangered Species Act (ESA)
T – listed as threatened by the State of Michigan or the ESA
C – listed as a Candidate for listing by the ESA
SC – listed as special concern (rare or uncertain; not legally protected)

3.1.3.9 Cultural Resources

Cultural resources consist of landscapes, archeological sites, structures, artifacts, flora and fauna, and geological features that are considered important to a social, ethnic, cultural, or occupational group's shared identity, existence as a community, or necessity for continuation of traditional lifeways. Archeological resources found at Selfridge ANGB include prehistoric and historic site types. Prehistoric site types include artifacts and tools, burials, cultigens, settlements and camps, pottery, and lithic technology (Selfridge ANGB, 2000). The MIANG is working with the MISHPO to determine the significance of these resources. The MISHPO has already determined that a prehistoric scatter-flake site and Core Site I are not eligible for the NRHP.

Historic sites identified on Selfridge ANGB include housing and various military properties consisting of aircraft support, barracks, storage, power plants, radar sites, and electrical systems.

Most of the buildings were constructed between 1925 and 1933 when the installation became a permanent facility and between 1941 and 1945 during World War II. Cold war-era operations associated with Selfridge ANGB included North American Defense Nike facilities and Strategic Air Command facilities. According to the MISHPO, the existing structures that contribute to the cultural legacy of the installation meet criteria for listing in the NRHP (Selfridge ANGB, 2000). The landscape surrounding these buildings could be a contributing feature to the resource, and therefore must be managed in accordance with Section 106 and 110 of the NHPA.

3.1.3.10 Unexploded Ordnance Areas

There are no unexploded ordnance areas located within Selfridge ANGB.

3.1.3.11 Withholding Lands

Selfridge ANGB does not withhold lands.

3.1.3.12 Fuels

Selfridge ANGB burn units are comprised mostly of grasses. Specific fuels consist of Common Reed (*Phragmites),* grasses (*Bluejoint and Switchgrass)*, and cattail species (*Clubrush* mainly). Litter depths range from four inches to 12 inches in the wetlands. Eighty-five percent of the fuels outside the burn units are mixed urban, mowed grass or buildings and pavement. About eight percent of the fuels outside the burn units are forested areas.

Table 3-2. Fuel Model Coverage Estimates

Vegetation Type	Acres	Percent	Fuel Model
Common Reed, *Phragmites*	112.19	25.8	3
Grasses, *Bluejoint and Switchgrass*	162.09	37.1	3
Cattail, *Clubrush*	162.08	37.1	3
Total	**436.36**	**100**	

The Fire Behavior Fuel Model that most closely pertains to the burn units is model 3 from the Grass group. Fires in this fuel are the most intense of the grass group and display high rates of spread under the influence of wind. Wind may drive fire into the upper heights of the grass and across standing water. Stands are tall, averaging about 3 feet (1 meter), but considerable variation may occur. Approximately one-third or more of the stand is considered dead or cured and maintains the fire (Anderson, 1982).

3.1.3.13 Fire History

Selfridge ANGB has had no documented wildfires or prescribed fires.

3.1.3.14 Safety Concerns

Safety concerns at Selfridge ANGB include fuel storage areas, a firing range, and munitions storage areas. There are two fuel storage areas; one is located in the northwestern portion of the base bordered by the installation fence and west perimeter road. The second fuel area contains multiple small above ground storage tanks and is located on the south end of Jefferson Avenue. The fuel storage locations are safety concerns for firefighters, Air Force personnel and the public.

Selfridge ANGB has one firing range for small arms. It is a fenced location on the west side of Jefferson Avenue. The firing schedule is readily available. Three locations on base house munitions items. There are two bunker locations, both on the northern half of the base, and one on either side of the runway. The third munition area is on the western portion of the east ramp where 2.75 inch Rockets are located. These areas are safety concerns for all personnel on the base.

3.2 Fire Management Unit – Specific Descriptions

Selfridge ANGB is composed of only one FMU. The general characteristics of this unit are described in Section 3.1.3. Additional FMU descriptions, values to protect, fire management guidance, and safety considerations are provided in this section.

3.2.1 Wildland FMU Description

The Selfridge ANGB FMU is 3,074.485 acres of Federal Fee Land, which is managed by the ANG for the Air Force. The FMU was broken down into smaller burn blocks. These blocks were determined by location, type (ditch, shoreline, or open area), and by physical barriers such as fences and roads. The burn blocks range in size from 0.65 acres to 59.93 acres totaling 436.36 acres (see Figure 10 in Appendix A).

Prescribed fires can be conducted year-round. Fire intensity levels would be determined by the specific location and weather conditions for the day of the fire.

There are no Wildland Urban Interface locations on Selfridge ANGB and no historical burns have taken place. It is not expected to conduct prescribed fires adjacent to or within reasonable distance to hazardous fuels.

3.2.2 Wildland FMU Values to Protect

Significant values to protect that are located within or near the burn blocks include manmade and natural infrastructure, including the runway and associated air shed, Air Force structures, the firing range, munitions storage areas, and Utility right-of-ways including power lines. Other values include residential and commercial buildings adjacent to the base.

Values critical to the Air Force mission include all building and structures related to airfield operations, fuel storage, and munitions storage areas. Although these areas are not located within the Selfridge ANGB burn blocks, they are adjacent to or extremely close to the possible burn blocks.

3.2.3 Wildland FMU Fire Management Guidance

The preferred strategy for wildfire response is immediate suppression. Retardant or foam use would not be used in wetlands except in emergency situations, and with approval by the Wildland Fire Program Manager. Wildland fire operations will employ Minimum Impact Suppression Techniques, including limitation of equipment use in wetlands except in emergencies, and with approval by the Wildland Fire Program Manager. Prescribed fire will be used in conjunction with herbicide treatments to help control invasive *Phragmites*, with a goal of treating all areas affected by *Phragmites*, with follow-up burn treatments as needed.

3.2.4 Wildland FMU Safety Considerations

Safety considerations for wildland fire management at Selfridge may include the following:

- Difficulty of movement in wetlands
- Smoke impacts on highway and local roads and waterways
- Power lines
- Above ground storage tanks
- Munitions storage areas
- Firing ranges
- Poison ivy, poison sumac, wasps, bees, spiders (i.e., black widow), and venomous snakes

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4.0 Wildland Fire Operational Guidance

This chapter documents the procedures used at Selfridge for wildland fire management. The guidance of policy and procedures in the corresponding chapters of the current Federal Interagency Standards for Fire and Fire Aviation Operations and Air Force Instruction are part of this WFMP, and must be followed.

4.1 Management of Wildfires (Unplanned Ignitions)

The primary wildfire planning component is to delineate roles and responsibilities of Selfridge Fire and Emergency Services, the Selfridge Wildland Fire Program Manager, and interagency partners responding to a rare wildfire on Selfridge ANGB.

4.1.1 Preparedness

Preparedness activities support safe, efficient, and cost-effective fire management through appropriate planning and coordination (i.e., pre-season wildfire planning with state and local coordinators).

4.1.1.1 Training and Qualifications

Air Force Fire and Emergency Services are qualified to respond to all 911 reports of wildfires; however, they do not have the necessary qualifications to set prescribed burns. Selfridge ANGB does not have the need or capacity to maintain a permanent staff of trained and qualified wildland firefighters. The base will partner with outside agencies for prescribed fire and wildfire needs, including the USFS, USFWS, and MDNR. Personnel from these agencies must meet the standards for fire job position training and experience, conduct annual refresher training, pass physical fitness testing, and have medical examinations in accordance with the guidelines of the Interagency Red Book and the National Wildfire Coordinating Group (NWCG).

4.1.1.2 Delegation of Authority to Air Force Wildland Fire Program Management

Appendix B contains a delegation of authority letter assigning the Wildland Fire Program Manager position to the Selfridge ANGB Fire Department. A formal delegation of authority should also be signed to the USFS and/or MDNR prior to those agencies leading a prescribed fire or performing as an incident commander on a wildfire that occurs on Air Force property. Such delegations are standard practice for interagency wildland fire operations, and basic templates are sufficient. An example of a template for this delegation to USFS is provided in Appendix B.

4.1.1.3 Readiness

Selfridge ANGB does not have the need or capacity to maintain a permanent staff of trained and qualified wildland firefighters. The installation will augment staff with resources from partner agencies for both prescribed fire and wildfire needs. These agencies will coordinate with Selfridge for required planning, and will provide all necessary equipment and supplies.

4.1.1.4 Wildland Fire Aviation Management

Selfridge ANGB does not anticipate a need for fire-related aviation operations; however, if they were required, applicable guidelines of the AFI and federal Interagency operations and guidelines would be followed. It is suggested that any such resources operate under the oversight of the Selfridge air traffic control tower, and where possible, stage on designated

runway or flight line space. Such coordination, though rare, can become problematic if not pre-planned with Air Traffic Control, security forces, and flight line operations staff.

4.1.1.5 Wildfire Detection

It is anticipated that wildfire detections would be made by mission aircraft, installation personnel, and casual observers. Wildfire detections should be reported to Air Force Fire and Emergency Services (FES). If Selfridge FES cannot suppress the wildfire, FES would then contact the USFS and/or MDNR to respond, and the Air Force Wildland Fire Center following notification procedures.

4.1.1.6 Initial Report of Wildfire and Initial Attack (Response) Dispatching

Personnel will document wildfires on Incident Command System form ICS-214, Activity Log. The Dispatch Center for wildfires on Selfridge will be the Air Force FES. Dispatch will notify the Wildland Fire Program Manager and the appropriate chain of command of the wildfire, and request assistance from the Selfridge Fire Department as needed for structure protection when Air Force FES is not able to respond and fully resolve the wildfire on their own. Notification to the chain of command shall be concise to include location, resources committed, size, and hazards. Upon arrival, Unified Command will be used, but USFS or MDNR would supply the operations chief qualified to suppress any wildfire for the duration of the event. When the Initial Attack crew arrive, dispatch will give a "size up" briefing on current status and situation, location, travel route, current and expected fire weather for the particular location and any other information pertinent to the incident (i.e., hazards, aerial photos, etc.). FES Dispatch will announce via radio the person fulfilling the Incident Commander (IC) responsibilities. Additionally, dispatch will assign tactical radio frequencies for the incident.

Once command is established, the IC shall inform dispatch of the name of the incident, location of fire, approximate size of fire, type of fuels, current fire behavior, wind direction and speed, fuel loading (i.e., light, moderate, heavy), spread potential, hazards (e.g., snags), values at risk, and whether resources on scene are sufficient to control. The IC shall report the "contained" (when a fire is encircled by a fireline), and "controlled" (when fire is encircled by a fireline, and all hotspots that are immediate threat to control line are cooled down) times to dispatch.

4.1.1.7 Incident Commander Responsibilities (for all incident types)

All wildfires occurring on an Air Force installation must be supervised by a qualified IC. If a qualified IC is not available, one will be ordered through the local interagency dispatch center. The IC is a single individual responsible to the installation for all incident activities, including the development of incident management strategies and tactics, and the ordering, deployment, and release of resources. The IC is responsibilities are to:

- Provide a size-up to dispatch as soon as possible upon arrival on scene. A size-up checklist is in the Interagency Incident Response Pocket Guide (IRPG).
- File an incident report and notification to the Air Force Wildland Fire Center as per reporting requirement specified in Section 4.1.2.6.

