



DEPARTMENT OF THE ARMY
HEADQUARTERS
UNITED STATES ARMY MANEUVER SUPPORT CENTER AND FORT LEONARD WOOD
FORT LEONARD WOOD, MISSOURI 65473-5000

FLW Regulation
No 210-14

16 June 2003

Installations
RANGES AND TRAINING AREAS

Summary. This regulation prescribes United States Army Maneuver Support Center and Fort Leonard Wood (MANSCEN & FLW) policy for the scheduling and safe conduct of training on Fort Leonard Wood (FLW) ranges and training areas.

Applicability. This regulation applies to all units and personnel conducting training on the Fort Leonard Wood Military Reservation. Shooting ranges located at the Community Sportsmen's Center are not subject to all requirements listed in this regulation since their purpose is recreational, not training. The Rod and Gun Club will have in effect standing operating procedures (SOPs) for range safety and use, and coordinate these through Range Control and the MANSCEN Safety Office (MSO) for approval. Procedures for recreational ranges will be covered in these SOPs and may vary from procedures outlined in this regulation.

Supplementation. Commandants, Garrison Commander, and 3rd Basic Combat Training Brigade Commander (referred to as the senior commanders in this regulation) may further delegate authority to coordinate and execute the provisions of this regulation. When doing so, provide the scope of the delegation and to what level, e.g., Brigade, Battalion, or Company by memorandum to the G-3/DPTM. Supplementation of this regulation is prohibited unless specifically approved by Headquarters, MANSCEN.

Administrative Notes. Unless this publication states otherwise, masculine nouns or pronouns do not refer exclusively to men. Range Officers in Charge (OICs), Range Safety Officers (RSOs), and Smoke Control Officers (SCOs) refer to commissioned, warrant, and noncommissioned officers.

Suggested Improvements. The proponent agency of this regulation is the G-3/Director of Plans, Training, and Mobilization (DPTM). Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, MANSCEN, ATTN: ATZT-PTM, Fort Leonard Wood, Missouri 65473-5000.

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Contents	Paragraph	Page
Chapter 1. INTRODUCTION		
General	1-1	1
Purpose	1-2	1
References	1-3	1
Explanation of Acronyms, Abbreviations and Terms	1-4	1
Restricted Areas	1-5	1
Waivers	1-6	1
Responsibilities	1-7	2
Chapter 2. SCHEDULING OF RANGES AND TRAINING AREAS		
Scheduling Procedures	2-1	4
Changes to Reserved Training	2-2	5

*This supersedes FLW Reg 210-14, 2 August 1999.

	Paragraph	Page
Late Requests	2-3	5
Co-Use of Training Facilities	2-4	6
Installation Requirements	2-5	6
Weather Related Cancellations	2-6	6
Chapter 3. SAFETY, SPECIAL REQUIREMENTS, AND LIMITATIONS		
General	3-1	6
Limitations	3-2	7
Range/Training Area SOPs and Risk Management	3-3	7
Range/Training Area Utilization Reports	3-4	8
Privately Owned Vehicle (POV) Parking	3-5	8
Communication System	3-6	8
Bivouac Sites	3-7	8
Recreational Activities	3-8	9
Chemical/CS Agents and Smoke Devices	3-9	9
Flame Field Expedient (FFE) Training	3-10	11
Restricted Airspace	3-11	11
Airstrips/Landing Zones	3-12	12
Opposing Force (OPFOR) Actions	3-13	12
Wildlife/Stray Livestock	3-14	12
Range Maintenance and Police	3-15	12
Tactical Communications Wire	3-16	12
Environmental and Natural Resources	3-17	13
Convoys and Foot Marches	3-18	13
Prevention of Heat and Cold Injuries	3-19	15
Hazardous Noise Areas	3-20	16
Rappelling	3-21	16
Severe Weather Procedures	3-22	16
Military Operations on Urban Terrain (MOUT)	3-23	17
Medical Support	3-24	17
Fire Prevention and Control	3-25	17
Chapter 4. RANGE FIRING		
Who May Be An OIC/RSO/SCO?	4-1	18
Assistant Range Safety Officer (ARSO)	4-2	19
Nonmilitary Personnel on Ranges/Training Areas	4-3	19
Small Arms Range Live Firing	4-4	19
Special Operations Range Complex	4-5	20
Powder Burning	4-6	20
Ammunition and Explosives Care, Handling, and Safety	4-7	21
Explosive Charges, Mines, Firing Devices, Pyrotechnics, Hand Grenades, and Blank Ammunition	4-8	21
Mortar and Artillery Fire	4-9	24
Aerial Gunnery	4-10	26
Privately Owned Weapons (POW) Firing (Other Than Hunting)	4-11	26
Disposal of Duds/Unexploded Ordnance (UXO)	4-12	26
Procedures for Misfires	4-13	27
Erratic Firing/Round Out of Impact	4-14	27
Chapter 5. AIRSPACE AND AIRBORNE OPERATIONS		
Restricted Airspace	5-1	27
Facilities	5-2	27
Airborne Operations	5-3	28
Chapter 6. LOGISTICS		
Field Water Supply	6-1	28
Range Construction	6-2	28
Chapter 7. WEAPON AND AMMUNITION ACCIDENT/ INCIDENT REPORTS		
General	7-1	29
Weapons and Ammunition Incidents	7-2	29
Accident/Incident Reporting	7-3	29

Contents		Page
Appendix A	Range Facilities	31
Appendix B	Training Areas	36
Appendix C	Bivouac Sites	39
Appendix D	Training Area Map	40
Appendix E	Fire Danger Class Restriction Chart	41
Appendix F	Samples of Forms	42
Appendix G	Request for Latrine Support	44
Appendix H	Environmental Permit Compliance	45
Appendix I	Fort Leonard Wood Environmental Overlay Guidelines	47
Appendix J	Range Facility Management Support System (RFMSS) Codes	49
Appendix K	References	50
Glossary	52

Chapter 1 INTRODUCTION

1-1. GENERAL.

- a. This regulation applies to all personnel entering or using ranges, training areas, or facilities on Fort Leonard Wood (FLW). Senior commanders are responsible for ensuring that all firing and usage of training areas is conducted in compliance with this regulation.
- b. The Range Control Officer (RCO), assigned to Range Control, supervises and enforces installation range safety and coordinates range use, maintenance, modification and installation of ranges and training facilities in accordance with (IAW) this regulation and the policies of the Commanding General (CG), MANSCEN. The Range Control Officer (RCO) has final approval for all training conducted on the range complex.
- c. Range Control will brief personnel of units visiting Fort Leonard Wood to use installation ranges, prior to range usage. This will include an Army Integrated Training Area Management Program (ITAM) briefing.
- d. The Training Areas and Ranges map is at Appendix D and available from the Firing Desk (graphic mode) in Range Facility Management Support System (RFMSS).
- e. Recreation area maps are published separately and available at Range Control and the Sportsmen's Center, BLDG 2282.

1-2. PURPOSE.

- a. To enable realistic combat readiness training through proper utilization of available facilities on the Fort Leonard Wood Military Reservation consistent with appropriate environmental regulations, procedures and safety measures to prevent injury to personnel or damage to property.
- b. To establish standard terminology pertaining to range operations.
- c. To establish procedures for requesting the use of ranges, training areas, and training facilities.
- d. To establish responsibilities and procedures for the safe and effective conduct of training on ranges, training areas, and training facilities under the terms of current environmental regulations and permits.
- e. To provide a list of range facilities (see Appendix A), training areas (see Appendix B), and bivouac sites (see Appendix C) available at Fort Leonard Wood.

1-3. REFERENCES. Referenced publications and forms are in Appendix I.

1-4. EXPLANATION OF ACRONYMS, ABBREVIATIONS AND TERMS. Acronyms, abbreviations and special terms used in this regulation are explained in the glossary.

1-5. RESTRICTED AREAS.

- a. All ranges, training areas, and impact areas are restricted. Entrance to these areas is prohibited without proper clearance from Range Control.
- b. Range Control Procedures For Authorizing Down Range Access.

(1) The following procedures provide a safe method of going down range for personnel with a valid need to do so. These procedures will be followed for all personnel entering potential impact areas. This includes all ranges that are active and areas that could become active if an unscheduled range is opened.

(a) Authorization to go down range.

1. Call or visit Range Control to request permission to go downrange.

2. The Desk Sergeant will notify the OIC/NCOIC to cease-fire.

3. The OIC/NCOIC will ensure that the firing lines are cleared. All firers will remove the magazine, clear the weapon, place their weapons on safe, place the weapons in the weapon rests or on the ground, and leave the firing line.

4. The Desk Sergeant will log the name(s) of personnel going down range and the clearance window in the Desk Sergeant's log.

5. The Desk Sergeant will annotate the affected range/TA and the time of cease-fire in Range Facility Management Support System (RFMSS) and issue clearance to go downrange.

(b) Clearing of personnel from down range.

1. The supervisor or person receiving access will call or visit Range Control to report their mission is complete and all personnel are present from down range.

2. The Desk Sergeant will annotate in RFMSS and notify the OIC/NCOIC on the affected range that the range is clear to fire.

(2) Under no circumstances will personnel proceed beyond the firing line and into an impact area before coordinating with Range Control.

c. Permanent dud/UXO impact areas are located within certain ranges and are unsafe for entry. Entry into these areas is strictly prohibited except in an emergency and then only with the approval of Range Control. The perimeters of these areas are marked with red, black, and white signs reading "Danger-Impact Area-Keep Out" and/or "Dud/UXO Impact Area."

d. Periodical range maintenance and major repairs on ranges will be scheduled through RFMSS at least 16 weeks in advance to ensure that appropriate areas and conflicting surface danger zones (SDZs) are closed.

e. For other than scheduled training, contact Range Control for surface danger area information.

f. Personnel desiring access to cemeteries located outside of the cantonment area will coordinate with the Environmental Branch, Directorate of Public Works (DPW).

g. Firebreaks are off limits to vehicular training activities. All other uses must be coordinated through Range Control.

1-6. WAIVERS. Requests for waivers of this regulation or other applicable regulations will be submitted a minimum of 90 days in advance to Commander, MANSCEN, ATTN: ATZT-PTM, Fort Leonard Wood, Missouri 65473-5000.

There is no assurance that such requests will be approved. Waivers may be requested on a case-by-case basis for each event or as a blanket waiver for the entire fiscal year. Blanket waivers must be renewed annually. Approved waivers will be present on the range/training area during training.

1-7. RESPONSIBILITIES.

a. The Training Support Battalion (TSB) will -

(1) Provide general supervision, control, and coordination of all ranges and training areas on FLW outside the cantonment area.

(2) Manage the Integrated Training Area Management (ITAM) program for FLW. Coordinates with the G3/DPTM and Environmental Division, DPW, to ensure protection of training resources, compliance with FLW Environmental Permit(s), execution of the Vegetation Fire Management Program and all other natural resources field operations, actively support the ITAM program.

(3) Manage the Installation Training Area Management Program (ITAMP) for FLW. Receives, processes, and coordinates the prioritization of projects to support training, improve existing or modify training facilities through semi-annual ITAMP boards.

(4) Report any serious incidents to the Garrison Commander, G3/DPTM, MANSCEN Safety Office, and Law Enforcement Command (LEC) as appropriate.

b. Range Support Company (RSC).

(1) Provides the command and control for the safe operation and conduct of all ranges and training areas.

(2) Conduct general inspections of ranges and training areas to -

(a) Ensure committees, units, and agencies conducting training comply with applicable safety regulations.

(b) Ensure responsible units and the units that train on ranges and training areas properly maintain those ranges and training areas.

(c) Inspect the daily risk assessment and ensure the range SOP is on-hand.

(d) Ensure adequate communications are available at each range and training area. Coordination will be made with DPW for installation of new communication equipment or repair of existing equipment as required.

(e) Check real property facilities, latrines, grounds, signs, etc for maintenance requirements and coordinate maintenance and repair through Range Maintenance.

(f) Validate OICs have received proper clearances when opening a range for live fire.

(g) Validate that OICs and Range Safety NCOI/OIC are range safety certified.

(3) Coordinate with and advises recreational shooting range managers on safety, range procedures, and other issues pertinent to range operations.

(4) Forwards requests received from units concerning maintenance of facilities within the range complex through Range Support Company to DPW.

(5) Coordinates with the General Leonard Wood Army Community Hospital (GLWACH) to ensure ambulance coverage for the entire range complex at all times.

(6) Ensures that a member of Range Control remains on duty 24 hours a day.

(7) Coordinates with the Fire Department on all fire protection matters, including the investigation of all fires on ranges and training areas.

(8) Investigates all serious incidents on the ranges and training areas and notifies the TSB, DPTM, the MANSCEN Safety Office (MSO), and the Law Enforcement Command (LEC), as appropriate.

(9) Maintains a range clearance log when firing is being conducted on any range.

(10) Ensures Range Control acquires and releases restricted airspace R4501 A through H with Waynesville Regional Airport at Forney Field or Kansas City Center, Federal Aviation Administration (FAA), as required.

(11) Coordinate with explosive ordinance disposal (EOD) personnel for the destruction/removal of dud/UXOs on ranges and in artillery/mortar impact areas. Maintain a dud/unexploded ordnance (UXO) log at Range Control.

(12) Maintains an overlay depicting current training area boundaries, off limits areas, environmentally sensitive areas and environmentally sensitive areas involving permit compliance provisions, impact area range fans, indirect firing points, observation posts, and impact areas.

(13) Coordinates maneuver area usage with the day and night firing schedule.

(14) Disseminates wet bulb globe temperature (WBGT) reading.

(15) Disseminates post wind chill temperature equivalent reading.

(16) Disseminate fire danger classification received from the Natural Resources Branch, DPW, as required, and implement the Vegetation Fire Danger Guide Chart at Appendix E.

(17) Grants bivouac site occupation and clearance to units.

(18) Monitors all vehicles and foot marches as defined in paragraph 3-18 of this regulation.

(19) Monitor all FLW Environmental Permit Provisions affecting ranges and training areas. Monitor Meteorological Data and Transmission System (see Appendix H).

(20) Maintains coordination with the MSO on all safety matters relating to range and live-fire operations, as appropriate.

(21) Develops and implements an on- and off-post range safety educational program in coordination with the MSO, public affairs officer, Quality Assurance Specialist, Ammunition Surveillance (QASAS), Provost Marshal (PM), and local EOD unit commander.

(22) Ensures selected range control personnel receive range safety training. At least one member of the range control organization should be a graduate of the Army Range Safety Course. When the unexploded ordnance (UXO) recognition training program is implemented, at least one member of the range control organization, and other appropriate personnel, should be UXO qualified through training provided by EOD.

(23) Monitors training, in coordination with the using unit, to ensure that all unit activities are in compliance with applicable environmental regulations. Where applicable Range Support Company will maintain meteorological and blasting records in support of these environmental regulations.

c. The Range Officer in Charge (OIC) will -

(1) Be in the grade of E-7 or above (civilian GS-7 or above). See Chapter 4-1, who may be an OIC/range safety officer (RSO)/smoke control officer (SCO).

(2) Be familiar with OIC duties outlined in AR 385-63, Chapter 4.

(3) Be responsible for the overall safe conduct of training and the proper use of facilities.

(4) Be present on the firing range/training area.

(5) Appoint an RSO/SCO to help perform safety responsibilities. Additional Assistant Range Safety Officers (ARSO) may be appointed as required (see AR 385-63).

(6) Determine when it is safe to fire.

(7) Supervise the procedures for misfires, hang fires, and cook offs.

(8) Open and maintain communication with Range Control by radio (primary) or phone (secondary) and ensure that qualified personnel monitor communications at all times.

(9) Supervise, control, and conduct all activities on the range. This includes authorization to retain the company for police of the range after training is finished.

(10) Ensure each range has a SOP, including a copy of the most current Deliberate Risk Management Worksheet. Ensure that you have completed an updated daily risk assessment based upon the deliberate risk assessment.

(11) Ensure the RSO/SCO possesses a current FLW Form 377-1 (Range Safety Officer Card) and is informed of his/her duties.

(12) Ensure only authorized firing is conducted.

(13) Maintain accountability of, ensure proper storage of, and safeguard all ammunition and explosives.

(14) Practice supply discipline. Do not remove ammunition from sealed containers earlier than is necessary

to prepare it for firing. Ensure ammunition is not wasted to avoid "live ammunition turn-in."

(15) Ensure a range facility is safe and in good working order before training begins.

(16) Report major maintenance requirements to the responsible unit. If range is inoperable, notify Range Maintenance.

(17) Report major environmental sustainability requirements such as excessive erosion and areas showing signs of stress from heavy use to ITAM office.

(18) Ensure personnel do not violate "no smoking" areas.

(19) Ensure range flag is raised prior to opening a range and red lights on flagpole and range limiting panels are visible on night ranges. Notify Range Control immediately if a red light is inoperative.

(20) Ensure weapons malfunctions, accidents involving ammunition or explosives, and other serious incidents are reported immediately to Range Control. Ensure the preservation of the site and that equipment is only released upon the approval of Range Control, Safety Director, and QASAS.

d. The Range Safety Officer's (RSO) sole responsibility is safety and his place of duty is the firing line (no coaching or individual training except at Range 13). RSOs will not be assigned any additional duties. The RSO will -

(1) Be only responsible for safety and his place of duty is the firing line (no coaching or individual training except at Range 13). RSOs will not be assigned any additional duties.

(2) Be in the grade of E-6 or above (civilian GS-7 or above). See Chapter 4-1, who may be an OIC/RSO/SCO.

(3) Be familiar with duties outlined in AR 385-63, Chapter 4.

(4) Have a current FLW Form 377-1 (Range Safety Officer Card) in his possession.

(5) Be responsible for the final determination before firing that -

(a) Weapons are properly positioned.

(b) Only authorized ammunition, to include proper charge, fuze, and fuze settings are used.

(c) Firing settings and weapons are within prescribed safety limits and verified.

(d) Appropriate safety measures are taken and the surface danger zone is clear of personnel.

(e) Personnel engaged in firing and within noise hazardous areas wear authorized, properly fitted hearing protection.

(6) Order an immediate cease-fire or check fire when any unsafe condition is observed.

(7) On completion of firing, verify weapons are clear to the OIC and Range Control, and record dud/UXOs and their approximate location.

(8) Brief all personnel on Dud/UXO areas and danger of dud/UXOs.

(9) Confine all firing to the established limits of fire and impact areas.

(10) When conducting training under the provisions of the FLW Air Permit, ensure the unit follows procedures in Appendix H.

(11) Ensure personnel are alert for aircraft, wildlife, and personnel in impact areas.

(12) Ensure ammunition is drawn only on the command of the OIC, and confirms accountability of all expended and UXO ammunition or demolitions.

(13) Ensure weapons are loaded only on the command of the RSO or tower personnel.

(14) Ensure weapons not in use on the firing line have the magazines removed, bolts locked to the rear (or forward with a chamber plug), and placed on "safe."

(15) Ensure there is no running on the firing line. Running is not permitted on the firing line except on ranges that are specifically designed to incorporate such training.

(16) Ensure weapons are carried with muzzles pointed up and down range at all times except on ranges that are specifically designed to incorporate such training.

(17) Ensure no personnel move in front of the firing line until all weapons have been cleared, checked, and personnel on the firing line are instructed to move forward by the RSO or tower personnel.

(18) Ensure all weapons are cleared and rodded and that personnel have no live/blank ammunition, expended brass, or residue in their possession prior to departure from the range. The senior commander will determine the specific procedures for clearing weapons off the range, e.g., shotgun weapon or bolt locked to the rear.

e. Smoke Control Officer (SCO). There will be a Range Safety certified individual (E6 or above or civilian GS-7 or above) present on site whenever smoke training operations are conducted. This is not only for ranges but also for units that conduct smoke operations as part of a Field Training Exercise (FTX). The SCO will be reported to Range Control prior to opening an area for training. The SCO is responsible for enforcing paragraph 3-9 of this regulation and, with the RSO, for ensuring that minimum safe distances are strictly adhered to and discrepancies are promptly reported to Range Control.

