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Civil Engineering

SNOW AND ICE CONTROL



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This instruction establishes priorities, responsibilities, and procedures for snow and ice control on base and in the missile field. This instruction implements higher headquarters Air Force Policy Directive (AFPD) 32-90, *Real Property Management*, and Air Force Instruction (AFI) 32-1002, *Snow and Ice Control*. It applies to all units assigned to the 341st Space Wing, and units assigned or attached to, or supported by Malmstrom AFB. For a list of abbreviations and acronyms see **Attachment 1**. Maintain and dispose of records created as a result of prescribed processes in accordance with AFMAN37-139, *Records Disposition Schedule*.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

This revision denotes numerous priority changes, reorganization changes, and the addition of public road snow removal process chapters.

Chapter 1— METHOD OF OPERATION	4
1.1. Conditions for Execution.	4
1.2. Operations to be Conducted.	4
1.3. Key Assumptions.	4
1.4. Operational Constraints.	4
1.5. Operations Security (OPSEC):	4
1.6. Command Relationships.	4
1.7. Logistics Appraisal.	4
1.8. Personnel Appraisal.	4

Chapter 2— TASKED ORGANIZATIONS 5

2.1. General Situation: 5

2.2. Mission. 6

2.3. Execution. 7

2.4. Logistics and Administration: 12

2.5. Command and Signal. 14

Chapter 3— SNOW AND ICE CONTROL OPERATIONS 15

3.1. Airfield Snow Removal. 15

3.2. Snow Removal for Streets, Roads, and Parking Areas: 16

3.3. Other Snow Removal. 16

3.4. Missile Field Snow Removal. 16

Chapter 4— SNOW REMOVAL ON PUBLIC ROADS 20

4.1. CES Responsibility: 20

4.2. County Responsibility: 20

4.3. Extraordinary Snow Removal Agreement: 20

4.4. Common questions: 21

Chapter 5— SNOW ROUTES 22

5.1. Route I: 22

Figure 5.1. Route I 22

5.2. ROUTE II: 23

Figure 5.2. ROUTE II 23

5.3. Route III: 24

Figure 5.3. Route III 24

5.4. Parking Lot Route I: 25

Figure 5.4. Parking Lot Route I 25

5.5. Parking Lot Route II: 26

Figure 5.5. Parking Lot Route II 26

5.6. Sidewalk Route: 27

Figure 5.6. Sidewalk Route 27

341SWI32-1001 10 MARCH 2004	3
Chapter 6— POST SEASON REQUIREMENTS	28
6.1. General.	28
6.2. Equipment.	28
6.3. Airfield, Road Surfaces, and Facilities.	28
6.4. Forms Adopted.	29
Attachment 1— GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION	30
Attachment 2— Wing 1 LF Area A	32
Attachment 3— Wing 1 LF Area B	33
Attachment 4— Wing 1 LF Area C	34
Attachment 5— 564 MS LF Area A	35
Attachment 6— 564 MS LF Area B	36
Attachment 7— 564 MS LF Area C	37

Chapter 1

METHOD OF OPERATION

1.1. Conditions for Execution. This instruction is effective for planning and implementation when weather conditions so dictate.

1.2. Operations to be Conducted. When snow or ice impede or create hazardous conditions for aircraft or vehicular movement, necessary measures will be taken to remove or reduce the snow and/or ice from the affected areas.

1.3. Key Assumptions. For this instruction to be effective, adequate equipment and manning must be available to include seasonal over-hires.

1.4. Operational Constraints. Operations may be constrained by lack of over-hires and equipment down for repair.

1.5. Operations Security (OPSEC):

1.5.1. All actions directed by this instruction will take into consideration OPSEC in order to prevent enemy exploitation of information to gain an advantage. Realistic OPSEC requires conscientious security discipline at all levels of command and staff. Public affairs, deception, and operational requirements must be in agreement with the critical information. Review all attachments to ensure they comply with the desired degree of security. Consider the content of the instruction and resulting actions in execution.

1.5.2. Instruction must provide the highest degree of security without degrading effectiveness. Known or suspected enemy awareness from previous operations and plans should be considered in determining OPSEC requirements. Procedures are then designed to eliminate suspect sources as feasible, including such possible sources as job control communications.

1.6. Command Relationships. Established command relationships will remain in effect during the execution of this instruction.

1.7. Logistics Appraisal. This Instruction is logistically feasible within the assumptions and constraints specified.

1.8. Personnel Appraisal. This plan is feasible within the assumptions and constraints specified.

Chapter 2

TASKED ORGANIZATIONS

2.1. General Situation:

2.1.1. Priorities. A detailed listing of priorities will be established and approved by the S&IC Committee in September of each year. See [Chapter 5](#).

2.1.2. S&IC Instruction. The 341st Mission Support Group Commander will be responsible for preparation of, or updating of, an S&IC Instruction. Snow and ice must not be permitted to accumulate in helicopter traffic areas to the extent it interferes with the base primary mission. The provisions of AFI 38-203, *Commercial Activities Program*, will apply in determining the manpower resources to be utilized for S&IC/removal.

2.1.2.1. Experience has shown a successful snow and ice instruction largely depends upon the techniques employed, numbers and types of equipment provided, and availability of trained personnel to perform this task. As a general rule, equipment should be provided in numbers and types sufficient to cope with the weather conditions that may be encountered. (See Table of Allowance 010 for S&IC vehicle allowances.)

2.1.2.2. The S&IC Instruction incorporates the knowledge and experience gained from "freak" storms.

2.1.2.3. As a minimum, a copy of this instruction including priorities for clearing will be furnished to the members of the S&IC Committee, and others concerned, as specified by the committee chairperson.

2.1.3. S&IC Committee. The committee will convene and be chaired by the 341st Space Wing Commander. The committee composition is:

2.1.3.1. 341st Mission Support Group Commander.

2.1.3.2. Base Civil Engineer.

2.1.3.3. BCE Chief of Operations.

2.1.3.4. BCE Heavy Repair Superintendent.

2.1.3.5. 40th Helicopter Flight.

2.1.3.6. 341st Maintenance Group Commander.

2.1.3.7. 341st Operations Group Deputy Commander.

2.1.3.8. 341st Logistics Readiness Squadron Commander.

2.1.3.9. Weather Flight Commander.

2.1.3.10. 341st Services Squadron Commander.

2.1.3.11. Chief of Safety.

2.1.3.12. 341st Communication Squadron Commander

2.1.3.13. 341st Security Forces Group Commander

2.1.3.14. 341st Missile Maintenance Squadron commander

2.1.3.15. 341st Maintenance Operations Squadron commander

2.1.3.16. Representatives of major tenant organizations.

2.1.3.17. Additional members may be added at the discretion of the chairperson to provide representation from other sections of the installation as may be necessary.

2.1.3.18. The chairperson will convene two mandatory general committee meetings each year. One meeting will convene no later than the last week in May and the other no later than the last week in September.

2.1.4. Meetings. During the meetings, the members will ensure they:

2.1.4.1. Outline organization responsibilities and jurisdiction of all personnel involved.

2.1.4.2. Establish priorities.

2.1.4.3. Review problems encountered in previous season.

2.1.4.4. Review contract requirement for support of emergency snow and ice removal.

2.1.4.5. Review proposed summer rebuild program. Establish follow-up procedures to ensure equipment will be in service by 1 September.

2.1.4.6. Review status of operator maintenance and availability of spare parts (September meeting).

2.1.4.7. Thoroughly review the base S&IC instruction and all applicable procedures and directives which support the base snow removal effort. Recommend changes as appropriate (May meeting).

2.1.4.8. Review annual depot repair requirements (RCS: LOG-LGTM)(7312). Ensure snow removal equipment requiring major rebuild has been scheduled.

2.1.4.9. Review the minimum width and maximum permissible snow depth in the clear zones.

2.1.4.10. Review minimum cleared width and maximum time limits required to meet Emergency War Orders (EWO) capability.

2.1.5. To facilitate snow removal in parking lots, the committee must:

2.1.5.1. Select and allot priority to the largest lots adjacent to the main work areas.

2.1.5.2. Consider temporary mass vehicle parking on athletic fields, unused portions of the airfield, paved or grass areas, etc. These emergency parking areas must be cleared and prepared prior to arrival of new shift. Parking must be controlled. Buses are used to transport personnel to and from required buildings or work areas until regular parking areas are opened for use.

2.1.6. Support Units. Units required in the support of S&IC instruction as directed by the S&IC committee will outline responsibilities for their unit in the base S&IC instruction. The responsibilities outlined will only be those essential to support the instruction and not internal day-to-day operations or recall procedures that would better fit in a unit operating instruction.

2.2. Mission. The purpose and objective of this instruction is to establish priorities, responsibilities, and procedures for S&IC on base and in the missile complex.

2.3. Execution. Tasked organizations will accomplish support as indicated:

2.3.1. 341st Mission Support Group Commander responsibilities:

2.3.1.1. Is directly responsible for all S&IC activities on the installation.

2.3.2. Base Civil Engineer responsibilities:

2.3.2.1. Is directly responsible to the 341 MSG/CC for the satisfactory performance of all snow removal activities on the base, in the missile complex, and for correlating civil engineering (CE) functions with those of other organizations.

2.3.2.2. Establish an internal civil engineer (CE) S&IC committee to ensure an effective S&IC program is established and work responsibilities are clearly delineated.

2.3.2.3. Appoint Chief of Operations as Snow Control Officer to coordinate all S&IC activities.

2.3.2.4. Ensure adequate facilities, equipment, materials, and personnel requests (including over-hires) are provided for S&IC program.

2.3.2.5. Ensure adequate hands-on operator training is completed prior to 1 October.

2.3.2.6. Convene the S&IC work committee to discuss immediate action for any serious problems encountered which might arise.

2.3.2.7. Ensure, in conjunction with the 341st Logistics Readiness Squadron Commander, a comprehensive summer rehabilitation program for snow removal equipment is established. Status of rebuild, parts on order, and operator maintenance will be briefed at the S&IC committee meeting and Commander's Update Briefings starting in August as needed.

2.3.2.8. Ensure equipment requiring major rebuild has been identified to Vehicle Maintenance for depot scheduling.

2.3.2.9. Ensure support agreements are reviewed and updated.

2.3.2.10. Establish and physically locate the Snow Control Center (SCC).

2.3.2.11. Prepare the S&IC Instruction.

2.3.2.12. Notify Headquarters Air Force Space Command (HQ AFSPC) by phone when the snow removal equipment in-commission rate or operational capability falls below 80 percent.

2.3.3. CES Resources Flight Chief responsibilities:

2.3.3.1. Administration and processing of all civilian personnel matters, the accomplishment of Standard Form 52, Request for Personnel Action, and requests for overtime.

2.3.3.2. Maintenance of statistical information necessary to fund budgets, historical records, and such other pertinent information.

2.3.4. SCO responsibilities:

2.3.4.1. Is responsible to the BCE for safety of the snow removal operation. The SCO will monitor all operations to a maximum degree, paying particular attention to priority areas, and inspect daily to ensure residue snow banks do not become a hazard.