- Assess potential management by suppression and/or by wildfire for resource benefits as incident objective(s), and contact the Wildland Fire Center with incident updates and recommended plan of action.
- Use guidance in this WFMP. Secure a Delegation of Authority to implement the selected suppression response and manage an organization to implement effective strategies and tactics. Minimize suppression impacts where possible without reducing the effectiveness of the actions being undertaken.
- Determine resource needs and order them through FES dispatch.
- Ensure all resources assigned and those incoming receive a briefing. Document these briefings. Refer to the Briefing Checklist in the IRPG.
- Continually re-assess incident complexity using the checklist in the IRPG. When a more qualified IC is needed, inform dispatch and the delegated unit administrator and place the order for a higher level IC.
- Depending on incident complexity, additional responsibilities for the IC may apply. Utilize AFI and the Wildland Fire Center for more detailed descriptions of IC responsibilities.
- All resources, including mutual aid resources, will report to the IC (in person or by radio) to receive an incident briefing prior to tactical assignment deployment.
- All wildfires must be investigated to determine fire cause. Document findings on ICS-214, and determine if negligence or criminal intent were factors. If the IC suspects a fire cause is suspicious, a qualified wildland fire investigator will be ordered. The point of origin should be protected for investigation purposes.

4.1.1.8 Wildland Fire Mutual Aid and/or Cross Boundary Operations

Due to the reliance of Selfridge ANGB on interagency partners for potential wildfire suppression, it is recommended that a mutual aid agreement with the USFS and/or MDNR be completed to formally capture the details in this document and allow for an orderly transition of command from Installation Fire and Emergency Services to interagency wildland fire crews.

4.1.2 Wildland Fire Incident Management

4.1.2.1 Dispatching Beyond Initial Attack

Due to the low complexity burning and low wildfire risk, the likelihood of a situation that required dispatching beyond initial attack is low. In the rare case this did occur, the IC would notify the FES Dispatcher and the Wildland Fire Program Manager. If additional resources are needed, they would be ordered through the USFS dispatch, which would mobilize any additional resources, including more qualified ICs and/or Incident Management Teams. The FES Dispatcher or Wildland Fire Program Manager would notify the Air Force Wildland Fire Center, which would provide assistance with extended attack support, including completion of a Wildland Fire Decision Support System (WFDSS) and Delegation of Authority to interagency incident management teams, if needed.

4.1.2.2 Delegation of Authority to Incident Commander (IC)

A separate Delegation of Authority will be provided to any Type 3 or higher level IC. The Civil Engineering Commander or Emergency Operations Center is responsible for preparing a delegation of authority for an incoming IC and/or Incident Management Team (IMT). See the current AFI, or federal interagency "Red Book" for supporting guidelines, which include the Agency Administrator's Briefing to IMT and a Sample Delegation of Authority from Agency Administrator to Incident Management Team.

4.1.2.3 Resource Allocation and Prioritization

Emerging initial response fires will receive the highest priority.

4.1.2.4 Regulatory Compliance for Managing Wildfires (Unplanned Ignitions)

NEPA analysis is not required for wildfires because they are unplanned events; suppression activities are Categorically Excluded from NEPA. Emergency ESA consultation may be conducted on the response to a wildfire. All WFMP actions/decisions comply with Section 106 of NHPA per the terms of the working agreement between the Air Force and the State Historic Preservation Offices.

4.1.2.5 Use of Decision Support Tools

Rapid suppression of all wildfires is the goal of wildfire management at Selfridge, thus Selfridge is unlikely to require the use of a WFDSS.

4.1.2.6 Wildfire Reporting Requirements

The Wildland Fire Program Manager will notify the Air Force Wildland Fire Center within the first operational period of any wildfire incident that:

- Is larger than 10 acres
- Threatens significant infrastructure/resources (regardless of wildfire size)
- Threatens critical missions at Selfridge ANGB (regardless of wildfire size)

The Wildland Fire Program Manager will notify the Air Force Wildland Fire Center within 72 hours for fires smaller than 10 acres, which do not threaten significant infrastructure/resources or critical missions at Selfridge ANGB.

Wildfires that are 100 acres or larger in timber fuels, or 300 acres or larger in grass fuels require completion of an Incident Status Summary (ICS- 209) daily for the incident duration. The ICS-209 will be sent to the State Interagency Dispatch (Coordination Center) and the Wildland Fire Center. Additional requirements for reports to the U.S. Air Force Fire Management Information System (USAFMS) will be forthcoming. Contact the Wildland Fire Center for additional information on USAFMS.

4.1.2.7 Wildfire Suppression Damage Repair

The primary anticipated wildfire suppression damage requiring repair would be ground disturbance from equipment and hand digging along firelines. Repairing the impacts of suppression activities is the responsibility of the Incident Commander Such work should be completed by incident resources prior to final demobilization whenever practical. However, it

may be more cost-effective and practical to delay repairs to improve the probability of success. It is the responsibility of the Wildland Fire Program Manager/line officer to ensure that suppression activity damage repair is completed.

Repair of suppression damage will occur prior to crew release from the fire, including:

- Remove all trash from incident facilities, work areas and firelines
- Replace soil dug from firelines to refill them to level; add water bars as needed
- Fell and buck up hazardous trees and snags
- Flush cut all stumps as close to ground level as practicable
- Roll back and compact sod overturned by plowing (with a grader or by hand) to preserve native grass root stock
- Identify and inventory potential invasive plant species in suppression areas

4.1.3 Emergency Stabilization (ES)

Natural recovery is the preferred choice for recovery following wildfires. However, when natural recovery is not likely, emergency stabilization treatments may be required to stabilize and prevent further degradation of resources, property, and infrastructure (i.e., erosion, invasive species). Selfridge will work with its incident support team and regional support team to facilitate the process of completing emergency stabilization funding needs. Activities must be completed within one year of fire containment. An IC may initiate ES actions before the fire is demobilized, as delegated by the Installation.

4.1.3.1 Emergency Stabilization Planning and Post-Fire Assessments

The ES Plan will specify treatments approved to implement post-wildfire emergency stabilization on a single incident, and must be implemented within one year of wildfire containment. The plan must be completed within seven calendar days of wildfire containment and approved within six business days of receipt by the Wildland Fire Center. Information and a plan template are available at the federal wildland fire site: http://fire.r9.fws.gov/ifcc/esr/home.htm. All ES planning must adhere to AFI policy. The Wildland Fire Program Manager is responsible for assigning a team to develop the ES Plan. Because Selfridge ANGB does not have sufficient expertise to conduct burned area assessments, resource specialists from partner agencies and/or the Wildland Fire Center will be contacted to assist in developing a plan.

4.1.3.2 Emergency Stabilization Post–Wildfire Issues and Values to Protect

Developments are typically protected from fire damage, but dispersed improvements such as fences, public use facilities, and gates may be damaged by severe or large fires. Section 3.2.2 includes a partial list of Values to Protect. To avoid post-fire problems with erosion, invasive plant infestation, and loss of native vegetation, ES actions that may be necessary include placing structures to slow soil and water movement, direct treatment of invasive plants, and monitoring of treatments and activities for up to three years.

4.1.3.3 Emergency Stabilization Treatment Maintenance and Monitoring

Selfridge AFB does not currently have any pre-identified monitoring protocols for treatment maintenance.

4.1.3.4 Emergency Stabilization Reporting Requirements

The Wildland Fire Program Manager is responsible for USAFMS reports and any others required.

4.2 Burned Area Rehabilitation

Because Selfridge is mostly improved/semi-improved areas, disturbed fill areas, and ditches, the need for burned area rehabilitation is not anticipated.

4.3 Management of Planned Fuels Treatments

4.3.1 Processes to Identify and Prioritize Fuels Treatments

Selfridge does not currently have any areas identified that are in need of hazardous fuels treatments. Fuel buildup is minimized through mowing and other routine maintenance activities. Fuels treatments may be necessary in the future, if hazardous fuels accumulate such that they threaten infrastructure, buildings, urban interface areas, threatened and endangered species, and other critical mission resources. The installation Wildland Fire Program Manager, Installation Support Team (IST), and Natural Resource staff will meet (via phone or in person) annually with the Wildland Fire Center Senior Staff to develop a list of future projects that meet priorities for both fire and resource management.

4.3.2 Prescribed Fire Project Implementation

Prescribed fire implementation will follow the standards set forth in the *Interagency Standards for Fire and Fire Aviation Operations* (*Redbook*) (http://www.nifc.gov/policies/pol_ref_redbook.html), and the 2008 *Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide* (*Prescribed Fire Guide*) (http://www.nwcg.gov/pms/RxFire/rxfireguide.pdf).

4.3.2.1 Prescribed Fire Planning

Prescribed fires will be used to support the military mission, land, and resource management objectives in accordance with the Selfridge AFB INRMP, and will be carried out only under a written Prescribed Fire Plan approved by the Wildland Fire Program Manager or designee. Project planning will begin six to ten months in advance of implementation. Preparation of treatment areas will be assigned to qualified personnel within the Air Force, USFS, or MDNR. If a project requires pre-burn preparation, this will be identified in the burn plan. All prescribed fire plans will include monitoring for smoke impacts. Test fires will be used to assess smoke dispersal. Spot weather forecasts will be obtained the day of the burn to aid in decision making for implementation.

Prescribed fire planning for Selfridge will focus on reducing thick patches of *Phragmites* stems killed by herbicides, thus making it easier to locate and spot-treat regrowth. The year following herbicide treatment, Selfridge will apply prescribed fire, preferentially in late summer (mid-July through August), as fire at this time removes dead stems, destroys seed heads, and helps kill any *Phragmites* plants that survived the initial herbicide treatment. For late summer fires, conditions

should be dry enough to allow thorough consumption of *Phragmites* vegetation. Consideration will be given to nesting birds, amphibians, and reptiles before burning anytime other than during winter. If prescribed fire is not possible during the summer, then a winter burn (January until prior to spring green-up) following herbicide application can be used to remove dead stems and prepare the site for subsequent herbicide treatments. One risk of winter burning is that it can stimulate growth of *Phragmites* plants that were not killed by the herbicide treatment; however, the benefits of biomass reduction and native plant regrowth typically outweigh this risk (MDEQ, 2014). Sites will be checked the following growing season for *Phragmites* regrowth, and spot-treated as necessary. Areas will be evaluated for the need for additional prescribed fire.

4.3.2.2 Prescribed Fire Operations

Cooperators will be used to implement prescribed fires at Selfridge ANGB. They must meet NWCG Interagency Service standards or equivalent. Cooperators must also have appropriate qualifications certified by their agency. At Regional or National Preparedness Levels four or five, Selfridge will consult the Wildland Fire Center for instruction on prescribed fire authorization.