Chapter 2 SCHEDULING OF RANGES AND TRAINING AREAS

2-1. SCHEDULING PROCEDURES.

a. EOD is not required to schedule Range 36 for emergency ordinance disposal.

b. For units stationed at Fort Leonard Wood, training events at all ranges, training areas, bivouac sites, rappel

points, firing points, drop zones, observation points and general instruction facilities must be scheduled through Training Branch, DPTM, utilizing RFMSS. Contact Training Branch, DPTM for RFMSS access. Operators will receive access to RFMSS only after attending training.

c. Military units not stationed at Fort Leonard Wood schedule through the Mobilization and Reserve Affairs Division, DPTM.

d. The CG, MANSCEN, may approve the use of training facilities by schools, local and state government agencies, organized clubs, and civic associations. Requests will be submitted through the installation Public Affairs Officer (PAO). PAO will submit request in RFMSS. Request will comply with Department of Defense (DOD) and Department of the Army (DA) regulations and directives governing the use of Federal property by civilian activities.

e. Training Branch, DPTM, will maintain utilization reports for the installation. Unit utilization will be briefed quarterly.

f. Units who desire to use ranges and training facilities will submit their request in RFMSS. Requests will include number of personnel to be trained and any coordinating instructions included in the memo portion of the request. Request only those areas actually required on a particular date/time. Blanket requests will not be accepted.

g. Requests will be complete and submitted with no conflicts. Events will be identified as specific as possible. For events not listed in the pull down menu contact Training Branch, DPTM. Other than bivouac, FTX, etc. requests for facilities longer than a 24-hour period will be justified. At a minimum, units will weigh requests against:

(1) A calendar to ensure unit is not requesting training on a Sunday or holiday.

(2) Unit calendars. Internal events may have an impact on unit's ability to conduct training.

(3) The MANSCEN activities calendar (MAC) and the MANSCEN events list (MEL) to ensure no training is requested during major events on FLW that could impact training.

(4) Determine if training will be affected by daylight savings time.

h. It is the responsibility of the requesting unit to monitor the status of requests. Upon submission, requests are assigned a Range Control Number Identifier (RCNI). Appendix J identifies the codes used to provide the status of the request.

(1) Units must never assume that their requests are approved. Requests submitted but not approved are not justification for the unit to use the requested facility. Units must monitor and follow up on the status of their requests to verify approval and, if not approved, initiate coordination to resolve any discrepancies.

(2) Units will submit requests for POI driven courses no earlier than 16 weeks and NLT 13 weeks prior to class start date. Non- POI driven requests for ranges and training facilities will be requested no earlier than 13 weeks prior and NLT 10 weeks from event start date, reference FM 7-0, FM 7-1.

(3) Scheduling priority is held by units scheduling POI driven courses. Units may not submit requests prior to the 13-week "lay down." This criterion prevents "blocking" of training areas by units outside the 13-week lay down. If a unit misses the required request submission date, they will not retain scheduling priority. The DPTM scheduler considers POI, course master schedules, input from units and teaching departments as criteria to deconflict requests.

(4) Scheduling priorities are based on the Command Training Guidance (CTG). However, certain events may assume equal consideration, or take priority over previously approved range requests. Examples of these events are real world contingencies, mobilization, range maintenance, EOD clearance operations and those activities directed by the MANSCEN Commanding General.

(5) Excessive land or facility requests, those requests that clearly exceed POI requirements, must be justified by the unit. Land and training resources are limited and must be managed in a responsible manner.

i. Requests entered by a unit on the same day of training are not recognized by RFMSS. Training Branch, DPTM cannot act on these requests. Only Range Control Fire Desk operators can input for same day training.

j. Approved RFMSS requests only provide access to facilities on the date/time facility is reserved. It does not secure logistic support or personnel.

k. Approved requests for ranges, training areas, bivouac sites, rappel points, firing points, drop zones, observation points, training areas or range does not grant access to surrounding areas. Approved requests for areas does not grant access to ranges, training areas, bivouac sites, rappel points, firing points, drop zones, observation points. Area access is granted only by an approved RFMSS request.

l. POI driven courses will maintain a current template in RFMSS. Templates will cover entire course flow. IAW FLW 350-6, Commanders, Officer Basic and Advanced Courses, Noncommissioned Officer Academy (NCOA) Course Chiefs and, Interservice Training Review Organization (ITRO) units will submit requests no earlier than 16 weeks and no later than 13 weeks prior to class start date.

m. IAW FLW 350-8 Non-POI driven ranges and training facilities will be requested no earlier than 13 weeks and no later than 10 weeks from event start date.

n. Units will conduct direct coordination with TSB 72 hours prior to scheduled occupation of a supported range or facility. For non-shared resources, units will coordinate with the scheduling activity.

o. The Range Control Desk Sergeant monitors resources reserved for the day of training. Units will phone or visit the Range Control to occupy a training facility. Units that fail to occupy reserved facilities within the hour requested will have the facilities removed from RFMSS on that day. Coordination can be made with Range Control in the event of unusual circumstances.

p. Request artillery or mortar firing areas by their designated firing points (see Appendix A). Range Control will verify all firing data and safety fans generated by the firing unit prior to beginning live fire activities.

q. Gammon Field is used only for change of command, change of responsibility, graduation ceremonies, and Installation events.

r. No unit will request for another unit. Such requests will be cancelled with no action taken.

2-2. CHANGES TO RESERVED TRAINING.

a. For POI driven courses, changes will be made only if they do not conflict with other unit training, are in accordance with POI and are compliant with this regulation.

b. IAW FLW Reg 350-8, changes to reserved training or late requests inside the six-week window will have approval from the appropriate commander.

(1) Requests less than six weeks from training event require approval by the battalion commander.

(2) Requests less than four weeks from training event require approval by the senior commander.

(3) Requests within seventy-two hours and less from event start date will require approval from the Chief of Staff. The unit is responsible for notifying Training Branch, DPTM for support required to process late requests.

c. For shared resources, changes to reserved training that occur within the six-week window must be coordinated with the Commander, Training Support Battalion (TSB) to ensure support is available and the range bulletin is updated. For non-shared resources, unit will coordinate with the scheduling activity. Coordination requests will be made by email. This allows for date/time confirmation and POC information.

d. After coordination is complete and/or appropriate approval level granted, unit will submit change to training request. Unit will not submit a new request. All coordination and approvals will be in the original email. The Brigade level scheduling will submit change request to Training Branch, DPTM following the format given in paragraph 2-3b. Training Branch, DPTM will modify original request and post this information in the memo portion of the request.

e. Training Branch, DPTM will process requests received after 1400 hours on the following workday. These requests must also comply with conditions outlined in 2-2b.

f. Requests for areas that are open for recreation will not be approved within 24 hours of the day of training.

2-3. LATE REQUESTS.

a. A new request will be submitted if the training has not been reserved. Unit will comply with paragraph 2-2.

b. After all coordination has been made, the unit will submit a new RFMSS request. Format memo portion of the email coordination request as follows:

- RCNI:
- DTG:
- Facility:
- Event:
- REQ Change to:
- DTG:
- Facility:

- Event:
- Justification:

c. It is the responsibility of the brigade level scheduler to inform Training Branch, DPTM of a late request in a pending RC status.

2-4. CO-USE OF TRAINING FACILITIES.

a. Units jointly occupying a training facility will be considered co-use. For training facilities scheduled by Training Branch, DPTM, the approving authority for co-use is the G3/DPTM. For other training facilities, the approving authority will be the commander of the scheduling activity.

b. Requests for co-use will be made by email. This allows for date/time confirmation and point of contact (POC) information. The email can be cut and pasted into the RFMSS request. For shared resources, requests will be from the commander of the requesting unit, through the commander of the unit scheduled for the training facility, through the TSB Commander, ATTN: S3. After coordination is complete, unit will submit RFMSS request. All coordination and approvals will be posted in the memo section of the RFMSS request. Co-use agreement format is as follows:

- Location (six-digit grid coordinates or facility number)
- Description of training to be conducted.
- Duration of training (Beginning and ending dates/times)
- Number of soldiers to be trained.
- Number and type of vehicles to be used during training.
- Ammunition and pyrotechnics to be used during training.

c. For non-shared resources, requests will be from the commander of the requesting unit, through the commander of the unit scheduled for the training facility, through the scheduling activity. After coordination is complete, unit will submit RFMSS request. All coordination and approvals will be posted in the memo section of the RFMSS request.

d. For training facilities and areas outside the cantonment area, Range Control will authorize occupation and clearance separately for each unit.

e. Units jointly occupying a training facility are responsible for the police and maintenance of the area in which they occupy. Units will comply with all FLW regulations and ensure the safety of personnel and protection of the environment.

2-5. Installation Requirements.

a. If the installation requires a resource previously reserved by a unit, Training Branch, DPTM will notify, in writing, brigade level scheduler. Units may submit requests to move training to an alternate facility if open. Requests will be received within three working days and follow the guidelines below.

(1) During this period, the affected unit will determine an alternate site/date for training.

(2) Request will only address facilities removed by the installation.

b. Training Branch, DPTM will assist affected unit in securing training on new/date time. Another training unit will not be removed to accommodate displaced unit unless the

reserved unit agrees to move. If a unit agrees to be displaced, Training Branch, DPTM will receive written approval from affected unit through brigade scheduler. The unit agreeing to move will follow the same guidelines of this paragraph.

c. Exceptions will be made if the displaced unit will not have time left in the cycle to recoup training.

d. Units affected by these events will be exempt from 2-2b and 2-2e.

2-6. Weather Related Cancellations.

a. Range Control and/or TSB will provide Training Branch, DPTM a list of units that could not train due to weather on the day of the event. Unit will have seventy-two hours to reschedule missed training. This rule will exempt the unit from 2-2b and 2-2e.

b. Weather related cancellations and/or changes will be submitted to Training Branch, DPTM within three working days of cancelled event. During this period, the affected unit will determine an alternate site/date for training. Unit will submit a new RFMSS request with "weather change" and original/date/time/facility posted in the memo portion of the requests. After 72 hours requires the senior commander's approval.

Chapter 3

SAFETY, SPECIAL REQUIREMENTS, AND LIMITATIONS

3-1. GENERAL.

a. Persons in charge of, or using ranges, training areas, maneuver areas, and training facilities are responsible for compliance with the safety requirements of this regulation and with applicable technical manuals (TMs) and field manuals (FMs). A copy of this regulation, approved waivers, delegation of authority, an approved range SOP and Risk Management Worksheet and approved Range Safety Data Card (artillery and mortar firing points), and other applicable manuals and publications will be present at all ranges during live fire and demolition operations.

b. Train at designated training sites reserved in RFMSS. Use of areas not designated as training facilities requires the approval of the Chief, Range Division. Requests to establish temporary ranges and training areas or to modify existing facilities will be submitted by memorandum to the Chief, Range Division. Include the type of range or exercise, proposed location, list of facilities required and any pertinent explanations and overlays. Restore temporary ranges and training areas to their original condition prior to clearing the training site unless granted prior approval by the Chief, Range Division.

c. Reserve Component units scheduled to fire artillery or mortars at Fort Leonard Wood will coordinate with the Mobilization and Reserve Affairs Division, DPTM, and Range Control. Range Control coordinates with Aviation Division, DPTM, not less than 72 hours prior to the scheduled firing. Coordination with the Kansas City Center, FAA, by Range Control is required 24 hours in advance when the maximum altitude of the projectiles will exceed 2,200 feet above mean sea level.

d. Do not fire recoilless rifles and rocket launchers from the interior of buildings.

e. Armor piercing ammunition will not be fired on any range that has electrical targets.

f. Do not use live ammunition in place of rifle grenade cartridges or propelling devices.

g. Follow safety conditions in AR 385-62, AR 385-63, and appropriate FMIs and TMs when firing rocket launchers.

h. The RSO will provide a safety briefing to all participating personnel prior to any training that involves blank or live fire, or the use of any pyrotechnic devices.

i. All initial entry training (IET) soldiers conducting weapons firing, demolitions, and rappelling will wear kevlar helmets. Warrior tower will be governed by United States Army Training and Doctrine Command (TRADOC) and FLW guidance. Kevlar helmets will be worn during all tactical training in IET subjects except as directed by the senior commander and TRADOC Reg 350-6 for the prevention of heat injuries. The senior commander determines the uniform for permanent party soldiers, including range cadre. The EOD Team Leader will determine the uniform for EOD personnel performing disposal operations.

j. Danger areas will be designated by range warning signs on all major roads and trails. Range warning signs will indicate the exact limits of the impact and/or dud/UJO areas. The boundaries indicated by these signs will not be crossed without approval from Range Control.

k. Ranges on Fort Leonard Wood are considered dangerous 24 hours a day. Personnel or units will not enter any range facility (unless properly scheduled) without clearance from Range Control. Range cadre performing maintenance or occupying a range for any reason will notify Range Control immediately upon occupation of the range.

l. The Desk Sergeant on late shift will review daily the 24-hour Hunting Area Announcement, Shared Training Resource Schedule, and Training Area Schedule for conflicts that could cause an unsafe condition and require a scheduled range or training area to close. Once the document has been reviewed, the reviewing Desk Sergeant will update the hunting area access board for the next day. The hunting area recording will list all hunting area closures.

(a) 24-hour prior public notice is required to open or close an area. Changes must occur 48 hours in advance when possible. The Desk Sergeant has final say in whether an area is open or closed.

(b) If the proper agencies cannot be notified to provide adequate notification, the area will remain as scheduled and training will not occur in those areas.

(c) In the event that there is an effect on training by open areas and corrections cannot be made, the Range Support Company OIC and NCOIC will be notified immediately.

(d) Units may sign for a bivouac/training area the day prior to scheduled training in RFMSS, but the unit may not set up or occupy that site until the next day. This is important, as the area will generally be open. This is to avoid the conflict of soldiers setting up a bivouac/training area in an open area and coming into conflict with recreation users.

m. Caution all soldiers that snakes, spiders, and ticks are common on ranges and training areas during warm weather months.

n. Caution soldiers on key environmental issues affecting the operation of the range or training area.

o. When conducting mechanical training, clear all weapons prior to training and inspect dummy ammunition to ensure absence of live ammunition. Check all toolboxes; spare parts boxes, and other containers to ensure no live ammunition is present.

p. Do not fire blank ammunition at individuals within a distance of 25 meters. Blank adapters will be installed on weapons at all times with the exception of weapons that do not have a blank adapter (.38 revolver and 9mm).

q. The RSO will ensure an ammunition shakedown is conducted of all personnel at the completion of any training that utilizes any type of ammunition prior to leaving the range or training area.

r. DA Pam 710-2-1, paragraph 11-14, outlines the guidance for minimum rank required for personnel performing as the RSO and signing the explosive consumption report. A warrant officer or above will perform duty as the unit's RSO when Category I items are used in live fire exercises. In accordance with Change 1 to AR 190-11, Category I weapons are non-nuclear manportable missiles and rockets in a ready-to-fire configuration; for example, the AT-4 anti-tank weapon.

s. The Bloodland Range Troop Trail is closed to wheeled vehicles except for trail vehicles following foot marches, emergency and maintenance vehicles.

3-2. LIMITATIONS. All firing will be confined to the established limits of fire and impact areas. Under no circumstances will the OIC or other personnel approve the firing of any type of ammunition outside established limits of fire without the approval of the Chief, Range Division. No portion of the surface danger area for a weapon or explosive can intersect or cross the following areas without a waiver of safety criteria as defined in AR 385-63.

a. Federal or State highways.

b. Railroad right-of-ways.

c. Fort Leonard Wood Military Reservation boundaries.

d. Built-up areas of the reservation.

e. Areas where troops are maneuvering except as prescribed in AR 385-63.

3-3. RANGE/TRAINING AREA SOPs AND RISK MANAGEMENT.

a. An SOP will be present on all ranges/training areas. The responsible unit for each range/training area will write SOPs and update them as necessary. Responsible unit will forward copies of the SOPs to Range Control and DPTM added. SOPs will outline operating and safety, and environmental restrictions and procedures for each range/training area. Responsible units will coordinate SOPs through DPTM, TSB, Range Control, ITAM DPW Environmental Division and the MSO.

b. Risk Management is required for each range and training area. The MANSCEN Commanding General has delegated approval authority for high risk training events to the school commandants. Responsible units will conduct Risk Management in accordance with FLW Reg 385-5. Requests for safety waivers will be submitted in accordance with paragraph 1-6 of this regulation.

3-4. RANGE/TRAINING AREA UTILIZATION REPORTS. Each brigade/separate battalion will submit a Range/Training Area Utilization Report to Range Control not later than the 5th day of each month. This report lists by training area the total use for the previous month in terms of man-hours, man-days, and actual days in the cantonment area. Negative reports are required in the event no reportable training was conducted during the month. Submit the December report within five days of the last training day of that month.

3-5. PRIVATELY OWNED VEHICLE (POV) PARKING. POV parking on ranges/training areas is allowed only in designated parking areas (normally at fixed facilities). Artillery firing positions are off-limits to all POVs.

3-6. COMMUNICATION SYSTEM.

a. Units conducting training outside the cantonment area will maintain communication with Range Control at all times. When communication is lost with Range Control, all training will cease until it is restored.

b. Primary means of communication will be frequency modulated (FM) (trunk) radio. Secondary means of communication may be MAG drop or telephone.

c. Radio nets. The permanently assigned Range Control Operational Nets are frequencies VHF 148.025 and FM 36.45. The net control sign is "RANGE CONTROL." Do not use Range Control Operational Nets as administrative nets or as a tactical frequency for units participating in training exercises.

d. Telephones. The telephone number for the Range Control Fire Desk is 596-2525. The assigned telephone numbers for range facilities are in Appendix A. Telephone extension numbers for training areas are found in Appendix B and C.

e. The maintenance and repair of all installed telephone equipment on ranges and training areas is the responsibility of DPW and Directorate of Information Management(DOIM). Under no circumstances will using units attempt to repair or alter telephone equipment. Splicing into lines is prohibited. Report damaged or malfunctioning telephone equipment to Range Control.

f. Live fire ranges.

(1) Prior to any live fire exercise, the OIC or his designated representative will contact Range Control and request a wet code and "begin firing" time. A wet code, serves as approval to commence firing. The OIC or a qualified representative will monitor communications equipment throughout the period of firing. Upon completion of firing, the unit/activity will obtain a dry code and "closing" time from Range Control indicating that the range is no longer in a live fire status.

(2) Units will identify themselves by using the unit designation and the artillery/mortar firing point or exercise number. Units using multiple firing points or training areas

are required to maintain communication with Range Control through the Fire Direction Center (FDC) controlling the firing points or exercise. OICs will ensure that communication is maintained between headquarters elements and sub-units occupying training areas, firing points, or conducting training exercises.

(3) In the event of communication failure, internal and external, unit will call an immediate "cease fire" until communications are restored.

3-7. BIVOUAC SITES.

a. The Range Control Desk Sergeant monitors resources reserved for the day of training. Units will phone or visit the Range Control to occupy a training facility. Units that fail to occupy requested facilities within the hour will have the facilities removed from RFMSS on that day. Coordination can be made with Range Control in the event of unusual circumstances.

b. When signing for a bivouac site, the unit will coordinate with Range Control to inspect the site. Only personnel that have received an ITAM Sustainable Range Brief and in the grade of E-5 or above with a valid FLW Form 377-1 (Range Safety Officer Card) will be authorized to sign for the site. The unit representative signing for the site and a Range Control Inspector will conduct a joint inspection of the site during daylight hours using FLW Form 23 (Range Control Training Area Request and Inspection Checklist) (see Appendix F).

c. Upon occupation of a bivouac site, the unit will establish and maintain communication with Range Control. When communication has been established, the unit will request an opening code (a two-letter code assigned to a bivouac site for a particular day). Only one opening code is required for multiple-day training exercises. The following will be reported when opening bivouac sites:

- (1) Unit designation.
- (2) Bivouac site to be occupied.
- (3) Training to be conducted.
- (4) Unit phone and POC.

d. Vegetation removal and soil disturbances will be in accordance with paragraph 3-17 of this regulation.

e. Open fires are prohibited unless approved by request through the RCO to the Senior Fire Officer (SFO), and then only with approval of Range Control just before starting the fire.

f. Do not place obstacles, i.e., concertina wire, logs, etc., outside the bivouac boundaries without the written approval of Range Control. Obstacles will be removed before Range Control will clear unit from the facility.

g. Sanitation and waste disposal. Properly dispose of all waste to prevent the creation of unsanitary or unsightly conditions. Do not bury waste of any kind in training areas.

(1) Dispose of liquid waste from kitchens, showers, and baths as indicated in FM 21-10. Waste generated from food preparation will be drained, bagged, tied, and placed in an installation trash dumpster.