2.3.4.2. Coordinate with the various civil engineer flights in the performance of their functions.

- 2.3.4.3. Ensure a close liaison is maintained with the heavy equipment section, 341st Logistics Readiness Squadron.
 - 2.3.4.4. Ensure the marking of fire hydrants, manhole covers, water and sewer line curb boxes, refueling pits, etc., which could be damaged by snow removal equipment.
 - 2.3.4.5. Notify the BCE of deficiencies and new requirements for personnel or equipment.
 - 2.3.4.6. Ensure only properly qualified operators are permitted to operate snow removal equipment.
 - 2.3.4.7. Ensure availability of personnel and equipment.
 - 2.3.4.8. Ensure job assignments are within time limits as required by shift schedules and conditions.
- 2.3.5. Heavy Repair Superintendent responsibilities:
- 2.3.5.1. Is responsible to the SCO for the entire snow removal operation, and also to report to AFSPC when vehicle in-commission rate falls below 80 percent.
 - 2.3.5.2. Is responsible to ensure preparations for snow removal operations are completed not later than 1 October. In the event of an early snowfall, the heavy repair superintendent must be prepared to initiate the snow removal program.
- 2.3.6. Foreman, Horizontal Construction responsibilities:
- 2.3.6.1. Supervises preparation and accomplishment of snow removal program.
 - 2.3.6.2. Ensure all supervisors and operators are well trained on snow removal equipment and methods of operation as outlined in AFR 85-8 by conducting an extensive preseason On-The-Job Training (OJT) program. An operational check of each operator's individual ability must be performed.
 - 2.3.6.3. Notify the SCO of deficiencies and new requirements for personnel or equipment.
 - 2.3.6.4. Ensure personnel involved in missile site snow removal can authenticate prior to 1 October.
 - 2.3.6.5. Ensures equipment is fully serviced and pre-positioned to ensure the start of snow removal operations.
- 2.3.7. Shift Supervisor responsibilities:
- 2.3.7.1. Responsible to the foreman of horizontal construction section.
 - 2.3.7.2. Supervise the activities of their crew, ensuring the best utilization of personnel and equipment assigned, and ensure performance of snow removal operations is in accordance with this procedure and other publications and directives.
 - 2.3.7.3. Maintain close liaison with the heavy equipment section, 341st Logistics Readiness Squadron, to ensure priority maintenance is performed on snow removal equipment.
 - 2.3.7.4. Maintain communication between shifts to monitor priority maintenance on the most urgently needed equipment.
 - 2.3.7.5. Maintain an accurate snow control log.

- 2.3.7.6. Notify the SCC immediately of damage to any structure.
 - 2.3.7.7. Carry a shovel in vehicle and remove any chunks of ice or snow dropped by snow removal equipment.
 - 2.3.7.8. Ensure all vehicles operating on the runway are equipped with two-way radios.
 - 2.3.7.9. Check the 40 HF flying schedule daily to ensure snow is removed for arriving aircraft and one hour prior to scheduled departing aircraft.
 - 2.3.7.10. Monitor road conditions. If road conditions on base are considered hazardous, monitor conditions to determine when conditions change and make recommendation to return road condition to normal.
- 2.3.8. Vehicle Operators responsibilities:
- 2.3.8.1. Operate and service S&IC equipment within their responsibility.
 - 2.3.8.2. Ensure they are in possession of a valid operator's license and are briefed on flight line driving policy and document training on the AF Form 55.
 - 2.3.8.3. Report any damage to equipment, structures, or malfunctioning of snow removal equipment to the shift supervisor.
 - 2.3.8.4. Advise their replacement, at shift change, of the condition and operation of assigned equipment.
- 2.3.9. SCC responsibilities:
- 2.3.9.1. Maintain status boards.
 - 2.3.9.1.1. Maintain a vehicle status boards showing registration number, description, nomenclature, location and remarks concerning equipment status. Base map and missile complex maps will be mounted and covered with acetate so current status of areas can be maintained.
 - 2.3.9.1.2. Maintain a crew dispatch board showing the name of team members, radio call sign, trip number, location, time arrived and departed remarks and missile sites scheduled.
 - 2.3.9.1.3. Maintain a priority board showing requested site snow removal, type of snow removal, priority, time and date must be completed, and time, date, name and telephone number of requester.
 - 2.3.9.2. Monitor radio for requests of assistance, condition of equipment, and status of operation.
 - 2.3.9.3. Maintain roster of personnel and assigned equipment.
 - 2.3.9.4. Recall personnel as directed.
 - 2.3.9.5. Coordinate with base fuels and the dining facility to obtain services required or requested by shift supervisor.
 - 2.3.9.6. Immediately notify appropriate agencies of damage to any structure or vehicle accident.
 - 2.3.9.7. Contact the vehicle maintenance shop NCO (ext 6335/6336) to obtain authorization for local shop repair.
 - 2.3.9.8. Coordinate with dispatch center to make recommendations for early release or late reporting for base personnel or base closure when necessary to facilitate snow removal.

2.3.10. 341st Logistics Readiness Squadron responsibilities:

2.3.10.1. Ensure during the off-season, all snow removal equipment will be renovated, repaired, and winterized on a priority basis established through liaison with the BCE. Status will be maintained on servicing schedules, release and positioning data, and final inspection of in-place equipment.

2.3.10.2. Ensure adequate spare parts are on hand to support repair requirements of all snow removal equipment during winter operations.

2.3.10.3. Assign maintenance personnel to be on standby to ensure 24-hour coverage for snow removal equipment repair as needed.

2.3.10.4. Ensure the mobile maintenance vehicles are equipped and manned for servicing (not to include off-base refueling) and repair of unserviceable snow removal equipment.

2.3.10.5. Provide OJT for mechanics on S&IC vehicles. NOTE: This will include familiarization and training for newly assigned personnel who are not familiar with snow removal equipment.

2.3.10.6. Provide 24-hour wrecker service during S&IC operation.

2.3.10.7. Provide daily snow removal equipment serviceability status to SCC from 1 Oct to 1 May.

2.3.11. Supply Contractor responsibilities:

2.3.11.1. Timely procurement of requested equipment and supplies in support of S&IC instruction.

2.3.11.2. Provisions for issuing requested equipment and supplies on a 24-hour, 7-days per week basis.

2.3.11.3. Provide 24-hours per day capability for refueling S&IC equipment during actual snow removal operations.

2.3.11.4. Provide fuel dispensing vehicles for refueling equipment on site when the base dispensing pumps are not in close proximity of the operation.

2.3.11.4.1. The fuels control center (ext 4321) will arrange refueling of snow removal equipment when requested by the SCC. Snow removal equipment will be given priority over all vehicles awaiting service during snow removal operation.

2.3.11.5. Provide mobile servicing equipment when the service station is inoperable.

2.3.12. 341st Contracting Squadron responsibilities:

2.3.12.1. Provide contracts for rental of emergency equipment.

2.3.12.2. Provide timely contracting of equipment for attachments or supplies to support the S&IC operations.

2.3.12.3. Provide procedures for emergency procurement of services for other than normal duty hours.

2.3.13. 341st Services Squadron responsibilities:

- 2.3.13.1. Provide box lunches with 2-hour prior notification whenever possible for S&IC personnel whose duty hours or locations preclude them from eating in the dining facilities. Meals will be picked up at the dining facility.
- 2.3.13.2. Ensure the dining facility remains open during other-than-normal feeding hours when such deviation is warranted. CE will process the request through the 341 MSG/CC and contracting officer at least 2 hour in advance. The request will include the number of personnel requiring service.
- 2.3.13.3. Ensure civilian personnel authorized by the 341 SW/CC to subsist in the dining facility during the hours when all non-appropriated feeding facilities are closed will be furnished meals on a cash basis only in accordance with AFI 34-401, *Food Service Management*.
- 2.3.14. 341st Communications Squadron responsibilities:
- 2.3.14.1. Provide Land Mobile Radio (LMR) management support for snow removal operations by reviewing requests for LMR equipment according to AFI 33-106, *Managing High Frequency Radios, Land Mobile Radios and the Military-Affiliate Radio System*.
- 2.3.14.2. Provide for repair of LMRs used for S&IC operations according to pre-established priority repair lists in unit or base directives.
- 2.3.15. 341st Operations Group responsibilities:
- 2.3.15.1. Missile Alert Facility (MAF) Facility Managers:
- 2.3.15.1.1. Perform snow removal at the MAF. Will be trained (by CE personnel) in the operation of snow removal equipment assigned to their MAF.
- 2.3.15.1.2. Are responsible for operator care and maintenance of snow removal equipment pre-positioned on their respective MAFs.
- 2.3.15.1.3. Will, at a minimum of once a week, drive the unit out of its storage area and allow it to run (approximately 30 minutes) until all systems are at normal operating temperatures.
- 2.3.15.1.4. Will, prior to operating the equipment (this includes any operator), complete the operator's inspection guide and trouble report, AF Form 1806.
- 2.3.15.2. Food Service will ensure, during the months of October through April, additional rations are stocked at MAFs. Two to four additional CE personnel may be pre-positioned for snow removal or flood control.
- 2.3.15.3. 40th Helicopter Flight responsibilities:
- 2.3.15.3.1. Provide transportation to, from, and in the missile field. Depending on mission priority as determined by the OG and MXG, 40 HF will transport snow crews to and from the missile field when transportation by highway is not possible.
- 2.3.15.3.2. Ensure pilots flying routine missions in the missile field report any the following observed conditions of launch facilities (LF) to SCC either on Channel 4 of missile net or land line, ext 6464/6465: snow drifts blocking the access road to an LF gate; snow drifts blocking the gate into an LF; snow drifts blocking access to the A or B plug; snow drifts behind the launcher closure door; or any other observations concerning snow on the site.

2.3.15.3.3. SCC may request observations of certain LFs that would require deviation from planned flight path without adversely affecting fuel or time line.

2.3.15.4. Weather Flight responsibilities:

2.3.15.4.1. Notify the 341st Operations Group Commander, through local command and control system, when weather is observed or forecasted which may require the employment of snow removal forces.

2.3.15.4.2. Issue snow accumulation warnings and/or advisories, for Malmstrom Air Force Base and/or the missile complex as soon as possible prior to the time when the accumulation of snow is expected to begin in accordance with 341SWI 15-101, *Weather Support Procedures*.

2.3.15.4.3. Brief CE and SCC (ext 6464), upon request during the period of 1 October through 1 May: on the onset time of storm (snowfall); duration; and the approximate depth of snow.

2.3.16. Chief of Safety responsibilities:

2.3.16.1. Review S&IC Instruction to ensure operations is in the best interest of safety.

2.3.16.2. Ensure base personnel are aware of hazards of snow and ice and precautions that must be taken.

2.3.16.3. Investigate all incidents or accidents involving snow removal equipment.

2.3.17. 341st Security Forces Group responsibilities:

2.3.17.1. Missile security forces will check LFs and access roads to determine snow depth and conditions when requested and obtain the appropriate command authority for current road conditions. Missile Security Control (MSC) will, upon request and after obtaining the appropriate command authority to travel in the complex, dispatch units to conduct a check of the areas of concern and report their findings to CE Snow Controller through MSC. Teams will visually inspect and provide an accurate status report of access roads, vehicle accessibility to launcher closures, support buildings, and depth of snow behind the launcher closures (from the door to the end of the center rail).