Operational Checklist

- At least thirty days prior to the planned Burn Day, the Burn Boss will ensure all local, state, and smoke management permits are in place and current.
- At least two weeks prior to the planned Burn Day, the Burn Boss will notify staff assigned to the project to ensure adequate planning of work and leave schedules.
- At least a week before Burn Day, all engines, tools, supplies, etc., will be checked.
- By the day before the Burn Day, Burn Bosses will report to the Wildland Fire Program Manager.
- Public and media contacts will be completed as designated in the burn plan.
- Warning signs and/or road guards will be used to advise motorists of a prescribed fire in progress, especially if smoke could reduce visibility.
- Air Force roads adjacent to burn units will be closed temporarily as needed.
- Test fires will be used to assess holding capability and smoke dispersal. Weather forecasts for the Burn Day and the next two forecast periods will be obtained.
- Prescribed fires will not be ignited until all contingency forces are confirmed as being in the required status specified in the burn plan.

Individual burn plans must include the following components. The items below are included in a standard burn packet:

- A map clearly showing boundaries and location as well as any fuel type changes and values at risk including endangered species and structures. This is best accomplished with a GIS map that has an aerial photo as the bottom layer.
- 201 Incident Organizer
- 214 Summary of Actions

- Pre-Burn Checklist/Authorization
- Objectives list
- Burn Boss Checklist
- ATV Risk Plan (if ATVs are being used)
- Selfridge specific fuel model and prescription (this includes fire behavior calculations)
- Fire weather and behavior observations data sheet
- Estimates of human, logistical, and operational resources needed to manage the prescribed fire
- Smoke screening output graphic
- Smoke management plan
- Medical plan
- Cooperator and media notifications

4.3.2.3 Prescribed Fire Public Notification

Selfridge ANGB will inform the public of the prescribed fire program through news releases, interpretive messages, and educational programs. For planned prescribed fire ignitions, the Burn Boss, through the installation Public Affairs Office, will be responsible for ensuring all notifications are made to pertinent internal Selfridge organizations and to external news outlets, organizations, and locations of special concern.). A detailed notification list will be included in specific burn plans and could include, but is not limited to: 911 dispatch, local fire departments, local Department of Transportation, Highway Patrol, local sheriff departments, media outlets, mission planners, air traffic controllers, Southeast Michigan District Air Quality Office at MDEQ, MDNR region 10 duty officer, Roscommon Customer Service Center, Command Post, NAVY Group (Building 1408), and the Macomb County Emergency Management and Communications Director. Special notifications will be made for neighbors with known physical ailments that could be adversely affected by smoke.

4.3.2.4 Multiple/Concurrent Prescribed Fire Projects

Procedures needed to handle concurrent prescribed fires or burning in multiple non-adjacent burn blocks at the same time will be detailed in the Burn Plan.

4.3.2.5 Prescribed Fire on Private Lands

This element is required in the Federal Interagency template, but is not applicable on Air Force installations.

4.3.2.6 Prescribed Fire Conversion to Wildfire and Required Reviews

An escaped prescribed fire must be declared a wildfire when any of these occur:

- Fire has exceeded prescription parameters, and contingency actions cannot secure the fire by the end of the next operational period

- Fire has, or is likely to, spread beyond the project area, and the associated contingency actions have, or are likely to, fail, and the fire cannot be contained by the end of the next operational period
- Fire has moved off of federal land without an agreement with the landowner(s)

The Burn Boss would be responsible for declaring a wildfire based on the criteria above. Once an escaped prescribed fire has been declared a wildfire, the appropriate chain of command will be notified in accordance with agency policy. Immediate notification of the Wildland Fire Center is required. The Burn Boss will determine what additional resources will be necessary to control the wildfire, and will initiate a Declared Wildfire Review. Additional guidance for a Declared Wildfire Review is available in the Interagency Prescribed Fire Planning and Implementation Procedures Guide.

4.3.3 Planning, Preparing, Implementing Non-fire Fuel Treatments

Selfridge ANGB plans to conduct non-fire fuel treatments, which include activities such as manual removal of fuels (i.e., cutting and removing herbaceous plants/shrubs/trees). Manual means of ground maintenance for cutting and removing of fuels within the airfield and other areas on the installation are specified in the INRMP. However, as these mechanical (non-fire fuel treatments) methods are weather dependent, these methods may not be sufficient to meet the INRMP goals and objectives, in which case prescribed burns will be utilized.

4.3.4 Fuels Treatment Regulatory Compliance

All prescribed fires and non-fire hazardous fuels projects must be planned, implemented, and managed in accordance with applicable guidance, standards, and policy, including:

- *Interagency Prescribed Fire Planning and Implementation Procedures Guide (NWCG, PMS 484)*
- *Prescribed Fire Smoke Management Guide (NWCG, NFES 1279, PMS 420-1)*
- *Guidance for Implementation of Federal Wildland Fire Policy (February 13, 2009)*
- *NWCG PMS 310-1 Wildland Fire and Prescribed Fire Qualifications System Guide*
- *Review and Update of the 1995 Federal Wildland Fire Management Policy January 2001*
- *Federal Wildland Fire Management Policy and Program Review, Final Report,* 16 *December 18, 1995*
- *National Interagency Mobilization Guide (NFES 2092)*
- *Prescribed Fire Complexity Rating System Guide (NWCG, NFES 2474, PMS 424)*
- *Interagency Standards for Fire and Fire Aviation Operations (NFES 2724)*

Fire management activities that result in the discharge of air pollutants are subject to, and must comply with, all applicable Federal, state, and local air pollution control requirements as specified by Section 118 of the Clean Air Act of 1997 as amended. The Federal Clean Air Act, as amended, established National Ambient Air Quality Standards, and regulations that address pollutants emitted by wildland fire. The Michigan Department of Environmental Quality, Air Quality Division has the authority to implement and enforce these federal standards and

regulations. The Michigan Smoke Management Program (SMP) has been developed to minimize those potential air quality impacts associated with wildland fire while optimizing the opportunities to use fire as a land management tool.

Michigan's SMP is based on The Exceptional Events Rule Parts 50 and 51 of March 22, 2007 and Section VI, "Smoke Management Programs" of the U.S. Environmental Protection Agency's April 23, 1998 "Interim Air Quality Policy on Wildland and Prescribed Fires". These documents may be found at http://fire.r9.,fws.gov/ifcc/smoke/EPA_Policy.htm.

Since Selfridge ANGB prescribed fires are not point sources, but rather tend to be spatially distributed singular events, temporary impacts to visibility must be recognized, expected, and managed. Selfridge ANGB is required to obtain necessary permits for prescribed fires from the Selfridge Fire Department, and comply with the National Ambient Air Quality Standards both inside and outside installation boundaries.

Prescribed burn plans must include those elements under Item 1 below and consider the elements under items 2, 3, 4, 5, 6 and 7. Smoke impacts are considered and evaluated on all wildfires and affect management decisions and actions (MDNR, 2007).

Item 1: A process for assessing and authorizing burns. This would include reporting of plan information to the administering agency that exceed the de minims size, 20 acres with a fuel loading of less than 3 tons/acre for purposes of this plan.

a. Location and legal description of the area to be burned.

b. Personnel responsible for managing the fire.

c. Type of vegetation or fuel type/model to be burned.

d. Area in acreage to be burned.

e. Estimated Fuel Loading (tons/acre) on the site.

f. Fire prescription including smoke management components.

g. Criteria the fire manger uses for the go-no-go decision.

h. Safety and contingency plans, which address smoke intrusions.

Item 2: Consider plans for the long-term minimization of emissions and impacts, including promotion of alternates to burning and the use of emission reduction techniques. This becomes a case-by-case basis dependent on the specific site objectives (i.e., there is no alternative to fire in the case of fire dependent ecosystems).

Item 3: Smoke management goals and procedures to be described in burn plans meeting the reporting requirement.

a. Actions to minimize emissions.

b. An evaluation of smoke dispersion.

c. Public notification and exposure reduction procedures to be implemented during air pollution episodes or smoke emergencies.

d. Air quality monitoring, currently there are limited air quality monitors at various locations around the state. Any additional monitoring would become the fiscal responsibility of the requiring party.

Item 4: Public education and awareness program development.

Item 5: Surveillance and enforcement of smoke management program compliance.

Item 6: Program, evaluation, and a 2-year plan review period for the initial implementation of the SMP.

Item 7: Optional programs, these may include special protection zones, buffer areas or performance standards.

Selfridge will comply with State and Federal regulations by:

- Notify the MDNR region duty officer at (989) 275-5151 before conducting any prescribed burns.
- Evaluation of smoke dispersion in burn plan.
- Public notification and exposure reduction procedures to be implemented during air pollution episodes or smoke emergencies.
- Permit/notification process and seasonal restrictions on prescribed fire.
- Work with the MDNR and Michigan Department of Environmental Quality, Air Quality Division on how Selfridge ANGB meets regulatory requirements
- Follow recommendations in the latest edition of the NWCG Smoke Management Guide for Prescribed and Wildland Fire
- Individual prescribed burn plans will specify conditions required for burning that will minimize impacts to air quality from prescribed fire, including compliance with the requirements of State and local air quality regulatory agencies.
- The 127th CES/CEV will coordinate with MDNR and MDEQ, Air Quality Division, to see if they have any outstanding concerns or additional permit requirements as regulations may change.

All prescribed fires at Selfridge will comply with NEPA requirements, and all project NEPA copies will be placed within the project documentation file.

4.3.5 Fuels Treatment Monitoring

The Burn Boss will review current and forecast weather prior to Burn Day. On Burn Day morning, a spot weather forecast from the local National Weather Service will be requested that will include time periods to complete ignition and holding and immediate mop-up needs. Burn Day monitoring will document that the fire is within prescription. Weather variables typically monitored are dry bulb temperature, relative humidity, mid-flame wind speed and direction, and cloud cover; measurements are taken immediately prior to test fire ignition and at intervals specified in the burn plan. Pest Management will conduct post-fire surveys to evaluate effectiveness of the prescribed fire with controlling *Phragmites*.

4.3.6 Fuels Treatment Reporting Requirements

The burn plan is a primary report for an individual prescribed fire. In it, the Burn Boss will document fire and weather observations, actions and decisions, and assess attainment of project treatment objectives. The Burn Boss must also prepare a fire report for the USAFMS within seven days of the fire.

4.3.7 Fuels Committees and Local Coordinating Groups

No local fuels committees or collaborative groups in fuel treatments exist at Selfridge ANGB. The selection and prioritization of projects is determined via need, location priority, and impact to the mission of the base.

4.3.8 Fuels Funding Processes

Selfridge works with its IST and the Wildland Fire Center to determine fuels funding requirements and to secure funding to meet those requirements.

4.3.9 Debris Burning

Selfridge does not have any planned debris burning. Any future debris burns would be implemented as per the instruction. A burn plan would be completed for each debris burn.

4.4 Prevention, Mitigation, and Education

4.4.1 Wildfire Investigation and Trespass Policies

Air Force policy requires that all wildfires must be investigated to determine cause, origin, and responsibility. Wildfire trespass refers to the occurrence of wildfires on Air Force lands where the source of ignition is tied to some type of human activity. Fire trespass requires a legal/law enforcement investigation and the appropriate law enforcement authorities should be contacted and standard criminal and/or civil investigative procedures and reports used. The Interagency Red Book provide detailed information regarding investigation and trespass procedures.

The Air Force Wildland Fire Program Manager for the installation will investigate all human-caused wildfires at the earliest possible time it can be safely done. Investigations may range from a documented determination of cause by an initial response crew to a criminal investigation by a qualified arson investigator. The Wildland Fire Program Manager will determine the level of inquiry initially needed, in conjunction with law enforcement officers.