(2) Collect garbage (paper, cans, bottles, etc.) in bags and store in garbage cans until it can be transferred to installation trash dumpsters and/or the FLW recycling center. Do not leave garbage behind when vacating a site.

(3) Human waste. Field latrines are prohibited. Permanent latrines are located on some bivouac sites. Portable latrines are available for use through DPW.

(a) Portable Latrines.

1. Portable latrines will not be furnished at locations where adequate permanent latrines exist.

2. Portable latrines will be requested by submitting a memorandum, Appendix G, to the Directorate of Public Works, Operations Branch. Requests must be received at least two weeks in advance. Requests will include, at a minimum, date(s) for latrine support, number of personnel (broken down by male and female), unit point of contact with phone number, and a detailed strip map with 6-digit grid coordinates.

3. For a normal bivouac period (five days, four nights), portable latrines will be furnished at a rate of 1 per 25 males and 1 per 25 females.

4. Portable latrines will be serviced after the bivouac has ended. Additional service will be performed only when contents of tank are within 6 inches of the seat. When these conditions exist, units will call DPW at 596-7021.

5. Latrines are not to be used as trash receptacles. Units will be required to remove any bottles, wrappers, and other inorganic matter that is found by latrine service personnel.

6. Units will not move portable latrines.

(b) Permanent Latrines.

1. Permanent latrines are serviced by DPW every thirty days. Service includes pumping, cleaning, and disinfecting latrines. Additional service will be performed only if contents of pit are within 6 inches from the seat in 4-hole latrines and 1 inch from the top of the pit in 6-hole latrines. When these conditions exist, units should call DPW at 596-7021 for pumping.

2. Between thirty-day servicing, latrines will be cleaned and maintained by units. This will include sweeping and mopping the floors, washing the seats and urinals, picking up trash, and stocking toilet paper.

3. Lime will not be put in latrine for odor control. Lime causes build-up in latrine pits by reducing the effectiveness of bacteria digester added during thirty-day servicing.

4. Latrines are not to be used as trash receptacles. Units will be required to remove any bottles, wrappers, and other inorganic matter that is found by latrine service personnel.

5. Latrine repairs, to include unclogging of urinals, will be requested on DA Form 4283. Service orders will be forwarded through the unit S-4 to DPW Work Management Branch.

h. Upon completion of bivouac, units will coordinate with Range Control for an inspection of the site. A Range Control Inspector and a unit/activity representative (E5 or above) with a valid FLW Form 377-1 (Range Safety Officer Card) will conduct joint inspection of the bivouac site. Inspections are conducted during daylight hours. In the event that the unit departs before daylight, leave a rear detachment for the inspection and to obtain clearance. Clear all deficiencies noted during the inspection within 24 hours.

3-8. RECREATIONAL ACTIVITIES.

a. The use of the Bloodland Range Training Complex for outdoor recreational activities will be coordinated with and approved by the RCO to protect military personnel and the general public from exposure to hazards. Training requirements will have priority over all recreational activities. When authorized for use, the site must be left in as good, or better, ecological condition than it was prior to occupation.

b. Conduct of uncontrolled or unscheduled outdoor recreational activities within the Bloodland Range Training Complex is prohibited.

c. Outdoor recreational activities in temporary or permanent dud/UXO impact areas are strictly prohibited, without exception. Areas not authorized for recreation (except hunting and fishing as described in sub-paragraph d below) include impact areas, landing strips/zones, and small arms ranges as being a surface danger area, a restricted area, or an off-limits area. Personnel authorized to use areas for the purpose of recreation are responsible for familiarizing themselves with the limits of the authorized areas.

d. Hunters and fisherman will comply with FLW Reg 210-21. Areas designated for hunting and fishing are depicted on the map in Appendix D, published separately. Regulations and information on these areas is available at the Sportsmen's Center, building 2282. If the safety fan of active range overlays any portion of an area or a training area (TA) is in use inside an area, the entire area is closed for recreation.

e. Notify Range Control immediately of any recreational activities in unauthorized areas. If personnel are in a surface danger area, call a cease-fire until they are escorted from the area. Range Control will request aid from the Post Game Warden, if required.

f. Open fires during recreational activities are prohibited unless specifically authorized by the RCO and the Senior Fire Officer (SCO).

g. Swimming is not authorized in bodies of water within the boundaries of the Fort Leonard Wood Military Reservation except at post pools.

h. All vehicles operated in recreational activity will be confined to established and maintained roads. Operation on firebreaks and cross-country driving is prohibited.

i. Metal detecting as a recreational activity on FLW is prohibited.

3-9. TOXIC CHEMICAL, CS AGENTS AND SMOKE DEVICES.

a. Use of toxic chemical agents in training on FLW is prohibited except at the Chemical Defense Training Facility (CDTF).

b. A request to use chloroacetophenone sulfur (CS) smoke must be submitted through Range Control. Hexachloroethane (HC) smoke is not authorized in training at any time. The only authorized smoke grenades are those containing terphthalic acid (TPA). All smoke training for Military Police and Chemical training units must meet the provisions of the FLW Air Permit and comply with procedures outlined in Appendix H. All range requests for the use of smoke on Fort Leonard Wood will contain the following information:

- (1) Name, rank, unit and phone number of SCO.
- (2) Name, rank, unit and phone number of commander.
- (3) Proposed location (six-digit grid coordinates) of smoke producing equipment.
- (4) Locations of smoke control points. This information will be entered by the SCO and reported to Range Control before the mission begins.
- (5) Types and numbers of smoke producing equipment. (e.g. two smoke pots and three M56 smoke generators).
- (6) Purpose of mission.
- (7) Duration (start and end time).
- (8) Estimated wind direction. (This information will be entered by the SCO and reported to Range Control before the mission begins.)
- (9) Estimated wind speed. (This information will be entered by the SCO and reported to Range Control before the mission begins.)

c. For nuclear, biological, and chemical (NBC) training involving the use of CS agents, and for training exercises involving smoke, the OIC will be in the grade of E6 or above, or be a qualified civilian instructor. The OIC must also be school-certified for NBC training involving the use of chemical agents. Training with CS requires an overlay that must be approved by Range Control, an RSO (E6 or above and/or GS-7 civilian or above), certified CS handlers (by the training unit commander), and medical support (CLS/Medic) on site. For training exercises involving smoke, the OIC will observe all safety precautions associated with the use of fog oil.

d. Training with CS is restricted to authorize training exercises and chambers. Only CS in capsule form may be used in the CS chamber.

e. Range/TA requests will include a general plan for training with CS and/or smoke. Map overlays will show areas where CS/smoke will be used.

f. CS and smoke devices will not be employed without the approval of Range Control. Prior to employing CS and/or smoke at any location, units will contact Range Control 15 minutes prior to use to determine if any restrictions are in effect.

g. Military munitions, to include expended smoke pots and smoke grenades, must be managed in accordance with FLW Reg 700-2 Appendices L and M, and the Military Munitions Rule (MMR). All grenade spoons and pull rings must be turned in to the Ammunition Logistics Section (ALS). The following information provides general guidance as set forth in FLW Reg 700-2, Appendix L.

(1) Use of military munitions for training activities by using units is considered to be the intended use of the munitions, and does not generate waste (Military Munitions Rule (MMR), Ch 3, Para B.1). Training units will not take any action, such as removal, transportation, or burial, to dispose of munitions that land on the range. Such actions would be considered disposal of waste under the Resource Conservation and Recovery Act (RCRA) (MMR, Ch 5, Par B).

(2) Regarding munitions which land on the range, the Explosive Ordnance Disposal (EOD) Detachment will check and certify in place that those munitions that have functioned are rendered safe or destroy such munitions in place during range clearance operations (considered a routine range maintenance activity, is exempt from RCRA under MMR, Ch 3, Para B.3). Regarding munitions which land outside a range, the EOD Detachment will contact the Missouri Department of Natural Resources (MDNR) concerning the need for a RCRA emergency permit and will dispose of such munitions in accordance with the terms of such permit.

(3) All range munitions determined to be unsafe misfires and all UXO will be destroyed on-site by the EOD Detachment during range clearance. Destruction of munitions during range clearance operations is considered a routine range maintenance activity, exempt from RCRA.

(4) Management of Range Scrap (Expended Military Munitions): Range scrap removed from ranges must be managed per explosive, safety, and environmental requirements. When range scrap is removed from the range, qualified personnel (as identified by the installation commander) must inspect and certify that they are inert per DOD 4160.21-M, chapter 4, paragraph B3.

(a) Inspection methods include a 100% visual inspection. When removed from the range, range scrap is a solid waste, and potentially a hazardous waste.

(b) Appendix G of FLW Reg 700-2 provides a listing of ammunition and explosives currently used in training on this installation. Those items preceded by a plus (+) have been tested by other organizations for Hazardous Waste (HW) determination. These items are considered hazardous waste based on the tests performed unless determined by ALS to have a market value for recycling as scrap metal. If there is no market available for these items, prior to removal from the range, the activity will coordinate with the ammunition supply point (ASP) for the return of these items as HW to the Satellite Accumulation Point (SAP) located at the Ammunition Logistics Section (ALS). Those items preceded by two pluses (++) have not been evaluated for hazardous waste determination.

(5) Currently the Army Environmental Center (AEC) is testing expendable range residue for HW determination. These items will remain on the range until evaluated for HW determination. Contact the installation Environmental Branch at 6-0882 for further guidance on these items. All other items not preceded by a plus(es) may be removed from the ranges and taken to the ALS for further evaluation

and/or processing as recyclable scrap metal. If not feasible, these expended munitions will be placed in with regular trash refuse once they have been certified explosive free by qualified installation personnel.

h. Unit commanders will use good judgment and discretion when using CS and/or smoke devices in situations involving moving vehicles or aircraft.

i. CS and smoke producing materials will not be used under conditions that are dangerous to life or property. In addition, these agents will not be released within 1000 meters of the reservation boundaries or 300 meters from public or heavily traveled installation roads and inhabited areas unless previously coordinated with Range Control. Do not exceed more than 20 grenades per hour within a 1000 square meter area.

j. The operation of smoke generators will comply with the following:

(1) Coordinate all smoke generator operations through Range Control.

(2) Prior to any smoke generator operations that are closer than 3000 meters of any post boundary, use a single smoke source to determine weather effects on the smoke.

(3) Do not conduct smoke generator operations within 3000 meters of any post boundary if the wind direction is toward the boundary.

(4) Post smoke control points no closer than 1000 meters from the post boundary.

(5) If notified that ranges or training areas occupied by other training units are adversely affected by smoke operations, the OIC will coordinate with the RCO and the affected units to reduce the impact of smoke operations.

k. For additional information on the use of chemical agents see AR 385-61 and DA PAM 385-61.

l. AR 385-63 and FM 3-50 contain additional information on smoke operations.

m. Red smoke will be used only in the event of an emergency.

3-10. FLAME FIELD EXPEDIENT (FFE) TRAINING. Flame Field Expedient training on FLW will be conducted IAW FM 3-11 and the following:

a. All FFE training involving Military Police or Chemical units will comply with provisions of the FLW Air Permit and Appendix H.

b. Final approval/disapproval for all FFE training rests with Range Control.

c. Forward FFE training requests to Range Control not later than two weeks prior to the date training is to begin.

d. Maximum demolition charges:

(1) Maximum demolition charge per device is 30 pounds (lbs)

(2) Exceptions will be submitted to Range Control with the blast request.

(3) Range Control may reduce the blast limit due to other safety factors (e.g. low cloud cover). Range Control will inform the unit prior to issuing a blast window.

e. Trainers will know the misfire procedures for the type of firing system being used, as outlined in TM 9-1375-213-12.

f. Prior to using a non-electric delay firing system, conduct a test burn of an M14 from each lot.

g. Dual primes all FFE devices. Never place blasting caps underground or in fuel. Attach non-electric blasting caps to the detonating cord above ground.

h. Road Guards will be used to halt training before detonating explosives within 300 meters of any public or heavily traveled road.

i. The RSO will adhere to safety restrictions and distances listed in AR 385-63, FM 3-11, or appropriate training manual, whichever is greater. RSO must be on site and ensure that Range Control approves all charges.

j. Fire fighting materials, as determined by the RCO and the SFO, will be available at all times to suppress vegetation fires.

k. Discontinue all demolition and flame training operations in the event of either an electrical storm or severe dust storm.

3-11. RESTRICTED AIRSPACE.

a. Restricted areas of R4501, A through H, are airspace above live fire ranges. Aircraft are restricted from these areas when they are "Wet" unless otherwise specified in the notice to airmen (NOTAM). A NOTAM check is required for all flights arriving and departing Waynesville Regional Airport at Forney Field. The following are the restricted areas with their flight levels.

Area	Restricted Airspace
R4501A	Surface to 2,200 feet MSL
R4501B	Surface to 2,200 feet MSL
R4501C	2,200 feet to 5,000 feet MSL
R4501D	5,000 feet to 12,000 feet MSL
R4501E	12,000 feet to 18,000 feet MSL
R4501F	Surface to 3,200 feet MSL
R4501H	Surface to 3,200 feet MSL

b. Training units will make final coordination for airspace requirements with Range Control three weeks prior to any training involving air missions.

c. Weather conditions for the flight period must be not less than basic visual flight rule (VFR) (1,000-ft ceiling and 3 miles visibility).

d. For all airborne operations within R4501, the Drop Zone Safety Officer (DZSO) will notify Range Control a minimum of 2.5 hours prior to Time on Target (TOT) that the mission is a GO or that it is cancelled. When Range Control does not receive 2.5-hour notification, authorization to enter R4501 may be denied. DZSO will call Range Control for clearance when aircraft is 10 minutes out from R4051.

3-12. AIRSTRIPS/LANDING ZONES. Personnel will not use airstrips/landing zones on the Fort Leonard Wood Military Reservation for assembly or bivouac. Vehicles will stay clear of airstrip/landing zone boundaries. Driving vehicles across airstrips/landing zones for any reason is prohibited. Do not dig holes within 100 meters of airstrips/landing zones and adjacent managed areas. Do not tamper with windsocks.

3-13. OPPOSING FORCE (OPFOR) ACTIONS.

a. Any unit or evaluating team using OPFOR personnel during training will comply with the following:

(1) OPFOR personnel will wear a distinctive uniform to make them easily recognizable.

(2) OPFOR personnel will not undertake any operation that may create an unsafe condition.

(3) Execute OPFOR attacks according to a coordinated schedule. Unplanned actions are prohibited. Such actions could conflict with another unit's training and cause serious injury or loss of life.

(4) Physical contact between OPFOR personnel and opposing unit personnel is prohibited with the exception of EPW training that includes searches. Fighting, rock throwing, using rifle butts, etc., is prohibited. Modification or alteration of munitions of any type is strictly prohibited. This includes fuzes, flares, CS, and simulators.

(5) Do not mistreat OPFOR personnel.

(6) OPFOR activity is prohibited in an area where live ammunition is fired.

(7) Do not fire blank ammunition at individuals within a distance of 25 meters. Blank adapters will be installed on weapons at all times with the exception of weapons that do not have a blank adapter (.38 revolver and 9mm).

(8) Account for all OPFOR personnel at the end of the exercise.

b. OIC and/or NCOIC (E6 or above) of OPFOR personnel.

(1) The primary duty of the OIC/NCOIC is safety. The OIC/NCOIC will be present at all OPFOR actions.

(2) The OIC/NCOIC will inspect all weapons to ensure that blank adapters are installed and that OPFOR personnel have no live ammunition in their possession. Use only authorized pyrotechnics during OPFOR attacks.

(3) The OIC/NCOIC is responsible for coordination, supervision and execution to ensure safety during conduct of OPFOR activities.

3-14. WILDLIFE/STRAY LIVESTOCK.

a. Personnel observing wildlife or domestic animals on any range or training area causing interference with training or range firing will report the location and number of animals to Range Control. In the event that wildlife or domestic animals are observed in or entering range impact areas, units will cease-fire, clear the firing line, and notify Range Control. Report any animals that are accidentally injured or shot to Range Control.

b. Range Control orders a cease-fire in appropriate areas where animals are observed or likely to enter, and assists units in expeditiously driving animals from the areas. In the case of stray livestock, Range Control furnishes the Provost Marshal's Office with a description of the livestock, the number of animals, and their location.

3-15. RANGE MAINTENANCE AND POLICE.

a. A unit will be designated as responsible for each range and training area. This unit's responsibilities will include day-to-day maintenance of the range or training area such as housekeeping, lawn mowing, and general police. The unit will be responsible to properly identify to Range Maintenance any required preventive maintenance, repairs, or new construction of the real property facilities located on the range or training area. Mowing of the target area is a Range Maintenance responsibility and must be coordinated through Range Control.

b. Fighting position (foxhole) covers, target frames, ammunition separators, lister bag holders, weapons racks, etc., will be fabricated or replaced by Range Maintenance.

c. General range police.

(1) The responsible unit for each range will remove and dispose of unsightly and objectionable debris. Place major emphasis on areas of heavy use; i.e., firing points, bivouac areas, recreation areas, and major range roads.

(2) Report any area not properly policed to Range Control. Range Control will contact the last using unit and determine responsibility for the police.

(3) Anyone finding lost or abandoned government property on ranges or range roads will secure the property and turn it in to their unit Property Book Officer.

(4) Upon completion of training, the using unit will conduct a thorough police of the range/training area ensuring that no debris is left in the area and that any soil excavations are filled with dirt and leveled. Report destroyed, damaged, or missing firing point markers to Range Control. Units are responsible for police within a 200-meter radius of their occupied area.

3-16. TACTICAL COMMUNICATIONS WIRE. Install and remove tactical communications wire IAW the following guidelines:

a. Tag communications wire to indicate unit designation.

b. Do not bury or cover wire lines.

c. Wire will not be placed where it would cause harm or interfere with mounted and dismounted troops and vehicular traffic.

d. Tactical communications wire will be sufficiently marked to allow maximum observation by low-flying aircraft, vehicles, and personnel.

e. Recover communications wire upon completion of the exercise.

f. The lying of communications wire within 100 meters or across aircraft landing strips/zones or staging areas is prohibited.

g. Do not use telephone or power poles for hanging tactical communications wire.

h. Overhead wire will be at least 25 meters from the nearest power line.

3-17. ENVIRONMENTAL AND NATURAL RESOURCES.

a. All users of lands and waters on Fort Leonard Wood are responsible for the proper use, protection, and conservation of natural resources and the environment. Proper use in accordance with the requirements of this regulation will help ensure long-term conservation of military terrain essential for current and future military missions. Training on waters other than those specifically designed and built for training, i.e. TA 250, may be authorized on a case by case basis, and requires the user to coordinate with DPW Natural Resources and Range Control prior to scheduling so that potential impacts can be evaluated and appropriate mitigation and/or monitoring measures be put in place. Training activities impacting natural streams or man made lakes and ponds will be coordinated through DPW Natural Resources and Range Control prior to scheduling the activity. See the FLW Commander's Environmental Handbook and FM 3-100 (Chemical Operations Principles and Fundamentals)

b. Restrictions.

(1) Roads, fire trails, and firebreaks will not be blocked, cratered, ditched, booby trapped, or in any way rendered impassable unless coordinated through Range Control and an approved work order has been issued by DPW for permanent closure or improvement of the facility. Movable obstructions capable of being moved by one person are allowed.

(2) Except on ranges and in training areas specifically designated for such activities (see Appendices A-C), or as approved by the RCO, coordinated with the Chief, Natural Resources Branch, DPW, the following restrictions apply:

(a) On all live fire ranges that require target visibility, only the DPW or delegated approving authority can approve tree trimming or foliage clearing downrange. The responsible unit should identify what needs to be trimmed and contact Range Maintenance.

(b) Natural vegetation will not be cut, destroyed, or removed. Grass cutting will be restricted to established maintained grounds. The use of live vegetation for camouflage is prohibited. Trees will not be cut or damaged without prior approval from the DPW Natural Resources Branch and Range Control. Care will be taken to ensure ground cover is not stripped to bare soil.

(c) Only hand digging is authorized on Bivouac/FTX sites, unless specifically prohibited in App C. After training is complete, the position will be filled with earth.

(d) Mechanical excavation may be conducted on Range 24, TA 243 and TA 248 without FLW 364. After the training is complete, the area will be filled with earth. To minimize tree root disturbance and potential loss of overhead cover in these areas, these fighting positions must remain at least 25 feet away from standing trees.