2.4. Logistics and Administration:

2.4.1. Over-hire Requirements. If the snowfall is extra heavy and prolonged, onboard resources may be exhausted requiring additional personnel to accomplish S&IC. Over-hires will be placed on an on-call status and will be utilized as required. Over-hire employees must have 1 year experience driving 5 to 7-ton trucks and if possible, 1 or more years experience on earth-moving construction-type equipment. When snow removal is not required, over-hires will perform pavements and grounds duties in line with their job descriptions.

2.4.2. Snow Removal Training and Evaluation:

2.4.2.1. An adequate snow removal training program for all personnel, including temporary hires, will be provided for snow removal operations. The maintenance group missile maintenance will provide new CE equipment operators with an orientation on the layout of LFs to minimize the possibility of damage during snow removal operations. This 341 SW orientation briefing will be requested by the 341 CES/CEO through 341MOS/MXOOS, when required.

2.4.2.2. Snow removal training and evaluation will be completed by 1 October each year.

2.4.2.3. All pavements and construction equipment personnel possessing valid driver's licenses will be trained and evaluated on all phases and operating procedures of snow removal equipment.

2.4.2.4. All aspects of safety and equipment operation will be stressed throughout the instruction. Special emphasis will be placed on the barrier cables and their locations and on hazardous areas in the missile complex road system.

2.4.2.5. Instructors will be the shift supervisor and senior NCOs of the concerned shops.

2.4.2.6. CE personnel will be trained to operate a: rollover plow; snow blower; front-end loader; airblast sweeper; dump truck w/plow; and grader.

2.4.3. Equipment Preparation:

2.4.3.1. Since snow removal equipment must be in operational readiness prior to 15 September, the supervisor of the horizontal construction section must coordinate with the 341st Logistics Readiness Squadron, heavy equipment shop, to ensure all depot and motor vehicle repairs are expeditiously completed prior to 15 September. When the snow removal instruction becomes operational, the heavy repair superintendent will be responsible for the positioning of the equipment. As equipment is placed in service, it will be thoroughly road-tested, checked for operation, and placed in heated storage, both on base and at MAFs, to be positioned and ready for immediate employment. Loaders will be positioned at MAFs. Sufficient space for servicing and repairs of equipment will also be provided.

2.4.3.2. All snow removal equipment will be operational by 15 September.

2.4.3.3. Equipment, as much as possible, will be stored in heated facilities to prevent hydraulic system damage and be available for immediate use.

2.4.3.4. Markers. Prior to 1 October, markers will be installed on all fixtures or structures that may be damaged by, or cause damage to, snow removal equipment in the course of snow removal operations. Precautions will be taken to prevent foreign object damage.

2.4.4. Material/Parts Preparation. CE will stock the following materials/parts as a minimum:

2.4.4.1. Up to 150,000 gallons of liquid de-icer may be required during the snow removal season. It will be ordered in increments of 6,000 gallons.

2.4.4.2. Up to 10,000 pounds of sodium acetate may be required during the snow removal season. A reorder point of 2,400 pounds will be established to ensure adequate supply.

2.4.4.3. Snowplow blades, cutting edges, and shoes will be on-hand in quantities predetermined by the horizontal construction foreman, no later than 1 October of each year.

2.4.5. Preparation of Airfield, Roads, and Facilities. Markers will be installed by 1 October on any fixture, facility, or structure that can be damaged or may damage snow removal equipment. The electric shop will be responsible for installing markers to indicate location of airfield lighting systems, communications, manholes, electrical distribution, etc.

2.4.5.1. The Horizontal Construction section will be responsible for installing markers to indicate culverts, catch basins, and other drainage structures; level shoulders and eliminate obstacles on the airfield not later than 1 November. Prior to snow removal season, manholes and like structures

must have grades established to permit snow removal equipment to pass over them, and all potential hazards must be identified and marked prior to 1 November.

2.4.5.2. The liquid fuels maintenance shop will be responsible for the installation of markers to indicate location of valve boxes, meter pits, etc.

2.4.5.3. Utility shop will be responsible for the installation of markers to indicate location of fire hydrants, manhole covers, water and sewer systems, etc.

2.4.6. SCC is located in Bldg 407. It will be equipped with two telephone extensions with two instruments, and a remote control unit with transmitter and receiver. It is off limits to all personnel who are not conducting official business. SCC responsibilities are to:

2.5. Command and Signal. All snow removal equipment operating on the runway will be radio equipped.

Chapter 3

SNOW AND ICE CONTROL OPERATIONS

3.1. Airfield Snow Removal. Snow removal will be given priority over aircraft operations on the runway, when snow conditions would jeopardize the controlled movement area serviceability and cause the installation to be closed to flying. To achieve this, close coordination and cooperation will be maintained between SCC and helicopter operations. Alternate access to the controlled movement area, by S&IC equipment and by aircraft, is necessary so that Malmstrom Air Force Base is in operational condition at all times. Successful snow removal depends largely upon the ingenuity and good common sense of the personnel concerned. The controlled movement area is defined as the area enclosed by orange cones.

3.1.1. Snow removal operations will commence on the helicopter parking, taxiways, and helipads with the start of precipitation to achieve a continuous bare pavement.

3.1.2. Entry/Reentry to Controlled Movement Area. Before entering or returning to the movement area, the snow removal supervisor will contact the 40 HF/ODO by phone or radio for clearance onto the controlled movement area for the equipment involved in snow removal operations and will inform 40 HF/ODO if there is intent to deviate from the procedure described.

3.1.3. At the beginning of a snowfall, snow removal equipment will commence operations starting at the hanger doors and work their way out to the taxiways, helipads, and the operational portion of the runway.

3.1.3.1. Every effort will be made to obtain maximum productive time from each operator and piece of equipment. Sufficient personnel and equipment will be employed to ensure that fire lanes are open and the airfield is maintained in an operational status.

3.1.3.2. Runway snow plowing operations will be performed utilizing methods and procedures proven from past experience to be the quickest and most economical. Due to existing wind condition, normally the runway will be plowed one direction to the south and a back-pass made next to the lights into the adjacent field. Snow plowing operations under "no-wind" or "light snow" conditions will be performed by plowing from centerline of the runway to each side.

3.1.4. In the event of an impending emergency operation, or normal landing of aircraft, the 40 HF/ODO will warn snow removal personnel on the controlled movement area by radio. If normal radio communications cannot be established, the 40 HF/ODO will blink the runway lights. The following actions apply:

3.1.4.1. Operators of all snow equipment will clear from the movement area by the nearest hard surface and proceed 200 feet from helipad or slide area.

3.1.4.2. Any snow removal equipment operating on the ramp and ramp taxiway will yield to taxiing aircraft.

3.1.5. Augmentation crews, as required, will report to the SCC with adequate winter clothing, and will be utilized for shoveling snow from runway lights, taxiway lights, etc., as directed by the shift supervisor.

3.1.6. Taxiways, under "no-wind" or "light-snow" conditions, will be plowed from the centerlines of taxiways to each side, with a back-pass, and snow then blown into adjacent field. In strong wind conditions, taxiways will be plowed in one direction from the windward side.

3.1.7. Snow removal operations will be accomplished by truck-mounted plows, sanders, graders, loaders, and sweepers as required.

3.1.8. Safety during snow removal operations is paramount and will not be compromised.

3.1.9. Snow will be moved from airfield lighting by hand, then excess snow around the area will be removed by snow removal equipment.

3.1.10. Snow removal operation will cease when visibility is determined by the SCO or shift leader to be unsafe for further operation.

3.1.11. Other airfield areas: Snow removal from the following areas is accomplished by the facility occupant or OPR by hand shoveling, small rotary blowers, and small tractor-mounted plows.

3.1.11.1. Areas which cannot be safely cleared by using snow removal equipment designed for airfield use.

3.1.11.2. Navigation Aids (NAVAIDS).

3.2. Snow Removal for Streets, Roads, and Parking Areas:

3.2.1. All primary street intersections will be de-iced a distance of 40 feet on each side of each intersection immediately after plowing as needed.

3.2.2. Intersections will be de-iced prior to 0645 and 1600 hrs on normal duty days.

3.2.3. Snow removal will be in accordance with assigned routes.

3.3. Other Snow Removal. The building custodian, using agency, housing occupant, and/or OPR will be responsible for snow removal from:

3.3.1. Sidewalks, driveways, loading docks, and porches.

3.3.2. Fire hydrants.

3.3.3. Overhead and sliding doors, vertical lifts, and swinging gates.

3.4. Missile Field Snow Removal. The purpose of this section is to specify the procedures, personnel, and equipment necessary for snow removal operations in the missile complex, and to specify procedures and method of operations to meet the additional snow removal requirements for removing snow from behind the launch closure at LFs.

3.4.1. Responsibility. The BCE is responsible for snow removal at the LFs when teams cannot gain access to the site with vehicles fully chained and snow depth is greater than 6 inches, and for notifying the Cascade County for snow removal requirements on public access roads. Also, BCE is responsible for correlation of the functions of CE with those of other organizations for the purpose of implementing snow removal operations and having the ability for continued 24-hour operation under the requirements of this section. SCC will coordinate schedule with MMOC and ensure MMOC is kept informed of snow removal progress in the field.

3.4.2. Pre-positioning of CE Personnel and Equipment:

3.4.2.1. All snow removal support will respond from the support base. All available equipment and personnel will be operationally ready and standing by when not actually engaged in snow removal. Standby time will include time required for equipment maintenance.

3.4.2.2. In the event of a severe winter storm warning, all required equipment and personnel may be pre-positioned at MAFs nearest to priority snow removal request to await the storm, as determined by the BCE. Caution should be used to keep required personnel on base to relieve snow removal crews after 5 days in the field to avoid crew fatigue. When extreme weather conditions exist, crew changeover will be conducted by 6-passenger pickups that are radio equipped. Crew changes will be made in midday to avoid icy conditions wherever the schedule allows.

3.4.2.3. All pre-positioning of MAF snow equipment will be completed by 15 October.

3.4.3. CE may require additional transportation to make crew changes.

3.4.4. Equipment Maintenance. The transportation maintenance shop will be responsible for equipment that breaks down in the field. It will assume responsibility for repair. The equipment operator or SCC will inform vehicle dispatch of the location and type of malfunction of the broken equipment.

3.4.5. Communications:

3.4.5.1. Telephone communications will be maintained between Malmstrom AFB and the missile sites.

3.4.5.2. SCC, upon receipt of requests for snow removal from MMOC, will relay requests to crews at the missile sites.

3.4.5.3. Equipment breakdowns and/or requirements and personnel requirements will be relayed by telephone from missile sites to SCC, ext. 6464.

3.4.5.4. Snow removal teams will be equipped with radios and/or cell phones for the purpose of maintaining contact with SCC and MMOC to the maximum extent possible.

3.4.5.5. Equipment operators will ensure SCC, shift supervisors, and MMOC are informed of each arrival and departure of a crew or team at a missile complex. This may be accomplished by Radio-Telephone Patch-SIN Line at Soft Support Building or by radio. Call-ins are necessary to show work progress and/or status to enable supervisors to properly prepare a work assignment schedule.

3.4.6. Pre-dispatches will be completed by the snow removal team chief and verified by the SCC.

3.4.7. Rations and Quarters:

3.4.7.1. During snow removal operations, food service personnel may be required to provide messing facilities at other than normal serving hours. Snow removal teams will provide one-hour advance notification.