4.4.2 Wildfire Prevention/Mitigation Activities

4.4.2.1 Wildfire Occurrence

Selfridge AFB has not had any documented wildfires, either natural or human-caused.

4.4.2.2 Prevention Activities

Although wildfires have not historically been an issue at Selfridge, the potential does exist for unplanned ignitions, particularly when there are sufficient fuels loads and dry weather conditions. Prevention goals of the installation are to:

- Prevent catastrophic fires and human-caused wildfires (highest priority);
- Minimize losses from wildfire while considering resource management objectives;

- Integrate and coordinate prevention program with Selfridge fire department, State foresters, nearby land management agencies, and wildfire protection organizations
- Establish cost-effective prevention programs at the installation level,
- Incorporate prevention programs into wildland fire management outreach programs
- Investigate human-caused wildfires when the Agency Administrator deems appropriate.

The primary objectives of fire prevention activities are to prevent human-caused fires and to encourage homeowners to implement mitigation measures around private property. These objectives will be accomplished by:

- Making personnel aware of precautions to prevent an unwanted ignition.
- Coordinating with partner agencies, including the installation fire department, during periods of extreme fire danger.
- Seeking opportunities for fuels mitigation projects to reduce the risk of fire moving onto and off of units and potentially posing a threat to surrounding communities or unit structures.

4.4.2.3 Mitigation Activities

Selfridge AFB will accomplish wildfire prevention goals and objectives by:

- Integrating the prevention message into interpretive programs conducted or sponsored by the installation.
- Making personnel aware of prevention efforts and being able to explain it to other interested parties and individuals that call the Installation.
- Discussing fire prevention at appropriate safety meetings, prior to fire season and during periods of high fire danger.
- Making articles concerning fire prevention available for release.
- Closing installation areas to smoking, open fires or other restrictions as necessary during periods of high or extreme fire danger, and posting notices at appropriate entrances, trails and through local radio and news releases.
- Coordinating with other federal and state land management agencies during periods of extreme fire danger.

4.4.2.4 Prevention Analysis

Selfridge is required to perform a fire prevention analysis, which will be used to determine the need for a fire prevention plan, and will serve as a justification for increasing, decreasing, and modifying existing prevention activities. Any problems identified in the prevention analysis are addressed in a prevention plan along with recommended solutions.

4.4.3 Wildfire Education/Outreach Activities

Due to a historic lack of wildfires and prescribed fire, until recently Selfridge ANGB did not conduct education or outreach activities related to wildland fire management. However, upcoming planned prescribed burns have prompted Selfridge to begin development of outreach

materials to enhance understanding of wildland fire management policies and practices through internal and external communication and education. Information about fire ecology and the differences between planned and unplanned ignitions will be incorporated into outreach programs and informal contacts. Information and education are critical to increasing support for prescribed fires. Education and outreach programs will include components of the nationally sanctioned Fire Adapted Communities program at www.fireadapted.org program or the FIREWISE program available at www.firewise.org.

4.4.3.1 Community Assistance Activities

This does not apply since Selfridge does not have any wildland fire personnel.

4.4.3.2 Cooperative Meetings

Selfridge does not currently participate in any cooperative meetings regarding wildland fire.

4.4.3.3 Community Grant Programs and Assistance

Selfridge has not received any community grant programs or assistance.

4.4.4 Public Information

Informing the public through the installation Public Affairs Office is an important part of wildfire suppression, wildfire prevention, and the Air Force mission. The Wildland Fire Program Manager may delegate this task as needed.

The following actions may be used to inform the public as part of the installation fire prevention and suppression program:

- Press releases
- Interviews with local media
- Signs and interpretive materials
- Attendance at local volunteer fire department meetings
- Personal contact with bystanders

5.0 Monitoring and Evaluation

Monitoring is vital to determining whether the WFMP is being implemented as planned and if fire-related goals and objectives are being achieved. Information obtained from monitoring and evaluation is used to update the WFMP and land management plans.

5.1 WFMP Monitoring

5.1.1 Annual WFMP Review

The Selfridge AFB WFMP will be reviewed annually and updated as outlined in the national WFMP review process. The Wing or Installation Commander (line officer) and the Selfridge Wildland Fire Program Manager are responsible for determining what WFMP updates are needed annually. Revision of the WFMP will be required during the completion of a new (or significantly revised) INRMP and thus will follow the revision schedule of the INRMP from that point forward. MDNR, USDA Forest Service, USFWS, Air Force Wildland Fire Center, Selfridge Natural Resources, Public Affairs, Pest Management, Air Traffic Control, and the Civil Engineer, will be involved in the annual review of the WFMP.

5.1.2 WFMP Terminology

Refer to the NWCG Glossary for definitions of general wildland fire terms.

5.2 Treatment Effectiveness Monitoring

5.2.1 Fire Effects Monitoring

Pest Management would be responsible for post-fire monitoring of *Phragmites* and other invasive species. Post monitoring of fire treatment areas will also include evaluating effects on Bird Air Strike Hazard in proximity to the airfield.

5.2.2 Non-Fire Treatment Effects Monitoring

Selfridge will not be conducting any non-fire treatments.

5.2.3 Collaborative Monitoring with other Disciplines

For invasive plant issues and monitoring and control actions, refer to the Pest Management Plan.

5.2.4 Fuels Treatment Performance Information/Targets

Annual prescribed fire treatments are expected to average between 0.65 and 60 acres, and are focused on control of herbaceous habitat as required by the INRMP, including control of the invasive species *Phragmites*. Prescribed fire plans typically include multiple treatment blocks that may total 436.36 acres or more in the various treatment blocks. Treatment blocks may be shifted to a new year if conditions or other circumstances do not allow planned treatments as initially scheduled.

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6.0 References

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APPENDIX A

FIGURES

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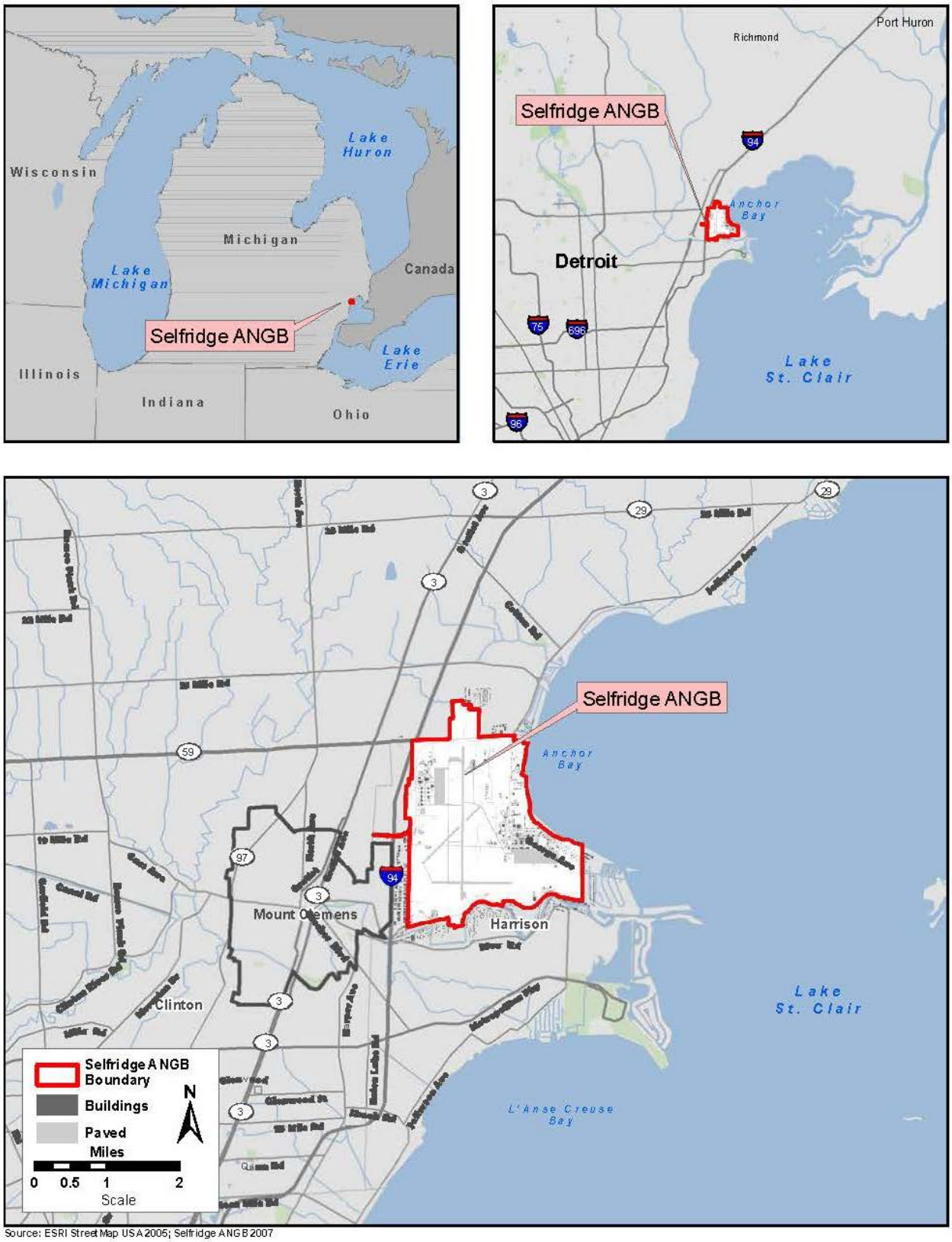
Appendix A – Figures