(e) All vehicle operations will be confined to existing roads and driveways. No new trails or driveways may be cut

to reach an area by vehicle. Firebreaks are maintained to contain fire in high hazard areas and are not considered roadways. All users are responsible to ensure that their driving activity is not causing damage that will reduce passability for other vehicles.

(f) Unless otherwise designated or approved through Range Control, all caves and rock shelters are off limits for military activities. Some caves are inhabited by endangered species of bats; therefore, training activities in proximity to these caves will be in accordance with guidelines established in the FLW Environmental Overlay. These activities must be coordinated through the DPW Natural Resource Branch and RCO prior to scheduling. FLW Environmental Overlay guidelines identify restricted activities in environmentally sensitive areas. The Environmental Overlay is available at Range Control and battalion S-3.

(3) All lands posted or otherwise designated as closed for rehabilitation, restoration, or regrowth are off-limits.

(4) Washing of vehicles in natural bodies of water is prohibited. Wash vehicles at approved decontamination sites or washracks. Soaps and detergents are prohibited for use in the decontamination sites.

(5) All archeological and historical sites are off-limits for training activity.

(6) Crossing streams is permitted only at designated ford sites. Driving in streambeds is prohibited.

c. Immediately report the release of any hazardous substances into the environment to Range Control. Hazardous substances may include, but are not limited to, petroleum, oils, and lubricants (POL); solvents; antifreeze; etc. NBC agents will be used IAW the guidelines of the Fort Leonard Wood Air Permit. See FLW Spill Prevention and Response Plan. Appendix F contains the FLW spill report form.

d. Be aware of vegetation fire danger and hazards. Destructive forest and grass fires are a real threat during dry periods at Fort Leonard Wood. Refer to paragraph 3-25 of this regulation for guidance.

e. Natural resources and environmental damage caused by training activities will be investigated by the RCO, assisted by DPW Environmental Division personnel, to assess damage and loss and to determine responsibility. Responsible persons may be held liable under appropriate laws and regulations. At a minimum, damage will be repaired or mitigated by the responsible party.

f. The Natural Resources Branch, DPW, is the responsible office for the conduct of Vegetation Fire Management Program to include vegetation fire danger alerting, firebreak system development and maintenance, prescribed fire and controlled burning, vegetation fire behavior expertise and assistance to the Fire Department on wild vegetation fires, and close coordination with RCO. Refer to paragraph 3-25 of this regulation for detailed information.

g. Conduct all training with concern for conservation and future use of the military terrain.

3-18. CONVOYS AND FOOT MARCHES.

a. When conducting convoys and foot marches outside the cantonment area, units will establish and maintain communication with Range Control. All vehicle movement on unpaved roads involving military police and chemical training units must comply with the FLW Air Permit and comply with procedures outlined in Appendix H. Conduct radio checks with Range Control at the start point (SP), at designated checkpoints (or once per hour), and upon reaching the release point. Do not radio Range Control from the SP until your element is ready to move. (Note: For foot marches on the troop trail running to Range 16, report only at the start point, release point and in the event of changes.) If communication with Range Control is lost, halt the convoy or foot march immediately until contact is restored. The report format is as follows:

- (1) Line 1. Unit/activity designation.
- (2) Line 2. OIC/NCOIC initials.
- (3) Line 3. Number of vehicles.
- (4) Line 4. Number of soldiers.
- (5) Line 5. Number of unit cadre.
- (6) Line 6. Destination.

b. Map overlays.

(1) Prepare a map overlay for all scheduled, coordinated convoys (six vehicles or more) and foot marches (one kilometer or more) conducted outside the cantonment area in which the troop trail is not used for the entire movement, using a Fort Leonard Wood Military Installation Map, 1:50,000. Prepare map overlays in accordance with this regulation and FM 21-25.26

(2) Plot map overlay on a clear sheet of plastic and submit to Operations, Range Division, not later than two weeks day prior to movement. Information plotted on the overlay will be to the same scale as on the map. When the overlay is placed over the map, the details plotted on the overlay will be shown in their true position.

(3) When preparing overlays, units will use standard military symbols where possible (see FM 101-5-1). If it is necessary to invent nonstandard symbols to show the required information, the legend must show what these symbols mean.

(4) When conducting concurrent training during convoys or foot marches which includes the use of CS, smoke, pyrotechnics, or blank ammunition this information will be recorded in the marginal information of the overlay.

c. Convoys and road restrictions. The following traffic policies are established to ensure optimum safety during convoys and prevent unnecessary damage to road networks.

(1) A convoy is any group of six or more vehicles temporarily organized to operate as a column, with or without escort, proceeding together under a single commander. Also, when 10 or more vehicles per hour are dispatched to the same destination, over the same route, they are considered a convoy.

(a) The 58th Transportation Battalion and the Advanced Law Enforcement Training Division (ALETD)

Defensive Driving School are authorized convoys of 20 vehicles.

(b) All other units are restricted to convoys of no more than 10 vehicles.

(2) The maximum speed for wheeled vehicles is 20 miles per hour on improved roads and 20 miles per hour on unimproved roads, unless a slower maximum speed is posted. Convoys will maintain a minimum of 50 meters between vehicles. Seatbelts will be used when available.

(3) United States Army Forces Command (FORSCOM) units may request a free maneuver training area for field training exercises (FTXs). Convoy requests are not required within free maneuver training areas.

(4) Establish and maintain communication between the lead and trail vehicles.

(5) Traffic control for convoys.

(a) When crossing uncontrolled traffic intersections on post, convoys will post road guards.

(b) Road guards will wear reflective vests. In addition, provide road guards with baton flashlights for convoys operating during the hours of darkness (30 minutes after sunset to 30 minutes before sunrise), or when visibility is reduced to 500 feet or less due to weather conditions

(c) Normally, post road guards from 50 to 100 meters from the convoy crossing. Increase or decrease this distance depending upon the terrain, traffic, and weather conditions. Do not post road guards in traffic blind spots, such as around sharp or obscured curves, over hills, or in low places that would hide or conceal the road guards from oncoming traffic.

(6) Movement of tracked vehicles.

(a) The maximum speed for tracked vehicles is 20 miles per hour.

(b) Tracked vehicle convoys do not require lead vehicle if headlights are used. A wheeled trail vehicle is still required.

(c) Each tracked vehicle will have a track commander who will maintain communications with the driver. The driver may not act as track commander. Do not operate tracked vehicles without combat vehicle crewmen (CVC) or kevlar helmets equipped with an intercommunication system.

(d) Tracked vehicles are not permitted on improved roads or on the Bloodland Range Troop Trail without approval of the RCO.

(e) Use ground guides (front and rear) when moving in a confined area or where troops are bivouacked.

(f) Ensure safety pins are properly affixed when hatch covers are open. Personnel will not ride on top of any tracked vehicle.

(7) Blackout Drive Operations. Blackout drive operations are defined as movement of vehicles during hours of darkness where light discipline is in effect for the operation. Under blackout drive conditions, blackout lights

will be used and the TC of the vehicle may use night vision goggles. All blackout drive operations must be scheduled through Training Branch, DPTM.

(a) Blackout drive operations for IET soldiers, to include Officer Basic Course, 58th Transportation Battalion, and the Marine Corps Truck driver's course are only authorized on the blackout drive course at TA 236. Military Police units will train at TA 229. Other blackout drive training will be coordinated with Range Control.

(b) A request for blackout drive operations for FORSCOM, Reserve, and National Guard units must be submitted, with an overlay, to Range Control for approval by the RCO prior to being scheduled through Training Branch, DPTM.

(c) Personnel authorized in blackout drive areas include troops in training and personnel on official military business. POVs will not travel in blackout drive areas during the hours of darkness unless on official military business. If a POV must enter a blackout drive area, parking lights will be used. Emergency vehicles responding to a call will travel with full service lights. Other vehicles will stop and allow emergency traffic to pass before continuing under blackout drive conditions.

(d) During periods of reduced visibility, blackout drive conditions may be lifted. The RCO will make this decision and notify affected units.

(e) Passing is prohibited under blackout drive conditions.

(f) Tactical night blackout convoys on public traffic routes are prohibited. Vehicles operating on or crossing public traffic routes will use headlights on low beam.

(8) Vehicles that do not constitute a convoy will cross public traffic routes without interrupting the traffic flow. Vehicles will stop at the edge of the right-of-way and the senior occupant of the vehicle will ensure it is safe before crossing.

(9) The Bloodland Range Troop Trail is closed to wheeled vehicles except for trail vehicles following foot marches, emergency and maintenance vehicles.

(10) Night driving operations are defined as movement of vehicles during the hours of darkness with the use of full service lights (headlights) and markers.

(11) Military police convoys can travel in close column (15-20 meter interval), open column (75-100 meter interval) or infiltration where vehicles leave in irregular patterns alone, or in small groups.

d. Foot marches. A foot march is any movement of troops on foot, outside the cantonment area, for more than one kilometer.

(1) Conduct foot marches in accordance with this regulation, FLW Reg 385-4, and FM 21-18.

(2) All movement by foot or vehicle will be scheduled through Range Control.

(3) Radio communication will be established with Range Control prior to movement and maintained for the duration of the march. If communication is lost, movement

will be halted until communication has been re-established with Range Control.

(4) Foot marches are restricted to the areas outlined on the map overlay submitted to Range Control. Foot marches on the Bloodland Range Troop Trail do not require a clearance or map overlay. However, continuous communications with Range Control is mandatory.

(5) Units will not conduct foot marches on scheduled blackout routes during the hours of darkness without approval from Range Control.

(6) Trail vehicles are required for all foot marches of one kilometer or more outside the cantonment area, including the troop trail. Vehicles will remain 25 to 100 meters behind the column and carry enough potable water to re-supply all marchers. Trail vehicles will remain with the unit at all times during the march. If the unit marches by platoon, each platoon will maintain communication with a trail vehicle. If the trail vehicle must leave the road march, the unit will halt until the trail vehicle returns.

(7) Ambushes conducted during tactical foot marches will be at least 50 meters off main roads (300 meters if using agent CS or smoke). Police all brass and residue, upon completion of training.

(8) Rest breaks during foot marches will not interfere with the passage of traffic on roadways.

3-19. PREVENTION OF HEAT AND COLD INJURIES.

a. Prevention of heat and cold injuries requires continual emphasis and supervision at all levels. Commanders will develop and implement detailed programs for the prevention, and treatment of heat and cold injuries.

b. Commanders should also coordinate with the Preventive Medicine Service of the Medical Department Activity (MEDDAC) for assistance in developing their programs.

c. Commanders will ensure that there is a positive notification system to provide all levels of their organization with timely knowledge of current WBGT index and wind chill factors. Range Control will provide information on the current WBGT index or wind chill to all units training outside the cantonment area. When the WBGT Index exceeds 90 degrees or wind chill is less than -10 degrees, Range Control will notify the senior trainer on each site. Each unit is responsible for implementing internal controls to ensure safety of their soldiers.

d. All supervisory personnel and trainers will be familiar with and have in their possession the graphic training aid (GTA) 05-08-012 when training soldiers. It is available at the Training Support Center (TSC).

e. During the hot weather season, IET units will take on-site WBGT index readings. Commanders of IET units will ensure that one serviceable WBGT kit is issued to each training company.

f. Hot and cold weather uniform modifications will be made at the discretion of the senior commander.

g. Acclimatization to mission oriented protective posture (MOPP) training and the physical condition of personnel are primary factors used when planning permanent party MOPP

training exercises. Mission Oriented Protective Posture (MOPP) gear adds 10 degrees Fahrenheit to the WBGT index. During periods of warm weather, MOPP 4 training time will comply with GTA 05-08-012 and FM 3-4.

h. Commanders will ensure that adequate warm-up facilities are available whenever outdoor training is conducted during cold weather.

3-20. HAZARDOUS NOISE AREAS. Adequate hearing protection is required on all range firing facilities. Areas to the rear and sides of firing positions are hazardous noise areas. All personnel entering these areas are required to wear hearing protection. Range OICs will ensure hazardous noise areas are properly marked and noted in safety briefing. The following are distance (in meters) guidelines to reduce the impulse noise hazard levels to 140 decibels.

Weapon/System	REAR	SIDES
Rifles and machine-guns up to 7.62mm	18	18
.45 cal and 9mm pistol	30	30
.50 cal machine-gun	30	30
81mm mortar	175	175
4.2 mortar	200	200
M72 LAW	125	125
AT-4	250	250
M203 grenade launcher	50	50
90mm recoilless rifle	200	200
155mm artillery	300	300
Hand grenades	50 Radius	
MICLIC line rocket	1200 Radius	

3-21. RAPPELLING.

a. Conduct rappelling operations in accordance with this regulation and FM 3-97.61.

b. Range Control will approve all rappel operations. Only approved rappel sites authorized by Range Control will be used.

c. Mandatory equipment for rappelling includes kevlar helmet with chinstrap, standard 120-foot nylon climbing rope (two per lane), one snap link with gate, and one pair of issue gloves. Range Control must approve Commercial webbing and climbing equipment. No homemade devices are allowed.

d. Responsibilities.

(1) Commanders will ensure that -

(a) There is one RSO for every four lanes of rappelling.

(b) RSOs have a current FLW Form 377-1.

(c) Rappel Point Safeties must possess a current Range Safety Card and a FLW rappel certification card. Students in the Sapper Leader Course may serve as rappel point safeties after they have completed the applicable blocks of POI training. Range Control must approve civilian sources and proof of certification from other commands.

(d) There will be no less than two qualified Rappel Point Safeties for each lane of rappelling.

(e) All rappels will be conducted with double ropes and sufficient equipment.

(f) All rappels will be properly belayed.

(2) Range Control will inspect all authorized rappel sites quarterly for safety (anchor points, cliff facing, loading and unloading platforms). A record of all rappel site inspections will be on sent to DPTM and on file at Range Control.

(3) The MSO will inspect all authorized rappel sites annually for safety certification and provide Range Control with a copy of the inspection.

e. Safety measures.

(1) Establish and maintain communication with Range Control during all rappel operations.

(2) Conduct a safety briefing prior to all rappel operations.

(3) Inspect all rappel equipment prior to the beginning of training and after every 10th rappel for cuts, frays, and anchor point tie-offs. Pad the edge of cliffs to prevent damage to the ropes.

(4) Units will have a medic or combat lifesaver with aid bag and backboard on site during all rappel operations. Medical personnel, in a support capacity, will not participate in rappelling.

(5) The RSO will be positioned on the top of the rappel point overlooking and supervising rappel operations.

(6) Locate one instructor at the top of the rappel point, tied off by a safety line with a bowline around the waist and anchored to an anchor point. He is responsible for final safety checks and the hook up of soldiers descending the rappel point. Place a second instructor at the bottom of the rappel point to observe and anchor the descent of the soldier from the top.

(7) The rappel rope is anchored to the anchor point at two points, wrapping one end twice around a firm anchor, and then tying it to the remainder of the rappel rope with a bowline. Always use a double rope.

(8) When rappelling from cliffs, a safety check of the cliff will be conducted by a Rappel Point Safety. This check will include, at a minimum, a rappel down the cliff, checking for hazardous conditions. These hazards include, but are not limited to, loose rock, dirt, mud, sharp rock edges, and rappel ropes becoming entangled either on themselves or around rocks or trees. Should any hazardous condition exist, an attempt will be made to correct it before training begins. Corrections include knocking any loose rock off cliff faces, cleaning away any slippery material, and checking ropes so they run freely to the bottom.

(9) A qualified belayer will belay by when clearing cliffs of safety hazards.

(10) Warrior tower will be governed by TRADOC and FLW guidance.

(11) Rappel Sites are listed in Appendix B.

3-22. SEVERE WEATHER PROCEDURES.

- a. Upon receipt of a severe weather warning, Range Control will notify units by trunk radio or telephone.
- b. Upon receiving a weather alert, Commanders will suspend or cancel training as necessary.
- c. In the event a tornado is sighted while personnel are on ranges/training areas, move personnel from the tornado's path at a right angle. If there is not time to move, personnel will assume a squatting position in the nearest depression.
- d. In the event of an electrical storm, take the following precautions, as a minimum, consistent with the nature and severity of the storm.

(1) Place weapons at least 50 feet away from personnel.

(2) Properly ground all switchboards and generators.

(3) Evacuate personnel from areas containing power lines, high-tension cables, and television communications antennas.

(4) Personnel riding in any open vehicles should dismount and move approximately 100 meters away from the vehicles.

(5) Avoid large open spaces, hilltops, wire fences, isolated trees, poles, and metal buildings.

(6) Avoid using phones and radios. Ensure that the antennas on radios are collapsed.

(7) If you are in an exposed area and feel static electricity (e.g. your hair stands on end) assume a squatting position with your hands on your knees. DO NOT LAY FLAT ON THE GROUND OR PLACE YOUR HANDS ON THE GROUND.

(8) Personnel in bleachers or in a group should disperse quickly. If in water, they should emerge immediately upon the approach of a thunderstorm.

(9) Suspend all training until the storm has ended. Also, keep all radio and telephone communications to a minimum.

e. Units that have training cancelled due to weather, will coordinate an alternate date/time with Training Branch, DPTM Coordination will be accomplished within three working days of cancellation.

3-23. MILITARY OPERATIONS ON URBAN TERRAIN (MOUT).

a. Upon arrival at MOUT training site, Range OIC or RSO will notify Range Control of their intent to occupy the site.

b. CS is not authorized at the MOUT training site. Smoke and pyrotechnics can be used with permission from Range Control and IAW par 4-7 of this regulation. When smoke is used, road guards will be posted at all roads leading to and from MOUT site.

3-24. MEDICAL SUPPORT.

a. Emergency medical support for units training outside the cantonment area is requested through Range Control.

For support, contact Range Control with the following information:

(1) Accident site or pickup point (grid coordinates, range, training area, or common name).

(2) Number of casualties.

(3) Brief description of injuries and any special requirements.

b. Be prepared to send a knowledgeable person to meet and guide medical personnel to the accident.

c. If the situation permits and it would not cause further injury to the patient, units may be required to move injured personnel to a pickup point designated by Range Control.

d. Units training within the cantonment area contact the hospital Emergency Room directly in the event of a medical emergency. Notify Range Control of incident at the earliest opportunity. Emergency Room phone number is 596-0456 (request an ambulance at 596-2155).

e. Units will provide their own non-emergency medical support. Use good judgment in requesting use of ambulance; however, when in doubt, request emergency medical service.

f. Forward requests for field medical support to DPTM. Requests must be received a minimum of six weeks prior to the support date.

g. The Medical Specialists at Range Control will be fully trained in basic first aid and life support and will have a high mobility multi-purpose wheel vehicle (HMMWV) ambulance.

h. In the event there are no medical assets at Range Control, Range Control will coordinate for emergency medical service through the Combat Maneuver Training Center (CMTC) or GLWACH.

3-25. FIRE PREVENTION AND CONTROL.

a. Vegetation fire. In periods of dry weather the threat of vegetation fire danger is high. Therefore the following guidelines will be observed.

(1) In order to prevent and avert serious vegetation fires, the Vegetation Fire Danger Guide Chart at Appendix E must be adhered to at all times. This guide chart has been developed to reduce property damage, lost training time, and injury to personnel to a practical optimum; not an attempt to prevent all fires and curtail all fire starting activity. Fires will start and must be extinguished; however, if the guide chart is adhered to they should be small and easy to extinguish.

(2) All personnel in range and training operations will remain alert and report fires immediately to the Fire Department and Range Control, giving the location and approximate extent of the fire and action being taken to deal with the fire. Additionally, Range Control will notify the DPW Environmental Branch regarding date, time and location for incorporation in air monitoring analysis.

(3) In the event of fire on any range or training area, all personnel come under the control of the Range OIC, who will take charge of directing the fire fighting activities until relieved by the SFO. The Range OIC will not, under any circumstances, commit troops to fight fires forward of the

firing line without first obtaining clearance from Range Control to move down range. All personnel entering a burning impact area are to be aware of the inherent hazards associated with a dud/UXO-laden area.

(4) All personnel will remain at the site until the fire is extinguished or until Range Control or the SFO releases them.

(5) The OIC of each range and training area will develop and implement a fire-fighting plan for the area. Ranges that use tracer or pyrotechnics will maintain at least six long-handled shovels, six heavy-duty leaf rakes, six fire-beaters, and one ax for fighting vegetation fires.

(6) The provisions of FLW Reg 420-1 apply to the use of troop support to extinguish a fire.

(7) Open fires are prohibited unless approved by request through the RCO to the SFO, and then only with approval of Range Control just before starting the fire.