3.4.7.2. Box lunches may be required instead of normal messing.

3.4.7.3. Quarters may occasionally be required for two to six individuals. MAFs will be given all the advance notice possible, prior to the arrival of personnel.

3.4.8. Safety. Prior to departure from Malmstrom AFB, each snow removal crew will attend a safety briefing. Existing weather conditions, laws, regulations, instructions, current operation instructions (OI), and good common sense will determine the actions of personnel and the manner in which snow removal equipment is operated.

3.4.9. Tools and Equipment:

3.4.9.1. Sufficient tools and equipment of a predetermined type and number will be located at each MAF snow removal center. These items will be pre-positioned at the same time as the vehicles.

3.4.9.2. The shift leader will be responsible for the issue of tools to personnel and will account for such tools on AF Form 1297, *Temporary Issue Receipt*.

3.4.10. Snow Removal Procedures:

3.4.10.1. Snow removal personnel will not accept or perform snow removal duties from any source other than the SCC. Emergency work will be assigned from the SCC.

3.4.10.2. When removing snow within the MAFs and LFs, vehicle operators will take extreme care to avoid damage to the complex fixtures and snow removal equipment.

3.4.10.3. Vehicles and equipment will use the transport-erector (TE) routes at all times.

3.4.10.4. The team chief will, as soon as possible, inform the SCC of any change in status or location of equipment and personnel.

3.4.10.5. All sanding requests will be cleared through the SCC.

3.4.10.6. Ice removal chemicals will not be used unless approved by the BCE.

3.4.10.7. Facility managers located at the MAFs will be responsible for moving or having moved those vehicles that interfere with snow removal at the MAFs.

3.4.10.8. The removal of snow from the air intake ducts and the access ladder pits will be the responsibility of the missile security forces.

3.4.10.9. Extreme care will be taken to prevent piling of snow on any part of the soft support building, drainage ditches, or security antenna field.

3.4.10.10. Security forces personnel will determine snow depth on request to support the daily Missile Maintenance Schedule.

3.4.11. SCC Responsibilities:

3.4.11.1. During the snow season, coordinate daily with 341 MOS/MXOOJ to determine which LFs need to be checked for snow removal and what priority of snow removal is required.

3.4.11.2. During the snow season, coordinate daily with missile security to determine which LFs they may have declared RC2. RC2 sites have lowest priority unless included in the missile maintenance schedule.

3.4.11.3. Keep track of all reported snow conditions at the LFs.

3.4.12. Snow Removal Operations on Missile Sites:

3.4.12.1. The SCC, upon notification from maintenance plans and scheduling or MMOC, will dispatch a snow removal team to the site to remove snow when required. If the snow must be removed from behind the launcher closure door, CE personnel will remove the bulk of the snow with the front-end loader, using extreme caution to prevent damage to gear rack and tracks. The area will be cleared six inches wider than the launcher closure and at least to the end of the gear rack and tracks. The balance of snow in the vicinity of the closure door will be removed, as required, by missile maintenance personnel responsible for operation of the closure door. On secu-

rity improved launch control system sites, CE personnel will remove snow west (east side of 564th) of the launcher pylons using a plow or front-end loader, removing enough snow to allow an PT Van to back into the area so it can be pulled forward over the launcher closure. When removing snow on top of launcher closer door, use caution to clear lifeline attach point located in the middle of launcher closure door. The following is the area snow must be removed from.

3.4.12.2. Area A. Entire topside and behind launch closure door (see [Attachment 2](#), Wing 1 LF Area A and [Attachment 5](#), 564 MS LF Area A).

3.4.12.3. Area B. Entire topside (see [Attachment 3](#), Wing 1 LF Area B and [Attachment 6](#), 564 MS LF Area B).

3.4.12.4. Area C. Access to support building and turnaround area (see [Attachment 4](#), Wing 1 LF Area C and [Attachment 7](#), 564 MS LF Area C).

3.4.12.5. Area D. MAFs.

3.4.12.6. The snow controller will call the necessary personnel required to perform snow removal duties for maintenance and will schedule personnel and equipment in the sequence in which sites will be opened.

3.4.12.7. The NCO or snow controller on duty in the SCC will coordinate with MMOC the priorities of sites requiring cleaning.

3.4.13. 341st Logistics Readiness Squadron:

3.4.13.1. Vehicle requirements beyond the available assets of CE will be requested from the logistics readiness squadron. Radio equipped, 6-passenger, 4x4 vehicles are the primary vehicle type required; however, suitable substitute vehicles may be provided should the primary vehicle not be readily available.

3.4.13.2. The 341st Logistics Readiness Squadron may utilize vehicles from other lower priority units to meet this requirement.

3.4.13.3. Horizontal construction section may have a requirement for seven vehicles of this type.

3.4.13.4. These vehicles will be furnished on an "as needed" / "when needed" basis and will be returned to the 341st Logistics Readiness Squadron when no longer required.

3.4.14. If needed, snow fence will be installed by horizontal construction at predetermined locations as designated by the missile engineering flight.

3.4.15. 341st Missile Maintenance Teams:

3.4.15.1. Will ensure vehicles are fully chained to ensure access to sites before they request snow removal. Snow depth of six inches or less will not be removed by CE.

3.4.15.2. Remove snow by hand or with small blowers around security gate, cattle gates, launcher closure door, personnel access hatch, etc., after equipment plowing by CE or when snow depth is less than six inches.

3.4.15.3. Prevent all vehicles from operating in drainage ditches or off stabilized surfaces.

Chapter 4

SNOW REMOVAL ON PUBLIC ROADS

4.1. CES Responsibility: CES and FM personal will not plow or spread sand/chemicals on state, county, or city owned roads/streets. CES and FM responsibility is limited to the access roads between county/state road and the MAF or LF.

4.2. County Responsibility: The state/counties will plow state/county owned roads in accordance with their established priorities. Under certain circumstances, CES may request extraordinary snow removal (ESR). All requests for ESR on public roads will be called to the Cascade County dispatcher by CES snow control or missile engineering, Cascade County will contact the appropriate county road department. The appropriate county will only perform all snow removal.

4.2.1. CES will furnish the Cascade County dispatcher with a list of personnel authorized to request work.

4.2.2. State and county plows on public highways will pass MAF/LF entrances, possibly leaving berms that block the entrance. If access is subsequently required, CE plows will clear the berm at LFs if accumulation is more than can reasonably be shoveled, FMs will plow at the MAFs.

4.3. Extraordinary Snow Removal Agreement: The following paragraphs are portions extracted from the extraordinary road program and snow removal agreement, which is rewritten every seven (7) years and service prices adjusted each year through amendments to account for inflation. This agreement was entered into by Malmstrom AFB, the nine counties (Cascade, Chouteau, Fergus, Judith Basin, Lewis and Clark, Pondera, Teton, Toole, and Wheatland) and the US Department of Transportation, Federal Highway Administration (FHWA).

4.3.1. The Military Traffic Management Command (MTMC) certified the importance to national defense to provide ESR and requested FHWA to take actions using funds, approximately \$150K, transferred to FHWA by the Department of the Air Force. The MTMC transfers money from the Air Force to the FHWA, who in turn transfers the funds to FHWA MT in Helena, MT. The FHWA MT furnishes the nine counties an annual mobilization fee. At the end of the snow season, each county submits a recap of expenses to the Cascade County Clerk, who submits to FHWA MT for payment. The counties will be reimbursed their hourly rates for their actual hours utilized on ESR. Cascade County receives additional funds for managing the ESR program.

4.3.2. Snow removal on county roads is the responsibility of local county agencies. The counties may not normally plow roads where remote sites are located if other means of access is available to the local inhabitants. The ESR program is only for roads not on the state maintained highway system unless otherwise determined by emergencies, or severe storms

4.3.3. ESR will not be requested for routine maintenance if it can be expected the roads in question will be open by local agencies not later than five calendar days after termination of the snowstorm.

4.3.4. ESR may be requested to insure snow removal on 48-hour notice after termination of a snow-fall for crew changes at MAFs and priority maintenance.

4.3.5. If within 72 hours after termination of snowfall/drifted, there is no indication that roads will be opened before the five-day time frame, arrangements will be made to request ESR. The base must establish a priority list to allow county flexibility.

4.3.6. Sanding services should follow the same guidelines. Sanding should only be requested for convoy movements. The county should be advised of sanding requirements at least 48 hours in advance, if practical, and confirmed two to three hours prior to departure.

4.4. Common questions: The following are commonly asked questions about snow removal.

4.4.1. *Can the AF sand/plow county roads?* The AF is not authorized to plow or sand any county owned roads. County maintains their own roads and have entered into an agreement with Malmstrom to provide extra services under certain circumstances; this agreement is called Extraordinary Snow Removal (ESR). USAF pays for this service per occurrence and should be used sparingly.

4.4.2. *Who can call for ESR?* CES snow control or missile engineering personnel who are identified on a letter to Cascade County dispatcher's office are authorized to call for ESR. ESR for all areas is called into Cascade County and they are responsible to contact the appropriate highway Department

4.4.3. *What do we do to get county roads out of RED?* Counties will plow and sand roads according to their regular schedules and priorities. County will not change their procedures solely because the AF calls a road RED. Conditions listed in 4.4.4. and 4.4.5. must exist.

4.4.4. *How long does county have to respond to an ESR request?* Under normal circumstances, which include routine maintenance, County has five calendar days after snowfall termination to open roads, if after the first 72 hours there is indication removal will not be complete within the five days, arrangements may be made for ESR. ESR may be requested to ensure snow removal within 48 hours after snowfall termination for crew changeover and priority maintenance. History has shown the counties normally respond with-in hours of the requests.

4.4.5. *Will county sand roads if asked?* The county will sand roads only for convoy movements. The county should be advised 48 hours prior to the convoy and be confirmed two to three hours prior to departure. Any cancellations or delays, SCC will communicate to county as soon as possible.