Source: ESRI Street Map USA 2005; Selfridge ANGB 2007

Figure 1: Installation Overview

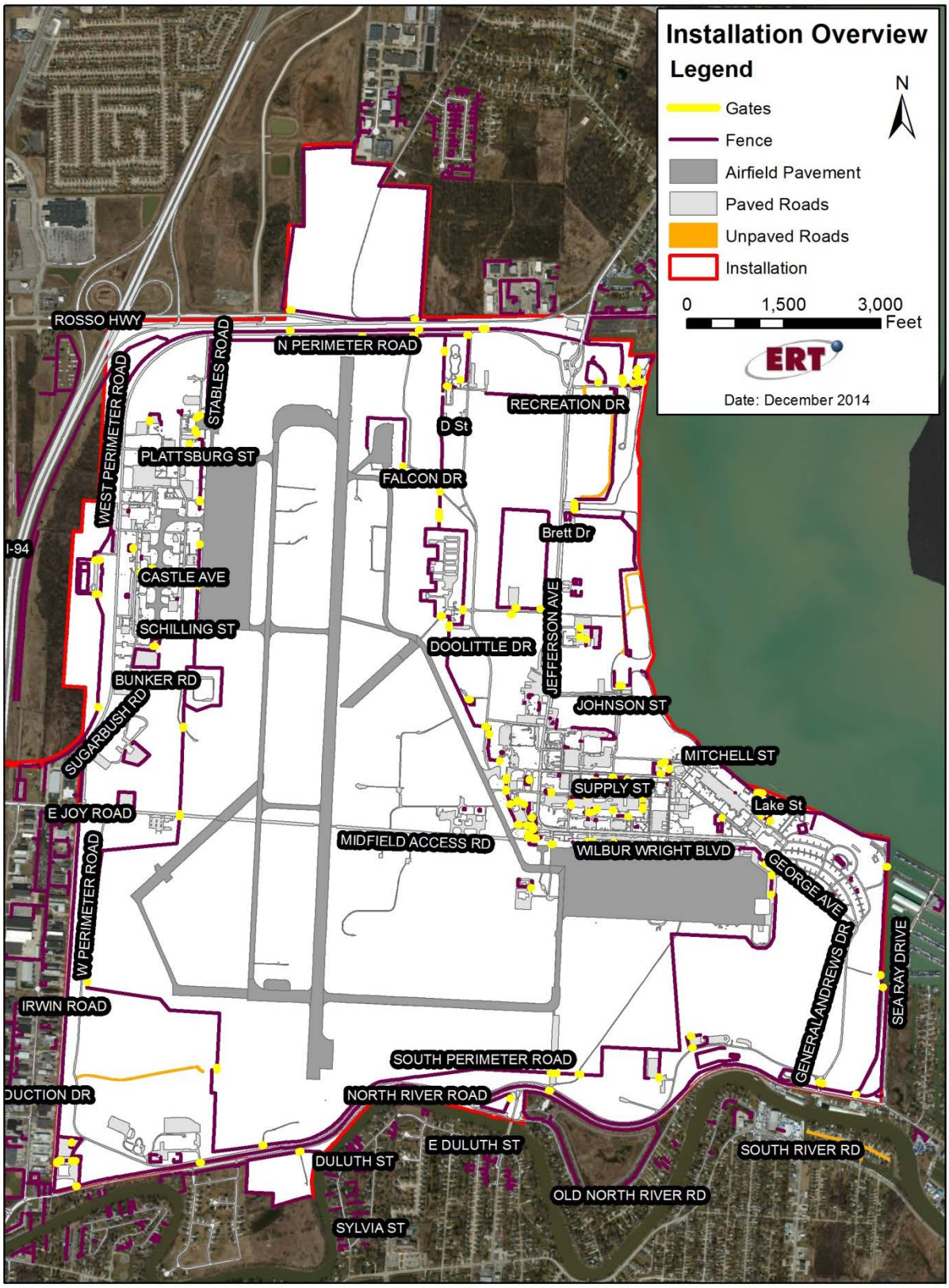


Figure 2: Installation Overview

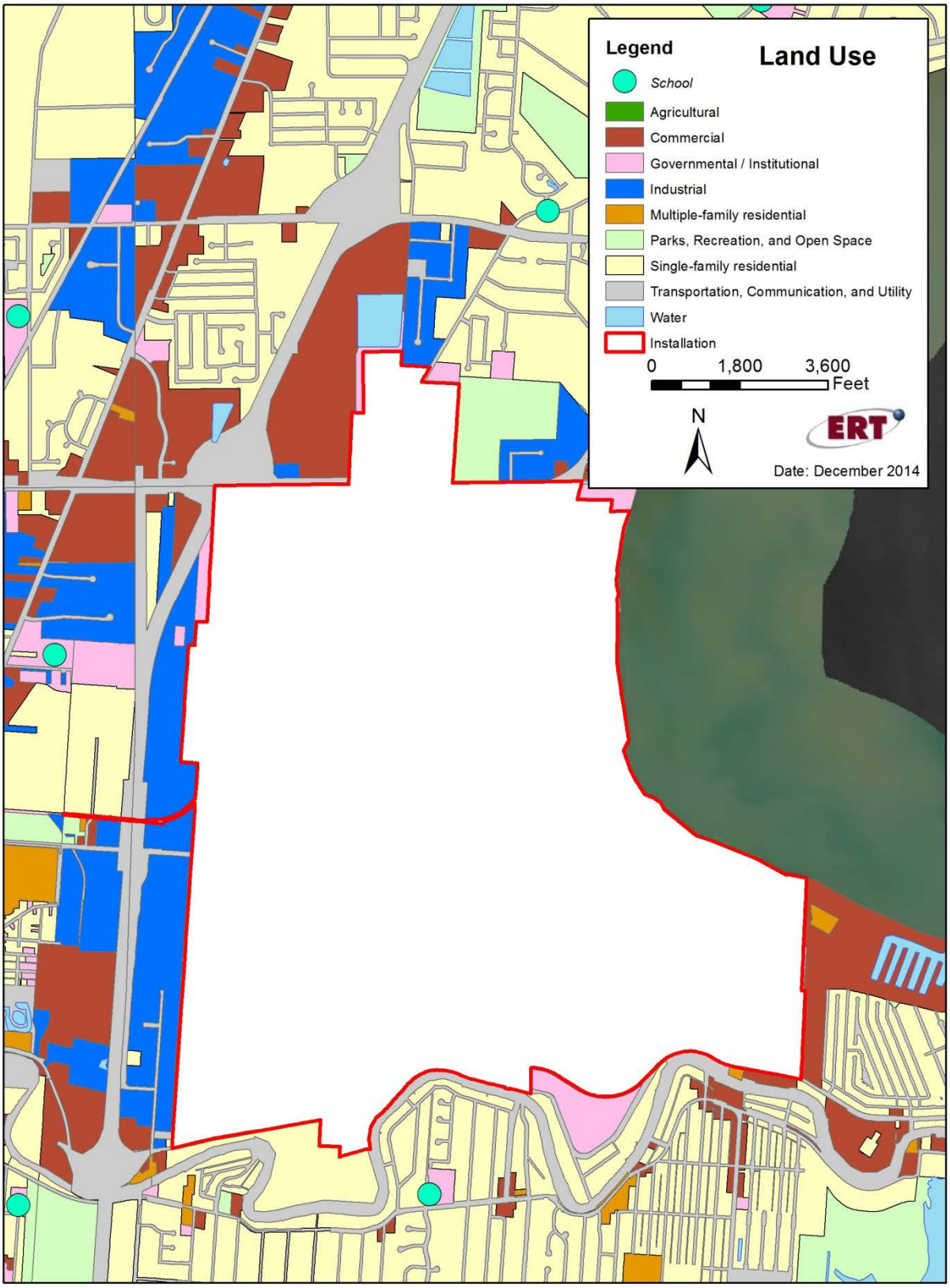
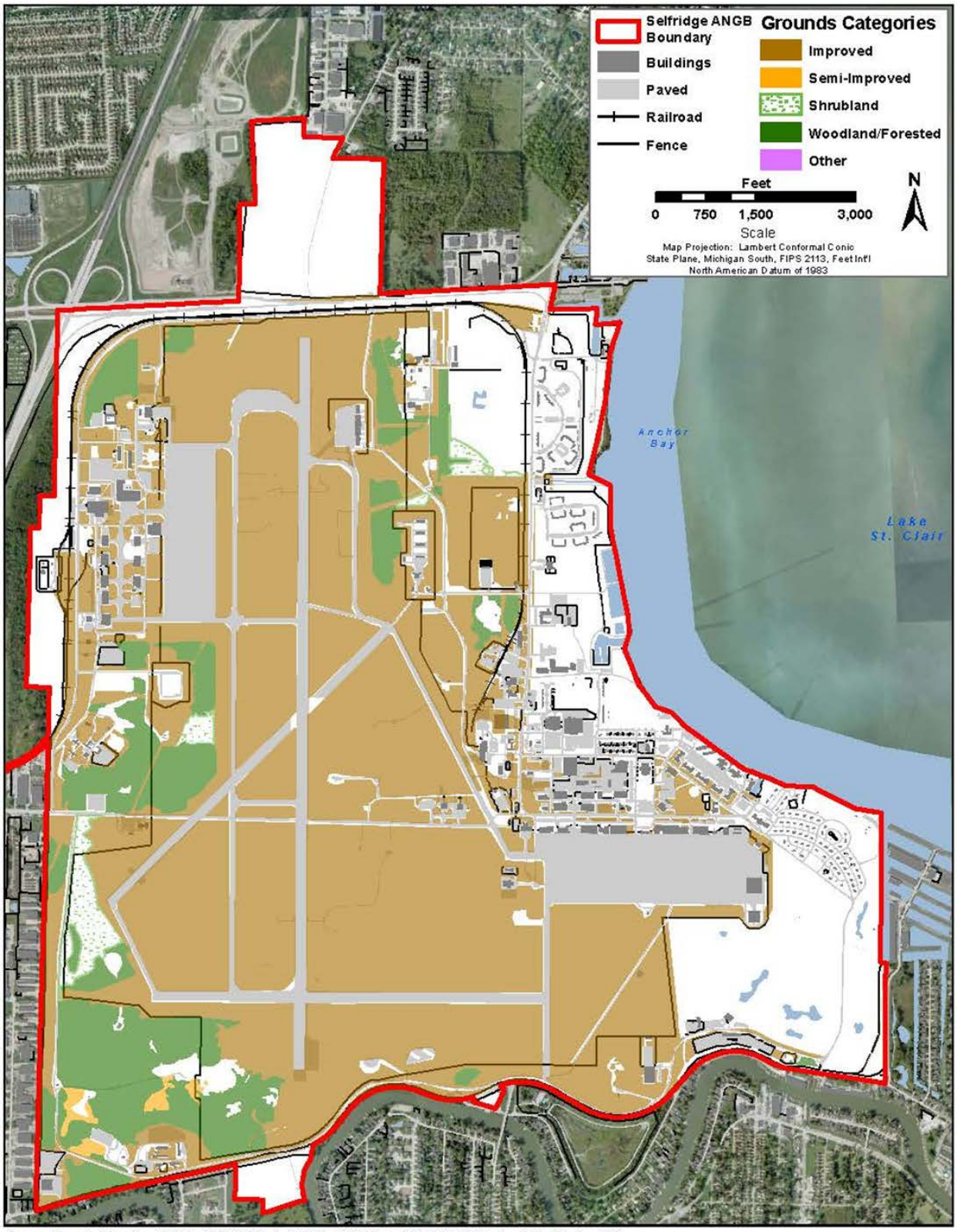