(8) The Natural Resources Branch, DPW, conducts a prescribed fire and controlled burning program in order to reduce fire hazards, maintain open areas for training activities, and improve ground cover for soil protection and wildlife habitat. A firebreak system has been developed and is maintained in order to contain fire in high hazard areas such as tracer firing and demolition ranges and to allow controlled burning. The Natural Resources Branch, DPW, will maintain close coordination with Range Control in executing this program.

b. Space heaters.

(1) The installation SFO will determine what kinds of heaters are authorized for use.

(2) Install the space heater on level ground, with noncombustible flooring, at least three feet from shelter walls. In tents with wooden floors or wooden sheds, install space heaters as follows.

(a) Construct a sandbox at least 36 inches long by 36 inches wide by four inches high. Place a sheet of metal on the bottom of the sandbox.

(b) Fill sandboxes with 3-1/2 inches of lightly packed sand. Do not use gravel.

(c) Place space heater in the center of the sandbox on two 8-inch by 16-inch concrete masonry blocks. Place space heaters at least three feet from tent or shed walls.

(3) Place shelters using space heaters a minimum of 30 feet apart. Smoking is prohibited in tents and sheds containing wooded floors.

(4) Operation of space heaters.

(a) Train all space heater operators IAW AR 600-55 and ensure they are familiar with TM 10-4500-200-13. In IET units, cadre are the only persons authorized to operate and maintain space heaters.

(b) Do not leave space heaters in operation unattended. Units operating space heaters will have one fireguard in each tent with one serviceable five-pound Type ABC or BC rated dry chemical fire extinguisher for each

space heater in operation. Extinguish fires when space heaters are no longer needed.

(c) Place all ashes in a covered metal container located a minimum of 15 feet away from any combustible materials

(d) Only wood will be burned in space heaters, IAW the FLW Air Permit.

(e) Never use adapter kits to convert Type I (solid fuel) space heaters to Type II (flammable liquid) space heaters. Never use flammable or combustible liquids, pre-soaked wood, ammunition, or ammunition by-products to start solid fuel heaters.

(f) Unit fire wardens will conduct weekly inspections of all space heaters in operation. Pay particular attention to the installation of the space heater and that it is free of soot and properly secured.

(5) Report all fires outside the cantonment area to Range Control and the Fire Department.

Chapter 4 RANGE FIRING

4-1. WHO MAY BE AN OIC/RSO/SCO.

a. A commissioned, warrant, or noncommissioned officer, in the grade of E-7 or above, from the training or firing unit chain of command may perform duties as Range OIC. EOD Team Leaders will assume duties as OIC for all EOD operations.

b. A commissioned, warrant, or noncommissioned officer, in the grade of E-6 or above, from the training or firing unit chain of command may perform duties as RSO/SCO. NCOs in the grade of E-5(P) that are filling an E-6 position may also serve as the RSO/SCO. Memorandum from the battalion commander is required.

c. The RSO on combined arms live fire exercises (CALFEX) will be of the grade prescribed in AR 385-63 based on the complexity of the exercise and number of participants (i.e., squad, platoon, etc).

d. Civilians (GS-7 and above or their equivalent civilian contractor) may act as OIC or RSO of firing ranges if they are qualified and approved to perform such duties by the RCO (i.e., weapons testing and competitive shooting).

e. All ranges will have a certified RSO present on the firing line during live fire. The chain of command to which the RSO is assigned will have complete responsibility for all aspects of firing and firing safety.

f. Commander will designate OIC and RSO before training begins. He will ensure that the RSO knows his duties and has qualified with the weapons systems involved.

g. All OICs and RSOs/SCOs are required to receive an annual safety briefing from Range Control and will possess a valid FLW Form 377-1 (Range Safety Officer Card). All OICs and RSOs/SCOs will also receive an ITAM Sustainable Range Brief. Safety briefings are given every Friday at 1300 hours. Range Safety Officer Cards are issued by the RCO and are valid for one year. Additional certification training is required for hand grenade, demolition, or rappelling. See

Appendix H for smoke operations and for FLW Air Permit Compliance.

h. Responsibilities of the OIC, RSO, and SCO are detailed in paragraphs 1-7b, 1-7c, and 1-7d, respectively, of this regulation.

i. When personnel performing the duties as OIC/RSO/SCO commits a safety violation, or violates a provision of this regulation, his certification may be revoked by Range Control. If Range Control relieves the OIC/RSO/SCO, the range will cease all live fire until the OIC/RSO/SCO is replaced by a qualified OIC/RSO/SCO and has reported to Range Control. Requests for recertification will be signed by the brigade commander and approved by the Chief of Staff.

j. Commanders of artillery, mortar, and armor units will establish and maintain a safety training and certification program for their personnel. Range Control may randomly test safety-qualified personnel to validate a unit's safety training program.

4-2. ASSISTANT RANGE SAFETY OFFICER (ARSO).

a. A commissioned, warrant, or noncommissioned officer, in the grade of E-6 or above, from the training or firing unit chain of command may perform duties as ARSO. West Point and Reserve Officer Training Corp (ROTC) Cadets, between their third and fourth year, may perform duties as ARSO at the discretion of the unit commander.

b. The principal duty of the ARSO is to enforce safety regulations on firing line, including weapons inspection prior to moving weapons off of the firing line.

c. ARSO personnel will understand the various safety signals necessary to ensure safe operation of the range.

4-3. NONMILITARY PERSONNEL ON RANGES/TRAINING AREAS.

a. The MANSCEN CG may approve the use of ranges and training areas by schools, local and state government agencies, organized clubs, and civic associations. Requests will be submitted through the installation Public Affairs Officer to DPTM. Request will comply with Department of Defense (DOD) and Department of the Army (DA) regulations and directives governing the use of Federal property by civilian activities.

b. Bilateral agreements between the installation and using organizations will be completed, in writing, for each approved use. These agreements specify the rights, liabilities, procedures, regulatory requirements, and responsibilities associated with the use of the Army property. Completion of the National Rifle Association approved pistol and rifle instructor's course, or equivalent, is mandatory for individuals designated to perform Range OIC or RSO duties on small arms ranges.

c. Nonmilitary organizations are subject to the provisions of this regulation while using Fort Leonard Wood ranges or training areas. Personal protective equipment, such as hearing protection, is required while shooting on ranges.

d. The MANSCEN CG may withdraw use privileges from any person or organization that willfully disobeys rules and regulations prescribed for the firing range or whose conduct on the range or installation warrants such action. The CG

may refuse authorization to anyone lacking the knowledge to handle and fire weapons safely.

e. Training, spectators and the firing of military weapons by nonmilitary personnel.

(1) Approved nonmilitary personnel may conduct an approved marksmanship training course or participate in approved activities involving familiarization of small arms, such as unit organizational or family days. Minors are not authorized to fire military weapons while on any military range. Nonmilitary personnel must comply with all range safety regulations, including the wearing of hearing protection. Personnel who do not comply with regulations will be removed from the firing line. Nonmilitary personnel firing under other than marksmanship training conditions will be supervised one-on-one by a responsible military or DA civilian member after receiving authorization from the RCO. Only firers and cadre are allowed on the firing line.

(2) Requests from nonmilitary personnel to observe capabilities exercises, firepower demonstrations, training courses, competitions, and other types of firing/training will be coordinated through the major commander of the unit conducting training to the major commander responsible for the range/training area. If the range or training area is located outside the cantonment area, commanders will coordinate with Range Control. When approved, spectators will remain in designated areas. Firing lines and spectator assembly areas will be well defined and properly marked. Commanders will provide an escort who will remain with and supervise the spectators throughout the time they are on the range/training area. The Range OIC is responsible for the safety and control of all spectators. Any spectator who compromises safety is subject to removal from the range/training area.

f. Tours for organizations/activities will be coordinated through the installation Public Affairs Officer to DPTM. Tours for visiting dignitaries and personnel in the grade of O-6/GM-15 and above will be coordinated through the Executive Services Officer.

4-4. SMALL ARMS RANGE LIVE FIRING.

a. Upon arrival on the range, the unit will clear all weapons by rodding and conducting a visual inspection of the weapon chamber. Lock bolts to the rear and place the weapon on safe. If chamber plugs are used, the bolt will be forward on the chamber plug and weapons placed on safe.

b. Communication with Range Control will be established upon occupation of any range. When ready to initiate firing, the OIC of the range will request permission from Range Control to go "WET."

c. Before entering or leaving the firing line, the RSO will visually clear and rod every weapon. Safety personnel will inspect each weapon prior to firing for serviceability.

d. All rifles will have the magazine out, bolt to the rear or chamber plug inserted, and placed on safe except during the conduct of live firing, dry firing or concurrent training. All other weapons will be cleared in accordance with applicable FMs or TMs and guidance from the senior commander. Weapons not being used will be stacked or placed in weapons racks, magazine out, bolt locked to the rear or chamber plug inserted, placed on safe, and adequate guards posted for security.

e. When a weapon is carried on the firing line, the muzzle will be angled up and pointed down range.

f. During live fire exercises, consider all weapons loaded. Point weapons only at authorized targets.

g. During live fire exercises, display a red flag from a prominent location at the entrance to the range. Clearly mark the right and left firing limits of each firing range with poles painted red and white. Ensure they are clearly visible from the firing line. The OIC and RSO are responsible for ensuring all firers and range personnel are fully aware of the location of range boundary markers prior to firing. The RSO will ensure that safety fan limitations are not exceeded. During exercises requiring movement, an ARSO will accompany firers to ensure that they are properly aligned and that all weapons are pointed down range.

h. During night firing exercises, display a red light and a red streamer from a prominent location at the entrance to the range. Also use red lights to mark the right and left firing limits.

i. Conduct dry firing away from the firing line in a designated concurrent training area. Personnel in the rank of E5 or above must supervise dry fires.

j. Smoking is permitted in designated areas only.

k. Running is not permitted on the firing line except on ranges that are specifically designed to incorporate such training.

l. Personnel will not move forward of the firing line until all weapons are cleared and given clearance from the tower.

m. Any individual who observes an unsafe condition during firing exercises will immediately command, "cease fire." When a cease-fire command is heard, all personnel will repeat it until firing has ceased. RSO will immediately investigate the unsafe condition, take necessary corrective action, and inform the OIC.

n. When using the M16A1 rifle, affix M16 brass deflection device for left-handed firers.

o. All personnel will wear authorized, properly fitted hearing protection when on or near the firing line (see paragraph 3-20).

p. Safety personnel will inspect personnel for brass, ammunition, and residue, and clear their weapons prior to leaving the range in accordance with the guidance issued by the senior commander.

4-5 SPECIAL OPERATIONS RANGE COMPLEX.

a. The Special Operations Range Complex consists of several stations for firing weapons that may be in operation simultaneously and requires special safety precautions and supervision. The RSO and OIC are responsible for the overall control and safe conduct of the range. Each station of the Complex will have an ARSO that is responsible for that station's control and safe conduct. Because the student/instructor ratio is generally never more than 2:1, instructors may simultaneously perform duties as ARSO for the station. All RSO, ARSO, and instructors will be RSO certified.

b. The RSO for the Rappel Tower will have been Rappel Certified within the previous 12 months.

c. All visitors to the Special Operations Range Complex will report to Range Control for authorization and instructions prior to entry on the range.

d. Uniform for training is dictated by the existing Special Operations Range Complex SOP and is specific to the type of training conducted. All firers and instructors will wear safety ballistic eyewear and hearing protection.

e. The OIC for the Special Operations Range Complex will establish and maintain communication with Range Control and each of the stations within the range complex at all times.

f. The Special Operations Range Complex SOP outlines special conditions for modified or non-standard firing positions, weapons handling, target engagement and movement with a weapon to include running on the range. These activities are authorized only for the specified training as stated in the Special Operations Range Complex SOP. Any deviation from established training SOPs must be submitted in writing through DPTM to Range Control for approval by the RCO.

g. Units desiring to use this facility must submit a request through the Director of Training, United States Army Military Police School (USAMPS).

h. All range safety procedures outlined in Paragraph 4-4 of this regulation apply to the Special Operations Range Complex except where stated above.

i. Civilian GS-07 and above or their equivalent contract civilian employee may serve as OIC/RSO.

j. Range Control will provide medical support during rappelling operations conducted on the Special Operations Range Complex.

k. Firers will load on command of their individual instructor or as determined by the firer as required when conducting the gun stress and shooting house exercises.

4-6. POWDER BURNING.

a. Burning of unused powder must be approved by Range Control and be supervised by a certified RSO and representative of Range Control.

b. Transport excess propellant to the powder burning area in a metal container on a cargo vehicle with a metal cargo bed. Do not transport other material, equipment, or passengers in the cargo bed with excess propellant.

c. Conduct powder burning at a location specified by Range Control. Powder burning will not take place at the same location within a 24-hour period. Range Control will sign DA Form 581 (Request for Issue and Turn-In of Ammunition) upon completion of the burn.

d. Except for a two-man burning detail, all personnel and equipment will be at least 50 meters from the burning site.

e. Units will contact Range Control prior to burning and provide unit/activity designation, OIC, and location of burn.

f. Only one unit at a time is authorized to use a powder burning area.

g. Mark powder-burning pits with a red flag for daytime burning and a red light for nighttime burning. Space increments 2-3 inches (5-7 cm) deep, 18 inches (45 cm) wide, and as long as necessary. Ignite powder on the upwind side by lighting a starting train of powder at least 12 inches (30 cm) long.

h. Clear brush, grass, and leaves at least 10 meters from the burning area to prevent a fire from spreading.

4-7. AMMUNITION AND EXPLOSIVES CARE, HANDLING, AND SAFETY.

a. Adhere to safety precautions contained in AR 385-62, AR 385-63, AR 385-64, FLW Reg 700-2, FM 5-250, TM 43-0001-28, and the appropriate operator's manual when handling, transporting, and firing weapons.

b. Protect ammo from adverse weather elements, to include the direct rays of the sun. Do not remove ammunition from sealed containers earlier than is necessary to prepare it for firing, which includes inspection and maintenance. Precutting of powder charges is prohibited except for controlled demonstrations where a registration has been conducted, or for training in suppressive fire situations. Commanders will ensure that rounds with charges pre-cut are fired safely.

c. Use only authorized fuze wrenches to install the fuze in the projectile. Do not use excess pressure. If the projectile contains a deep fuze cavity, insert supplementary charge into the cavity unless a long intrusion VT fuze (M728, M514, or M513) is used.

d. When affixing artillery and mortar fuzes to projectiles, select modes and time settings in accordance with TM 43-0001-28. Use minimum range authorized on safety card as it applies to the fuze used.

e. Do not leave ammunition and/or residue powder unattended.

f. Secure ammunition to prevent any movement.

g. Vehicles loaded with explosives will carry "EXPLOSIVES" signs on the front, rear, and each side of the vehicle. Cover or remove signs when explosives are unloaded from the vehicle. Coordinate with the SFO in determining appropriate fire extinguisher requirements.

h. Locate staging areas at least 400 meters from cantonment area boundaries and public traffic routes. Staging areas may be set on established firing positions.

i. Ammunition may be distributed to tactical vehicles in accordance with the TMs for that vehicle. Propellant and projectiles may be carried on firing vehicles with weapon systems designated for that purpose. Do not transport projectiles while fuzed, except when issued as a fuzed round.

j. Vehicles will not park within 10 meters of fire control equipment of any type.

k. Do not use lights, other than approved electric lanterns or flashlights, near explosives or ammunition.

l. Ensure that two serviceable BC rated fire extinguishers, five pounds or larger, are available in areas where ammunition or explosives are being handled.

m. Separate explosives and components of explosives located in shelters in such a manner that a fire cannot spread from one shelter to another.

n. Clear boxes, containers, dunnage, and packing materials from areas where explosives are handled as soon as contents are removed. Stack in a neat and orderly fashion.

o. Smoking is prohibited in any building, vehicle, or location within 50 feet of buildings or vehicles containing explosives or ammunition.

p. Every precaution will be taken to prevent mixing ball and tracer ammunition with blanks and dummy rounds. Ammunition points for ball and tracer will not be co-located with blank ammunition points. RSO and OIC, with help from unit cadre present, will conduct an "ammo shakedown" and clear all weapons when there is a change in ammunition used.

q. The OIC of any exercise involving the use of ammunition will conduct an ammunition safety briefing prior to issue. The briefing will cover, as a minimum -

- (1) Dangers of ammunition tampering.
- (2) Handling and firing ammunition.
- (3) Proper storage.
- (4) Steps to be taken in the event of an ammunition mishap.

4-8. EXPLOSIVE CHARGES, MINES, FIRING DEVICES, PYROTECHNICS, HAND GRENADES, AND BLANK AMMUNITION.

a. Conduct demolition training on Fort Leonard Wood IAW FM 5-250 and the following:

- (1) All demolitions will be scheduled through DPTM Training Branch.
- (2) Final approval/disapproval for all demolitions rests with Range Control.
- (3) Forward blast requests to Range Control not later than two weeks prior to the date training is to begin.
- (4) Maximum Demolition Charges (in net explosive quantity).

(a) Maximum demolition charge (surface) is 100 lbs. Maximum demolition charge in a steel-cutting bunker is 2 lbs.

(b) Maximum demolition charge (subsurface) is 200 lbs except for quarry operations, which cannot exceed 2,000 lbs without Range Control approval.

(c) Exceptions will be submitted to Range Control with blast request.

(d) Range Control may reduce the blast limit due to low cloud cover or other safety factors. Range Control will inform the unit prior to issuing a blast window.

(5) Trainers will know the misfire procedures as outlined in FM 5-250 for the type of firing system being used.

(6) When Modern Demolition Initiators (MDI) are used trainers will ensure that they are familiar with the procedures as outlined in FM 5-250 and the Primadet instruction pamphlet.

(7) The electric dual firing system, as outlined in FM 5-250, is the preferred method for firing demolitions when positive detonation is required. Trainers are encouraged to use this method to the maximum extent possible in light of training objectives and the tactical scenario.

(8) Use of non-electric dual firing systems, as outlined in FM 5-250, may be used for specific training objectives or tactical scenarios. The trainer will enforce the following procedures:

(a) A test burn of time fuze will be performed to establish the burn rate.

(b) No one will go down range after detonation for a period of time equal to the burn time for the longest piece of time fuze in the firing system, or 10 minutes, whichever is greater.

(c) Demolition effect simulators may be cleared immediately after detonation by the RSO. The RSO will wear body armor, kevlar helmet and ballistic glasses when clearing site.

(9) Dual prime all cratering charges with detonating cord. Never place blasting caps underground. All other caps will be handled IAW FM 5-250. Attach electrical and nonelectrical caps to the detonating cord above ground.

(10) If possible, detonate charges on soil free from gravel, rock, metal, or other possible missiles to a depth of at least six inches. Provide a sandbag barricade of at least one-meter above surrounding level ground between the location of charge and personnel.

(11) Total Engineer Training (TET) missions require a blast request through Range Control. Use a maximum of five lbs of detonation cord (no more than 100 feet in length). TNT blocks are not authorized.

(12) Atomic simulators are considered to be demolition material. All units must include the intent to use atomic simulators when requesting the range/training area. Do not detonate atomic simulators, or devices of a similar nature prior to 0700 hours, after 2200 hours, or within 1000 meters of the installation boundary.

b. The RSO will verify that connections are inspected before firing and to determine that all charges have been detonated after firing.

c. Demolition Orientation Briefing.

(1) All personnel instructing in the use of explosives or exercising immediate close supervision in the use of explosives, other than pyrotechnics or hand-fired simulators, will attend the Demolition Orientation Briefing given by

Range Control. This briefing is required before training at any demolition range on Fort Leonard Wood.

(2) Units are responsible for training and testing RSOs/OICs on demolitions. Personnel will bring a memorandum signed by the Battalion commander or S3 authorizing them to receive a demolition stamp from Range Control.

(3) Demolition Orientation Briefings are given every Friday as needed after the Range Safety Officer Briefing. Range Control will then annotate the Range Safety Officer Cards with the demolitions stamp indicating that those personnel have attended the Demolition Orientation Briefing. Stamps are good for one year.

(4) EOD personnel are not required to attend the Demolition Orientation Briefing; however, they will comply with the provisions of AR 75-15 for all demolition procedures and safety precautions during training and operations.

d. The gases released by the detonation of common explosives are toxic. Positioning personnel upwind from the detonation point should avoid breathing these fumes.

e. Use of nonstandard items of explosives and field expedient explosives.