Chapter 5

SNOW ROUTES

5.1. Route I:

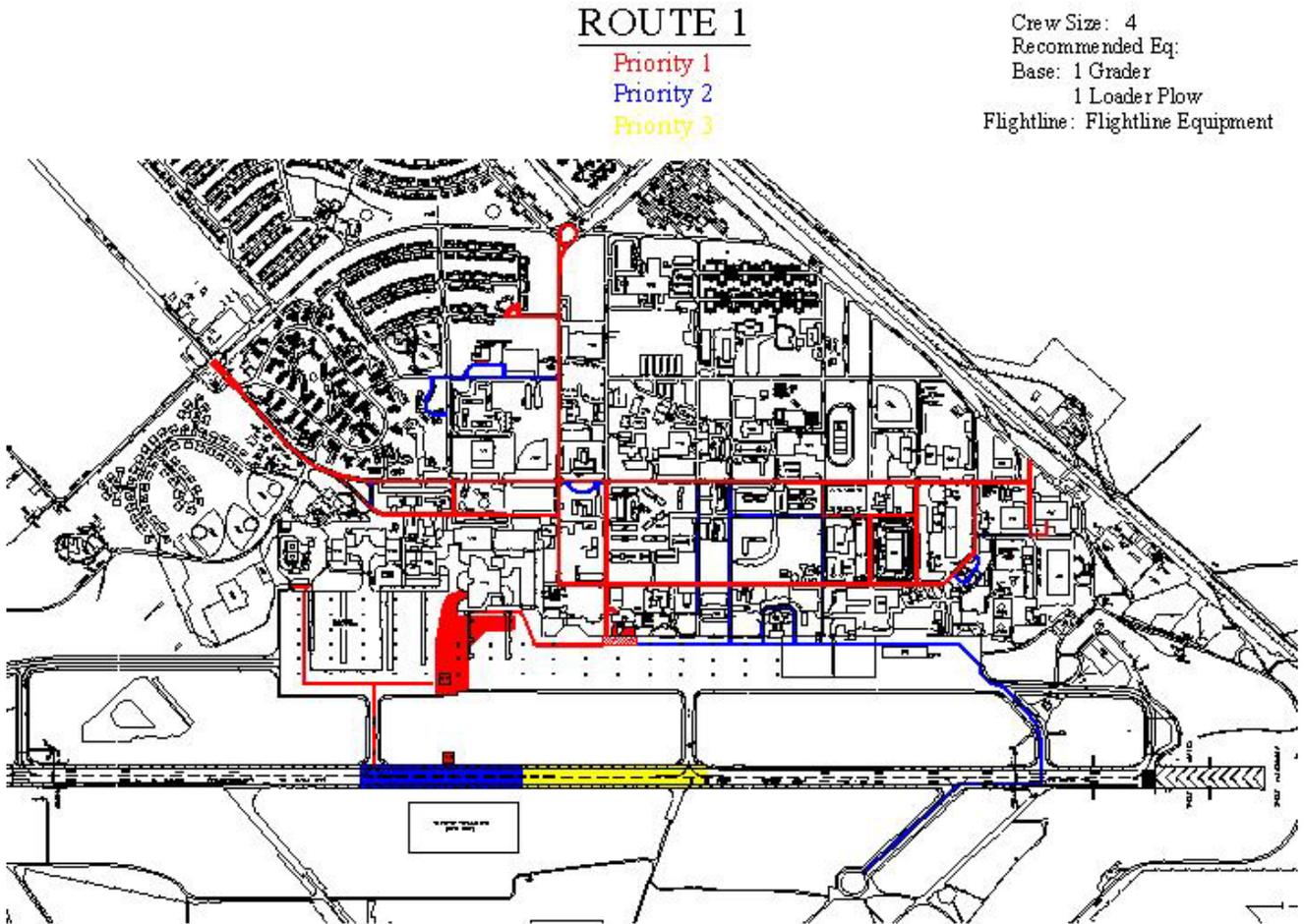
All maps will use the same color code for priorities:

Red: Priority 1

Blue: Priority 2

Yellow: Priority 3

Figure 5.1. Route I



5.2. ROUTE II:

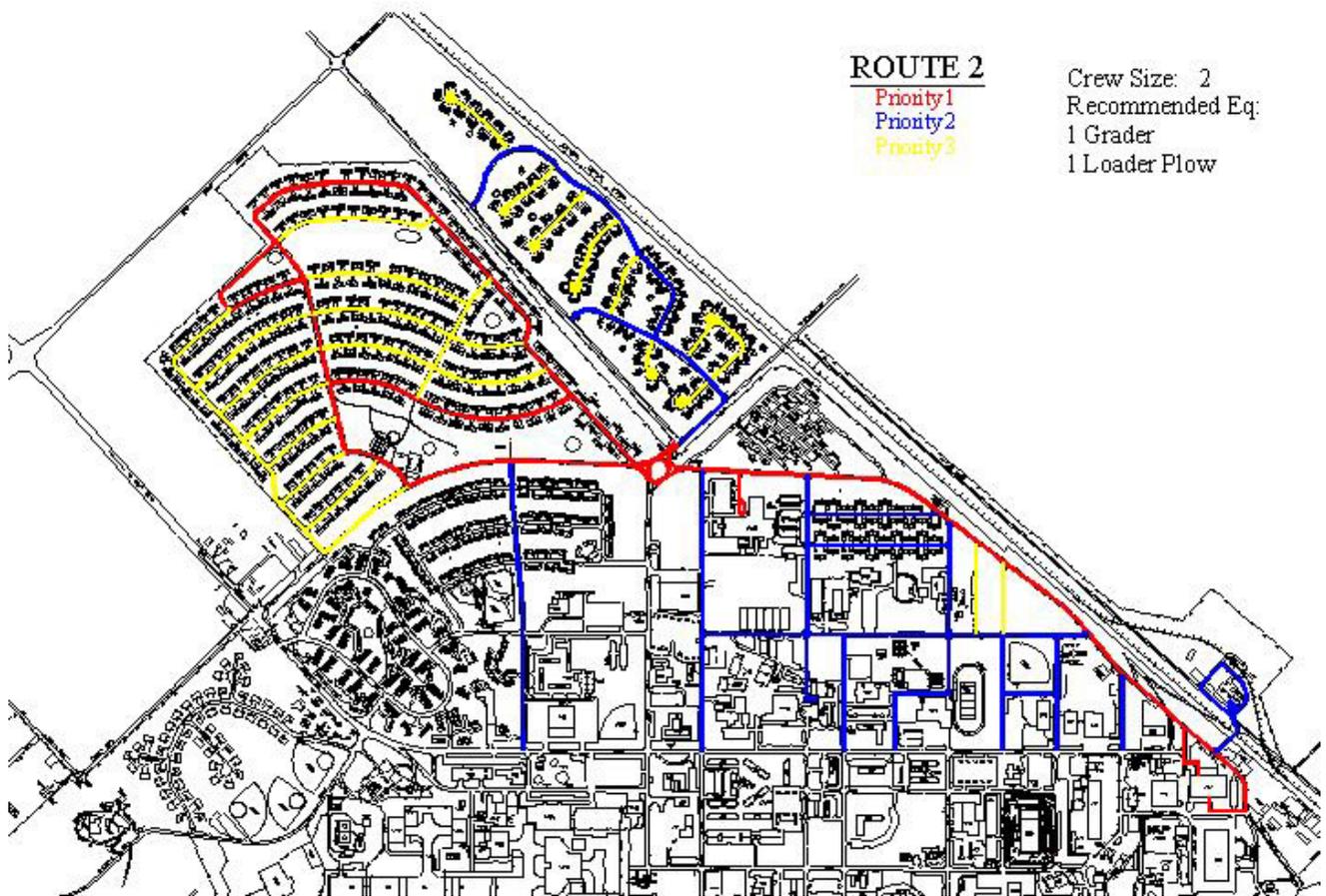
All maps will use the same color code for priorities:

Red: Priority 1

Blue: Priority 2

Yellow: Priority 3

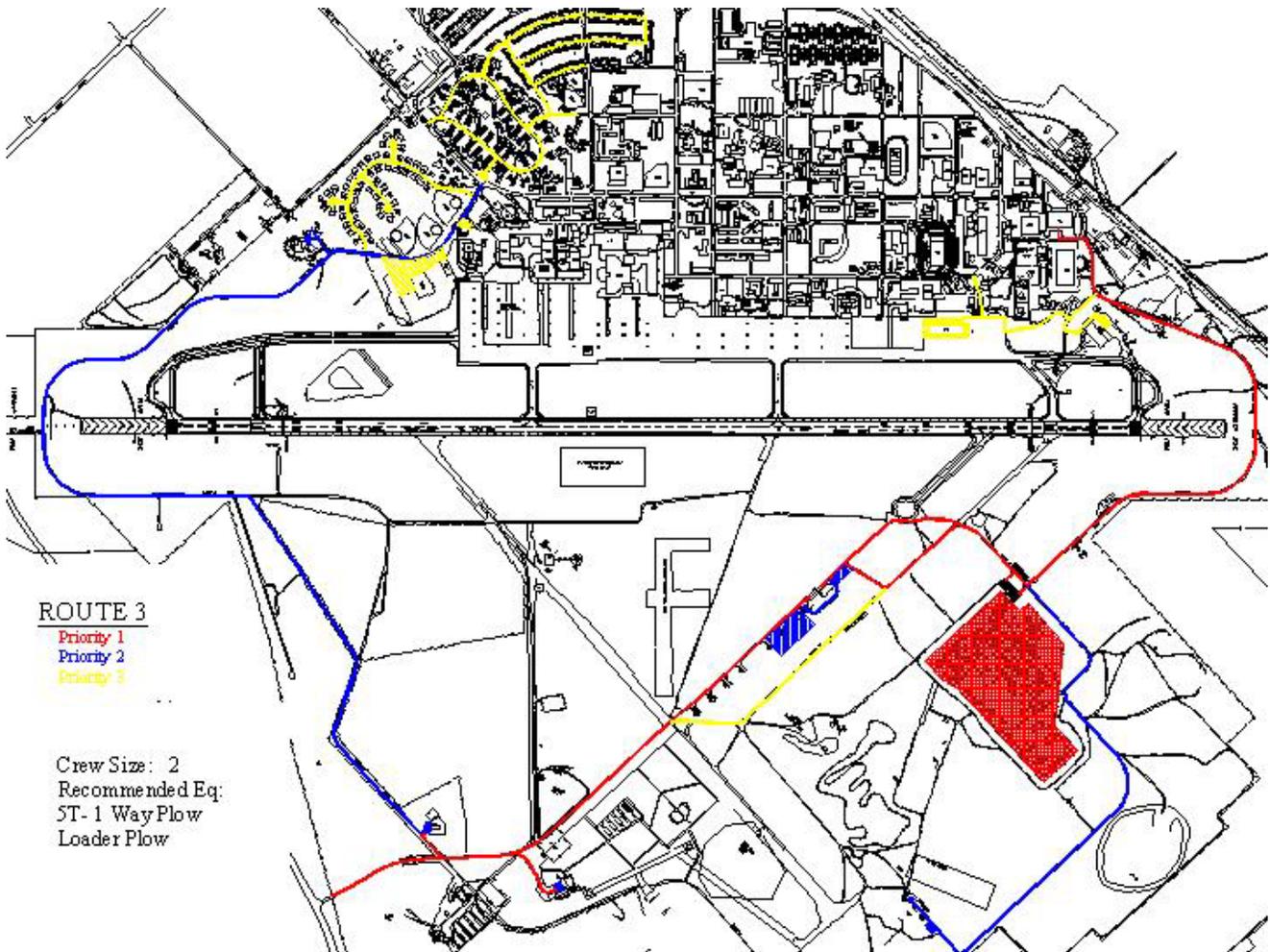
Figure 5.2. ROUTE II



5.3. Route III:

- Red: Priority 1
- Blue: Priority 2
- Yellow: Priority 3

Figure 5.3. Route III



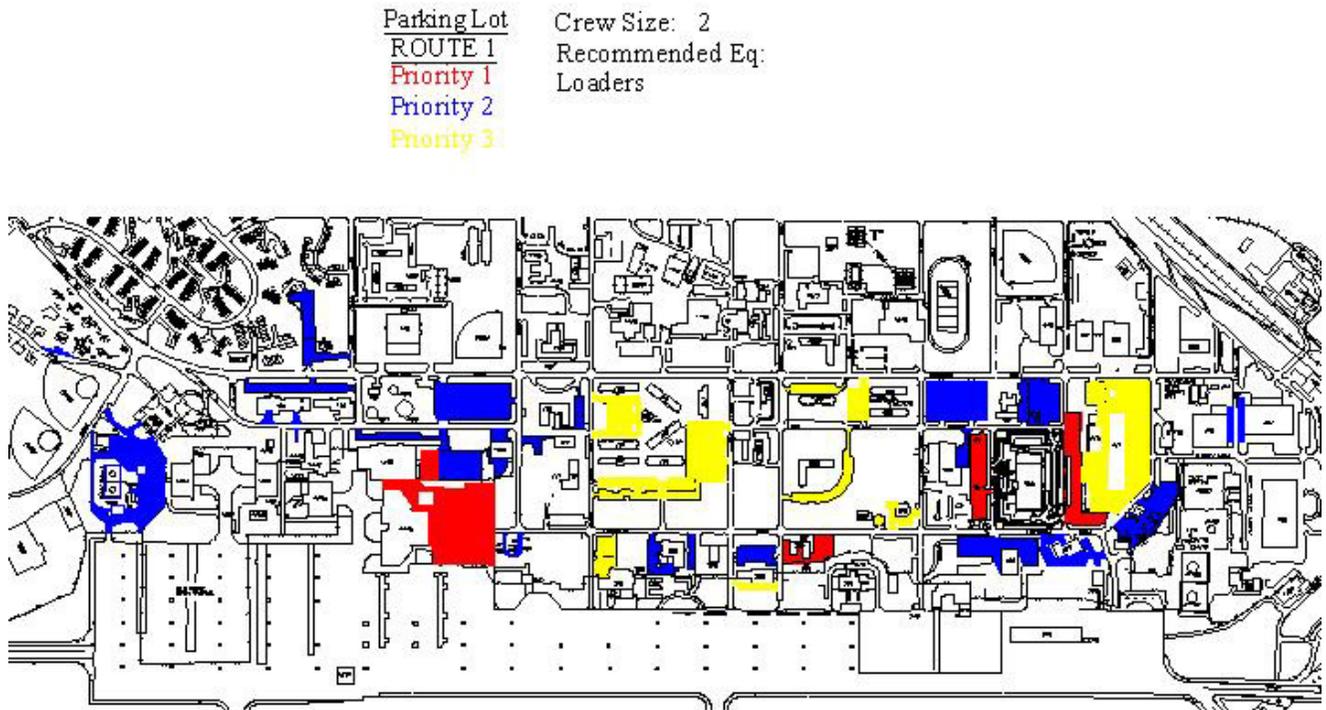
5.4. Parking Lot Route I:

Red: Priority 1

Blue: Priority 2

Yellow: Priority 3

Figure 5.4. Parking Lot Route I



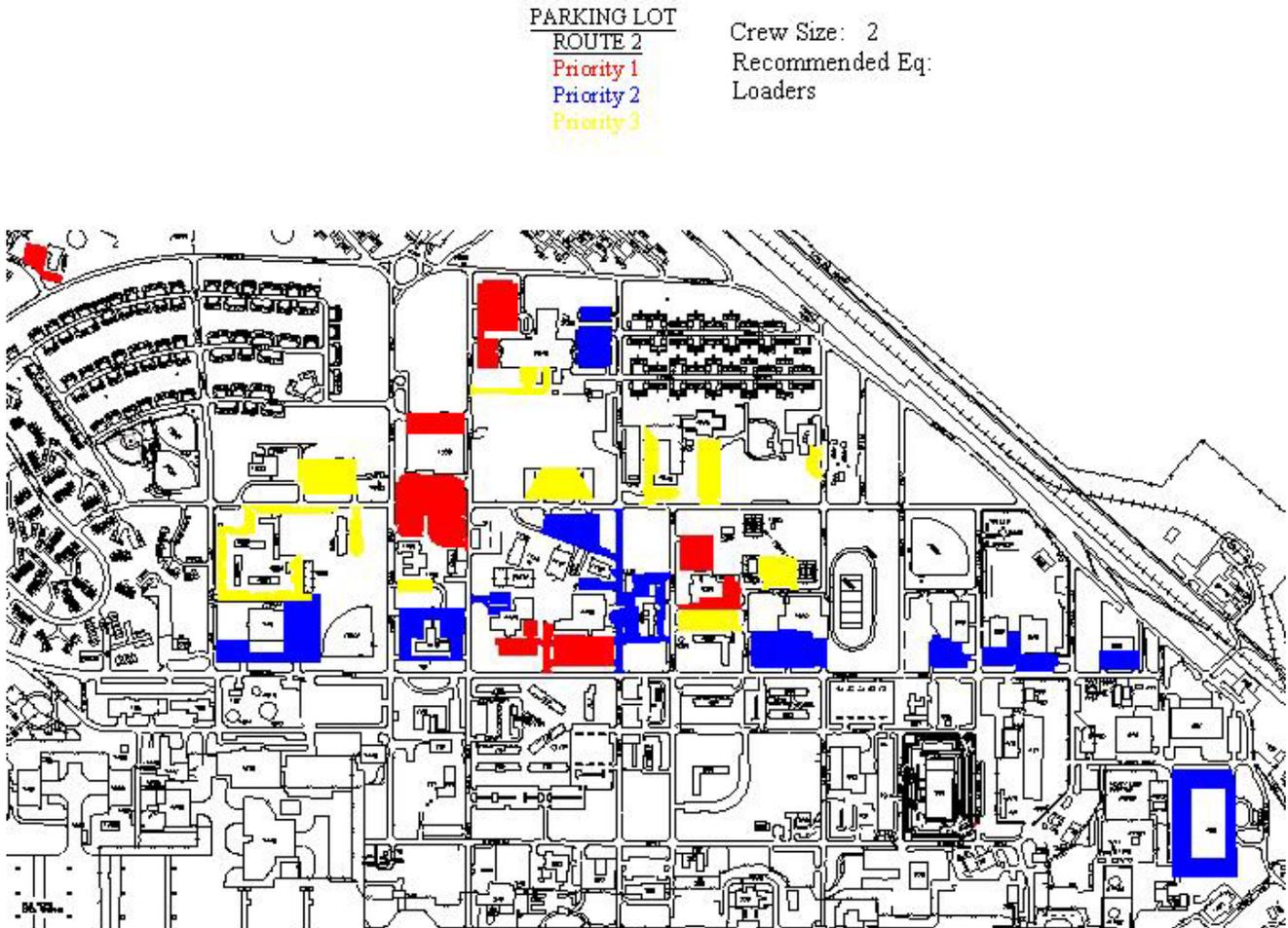
5.5. Parking Lot Route II:

Red: Priority 1

Blue: Priority 2

Yellow: Priority 3

Figure 5.5. Parking Lot Route II



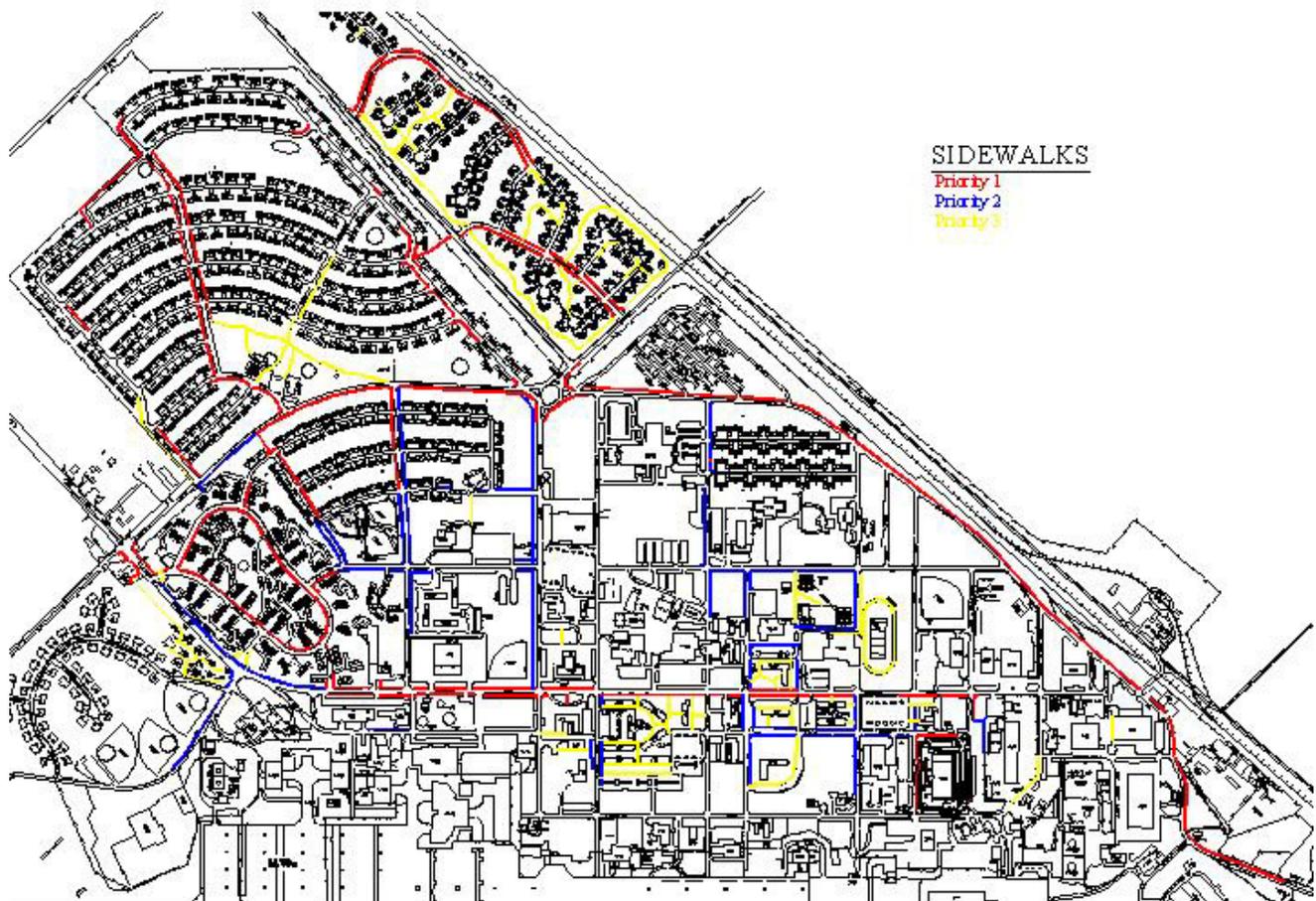
5.6. Sidewalk Route:

Red: Priority 1

Blue: Priority 2

Yellow: Priority 3

Figure 5.6. Sidewalk Route



NOTE: In the event that a fixed-wing mission returns to Malmstrom, and the airfield fully reopens, all priorities will be addressed at an appropriate snow committee meeting.

Chapter 6

POST SEASON REQUIREMENTS

6.1. General. Preparation for the next snow removal season starts at the end of the present season. The logs documenting the problems/successes must be reviewed and eliminated or incorporated into the revision of the S&IC Instruction.

6.2. Equipment. The condition of equipment and the base's capability to effectively perform its mission depends upon the inspection and maintenance performed. It must be thoroughly inspected, repaired, properly stored, and readily available for use in advance of each winter's operation.