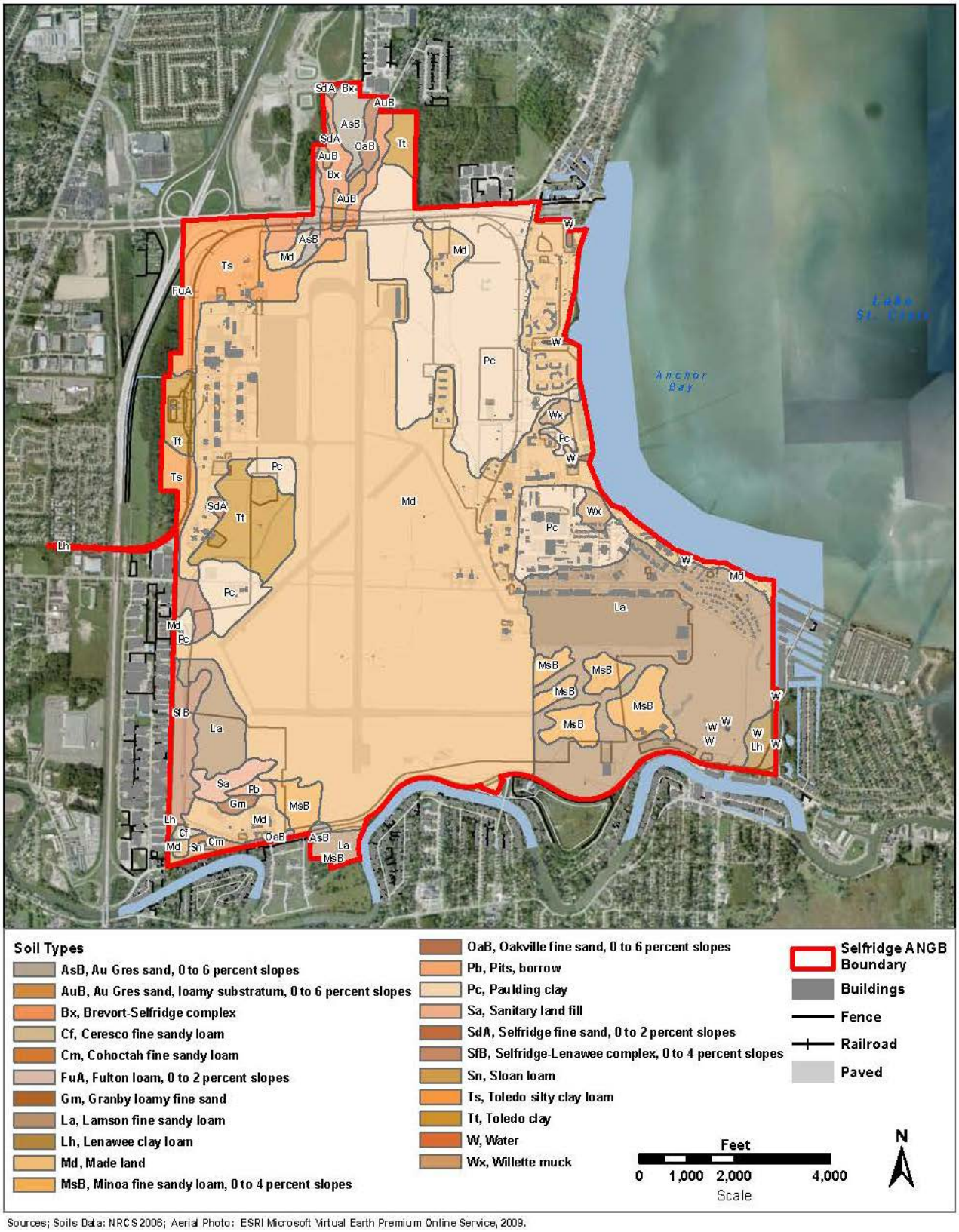
Figure 3: Surrounding Land Use



Sources; Grounds Categories: Selfridge ANGB, 2007; Aerial Photo: ESRI Microsoft Virtual Earth Premium Online Service, 2009.

This figure does not show current grounds categories and is in the process of being updated. The following burn units shown on Figure 10 are no longer forested: 1, 2, 3, 4, 5, 10, 15, 16, and 17.

Figure 4: Grounds Categories



Sources; Soils Data: NRCS 2006; Aerial Photo: ESRI Microsoft Virtual Earth Premium Online Service, 2009.