(1) The term "nonstandard item of explosive" relates to an item that has -

(a) Not been accepted and type classified by the U.S. Military.

(b) Is a standard munition that has been altered to change its characteristic, or to do an essentially different function than that for which it was intended and then used as initially intended. For example, adding excess increments to mortar/artillery ammunition, jamming VT fuzes, or increasing the powder in small arms cartridges.

(2) Use of nonstandard explosives requires waiver approval by the Commanding General, U.S. Army Material Command (AMC), under the provisions of AR 385-63.

(3) The term "field expedient explosive" denotes a standard item of explosive that is combined with other standard explosive items and/or items that are normally nonexplosive by using techniques and procedures outlined in FM 5-250 and FM 5-34.

(4) Field expedient explosives do not require TRADOC waiver approval to be employed. However, use of field expedient explosives must be approved by the CG, USAMANSCEM. Approval will be granted only after a Safety SOP for use of the specific field expedient explosive has been developed and implemented. The MSO and Range Control must approve a detailed risk assessment.

(5) Unit commanders will determine the requirement to train with field expedient/nonstandard explosives.

f. Demolition Reconnaissance Report. Use DA Form 2203-R (Demolition Reconnaissance Report), shown in FM 5-250, together with appropriate sketches to record and report the reconnaissance of a military demolition project. Commanders will ensure that a copy of the Demolition Reconnaissance Report is provided to Range Control.

g. Before detonation, notify Range Control of the type and size of the explosive, the location, the number of detonations, and the expected time the detonations will occur. Once notified, Range Control will issue a 10-minute window in which the unit must complete the detonation. For multiple detonations (more than 10), Range Control will give times to complete blasting. Notify Range Control when all detonations are complete.

h. Firing.

(1) Electric blasting caps can be detonated by radio frequency. Therefore, adhere to the minimum safe distances from transmitter antennas given in FM 5-250, Table 2-1.

(2) No detonation will occur within 300 meters of any road unless road guards are posted and traffic is halted.

(3) The RSO will adhere to safety restrictions and distances listed in AR 385-63, FM 5-250, or appropriate training manual, whichever is greater. The RSO must be on site and ensure that Range Control approves all charges as indicated by the Demolition Reconnaissance Report.

(4) Fire fighting materials, as determined by the RCO and the SFO, will be available at all times in blasting areas to suppress vegetation fires.

(5) Multiple demolition blasts will be separated by intervals of at least one minute, but not more than 10 minutes.

(6) Discontinue all demolition training operations during or on the approach of an electrical storm or severe dust storm.

(7) Do not conduct demolition training within 155 meters of energized power transmission lines.

(8) Remove all other possible sources of static electricity from the area when electric firing is planned.

(9) Detonate charges electrically from a position that allows a clear view of the demolition area and the immediate vicinity.

(10) Conduct steel-cutting only on Range 33 or Range 26 in a steel cutting bunker.

(11) Conduct timber-cutting (Abatis) in accordance with FM 5-250. Only ten-inch diameter trees or less may be used. DPW Environmental Division will identify trees and coordinate with range control to cut the trees.

(12) Due to maximum safe distances and surface danger zones, some fans may overlap and some training facilities will be closed when units are using ammunition and explosives. Range Control will monitor the minimum safe distance (MSD) and SDZ for all range complex areas and inform units that may be affected. No unit will be within an active SDZ if another range is "wet". In the event of a conflict, Range Control has final control over which unit will suspend training.

i. Missile hazard.

(1) Explosives can propel lethal missiles (rocks, gravel, shrapnel, etc.) for great distances. The missile hazard from steel-cutting charges extends a greater distance under

normal conditions than that from cratering, quarrying, or surface charges of bare explosives.

(2) Personnel in defilade are provided additional protection within the surface danger zone. Defilade can be below ground or an area above ground protected from the blast source by a natural or artificial barrier capable of deflecting or absorbing blast fragments. The Installation RSO will assess the adequacy of a natural or artificial barrier.

(3) The following criteria gives distances at which personnel in the open are relatively safe from missiles created by bare charges placed in or on the ground, regardless of the type or condition of the soil.

(a) For charges weighing less than 27 lbs, the minimum missile hazard distance is 300 meters.

(b) For charges weighing more than 27 lbs, the distance at which personnel in the open are relatively safe from missiles can be calculated from the following formula. Safe distance (in meters) is equal to 100 times the cube root of the pounds of explosives. Safe distance (in feet) is equal to 300 times the cube root of the pounds of explosives. (See FM 5-250 for minimum safe distances calculated for selected charge weights.)

(c) For personnel, provide missile-proof shelters designed to prevent fragment and debris penetration when charges are placed to demolish solid material. These shelters will be placed at least 100 meters from the detonation site and will be strong enough to withstand the heaviest material that might be thrown at them.

j. Cratering charges.

(1) Dual prime all cratering charges with detonating cord. Never place blasting caps underground. Attach electrical and nonelectric caps to the detonating cord above ground.

(2) If possible, detonate charges on soil free from gravel, rock, metal, or other possible missiles to a depth of at least six inches. Provide a sandbag barricade of at least one-meter above surrounding level ground between the location of charge and personnel.

k. Mine safety.

(1) Practice and inert mines will be color coded in accordance with TM 9-1300-200. They will have the proper identification marking stenciled on them. Service, practice, and inert mines and fuzes will not be mixed.

(2) Conduct live mine training in accordance with FM 20-32, Appendix E.

l. Firing devices and fuzes. Install, arm, and disarm firing devices in accordance with TM 9-1375-213-12. Observe the following general precautions during use.

(1) Do not point firing devices and fuzes either with or without the standard bases at personnel.

(2) Do not carry standard bases containing unfired percussion caps, firing devices, and fuzes in the pocket.

(3) Keep standard bases containing unfired percussion caps separate from firing devices and fuzes until the firing

device or fuze is ready for installation in the mine or booby trap.

(4) Check safety pins on firing devices and fuzes for ease of movement before attaching the standard base. The safety pins for locking and positive safeties should move easily.

(5) Complete camouflage of mines or booby traps before removing the positive safety from the fuze or firing device.

(6) A positive safety will be installed before removing armed firing devices having a trip wire attached.

m. Pyrotechnics

(1) Care and handling of pyrotechnics, particularly simulators, should be of major concern, because when misused or abandoned, they become extremely dangerous. Pyrotechnics will be authorized by the unit commander and approved only by Range Control for use while training on the range complex. Commanders, OICs, and RSOs will ensure that persons using pyrotechnics or explosive hand-fired simulators are thoroughly trained in the safe control, preparation, and use of these items. See TM 9-1370-207-10 and TM 9-1370-208-10.

(2) Do not attempt to disarm, disassemble, or make alterations to simulators under any conditions. Personnel using simulators will select a target spot that is free from gravel, sticks, or other objects that may become missiles, and will ensure that no one is within 30 feet of the target spot or within the trajectory of the simulator. For IET units, only unit cadre will detonate simulators or other pyrotechnics.

(3) Normal use of pyrotechnics requires a "pyro window" from Range Control. Extended use of pyrotechnics (for a period longer than 2 hours) requires a written request, describing the type, usage, and location of pyrotechnics, risk assessment, and SOP through the DPTM to Range Control for approval by the RCO.

(4) RSO must be present when pyro and/or simulators are being used. All units must obtain permission for use of any pyrotechnics from Range Control on the day of their use.

(5) Personnel using artillery and hand grenade simulators will wear blast protective, leather work gloves or Nomex fire-retardant gloves.

(6) Turn in all pyrotechnics with evidence of moisture contamination in the item or any indication of mishandling (cracks, dents, breaks, etc.). Do not use.

(7) Report the location of dud/UXOs or abandoned pyrotechnics to Range Control.

(8) Do not touch malfunctioning pyrotechnics. If there is a malfunction of any kind with pyrotechnics, treat them as if they were a dud/UXO. Mark them in accordance with FM 5-250 and report them to Range Control. Pyrotechnics will not be altered in any manner. Use IAW TM 9-1370-207-10 and TM 9-1370-208-10.

(9) The OIC is responsible for the accountability of all pyrotechnics.

(10) Do not use pyrotechnics in any manner that may cause injury or damage to personnel, wildlife, or the environment.

n. Hand grenades.

(1) See Appendix A for unit personnel requirements when training on the grenade range (Range 31).

(2) Certification. Personnel performing the duties as OIC/RSO or ARSO on the grenade range will possess a valid Range Safety Officer Card with Grenade Stamp. Units may coordinate directly with Range 31 to schedule their personnel for certification. Once certified, Range 31 will provide the unit with a memorandum signed by the OIC listing the names of the personnel who have been certified. Units will provide this memorandum along with each certified individuals FLW Form 377-1 (Range Safety Officer Card) to Range Control who will annotate them with the Grenade Stamp.

(3) Under no circumstances will hand grenades be stocked in the throwing bay.

(4) Only one grenade at a time will be thrown into each bermed impact area, regardless of the number of throwing bays being used. Another grenade will not be thrown until the OIC has assured that the preceding grenade has exploded. Dud/UXOs will be reported to Range Control immediately. Training will cease immediately and will not be resumed until EOD personnel have destroyed the dud/UXO grenade.

(5) Personnel conducting police call of practice hand grenades will wear gloves.

o. Blank ammunition. Blank ammunition will not be fired at personnel at distances less than 25 meters. Use of blank ammunition in hand-to-hand training is prohibited.

(1) The person signing for the ammunition will ensure that each round is blank ammunition, that the ammunition has not been altered or tampered with in any way, and that grenade cartridges are not being used as blank ammunition.

(2) Safety personnel will visually inspect all ammunition and magazines for use in exercises requiring blank ammunition. Such inspections are required prior to deploying the individual to their firing position.

(3) Do not store or transport blank ammunition in any ammunition box or container that contains ball ammunition.

(4) After training has been completed using blank ammunition, the RSO ensures each weapon is cleared by locking bolt to the rear and rodding the weapons.

p. Blank and ball ammunition will not be issued from the same issue point. Soldiers will not possess ball and blank ammunition within the same training scenario. RSO will ensure a comprehensive "ammo shakedown" is conducted prior to using different ammunition.

q. Commercial fireworks. Commercially manufactured fireworks (those for civilian use) will not be handled, stored, or used in any way by military personnel on FLW.

4-9. MORTAR AND ARTILLERY FIRE.

- a. Artillery and mortar fire are restricted to indirect fire, except for special circumstances approved by Range Control.
- b. Overhead fire requires certified ammunition and will be conducted in accordance with AR 385-63. Lots for artillery fuzes, projectiles, and propellants must also be certified for overhead fire in accordance with AR 385-63.
- c. Units firing are responsible for coordinating with Range Control to determine if Cannon Range is operating on the day they are scheduled to fire. Range Control will establish controls to ensure cease-fire while aircraft are on station.
- d. Unit commanders or the S-3 will hand-carry copies of their firing data to Range Control for verification that firing is planned within the prescribed safety limits.
- e. Safety overlays must be submitted to the S3, TSB for approval a minimum of six weeks prior to firing. Safety fans will be drawn on overlay paper or clear plastic using Fort Leonard Wood Military Installation Map 1:50,000.
- f. The firing unit will ensure that the correct firing data is plotted by each FDC and correctly placed on their weapon systems before firing downrange.
- g. Conduct of firing.
- (1) Indirect fire weapons will only be fired from established mortar and artillery firing points. For artillery, the base piece must be within 100 meters of the firing point marker. Range Control maintains a survey list for all approved artillery and mortar firing points. Do not use non-established firing points without approval of the RCO.
- (2) Prior to firing, units will obtain a 10-minute window from Range Control.
- (3) Lay indirect fire weapons for live fire operations only with a properly declinated aiming circle. A second properly declinated aiming circle will be used to verify the lay of the weapon. Orienting angle is the preferred method of laying the battery. The grid azimuth method will only be used if survey is not available. There will be no more than two mils variance between the "lay" circle and the "safety" circle, regardless of the method of lay used.
- (4) Using units will establish and maintain an artillery safety training and certification program for their personnel in accordance with FM 6-50.
- (5) The OIC is responsible for all aspects of safety in the firing unit and on the assigned firing range/position.
- (6) Before departing for firing points, the OIC will ensure that -
- (a) An approved safety overlay has been submitted to Range Control.
- (b) He is familiar with all publications concerning the activities to be conducted and weapons used.
- (c) He has in his possession required maps, this regulation, AR 385-63, and current publications pertaining to the unit's activities and weapons used.
- (d) RSOs are properly qualified in their duties and have valid Range Safety Officer Cards in their possession.

- (e) The weapon has been borescoped within prescribed time frames.
- (7) Before firing, the OIC will ensure that -
- (a) All participating personnel are familiar with current safety regulations pertaining to the unit's activity.
- (b) The boresight and lay of each weapon is correct.
- (c) Minimum elevations are determined by the RSO. Minimum elevations will be compared with the firing battery executive officer's minimum elevations for site to crest, using the larger of the two as minimum elevation.
- (d) Communication has been established with Range Control and permission to fire has been obtained.
- (e) Maximum safe quadrant that will ensure illuminating projectiles impacting in the fans is computed.
- (f) Safety overlays have been reviewed and support the intended training.
- (g) Approval has been received to fire illumination, if applicable.
- (8) During firing, the OIC of the firing unit will ensure that all personnel on or near firing points are wearing kevlar helmets and authorized, properly fitted hearing protection.
- (9) Before firing, the RSO will -
- (a) Verify that Range Control approved the range request.
- (b) Verify that all range safety overlays comply with the firing data.
- (c) Verify the boresight and lay of each weapon.
- (d) Compute the minimum elevation and the data from the safety diagram.
- (e) Supervise the placing of safety stakes and the raising of the range flag.
- (f) Ensure ammunition is handled and stored safely, and checked for obvious defects.
- (g) Inform each section chief of the right and left deflection limits, minimum and maximum quadrant elevation, and the minimum time setting.
- (h) Visually check the line.
- (i) Establish internal safety communications. Ensure that permission to fire is granted by Range Control, and ensure compliance with all cease-fires/check-fires.
- (j) Verify that weapons have been borescoped, and the correct entry is made in the logbook, DA Form 2408-4 (Weapon Record Data), and verified by the commander.
- (10) During firing, the RSO will -
- (a) Enforce all safety regulations at all times.

(b) Ensure each weapon system fires a minimum of one round of smoke to verify gun target lay.

(c) Not allow weapons to fire with an incorrect setting or charge that would cause a projectile to land or burst outside the safety limits, or permit overhead fire of ammunition or fuzes not cleared for overhead fire.

(d) Immediately command cease-fire/check-fire when an incorrect setting or charge that would cause a projectile to land or burst outside the safety limits is detected.

(e) Report all dud/UXOs immediately to Range Control.

h. Restrictions.

(1) Entry into surface danger areas, restricted areas, or off-limits areas is prohibited. Report violators to Range Control.

(2) Access to impact areas is prohibited without special authorization from Range Control.

(3) Firing unfuzed projectiles on any Fort Leonard Wood firing point is prohibited.

(4) Do not bring gun tubes down to loading elevation or correct for aiming post displacement until initial rounds have impacted safely in the impact area.

(5) Use only mechanical fuze setters. Do not use fuzes loose enough to be set by hand.

4-10. AERIAL GUNNERY. Cannon Range is used as a bombing/strafing range for fixed wing high performance aircraft. The scheduling activity for this range is the 131st Tactical Fighter Wing (TFW), Detachment-1, Air National Guard, Fort Leonard Wood, Missouri. The scheduling of this range will be in accordance with Chapter 2, this regulation.

a. High performance aircraft.

(1) Commanders of aircraft will comply with applicable regulations and range SOP safety directives applicable to live fire/bombing procedures.

(2) Aircraft will confine their activities to flying above 3200 AGL, south to north. Range Control should be notified at least one hour in advance of any deviation from this flight path so that necessary ranges can be closed down. Altitude over active small arms ranges will be at least 2200 feet AGL.

b. Helicopter gunnery.

(1) Conduct all firing from a hover below 200 feet AGL.

(2) All firing will be in accordance with applicable regulations and an approved range SOP.

(3) A representative from the firing unit must be briefed by Range Control personnel prior to firing.

(4) At minimum, a preflight briefing will be conducted by Range Control with the unit OIC/RSO prior to firing on the range.

4-11. PRIVATELY OWNED WEAPONS (POW) FIRING (OTHER THAN HUNTING).

a. The provisions of FLW Reg 210-25 will be complied with in regards to privately owned weapons (POWs).

b. The POW range is authorized for use by all military personnel, their family members, and DOD civilians with a valid FLW Form 377-1 (Range Safety Officer Card).

c. Sighting and practice firing of privately owned rifles, shotguns, and pistols, both metallic and black powder, are permitted on this facility.

d. Administrative requirements.

(1) Request to utilize the POW range will be made in person at Range Control, building 5282.

(2) All firers will have in their possession a POW FLW Form 377-1 (Range Safety Officer Card). The Range Safety Officer Card is available by attending the POW Range Safety Class given by Range Control on a scheduled basis. A sponsor or adult who is in the possession of a POW Range Safety Officer Card will supervise all persons under the age of 18. Each individual is responsible for the safe operation of the range.

(3) Range Control will provide targets, range flags, the range regulation, and the range SOP.

e. Any violations of this regulation could result in the violator losing their privilege to use the POW range pending review/investigation. POW range users will dispose of all trash and brass in the receptacles provided prior to leaving the range.

f. Safety.

(1) Use only targets provided by or approved by Range Control. Glass or plastic bottles, cans, metal or clay thrown targets are prohibited. The Sportsmen's Center is the only authorized location for Skeet and Trap shooting.

(2) Firing will cease and all weapons cleared and benched prior to any firer, observer, or any person replacing, inspecting, or removing targets down range.

(3) POVs are not allowed down range.

(4) Clear all weapons before leaving the firing line. The breech of the weapon will be opened before leaving the firing line.

(5) Personnel who appear to be under the influence of alcohol or drugs are not allowed on any range.

(6) All personnel will wear hearing protection when on or near the firing line.

(7) Smoking is not permitted on the firing line.

(8) No more than five personnel will fire at any one time.

(9) Automatic weapons and any weapon with a maximum range greater than 4100 meters are prohibited.

4-12. DISPOSAL OF DUD/UXO(S).

a. Every reasonable effort will be made to locate dud/UXOs that fall in both permanent and non-designated

dud/UXO areas. This applies whether firing into a permanent dud/UXO area or in a non-designated dud/UXO area. During firing, known or suspected dud/UXOs will be recorded by FDC personnel for mortars and artillery and the RSO for direct fire weapons.

b. Hand grenade dud/UXOs will be reported to Range Control. Training will cease until EOD has destroyed the dud/UXO grenade.

c. Dud/UXOs found in non-designated dud/UXO impact areas will be marked and reported immediately to Range Control.

d. Upon completion of firing any "dud/UXO-producing" weapons in a non-designated dud/UXO impact area, range cadre or other qualified personnel will make a thorough search of the area. Initial Entry Training soldiers or students will not be used for the task of dud/UXO search/removal. Do not drive stakes or other objects into the ground near the dud/UXOs or jolt dud/UXOs in any way. Dud/UXOs will not be touched or moved by anyone other than EOD personnel. The firing unit will furnish a guide to assist EOD personnel in locating the duds/UXO. When reporting dud/UXOs to Range Control, the following information will be submitted, as applicable:

- (1) Number of dud/UXO(s).
- (2) Type and caliber of dud/UXO(s).
- (3) Coordinates of the dud/UXO(s).
- (4) Location of terrain features.
- (5) Method by which marked.
- (6) Names of individuals who will be available to assist EOD personnel.
- (7) Name, unit, and phone number of individual making report.

e. Upon completion of dud/UXO disposal by EOD personnel in non-designated dud/UXO impact areas, the OIC of the firing unit will submit a written report to Range Control that a surface search has been conducted and all known dud/UXOs have been reported or destroyed.

f. When firing is conducted into a permanent dud/UXO impact area, units will maintain a record indicating the number and caliber of dud/UXOs observed or suspected. Upon completion of firing, this information will be submitted to Range Control. Range Control will maintain a log of all known or suspected dud/UXOs.