6.2.1. Snow removal equipment. All snow removal equipment will be thoroughly inspected at the end of the snow season by CE personnel. Prior to the inspection, equipment must be cleaned to ensure that bare wires, cracked windows or lenses, worn brakes, cracked or damaged frames, chutes, differential and gear cases, final drives, etc., oil or hydraulic leaks, worn belts or pulleys, and worn or cut tires are discovered.

6.2.1.1. Items to be repaired later as operator maintenance will be annotated on a General Purpose Form and filed with the heavy repair superintendent.

6.2.1.2. Equipment will be processed through vehicle maintenance by 1 June.

6.2.2. Summer Rebuild Program. A formal program will be established by the Vehicle Maintenance Officer, which will ensure seasonal equipment will be fully serviceable and ready for use by 15 September of each year. Local maintenance operating instruction will be prepared containing specific details of the program.

6.2.3. Snow removal equipment will be returned to CE after deferred work orders have been written. Vehicle maintenance will establish a schedule for repairs.

6.2.3.1. A comprehensive operator maintenance program will be established by the heavy repair superintendent and all repairs must be accomplished. Vehicles not scheduled for repainting will receive appearance repairs and touch-up in accordance with T.O. 36-1-3.

6.2.3.2. Status of equipment will be briefed at commander's update briefings during the months of August and September.

6.2.4. Vehicles designed exclusively for S&IC should not be used during the off-season for the accomplishment of other work.

6.3. Airfield, Road Surfaces, and Facilities. Immediately after the winter operation, action must be taken to:

6.3.1. Inspect airfield and road surfaces.

6.3.2. Remove and store temporary snow fencing in the spring to reduce loss from weathering, fire, and deterioration. Posts will be removed with pullers, cleaned, and straightened. Discard badly damaged fencing. The remaining fencing should be repaired, cleaned, and rolled before storing. Store fence rolls in a storage yard or near their winter location. Bind rolls together with wire and place them where they will not interfere with vision or maintenance operations or be damaged by grass fires. Review records of all snow fence locations and determine plan for the following winter.

6.4. Forms Adopted. SF52, *Request for Personnel Actions*, AF Form 1806, *Operators Inspection Guide and Trouble Report*, and AF Form 97, *Temporary Issue Receipt*.

C. DONALD ALSTON, Colonel, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****Abbreviations and Acronyms***

AFI—Air Force Instruction
AFPD—Air Force Policy Directive
BCE—Base Civil Engineer
CE—Civil Engineer
ESR—Extraordinary Snow Removal
EWO—Emergency War Order
FHWA—Federal Highway Administration
FM—Facility Manager
GMV—Government Motor Vehicle
HF—Helicopter Flight
IAW—In Accordance With
IFR—Instrument Flight Rules
LF—Launch Facility
LMR—Land Mobile Radio
LRS—Logistics Readiness Squadron
MAF—Missile Alert Facility
MMOC—Missile Maintenance Operations Center
MMXS—Missile Maintenance Squadron
MOS—Maintenance Operations Squadron
MPF—Military Personnel Facility
MS—Missile Squadron
MSC—Missile Security Control
MSG—Mission Support Group
MTMC—Military Traffic Management Command
MXG—Maintenance Group
NAVAIDS—Navigation Aids
OI—Operating Instruction
OJT—On-The-Job Training
OG—Operations Group