Figure 5: Soil Types for Selfridge ANGB

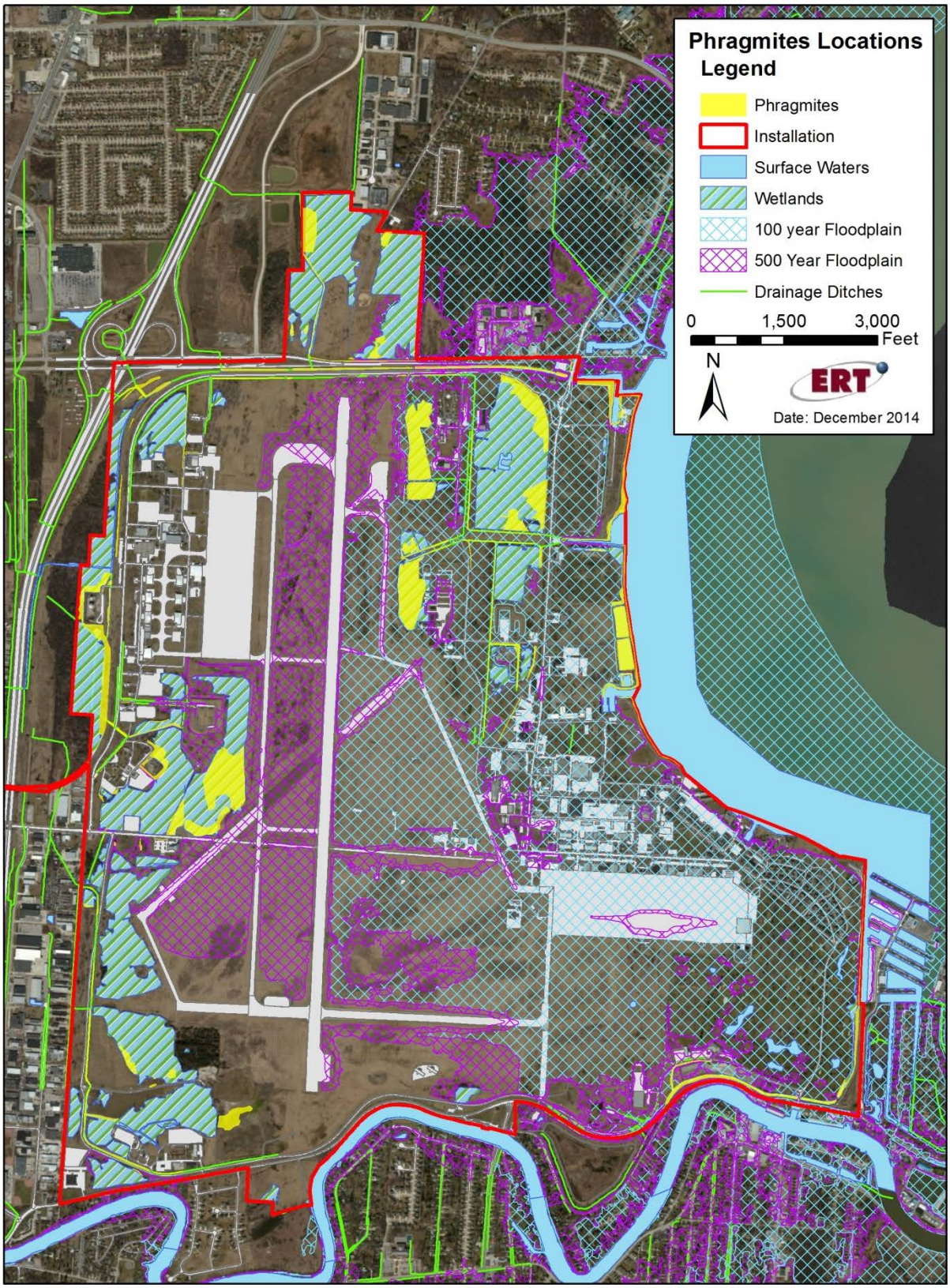


Figure 6: Phragmites Locations

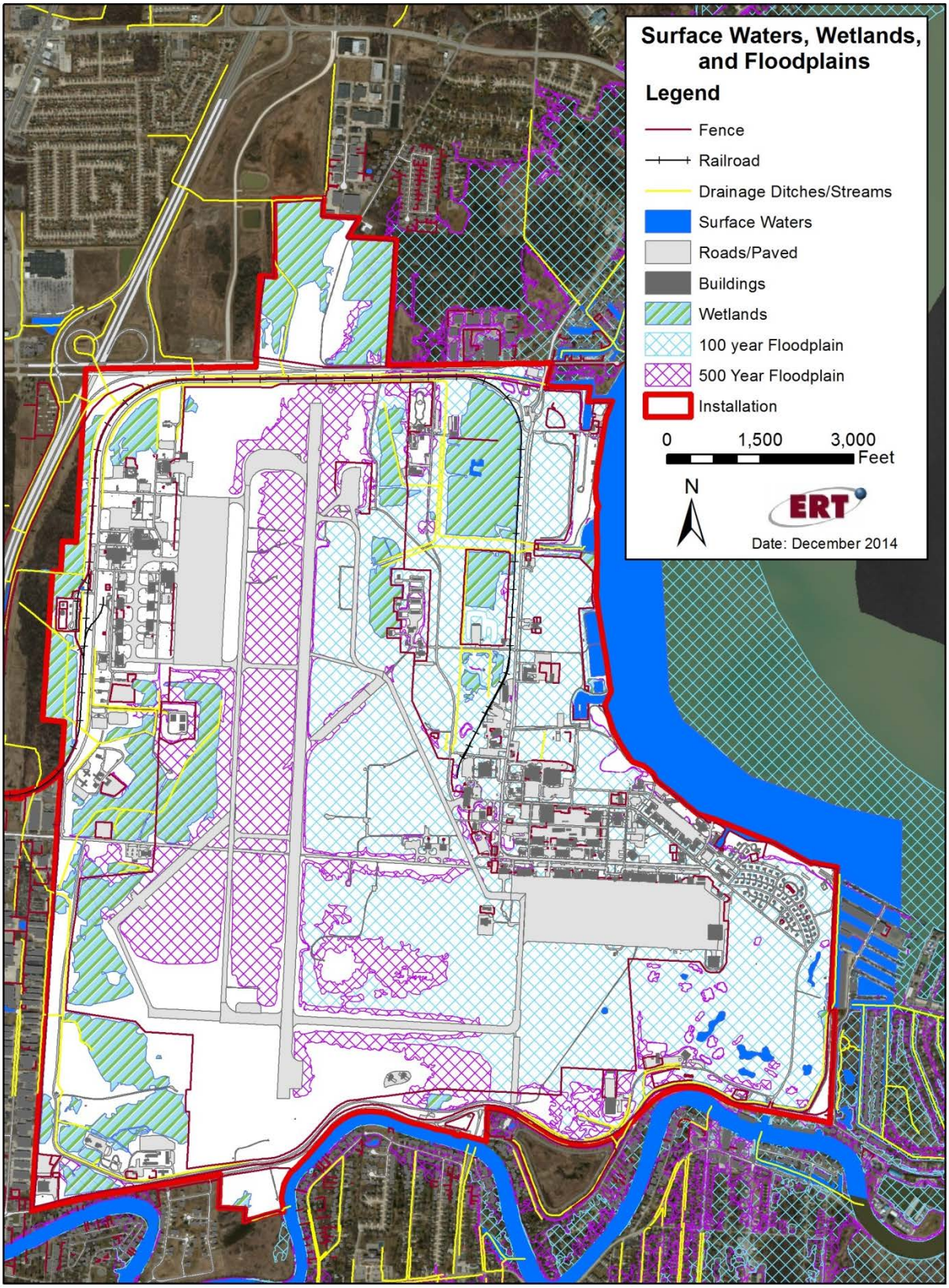


Figure 7: Surface Waters, Wetlands, and Floodplains

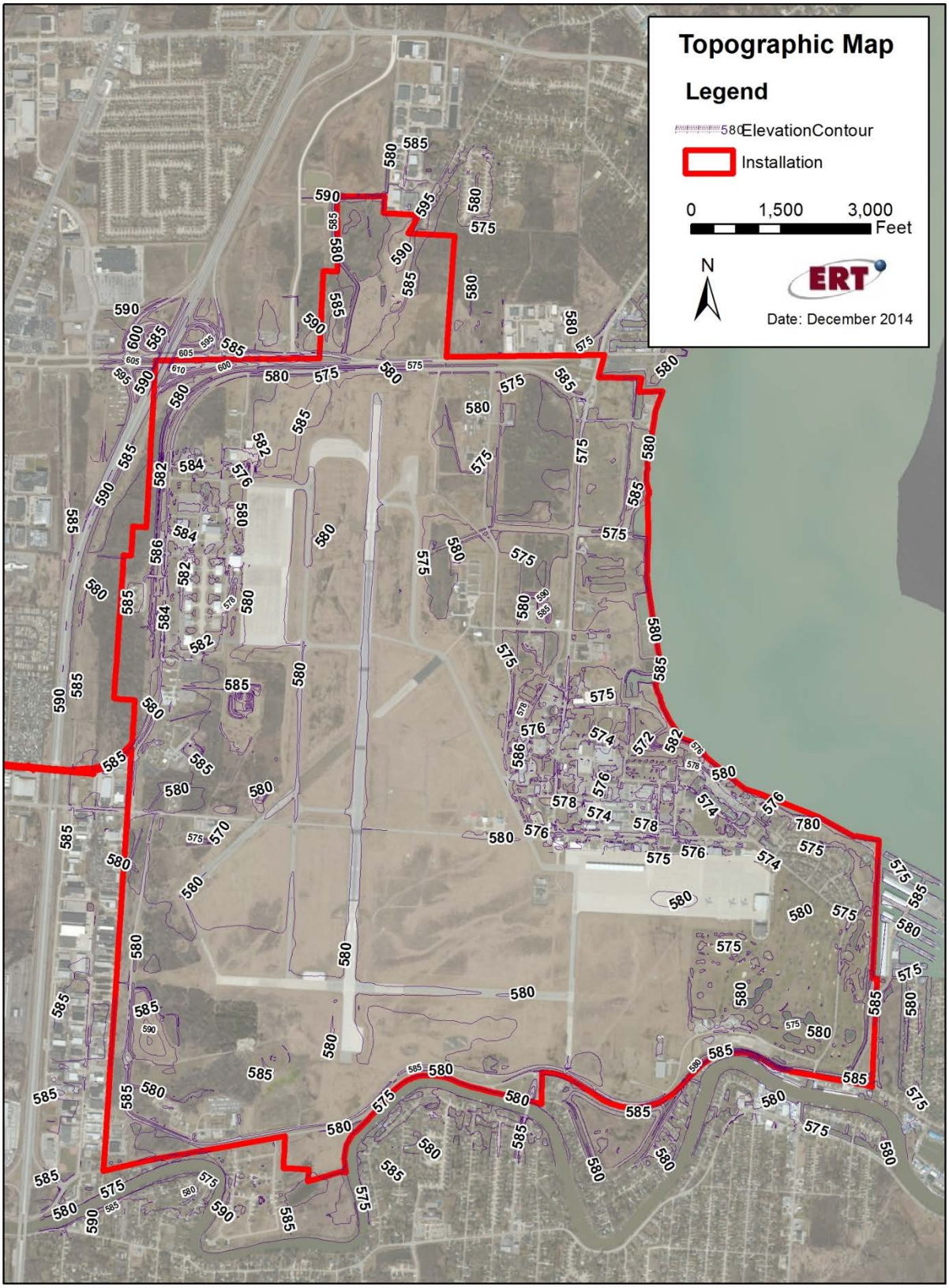


Figure 8: Topography

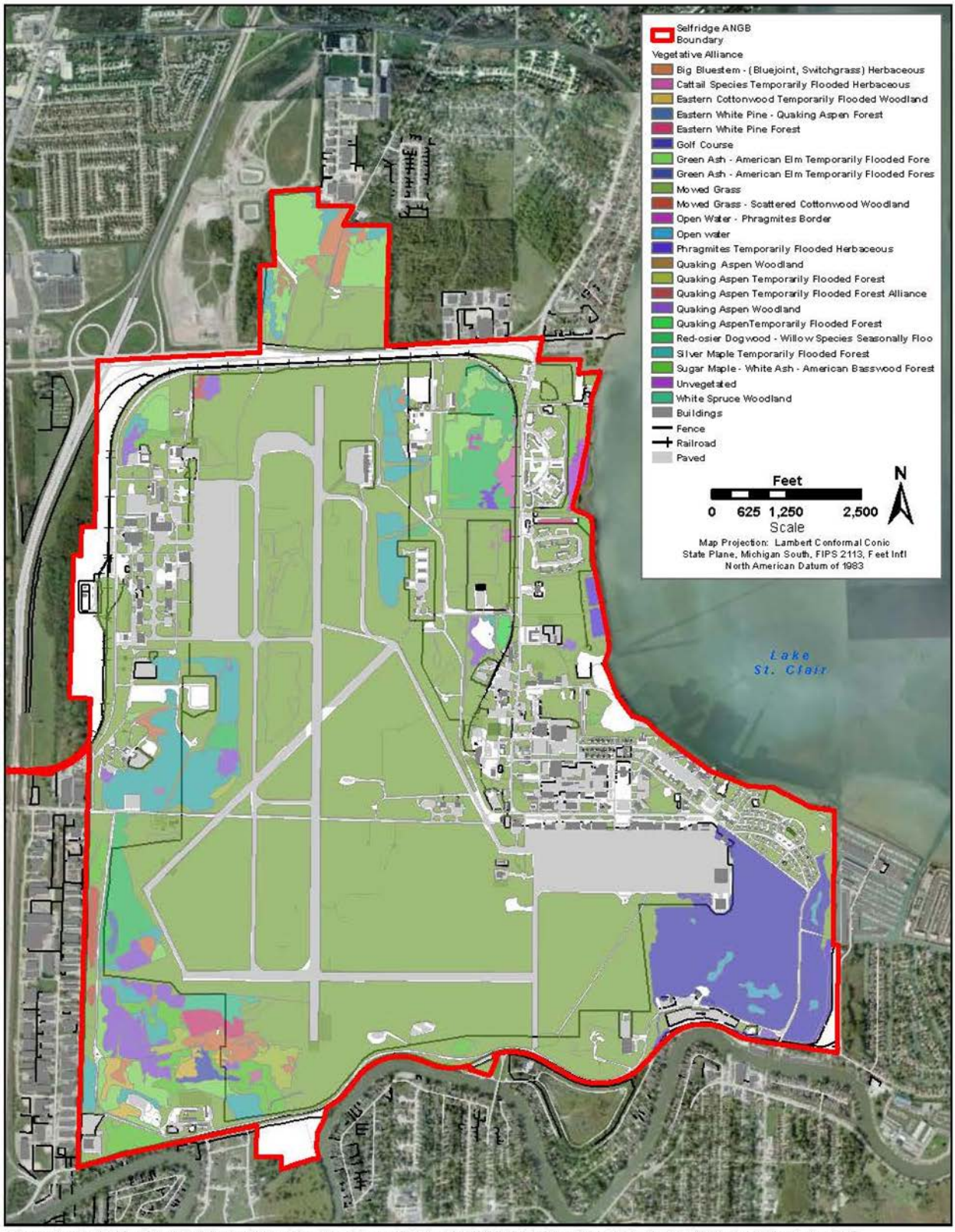


Figure 9: Vegetative Alliances

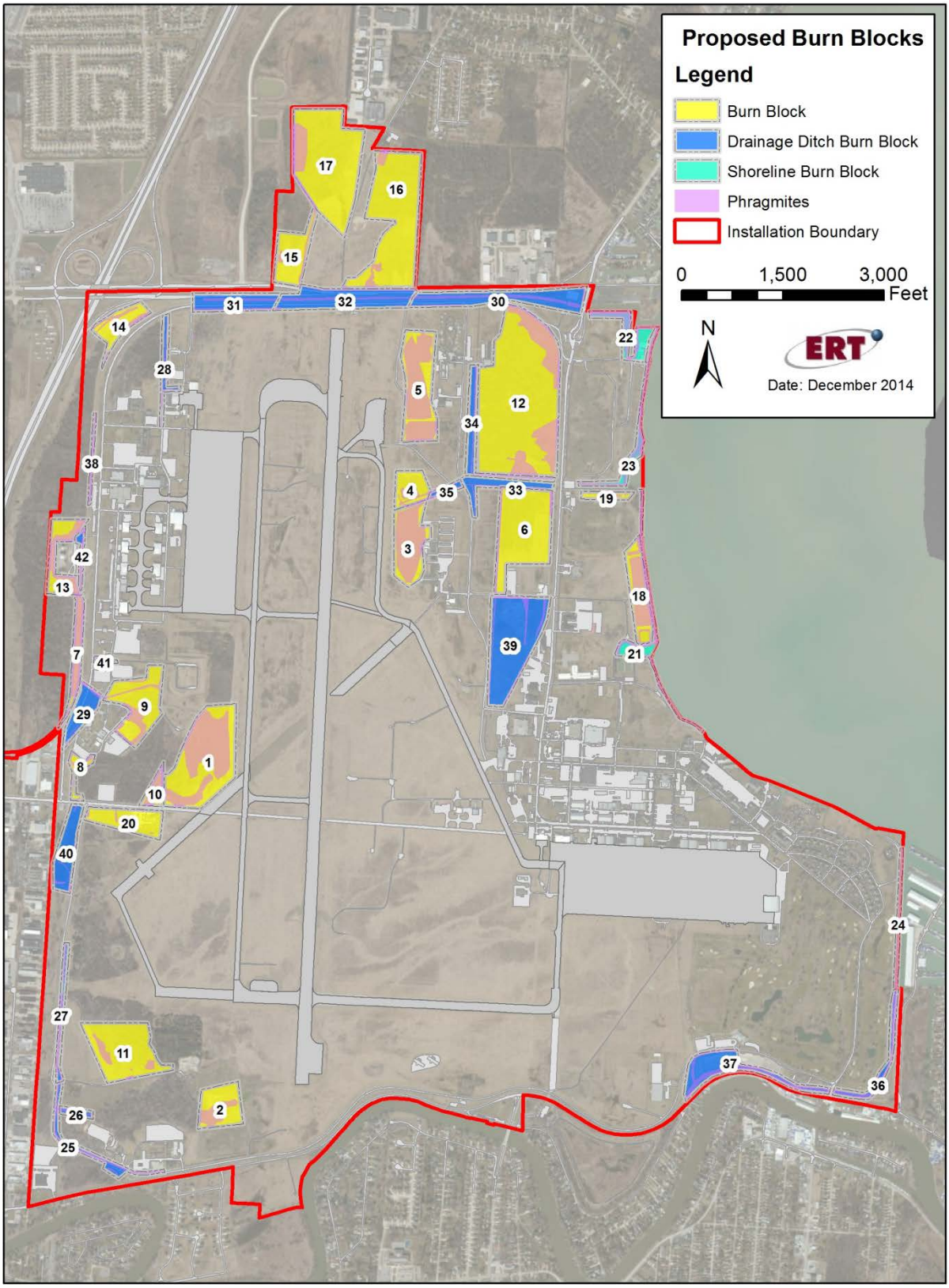


Figure 10: Suggested Burn Blocks

APPENDIX B

DELEGATION OF AUTHORITY

(currently a placeholder – awaiting documents)

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APPENDIX C

PRESCRIBED FIRE PLAN TEMPLATE (PMS 484)

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Element 1: Signature Page

PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT NAME(S): _____

PRESCRIBED FIRE NAME:
Prescribed Fire Unit (Ignition Unit): _____

PREPARED BY:
Name (print): _____ Qualification/Currency: _____

Signature: _____ Date: _____

TECHNICAL REVIEW BY:
Name (print): _____ Qualification/Currency: _____

Signature: _____ Date: _____

COMPLEXITY RATING: _____

MINIMUM BURN BOSS QUALIFICATION: _____

APPROVED BY:
Name – Agency Administrator (print): _____

Signature – Agency Administrator: _____ Date**:** _____

Element 2A: Agency Administrator Ignition Authorization

Replace this page with the signed: *Agency Administrator Ignition Authorization*, PMS 485

The Agency Administrator Ignition Authorization form is a separate PDF file that must be printed and signed.