4-13. PROCEDURES FOR MISFIRES.

a. Misfire procedures for specific rounds are prescribed in the appropriate weapon or ammunition manual. When in doubt, contact Range Control.

b. Prior to turn-in to the ASP, misfires will be repacked into the original container, tagged or otherwise identified, and kept separate from other ammunition items. For mortar ammunition, safety pins will be replaced in fuzes prior to turn-in. If the pin cannot be replaced, notify Range Control. Range Control will contact the QASAS, DOL; the Ammunition Officer, DOL; and/or the Ammunition Inspector, DOL; to determine if the ammunition is safe to handle. If it is

determined that a misfire is unsafe to handle, Range Control will notify EOD for disposal.

4-14. ERRATIC FIRING/ROUND OUT OF IMPACT.

a. Any projectile that bursts or lands outside of firing limits will be reported to Range Control immediately. Reports will include:

- (1) The location (8-digit grid coordinates) of the impact.
- (2) The name, unit, and location of person reporting.
- (3) The type and caliber of weapon and ammunition.
- (4) The location of weapon.
- (5) Injuries or damage caused.

b. If exact locations are not known, provide the location of observer and direction and distance to weapon(s) and impact location.

c. If a projectile has burst or impacted outside of safety limits, the unit will cease-fire immediately and notify Range Control. All weapons and personnel, regardless of the type of firing, will remain at the weapon position until released by Range Control. ALL FIRING DATA, AMMUNITION, AND FIRE CONTROL INSTRUMENTS PERTAINING TO MORTAR, ARTILLERY, AND TANK FIRING WILL BE SECURED AND NOT MOVED. As soon as the unit, range, or firing point that is responsible for the erratic firing is identified, other firing locations may be given permission to resume firing.

d. The Chief, Range Division, or his designated representative, will make a decision as to whether to close the range. OIC of firing will submit a full report to the CG, USAMANSACEN (through channels). The Chief, Range Division, will conduct an investigation and submit a report when directed by the G-3/DPTM or Commander, TSB.

Chapter 5 AIRBORNE OPERATIONS

5-1. RESTRICTED AIRSPACE. See paragraph 3-11, this regulation.

5-2. FACILITIES.

a. Forney Field is operated by Fort Leonard Wood and used jointly by military and private civilian pilots.

b. Units can coordinate with Forney Tower for support, to include aircraft parking space, fuel, weather data and message relay between the drop zone safety team (DZST) and the aircraft.

c. Forney Field has no maintenance support.

d. The tower is currently open for two shifts for a total of 20 hours a day. Hours of operation can be modified by special arrangement.

e. Aircraft may use the runway when the tower is closed, however there may be conflict with private civilian aircraft in the vicinity.

f. A small hangar is available for aircraft storage until unit maintenance personnel can complete repairs. There is outdoor parking for three C-130 aircraft.

g. Points of Contact

(1) To coordinate support at Forney Field, call 596-0165.

(2) Tower frequencies are U241.0, U229.4, V125.4, and FM 40.95.

5-3. AIRBORNE OPERATIONS.

a. Scheduling.

(1) There are no Nap-of-the-Earth (NOE) training routes on FLW.

(2) All airborne operations will be conducted at or above 500 feet AGL.

(3) Military free-fall and sport parachute activities are authorized on Forney Drop Zone (DZ) ONLY if parachute is deployed at 3500 ft AGL or lower. No High Altitude High Opening (HAHO) parachute drops are authorized.

(4) Requests for the use of DZs will be submitted in duplicate to reach the Range Support Company NLT six weeks in advance and will be locked in through G3/DPTM five weeks prior to the week of training. Requests will include the location of the DZ, the type and number of aircraft involved, and the inclusive times for the airborne/airmobile activity.

(5) Late requests and changes require the approval of the G-3/DPTM and depend on the availability of airspace and the degree of impact on other scheduled activities.

b. Operational Checks.

(1) Pre-Operations Checks.

(a) Ensure your unit's training area requests and overlays are submitted to Range Control.

(b) Confirm the training plan with Range Control, to include the following:

1. Routes, number of vehicles, and time of travel.
2. Number of smoke pots and smoke/CS grenades.
3. Number and type of simulators.
4. Amount of FFE and/or fog oil.

(e) Confirm alternate training sites and activities in the event that follow-on training requiring meteorological (MET) Data cannot be conducted.

(2) During-Operations Checks.

(a) A DZSO will be physically present on the DZ at all times during airborne operations, and will ensure that medical support is on the DZ prior to any personnel drops.

(b) Contact Range Control to receive an occupation code NLT 2.5 hours before TOT. The code grants permission only to occupy, not to begin training.

(c) DZSO will ensure that positive communications with Range Control is established via radio as primary means and landline as backup means of communication. DZSO will maintain continual communications with Range Control during all airborne or airmobile ops and any follow-on route training.

(d) When the Anti-Terrorist Driving Course (ATDC) has been scheduled for use during the same time period as the airborne operation, Range Control will notify the Chief of Evasive Driving.

(3) Post-Operations Checks. Report to Range Control the total number of jumpers and their injuries, if any.

c. Approved Training Sites.

(1) DZs will not be used for establishment of gun positions, Command Posts (CPs), company bivouac areas, or comparable administrative or tactical installations, unless specifically approved by the Installation Range Officer.

(2) Forney Drop Zone:

(a) Aircraft will approach from the south and exit to the north. After the drop is completed, aircraft will make right turn to appropriate heading, climb to 3000 feet MSL, weather permitting, and clear R4501 to the north.

(b) The OIC will assure that DZs and spectator areas are thoroughly policed upon completion of activities and prior to departure. All rigging materials, boxes, platforms and other trash will be policed up and removed.

(3) Cannon Range Drop Zone:

(a) This DZ is suitable for heavy drops.

(b) In addition to regular requirements, special authorization to conduct training on Cannon Range must be obtained through the Director of Range Division six weeks prior to scheduling through DPTM.

d. Commands desiring to conduct unit parachute operations on Fort Leonard Wood will submit a request with the following information:

- (1) Location of the DZ.
- (2) Numbers and types of aircraft involved.
- (3) Fuel requirements.
- (4) Time period for the drop.

(5) Requirements for tower support at Forney Field (whether or not aircraft will land at Forney Field).

Chapter 6
LOGISTICS

6-1. FIELD WATER SUPPLY. All ranges and training areas will comply with FLW Reg 58-1 for field water supply.

6-2. RANGE CONSTRUCTION. All requests for range construction, to include targetry, will be submitted in writing to the RCO for approval.

Chapter 7
WEAPON AND AMMUNITION ACCIDENT/INCIDENT
REPORTS

7-1. GENERAL. All incidents involving personal injury or property damage will be reported in accordance with paragraphs 7-2 and 7-3 below.

7-2. WEAPONS AND AMMUNITION INCIDENTS.

a. Weapons and ammunition accidents and malfunctions will be reported under the provisions of AR 75-1, AR 385-40, and FLW Reg 385-6. In addition, reporting is required in accordance with paragraph 7-3 below. The senior commander will ensure that all available facts on weapon and ammunition accidents/malfunctions are promptly obtained and reported for early determination of the cause of the malfunction and timely action to prevent similar malfunctions.

b. When an accident or malfunction occurs, the OIC will suspend all firing. The weapons and ammunition involved will be retained in place and intact until qualified personnel make an investigation.

c. The OIC/RSO will take necessary steps to prevent tampering with material involved, and items will not be removed from the range until investigated by the QASAS, DOL, or his representative. Once the QASAS has cleared the ammunition as safe to fire, firing can be resumed with all weapons except the one that has malfunctioned. Disposition of the weapon(s) involved will be determined by the Weapons Repair Branch, DOL. Following the investigation, the responsible officer of the unit concerned will submit a detailed written report to the Ammunition Surveillance Office, DOL, ATTN: QASAS within two working days after the accident or malfunction.

d. All other defects (other than routine operating cases) or nonstandard conditions noted within various type weapons or ammunition, whether a malfunction or accident has been experienced or not, will be reported to Range Control. Range Control will notify the Weapons Repair Branch, DOL and the QASAS, Ammunition Surveillance Office, DOL. When in doubt, contact Range Control. A copy of the report will be provided to the MSO and the Chief, Range Division.

7-3. ACCIDENT/INCIDENT REPORTING.

a. When any accident or malfunction involving any weapons or demolitions used for training is experienced, immediate notification will be made by the OIC of the unit training to Range Control furnishing all available information pertaining to the accident or malfunction. Report the following information to Range Control and DOL, Ammunition Surveillance Office within 24 hours.

- (1) Organization conducting the training.
- (2) Location of the incident (range/training area number and location on that site).
- (3) Commander of the organization.
- (4) OIC and RSO of the range.
- (5) Weapon(s), ammunition, and/or demolitions involved including caliber, type, model, serial number and manufacturer. Include National Stock Number and lot number as applicable.

(6) Date and time of the incident and a brief summary of what happened.

(7) Complete identification of all personnel involved, to include name, rank, job title, and organization.

(8) Extent of personal injuries, if any.

(9) Full name, social security number, rank and unit of injured personnel.

(10) Extent of property damage.

(11) Type of weapon.

(12) Number of rounds fired from weapon on day of malfunction.

(13) Condition of weapon prior to malfunction.

(14) Statements from personnel having knowledge pertinent to the accident/incident or malfunction.

b. Range Control will coordinate emergency medical support, if necessary, and will immediately notify the following applicable organizations during normal duty hours.

(1) QASAS (Ammunition Officer or Ammunition Inspector, DOL), 596-0832.

(2) Weapons Repair Section, Maintenance Division, DOL, 596-0895.

(3) Chief, Range Division, 596-6140/2525.

(4) Logistics Assistance Office (LAO), 596-0278.

(5) MSO, 596-0116 or 596-1275.

(6) 763d EOD, 596-2818.

(7) Law Enforcement Command, 596-6141.

(8) Should an accident and/or malfunction cause personal injury to a civilian or damage to civilian property, either real or personal, the Claims Officer, Office of the Staff Judge Advocate, will be notified.

c. If an ammunition/explosive accident occurs during other than normal duty hours, Range Control will notify the installation Staff Duty Officer (SDO). SDO will notify the QASAS Ammunition Officer, DOL and the Chief, Range Division. If unavailable, contact the Ammunition Inspector, DOL, followed by the LAO. The SDO will report the malfunction and all subsequent actions taken to the Ammunition Surveillance Office (596-1165) at the beginning of the next duty day.

d. The QASAS and Ammunition Officer are responsible for:

(1) Gathering data as necessary for all reported malfunctions.

(2) Locally suspending affected ammunition, within established guidelines. ALS personnel may be contacted to assist.

(3) Immediately making a preliminary report for any ammunition or explosive malfunction to LAO using DA Form 4379-R (Ammunition Malfunction Report). Preliminary reports will be made by the fastest means possible with the information that is currently available. The preliminary report will not be delayed if some of the information is not immediately available.

e. Missile malfunctions are to be reported to the Missile Command at commercial (205) 876-0341.

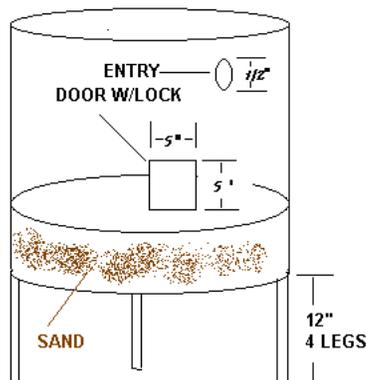
f. Unless overriding safety or security considerations exist, the malfunction area, including equipment and weapons, will not be disturbed before necessary on-site inspections are performed by a Department of the Army Investigation Team for Malfunctions (DAITM). Notification of a DAITM will be given to the installation within 24 hours from the receipt of the preliminary report.

g. Fragments and residue will be kept for 90 days after the malfunction.

h. Accidents and incidents in which an ammunition malfunction is thought to be a direct or contributing factor will also be reported in accordance with AR 75-15 and AR 385-40.

i. Amnesty points are located on all ranges and at Range Control. Senior commanders will establish amnesty points within the cantonment area with at least one point in each battalion area. Senior commanders will ensure points are secured, publicized, and frequently checked to collect and turn-in any ammunition deposited. Amnesty container will be limited to small arms. Standard is as follows:

- Container constructed from a 55-gallon barrel (see figure below).
- Sand- used for weight purpose.
- Entry-Size will only permit small arms ammunition.
- Legs will prevent container from rusting from bottom.
- Door w/lock- Used to remove ammunition, position door 5 inches above sand.
- Secure container to concrete floor, slab, or fixed structure.
- Paint container red.



APPENDIX A
RANGE FACILITIES

1. Grid coordinates mark the location of range towers. For ranges without towers, coordinates mark the range ready lines.
2. The scheduling activity for all ranges is the G3/DPTM. The responsible unit, designated as "UNIT" in the table below, ensures safe operation of the range, to include user maintenance and submission of work orders for organizational maintenance (to range maintenance) and/or DS/GS (to DOL, DPW, DOIM).
3. In addition to the scheduling activity, prior coordination will be made, NLT 72 hrs prior to training, with the unit responsible for the range. For ranges owned by the combat training committee (TSB), coordination will be made thru the TSB ops section, 6-0187.
4. All civilian organizations and military units not stationed at Fort Leonard Wood will schedule the use of facilities thru the G3, Mobilization and Reserve Affairs Division, 6-0639.

RANGE	DESCRIPTION/ CAPACITY	LOCATION	PHONE	SUPT FACILITY/BLDG #	TYPE WEAPON/ AMMO	UNIT	REQ	REMARKS
1 (Meuse-Argonne)	INDIVIDUAL TACTICAL TRAINING	WB 76737457	6-3652	MESS AREA, CLASSROOM - #5301, LATRINE - #5307-# 5308, BLEACHERS, BLEACHER COVER - #5306, TARGET SHED - #5304, OFFICE - #5300	M16 RIFLE, M60 MG/ 5.56mm, 7.62mm BLANKS ONLY. PYROTECHNICS AUTHORIZED. NO CS GAS.	TSB	OIC, RSO, ONE ARSO PER LANE, WEAPON GUARD, AMMO SUPERVISOR AND GUARD.	1. Non-standard range design. Personnel are authorized to travel using ITT techniques no further than 200 meters south of old firing line. Area is marked with barbed wire. 2. Area beyond barbed wire fence is a controlled burn area bound by maintained fire breaks to allow pyrotechnic use in fire danger class three and four, in accordance with Appendix E
2 (Montereaue)	25 METER / 100 FIRING POINTS	WB 76167473	6-6554	TOWER - #5310, MESS AREA OVERHEAD COVER, CLASSROOM - #5169, LATRINE - #5166, BLEACHERS, BLEACHER COVER, RANGE SPT BLDG - #5167, RG HOUSE - #5165	M16 RIFLE, M249 SAW BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets and frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, in accordance with Appendix E.
3 (Kasserine)	25 METER FIELD FIRE/ 45 FIRING POINTS	WB 75757470	6-7969	TOWER - #5324, MESS AREA, CLASSROOM - #5161, LATRINE - #5321, BLEACHERS, BLEACHER COVER - #5125, OFFICE - #5320, AMMO SHED - #5329	M16 RIFLE, M249 SAW/ 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets and frames. P.I.T.S. compatible. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, in accordance with Appendix E.
4 (Pork Chop Hill)	OVERHEAD LIVE FIRE, NIGHT INFILTRATION	WB 75357463	6-3322	TOWER - #5337, MESS AREA, CLASSROOM - #5334, LATRINE - #5335, OFFICE - #5336 BLEACHERS, BLEACHER COVER - #5338, RG SPT BLDG - #5339	M16 RIFLE, M60 MACHINE-GUN, 7.62mm BALL & TRACER, 5.56mm BLANK ONLY. PYROTECHNICS AUTHORIZED, NO CS GAS	TSB	OIC, RSO, ONE ARSO WALKING THE COURSE WITH THE UNIT, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Only use authorized ammunition for overhead firing. 2. Tracer ammunition and pyrotechnics may be used in accordance with Appendix E. 3. The using unit is responsible for controlling flares, and reporting and extinguishing fires.
5 (Valverde)	25 METER ZERO /100 FIRING POINTS	WB 75077429	6-3929	TOWER - #5343, MESS AREA, CLASSROOM - #5346, LATRINE - #5347, BLEACHERS, BLEACHER COVER - #5341, OFFICE - #5344, AMMO SHED, TARGET SHED - #5345	M16 RIFLE, M249 SAW/ 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets, frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, in accordance with Appendix E.
6 (Bataan)	FIRE & MANEUVER COURSE/ 3 LANES	WB 74847404	6-2552	MESS AREA, CLASSROOM - #5350, LATRINE - #5353, OFFICE - #5352 BLEACHERS, BLEACHER COVER - #5355, RG SUPT BLDG - #5351	M16 RIFLE, 5.56mm BALL & TRACER. PYROTECHNICS AUTHORIZED, NO CS GAS	TSB	OIC, RSO, ONE ARSO EACH LANE, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. No tower. Blank fire/ miles course at WB74877403. 2. Fire breaks are maintained around the impact area and close in the flare fall-area to allow tracer and pyrotechnics use in accordance with Appendix E. 3. The using unit is responsible for controlling flares and, reporting and extinguishing fires.
8 (Gettysburg)	FIELD FIRE / 35 FIRING POINTS	WB 74677334	6-2744	TOWER - #5372, MESS AREA OVERHEAD COVER, CLASSROOM - #5370, LATRINE - #5376, BLEACHERS, BLEACHER COVER - #5371, RG SUPT BLDG - #5374, AMMO SHED, TARGET SHED, SHED W/ GARAGE DOOR - #5373	M16 RIFLE, M249 SAW/ 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 5 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, in accordance with Appendix E.
9 (A Chau)	25-50 METER NIGHT FIRE/NBC FIRE/ 36 FIRING POINTS (INACTIVE)	WB 74837250	6-1378	TOWER - #5382, MESS AREA, CLASSROOM - #5387, LATRINE - #5381, BLEACHERS, BLEACHER COVER - #5383, RG SUPT BLDG (2)- #5385, #5380, OFFICE - #5386	M16 RIFLE, M249 SAW, PISTOL/ 9mm, .38CAL, .45CAL, 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 4 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets, frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, in accordance with Appendix E.