OPSEC—Operations Security

POL—Petroleum, Oils, and Lubricants

POV—Privately Owned Vehicle

SCC—Snow Control Center

SCO—Snow Control Officer

SFG—Security Forces Group

SW—Space Wing

S&IC—Snow and Ice Control

TE—Transport Erector

VD—Vehicle Dispatch

WSA—Weapons Storage Area

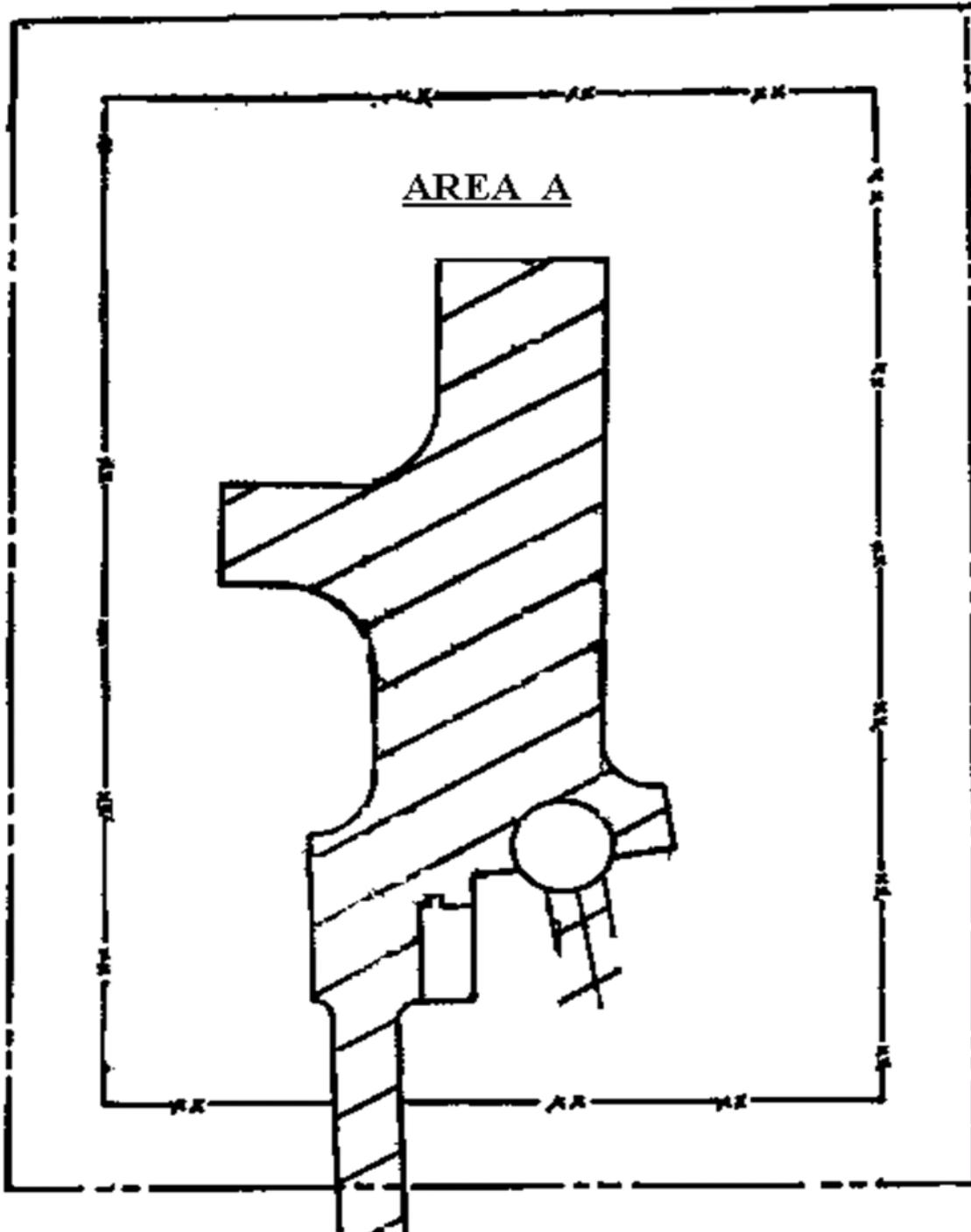
VD—Vehicle Dispatch

WSA—Weapons Storage Area

Attachment 2

WING 1 LF AREA A

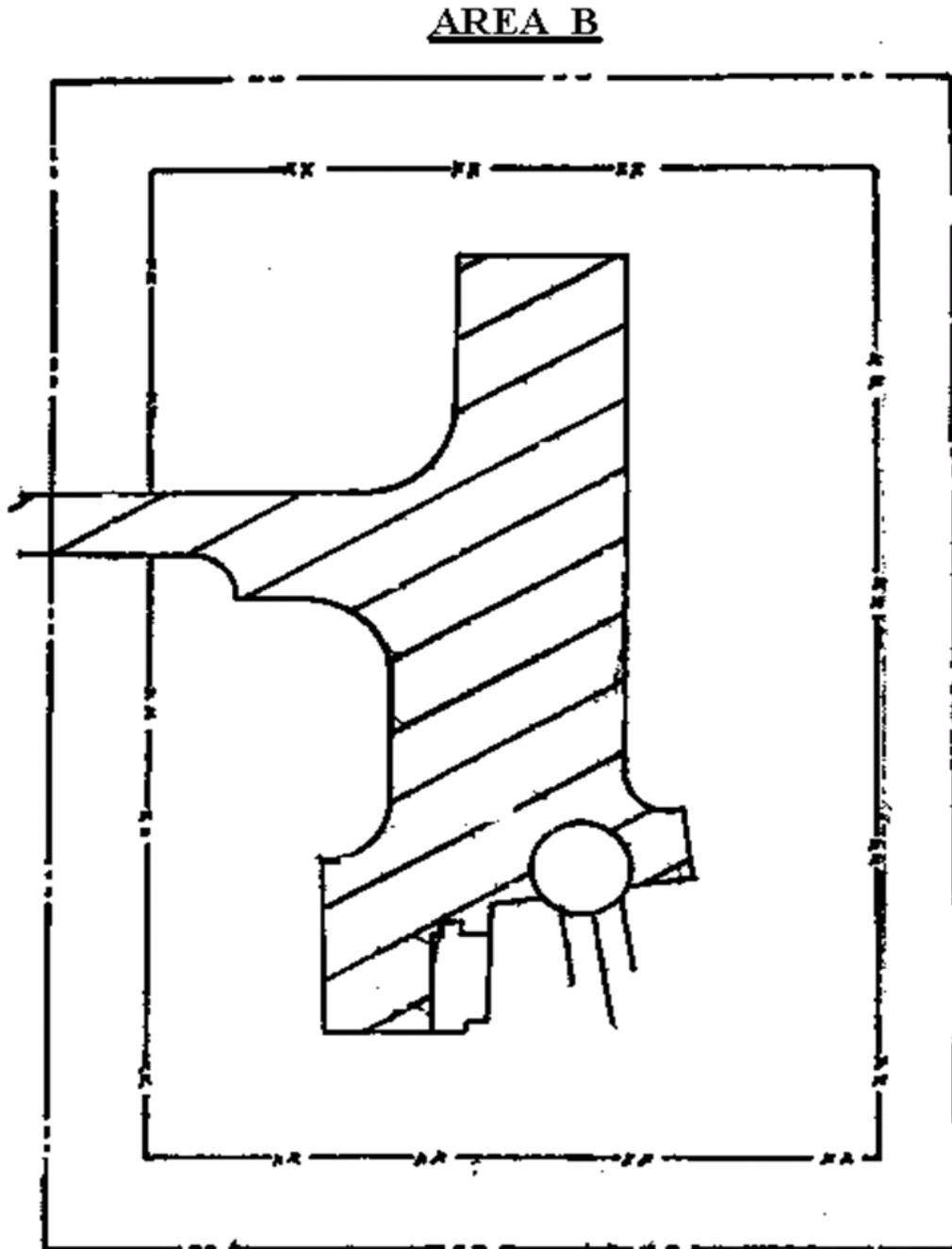
Figure A2.1. Wing 1 LF Area A



Attachment 3

WING 1 LF AREA B

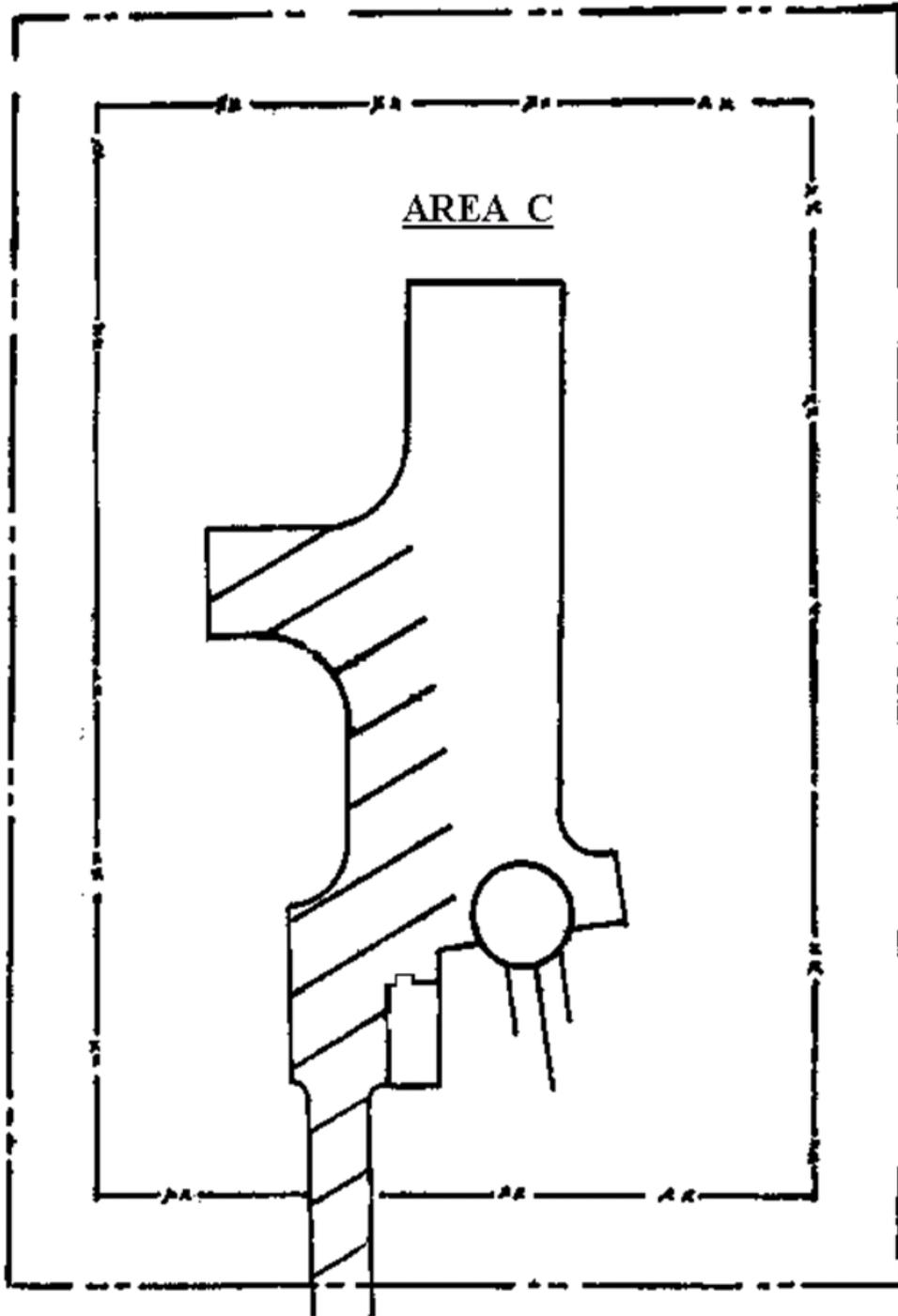
Figure A3.1. Wing 1 LF Area B



Attachment 4

WING 1 LF AREA C

Figure A4.1. Wing 1 LF Area C

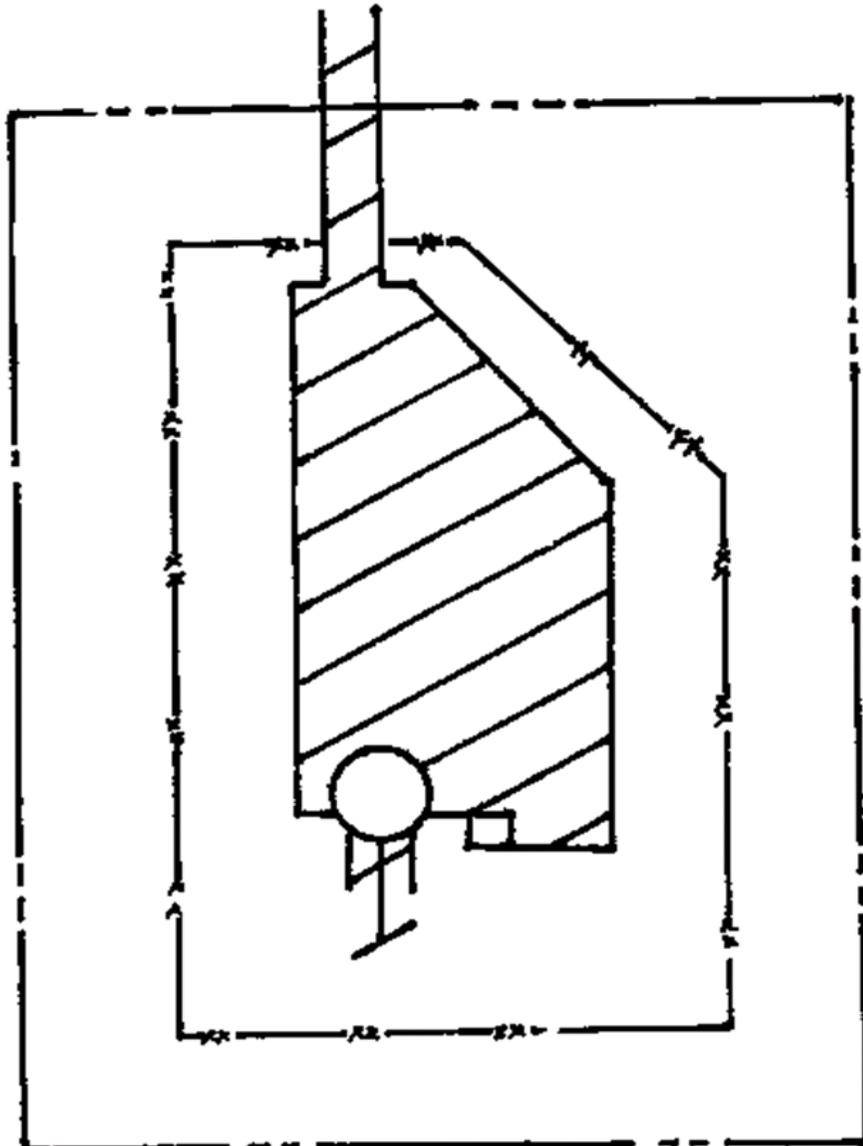


Attachment 5

564 MS LF AREA A

Figure A5.1. 564 MS LF Area A

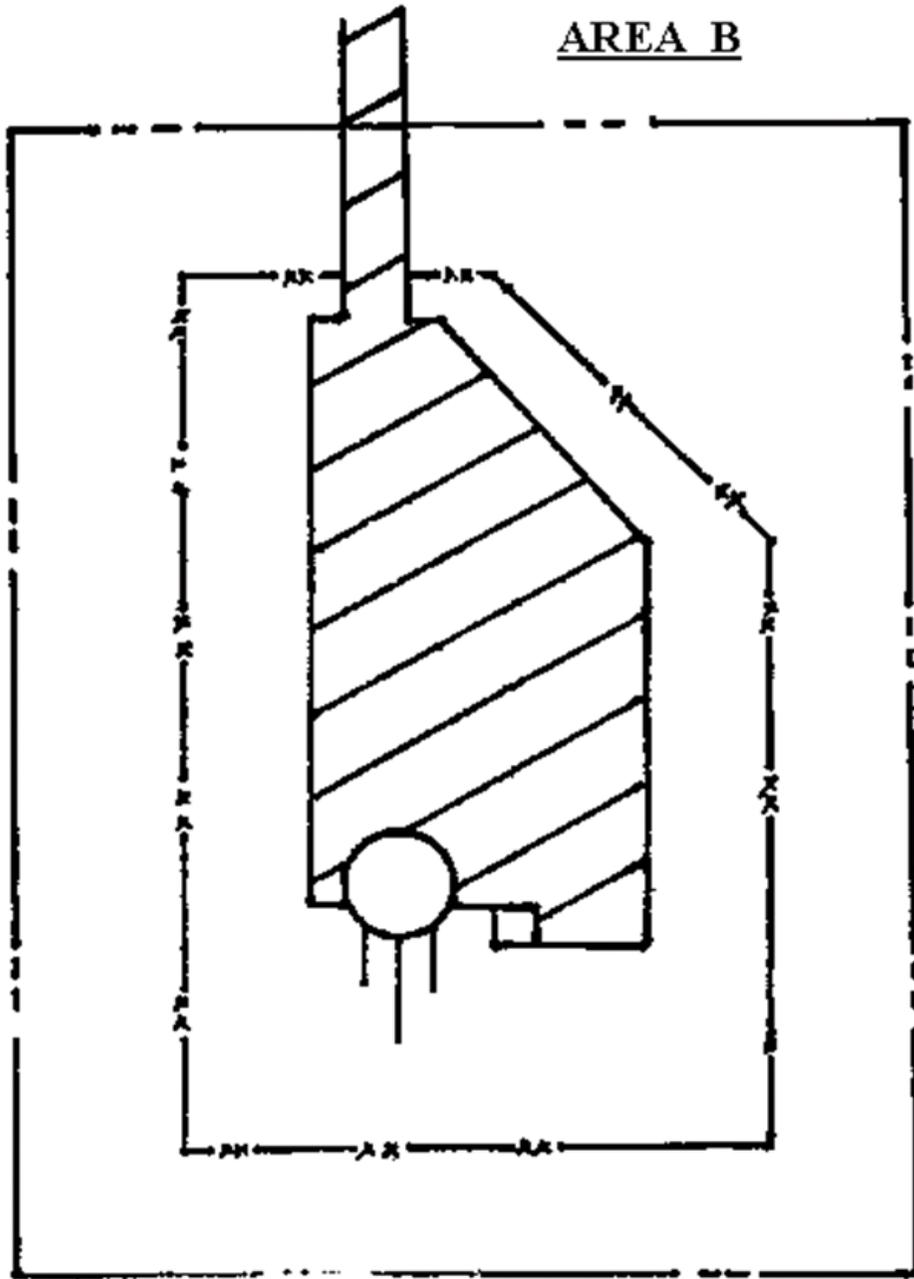
AREA A



Attachment 6

564 MS LF AREA B

Figure A6.1. 564 MS LF Area B



Attachment 7

564 MS LF AREA C

Figure A7.1. 564 MS LF Area C

AREA C