The Agency Administrator Ignition Authorization must be completed before a prescribed fire can be implemented. If ignition of the prescribed fire is not initiated prior to expiration date determined by the agency administrator, a new authorization will be required.

Replace this page with the signed: *Prescribed Fire Go/No-Go Checklist*, PMS 486

The Prescribed Fire Go/No-Go Checklist form is a separate PDF file that needs to be printed and signed by the burn boss.

Prescribed Fire Name:_____

Ignition Unit Name:_____

Element 3: Complexity Analysis Summary

This summary should include the same summary rationale that is in the complexity analysis in Appendix C of the prescribe fire plan.

ELEMENT	RISK	POTENTIAL CONSEQUENCE	TECHNICAL DIFFICULTY
1. Potential for escape			
2. The number and dependence of activities			
3. Off-site values			
4. On-site values			
5. Fire behavior			
6. Management organization			
7. Public and political interest			
8. Fire treatment objectives			
9. Constraints			
10. Safety			
11. Ignition procedures/methods			
12. Interagency coordination			
13. Project logistics			
14. Smoke management			

COMPLEXITY RATING SUMMARY	OVERALL RATING
RISK	
CONSEQUENCES	
TECHNICAL DIFFICULTY	
SUMMARY COMPLEXITY DETERMINATION	

Rationale:

Prescribed Fire Name:_____

Ignition Unit Name:_____

Fill out Elements 4 through 21 based on the guidance provided in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484.

Element 4: Description of Prescribed Fire Area

A. Physical Description

1. Location**:**
2. Size:
3. Topography:
4. Project area:
5. Ignition units:

B. Vegetation/Fuels Description:

1. On-site fuels data:
2. Adjacent fuels data:
3. Percent of vegetative type and fuels model(s):

C. Description of Unique Features, Natural Resources, Values:

D. Maps - Attach in Appendix A

1. Vicinity (Required)
2. Project/Ignition Unit(s) (Required)
3. Significant or Sensitive Features (Optional): ☐ Included ☐ Not Included
4. Fuels or Fuel Model(s)(Optional): ☐ Included ☐ Not Included
5. Smoke Impact Area (Optional): ☐ Included ☐ Not Included

Element 5: Objectives

A. Resource objectives:

Prescribed Fire Name:_____

Ignition Unit Name:_____

B. Prescribed fire objectives:

Element 6: Funding

A. Cost:

B. Funding source:

Element 7: Prescription

A. Prescription Narrative:

1. Describe how fire behavior will meet objectives

B. Prescription Parameters:

1. Environmental or fire behavior (or both)

2. Fire Modeling or empirical documentation (or both)

Element 8: Scheduling

A. Implementation Schedule:

1. Ignition Time Frames or Season(s) (or both)

B. Projected Duration:

C. Constraints:

Element 9: Pre-burn Considerations and Weather

A. Considerations:

1. On-site

2. Off-site

Prescribed Fire Name:_____

Ignition Unit Name:_____

B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):

C. Notifications:

Element 10: Briefing

A. Briefing Checklist; including, but not limited to: (additional items may be added)

- ☐ Burn organization and assignments
- ☐ Prescribed Fire objectives and prescription
- ☐ Description of prescribed fire project area
  - ☐ Special considerations and sensitive features
- ☐ Expected weather and fire behavior
- ☐ Communications
- ☐ Ignition plan
- ☐ Holding plan
- ☐ Contingency plan and assignments
- ☐ Wildfire declaration
- ☐ Safety and medical plan
- ☐ Aerial ignition briefing (if aerial ignition devices will be used)

Element 11: Organization and Equipment

A. Positions:

B. Equipment:

C. Supplies:

Element 12: Communication

A. Radio Frequencies:

1. Command frequency(ies):

2. Tactical frequency(ies):

3. Air operations frequency(ies):

B. Telephone Numbers:

Prescribed Fire Name:_____

Ignition Unit Name:_____

Element 13: Public and Personnel Safety, Medical

A. Safety Hazards:

B. Mitigation: Measures Taken to Reduce the Hazards:

C. Emergency Medical Procedures:

D. Emergency Evacuation Methods:

E. Emergency Facilities:

Element 14: Test Fire

A. Planned Location:

B. Test Fire Documentation:

1. Weather conditions on site

2. Test fire results

Element 15: Ignition Plan

A. Firing Methods:

1. Techniques, sequences and patterns

B. Devices:

C. Minimum Ignition Staffing:

Element 16: Holding Plan

A. General Procedures for Holding:

Prescribed Fire Name:_____

Ignition Unit Name:_____

B. Critical Holding Points and Actions:

C. Minimum Organization or Capabilities Needed:

Element 17: Contingency Plan

Management Action Points or Limits:

(Optional MAP Table Format)

Management Action Point - Documentation Element	Management Action Point Narrative
Designator and Description:	
Condition:	
Management Intent:	
Recommended Action(s) to Consider:	
Recommended Resources:	
Time Frame:	
Describe the consequences of not taking the recommended action(s) (Optional):	
Responsibility:	
Date Each Action is Initiated (Optional):	

(if you need to include more MAPs, copy and paste the above template)

B. Actions Needed:

C. Minimum Contingency Resources and Maximum Response Time(s):

Element 18: Wildfire Declaration

A. Wildfire Declared By:

B. IC Assignment:

C. Notifications:

D. Extended Attack Actions and Opportunities to Aid in Fire Suppression (Optional):

Prescribed Fire Name:_____

Ignition Unit Name:_____

Element 19: Smoke Management and Air Quality

A. Compliance:

B. Permits to be Obtained:

C. Smoke-Sensitive Receptors:

D. Potential Impacted Areas:

E. Mitigation Strategies and Techniques to Reduce Smoke Impacts:

Element 20: Monitoring

A. Fuels Information Required and Procedures:

B. Weather Monitoring (Forecasted and Observed) Required and Procedures:

C. Fire Behavior Monitoring Required and Procedures:

D. Monitoring Required to Ensure that Prescribed Fire Plan Objectives are Met:

E. Smoke Dispersal Monitoring Required and Procedures:

Element 21: Post-burn Activities

A. Post-Burn Activities that must be Completed:

Prescribed Fire Name:_____

Ignition Unit Name:_____

Prescribed Fire Plan Appendices

Appendix A: Maps: Vicinity, Project or Ignition Units (or both), Optional: Significant or Sensitive Features, Fuels or Fuel Model, Smoke Impact Areas

Appendix B: Technical Reviewer Checklist

Appendix C: Complexity Analysis

Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment

Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation

Appendix F: Smoke Management Plan and Smoke Modeling Documentation (Optional)

Prescribed Fire Name:_____

Ignition Unit Name:_____

Appendix A: Vicinity Map

Insert your vicinity maps here. Refer to Element 4D in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Prescribed Fire Name:_____

Ignition Unit Name:_____

Appendix A: Project (Ignition Units) Maps

Insert your project (ignition unit) map(s) here. Refer to Element 4D in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Prescribed Fire Name:_____

Ignition Unit Name:_____

Appendix A: Significant or Sensitive Features: (Optional) Maps

Insert your significant or sensitive feature map(s) here. Refer to Element 4D in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Prescribed Fire Name:_____

Ignition Unit Name:_____

Appendix A: Fuels or Fuel Model: (Optional) Maps

Insert your fuel or fuel model map(s) here. Refer to Element 4D in *the Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Prescribed Fire Name:_____

Ignition Unit Name:_____

Appendix A: Smoke Impact Areas: (Optional) Maps

Insert your significant or sensitive feature map(s) here. Refer to Element 4D in *the Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Prescribed Fire Name:_____

Ignition Unit Name:_____

Appendix B: Technical Reviewer Checklist

Fill out this checklist based on the guidance provided in the Technical Review section in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484.

Rate each element in the following table with an "S" for Satisfactory or "U" for Unsatisfactory. Use Comment field as needed to support the element rating.

PRESCRIBED FIRE PLAN ELEMENTS	RATING	COMMENTS
1. Signature page		
2. A. Agency Administrator Ignition Authorization, PMS 485		
2. B. Prescribed Fire GO/NO-GO Checklist, PMS 486		
3. Complexity Analysis Summary		
4. Description of Prescribed Fire Area		
5. Objectives		
6. Funding		
7. Prescription: Prescription Narrative and Prescription Parameters		
8. Scheduling		
9. Pre-Burn Considerations and Weather		
10. Briefing		
11. Organization and Equipment		
12. Communication		
13. Public and Personnel Safety, Medical		
14. Test Fire		
15. Ignition Plan		
16. Holding Plan		
17. Contingency Plan		
18. Wildfire Declaration		
19. Smoke Management and Air Quality		
20. Monitoring		
21. Post-Burn Activities		
Appendix A: Maps		
Appendix C: Complexity Analysis		
Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment		
Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation		
Appendix F: Smoke Management Plan and Smoke Modeling Documentation (Optional)		
Other		

☐ **Approval is recommended** subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

☐ **Recommendation for approval is not granted**. Prescribed fire plan should be re-submitted for technical review subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

Technical Reviewer Signature: _____ Qualification and Currency: _____

Date Signed:_____

Prescribed Fire Name:_____

Ignition Unit Name:_____

Appendix C: Complexity Analysis

Please refer to Element 3: Complexity Analysis Summary in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, and the procedures in *the Prescribed Fire Complexity Analysis Rating System Guide*, PMS 424, to fill out this appendix.

Prescribed Fire Name:_____

Ignition Unit Name:_____

Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment

Please refer to your specific agency guidance to fill out this appendix.

Prescribed Fire Name:_____

Ignition Unit Name:_____

Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation

Refer to Element 7: Prescription, *in the Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Prescribed Fire Name:_____

Ignition Unit Name:_____

Appendix F: Smoke Management Plan and Smoke Modeling Documentation

(OPTIONAL)

Refer to the *Smoke Management Guide for Prescribed and Wildland Fire* (National Wildfire Coordinating Group, 2001) and Appendix B. Basic Smoke Management Practices in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484 to fill out this appendix.