RANGE	DESCRIPTION/ CAPACITY	LOCATION	PHONE	SUPT FACILITY/BLDG #	TYPE WEAPON/ AMMO	UNIT	REQ	REMARKS
10 (Manassas)	25 METER ZERO/ 100 FIRING POINTS	WB 74907218	6-2955	TOWER - #5394, MESS AREA, CLASSROOM - #5390, LATRINE - #5396, BLEACHERS, BLEACHER COVER - #5395, RG SUPT BLDG (2)- #5397, #5391, 15X15 (2)	M16 RIFLE, M249, M60 MG, M203 (TPT ONLY), AT-4/ 7.62mm, 5.56mm BALL & TRACER, 9mm TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets, frames. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, in accordance with Appendix E.
11 (Santiago)	DAY/ NIGHT DEFENSE/ 6 FIRING POSITIONS	WB 74927184	6-4048	TOWER - #5503, CLASSROOM - #5500, LATRINE, OFFICE - #5502, BLEACHERS, BLEACHER COVER - #5363, RG SUPT BLDG - #5501	M16 RIFLE, M249, 5.56mm BALL & TRACER. PYRO AUTHORIZED. NO CS GAS	TSB	OIC, RSO, ONE ARSO EACH FIRING POINT, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Fire breaks are maintained around the impact area and close in the flare fall-area to allow tracer and pyrotechnics use in accordance with Appendix E. 2. The using unit is responsible for controlling flares and, reporting and extinguishing fires.
12	PRIVATELY OWNED WEAPONS	WB 74867155	6-1227	TOWER - #5514, MESS AREA, CLASSROOM - #5511, LATRINE, RG SUPT BLDG - #5510	RIFLE: UP TO .30 CAL, PISTOL, SHOT GUN	TSB	NONE	1. Receive safety briefing from TSB. 2. Use only targets authorized by TSB. 3. The maximum range for any weapon is 4,100 meters.
13	SPECIAL OPERATIONS RANGE COMPLEX: PISTOL QUAL, (2) SHOOTING HOUSES, (2) FIREARM STRESS SHOOTING COURSES, OBSTACLE COURSE, VEHICLE ASLT COURSE	WB 74917127	6-3066	CLASSROOM - #5540, LATRINE, OFFICE - #5530, COVERED BLEACHERS - #5537, #5538, RG SUPT BLDGS - #5534, #5535, RANGE TOWER - #5536, SHOOTING HOUSES - #5542 & 5543	ALL HANDGUN CALIBERS, 5.56mm RIFLE, SHOTGUN	USAMPS	OIC, RSO, ONE ARSO EACH COURSE, WEAPONS GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	1. The special operations range complex is available to all units for pistol qualification. All other training at the complex is available only to military units and civilian agencies for training that is essential to a direct law enforcement mission. 2. Standard hours of operation are 0730-1615 Monday thru Friday. Using unit must pay overtime after regular duty hours. 3. ALETD agrees to host training events on a case-by-case basis. Overtime for hosted events is funded by ALETD. 4. Scheduling for any part of the SOR complex must be completed NLT 14 weeks prior to training. ALETD is given priority for scheduling. 5. Steps to schedule training, other than basic pistol qualification, at the SOR complex: Step 1. Complete the FLW range safety officer course. Step 2. Complete the SOR certification course. Call range 13 to schedule certification (6-3066). Step 3. Coordinate with the SRT chief (6-1573) for use the complex. Step 4. Contact G3/DPTM (3-4050) for scheduling. 6. To schedule basic pistol qualification, complete steps 1, 3, & 4. It is not necessary to attend the SOR certification course. 7. Fire breaks are maintained around the impact area and close in the flare fall-area to allow tracer and pyrotechnics use in accordance with Appendix E. 8. The using unit is responsible for reporting and extinguishing fires. Protective berms provide 360-degree range fan for the shooting houses.
14	SPECIAL OPERATIONS RANGE COMPLEX: MARKSMAN/ OBSERVER RANGE	WB 74697080		THREE-STORY FIRING LINE	RIFLES 7.62mm AND SMALLER, M203 W/TTP ROUNDS	USAMPS	OIC, RSO, ONE ARSO EACH COURSE, WEAPONS GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	See range 13
15	SPECIAL OPERATIONS RANGE COMPLEX: RAPPEL TOWER			RAPPEL TOWER - #5554	N/A	USAMPS	OIC, RSO, ONE ARSO EACH COURSE, WEAPONS GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	See range 13
16A (San Juan Hill)	DOWN RANGE FEEDBACK/ 70 KNOWN DISTANCE FIRING POINTS	WB74857053	6-5047	TOWER - #5741, MESS AREA, CLASSROOMS (2) - #13601, #13602, LATRINES (2) - #13603, #13604, COVERED BLEACHERS, 15X15	M16 RIFLE, M249, M60 MG, 5.56mm, 7.62mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 10 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. M60 machine-gun firing not permitted beyond 400-meter line. 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, in accordance with Appendix E.
16B (San Juan Hill)	VERIFY ZERO: 25-METER, (4) FIRING POINTS	WB 74677035	6-5047	(SEE RANGE 16A)	M16 RIFLE, 5.56mm BALL. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER 4 FIRING POINTS, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	1. Stationary targets, frames 2. Area beyond farthest target is a controlled burn area bound by maintained fire breaks to allow tracer fire in fire danger class three and four, in accordance with Appendix E.

RANGE	DESCRIPTION/ CAPACITY	LOCATION	PHONE	SUPT FACILITY/BLDG #	TYPE WEAPON/ AMMO	UNIT	REQ	REMARKS
17 (Chosin Reservoir)	MARINE CORPS PISTOL QUAL/ 25 FIRING POINTS	WB 74597020	6-3041 6-2789	TOWER - #5583, CLASSROOM - #5585, OFFICE, COVERED BLEACHERS - #5582, RG SUPT BLDG - #5581, COVERED FIRING LINE - #5586, CONTROL ROOM - #5583, FIREARMS TRAINING SIMULATOR - #5584	.38 CAL, .45 CAL, AND 9mm PISTOL, 12 Ga AND NON-LETHAL SHOTGUN, M203-Non-lethal rds only, MK141 FLASH-BANG, STINGER BALL GRENADE	USMC	OIC, RSO, ONE ARSO PER 4 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	1. Protective berms on three sides. 2. Site of DoD non-lethal individual weapons instructor course.
18 (Marne)	MULTI-PURPOSE/ 6 FIRING POINTS	WB 74656985	6-1500	TOWER - #5599, COVERED MESS AREA, CLASSROOM - #5597, LATRINE, OFFICE - #5593, COVERED BLEACHERS - #5595, RG SUPT BLDG - #5594	M16 RIFLE: 5.56mm, M60 MG: 7.62mm, PISTOL: .38, .45, & 9mm BALL & TRACER, M203, M249, CLAYMORE MINE	USACMLS	OIC, RSO, ONE ARSO PER 4 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	1. No dud/UXO-producing ammo permitted. 2. The down range area is a controlled burn area bounded by fire breaks to allow tracer firing in fire danger class three & four IAW Appendix E.
19 (Ardennes)	US WEAPONS FIRE/ M203: 6 FIRING PTS, AT4: 9 FIRING PTS, M60 MG: 6 FIRING PTS, M249 SAW: 6 FIRING PTS, MK19: 4 FIRING PTS, M18A1: 1 FIRING PT	WB 74486785	6-5655	TOWER - #5710, COVERED MESS AREA - #5711, CLASSROOM - #5712, LATRINE - #5713, OFFICE, BLEACHERS, BLEACHER COVER - #5709, RG SUPT BLDG - #5708	M16 RIFLE: 5.56mm, M60 MG: 7.62mm, PISTOL: .38 & .45 CAL, 9mm BALL & TRACER, M203 AND MK 19: 40mm HE & TPT, AT4, M18A1 CLAYMORE MINE	TSB	OIC, RSO, ONE ARSO PER 4 FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD FOR EACH COURSE ON RANGE.	1. Dud/UXO impact area. No down range access permitted except EOD personnel. 2. The down range area is a controlled burn area bound by maintained fire breaks to allow tracer firing in fire danger class three & four IAW Appendix E.
20 (Antietam)	MODIFIED RECORD FIRE (RETS)/ 16 FIRING POINTS	WB 75226711	6-7755	TOWER - #5731, MESS AREA OVERHEAD COVER - #5736, CLASSROOM - #5734, LATRINE - #5737, BLEACHERS, BLEACHER COVER, (2) RG SUPT BLDGS - #5732, #5733, AMMO SHED - #5735	M16 RIFLE, 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO (WARRANT OFFICER OR ABOVE WHEN FIRING AT-4), ONE ARSO PER EIGHT FIRING POSITIONS, TOWER OPERATOR, AMMUNITION SUPERVISOR, AMMUNITION AND WEAPONS GUARD	
21 (Devil's Den)	MILITARY POLICE PISTOL QUALIFICATION/ 50 FIRING POINTS	WB 75506678	6-2778	TOWER - #5546, MESS AREA, CLASSROOM - #5743, LATRINES - #5746, #5747, BLEACHERS, BLEACHER COVER - #5745, RG SUPT BLDG - #5742, OFFICE - #5744, FIRE ARMS TRAINING SIMULATOR - #5748	9MM PISTOL	USAMPS	OIC, RSO, ONE ARSO PER FOUR FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	Coordinate use of range with USAMPS, then schedule through G3/DPTM.
22 (Utah Beach)	RECORD FIRE/ 16 FIRING POINTS	WB 76026646	6-7546	TOWER - #5763, MESS AREA, CLASSROOM - #5760, LATRINE - #5764, BLEACHERS, BLEACHER COVER - #5761, RG SUPT BLDG - #5765	M16 RIFLE, 5.56mm BALL & TRACER. NO CS GAS	TSB	OIC, RSO, ONE ARSO PER FOUR FIRING POINTS, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	
24 (Inchon)	MULTI-PURPOSE: DEMOLITION, MACHINE GUN (M2/ M60/ M249) M16 RIFLE RANGE	WB 73896780	6-1560		ALL MILITARY EXPLOSIVES, M16 RIFLE: 5.56mm, M249: 5.56mm, M60 MG: 7.62mm, M2 MG: .50 CAL LINKED, BALL & TRACER, M18A1 CLAYMORE, M15, M19, M21 ANTI-TANK MINES, AT4 (TPT ONLY), MICLIC ROCKET (INERT), VOLCANO (INERT), MOPMS (INERT)	TSB	OIC, RSO (SSG/ E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD, WEAPON GUARD.	1. No tower. 2. Blast restriction: 100lbs. Surface, 200 lbs. Sub-surface. No steel cutting. 3. Special demo: abatis WB 73206750, bangalore WB 73356754. 4. Live mine training restrictions: no anti-handling devices, no tilt rods. Mines are armed/ disarmed no more than 25 times. 5. No two-way radios within 87 meters of live explosive components. 6. Obtain a ten-minute window from TSB prior to blasting demo. 7. Excavation permitted in the heavy demo pit WB 73536769. 8. When firing weapons, or using demo, road guards must be posted at WB 74356750, WB69926885, WB71306676, WB74086807, and must have communication with the range OIC. 9. When firing .50 cal mg, weapon must be tripod mounted with a traverse and elevation mechanism. Coordination with TSB is needed prior to firing for t & e settings and range orientation. 10. Using unit is responsible for range police, filling in all holes or trenches, and back-blading the parking
25	M203/ 6 FIRING POSITIONS	WB 74257103	6-3344		M203: 40mm TPT AND E96HE GRENADES	TSB	OIC, RSO, ONE ARSO PER FIRER, AMMO SUPERVISOR, AMMO GUARD, WEAPON GUARD.	1. No tower. 2. Permanent dud/UXO impact area. 3. The area beyond the firing line is a controlled burn area.

RANGE	DESCRIPTION/ CAPACITY	LOCATION	PHONE	SUPT FACILITY/BLDG #	TYPE WEAPON/ AMMO	UNIT	REQ	REMARKS
26	Engineer Qualification Range (EQR)	(SEE SITE LISTING BELOW.)		CLASSROOM	(SEE SITE LISTING BELOW.)	TSB	OIC, RSO (E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	1. No tower. No permanent cadre. 2. Sites on range 26 will be signed for separately. A site-specific risk assessment will be prepared each time that site is used. 3. Blast restriction. For all sites except 26g: 100lbs. Surface, 200 lbs. Sub-surface. For site 26g: 2lb. Maximum 4. In addition to RSO certification, the RSO/OIC will receive annual demolition orientation briefing from TSB. 5. Obtain a ten-minute window from TSB prior to blasting demo. 6. Live mine training restrictions: no anti-handling devices, no tilt rods. Mines are armed/ disarmed no more than 25 times. 7. Requests to use explosives not covered in published sop will be submitted in writing to RCO.
26A	TRNG BRIDGE	WB 74096863		1 BRIDGE	BLANKS ONLY. NO DET CORD, INCENDIARY, OR SMOKE ON THE BRIDGE	TSB		
26B	AT MINE	WB 73646961		3 DEMO PITS, 1 BLAST BUNKER	ALL MILITARY EXPLOSIVES	TSB		
26C	ABATIS	WB 73656890		2 DEMO PITS, 1 BLAST BUNKER	C-4, TNT	TSB		
26D	WIRE OBSTACLE	WB 73816887		2 DEMO PITS, 1 BLAST BUNKER	BANGALORE TORPEDO, FIELD EXPEDIENT EXPLOSIVES	TSB		
26E	AP MINE	WB 72886796		3 DEMO PITS, 1 BLAST BUNKER	C4, TNT, AP MINE	TSB		
26F	ROAD CRATER	WB 72876812		2 DEMO PITS, 1 BLAST BUNKER	C4, TNT, SHAPE CHARGES, CRATERING CHARGES	TSB		
26G	STEEL CUTTING	WB 73326757		1 DEMO PIT, 2 BLAST BUNKERS	C4, TNT (2-LB. MAX)	TSB		
26H	AVLB MOBILE BRIDGING	WB 79306940		NO SUPPORT FACILITIES ON THIS SITE.	NO DEMO ALLOWED	TSB	OIC, RSO (E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	
27	FLAME, FUEL EXPLOSIVES (FFE)	WB 73286949	6-8655	TOWER, CLASSROOM #5451, LATRINE - #5453, OFFICE - #5452, COVERED BLEACHERS, COVER - #5456, RG SUPT BLDG #5457	FOUGAS, FLAME EXPLOSIVES	USACMLS	OIC, SCO, ONE ARSO PER SHOT, AMMO GUARD, HAZARDOUS MATERIALS/ FUEL HANDLER	1. Only use authorized ammunition for firing. 2. Fire breaks are maintained around and close in the flame fall area to allow wall of fire and flame use in accordance with Appendix E. 3. Using unit is responsible for controlling, reporting, and clean up of hazmat spills.
30	SMOKE RANGE COMPLEX	WB 72977015	6-2884	TOWER, MESS AREA, CLASSROOMS, LATRINES, OFFICE - #5464, COVERED BLEACHERS, RG SUPT BLDG - #5465	SMOKE GENERATOR: FOG OIL, SMOKE POTS & SMOKE GRENADES (NOT TO BE USED CONCURRENTLY)	USACMLS	OIC, SCO, ONE ARSO PER LANE, TOWER OPERATOR, WEAPON GUARD, HAZARDOUS MATERIALS/ FUEL HANDLER	1. Coordinate use of range through USACMLS NLT 13 weeks out (6-1932), then schedule through G3/DPTM. 2. Use only authorized materials for smoke generation. 3. Using unit is responsible for controlling, reporting, and clean up of hazmat spills.
31 (Junction City)	HAND GRENADE/ 4 LIVE BAYS, MOCK BAY, HIGH/LOW WALL, QUAL COURSE	WB 73937322	6-1645	TOWER, MESS AREA, CLASSROOM, 2 LATRINES - #5237, #5238, AMMO - #5234, 2 COVERED BLEACHERS - #5236, RG SUPT BLDG - #5233, 15X15 SHED	HAND GRENADE: ALL TYPES EXCEPT CS & WP	TSB	OIC, RSO (E-6 OR ABOVE), ONE ARSO (QUALIFIED CADRE MEMBER) PER LIVE BAY, TOWER OPERATOR, WEAPON GUARD, AMMO SUPERVISOR, AMMO GUARD.	Dud/UXO impact area. No down range access permitted except for EOD personnel.
33L (Petersburg)	DEMOLITION (LIGHTY) 10 DEMO BAYS	WB 72397242	6-0072	MESS AREA OVERHEAD COVER , CLASSROOM, LATRINE, EXPLOSIVES BUNKERS (2), RANGE SUPT BLDG, 15X15 SHED	ALL MILITARY EXPLOSIVES	USAES	OIC, RSO (E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	1. Blast restriction: no greater than 5 lbs. Explosives per blast. 2. Receive demolition orientation briefing from TSB (yearly).
33H (Petersburg)	DEMOLITION (HEAVY) 1 STEEL CUTTING BAY, 1 HEAVY DEMO PIT	WB 71957295		EXPLOSIVES BUNKERS (2), BOMB SHELTERS (8)	ALL MILITARY EXPLOSIVES, EXPEDIENT EXPLOSIVES, M15, M19, M21 ANTI-TANK MINES	USAES	OIC, RSO (E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	1. No tower. 2. Blast restriction: 100lbs. Surface, 200 lbs. Sub-surface. 3. Receive demolition orientation briefing from TSB (yearly). 4. Obtain a ten-minute window from TSB prior to blasting demo. 5. Live mine training restrictions: no anti-handling devices, no tilt rods. Mines are armed/ disarmed no more than 25 times. 6. Explosives not covered in published sop will be submitted in writing to RCO.

RANGE	DESCRIPTION/ CAPACITY	LOCATION	PHONE	SUPT FACILITY/BLDG #	TYPE WEAPON/ AMMO	UNIT	REQ	REMARKS
36	EOD DEMOLITION	WB 72177370	6-5853	STORAGE BLDG	ALL MILITARY EXPLOSIVES	EOD	OIC, RSO (E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	1. No tower. 2. Blast restriction: 100lbs. Surface, 200 lbs. Sub-surface. 3. Obtain a ten-minute window from TSB prior to blasting demo. 4. No two-way radios within 87 meters of live explosive components. 5. Emergency explosive disposal may be conducted immediately upon request through TSB.
38	SAPPER DEMOLITION (HEAVY)/ ONE HEAVY DEMO PIT	WB 67756768		EXPLOSIVES BUNKERS (3), BLEACHERS, BLEACHER OVERHEAD COVER, 15X15 SHED	ALL MILITARY EXPLOSIVES, M16 RIFLE: 5.56mm BLANK, M60 MG: 7.62mm BLANK	USAES	OIC, RSO (SSG/ E-6 OR ABOVE) AMMO SUPERVISOR, AMMO GUARD.	1. No tower. 2. Blast restriction: 100lbs. Surface, 200 lbs. Sub-surface. 3. Special demo: grape shot, expedient bangalore, platter charges. 4. Explosives not covered in sop will be submitted in writing to TSB officer.
CANNON RANGE	AIRCRAFT BOMBING & STRAFING, ARTILLERY & MORTAR IMPACT AREA	WB 69256721	6-0298 6-0299	AIRCRAFT MAINTENANCE BAY, FENCED STORAGE AREA, FLIGHT CONTROL TOWER	7.62mm, 20mm, 30mm, 40mm, INERT BOMBS	CANNON RANGE/ 1st Det, 131ST FW	OIC, RSO, TOWER OPERATOR	1. Cannon range is available for ground units to train on a case-by-case basis. Requests will be submitted to director, range division, two weeks prior to scheduling with G3/DPTM. 2. Firebreaks have been constructed around the target areas. The 131st TFW is responsible for maintenance of the firebreak system and confining fires inside the firebreaks. 3. Natural resources branch, DPW, will coordinate controlled burning inside the firebreaks. 4. DRC will be responsible for coordinating with the 131st TFW, cannon range OIC, in order to confine artillery & mortar impacts to the area inside the firebreak system and to determine compatible targeting.
FP1	ARTILLERY FIRING POINT	WB 74276759			ARTILLERY	TSB		
FP2	ARTILLERY FIRING POINT	WB 74576720			ARTILLERY	TSB		
FP3	ARTILLERY FIRING POINT	WB 74046645			ARTILLERY	TSB		
FP4	ARTILLERY FIRING POINT	WB 71286666		FORWARD OBSERVATION POINT	MORTAR	TSB		
FP5	ARTILLERY FIRING POINT	WB 71286482		FORWARD OBSERVATION POINT/ STEEL TOWER	MORTAR	TSB		
FP6	ARTILLERY FIRING POINT	WB 73326757			ARTILLERY	TSB		
FP7	ARTILLERY FIRING POINT	WB 72846738			ARTILLERY	TSB		
FP8	ARTILLERY FIRING POINT	WB 70936880			ARTILLERY	TSB		
FP9	ARTILLERY FIRING POINT	WB 70286984			ARTILLERY	TSB		
FP10	ARTILLERY FIRING POINT	WB 72316731			ARTILLERY	TSB		
FP11	ARTILLERY FIRING POINT	WB 70667111		FORWARD OBSERVATION POINT	ARTILLERY	TSB	BATTERY SAFETY OFFICER (RSO), ONE ARSO PER FIRING POSITION.	1. Altitude will not exceed 5,000 ft. Maximum of four charges. 2. Obtain permission to fire from TSB. 3. TSB will assure that procedures will result in all rounds falling within the target impact area. 4. TSB will coordinate with the 131st TFW; cannon range OIC, to determine compatible targeting and fire fighting procedures. 5. Firing will be allowed only in fire danger class zero thru three (0-3). 6. Illumination devices must be targeted in a manner that will cause all burning material to fall inside the firebreak system.

APPENDIX B
TRAINING AREAS

NOTE: The scheduling activity for all training areas is the G3/DPTM. The responsible unit, designated as "UNIT" in the table below, ensures safe operation within the area, to include user maintenance and submission of work order for organizational maintenance (to range maintenance) and/or DS/GS maintenance (to DOL, DPW, or DOIM).

TA	USE	LOCATION	UNIT
2	PFT	ON SOUTH DAKOTA AT CAISSON DRIVE.	USMC
3 A, B, C	PFT	EAST OF BUCKEYE, ENCLOSED BY BLDS 652 AND 660.	3D BCT
61	LIGHT WHEELED VEH. RECOVERY COURSE	ON FLW ROAD 25 AT WB 83257499 ON BIG PINEY RIVER; EAST OF QUARRY COURSE; IN HUNTING AREA 7. REMARKS: 1. SENSITIVE AREA - THIS AREA IS ON RIVER FLOOD PLAIN. BE ESPECIALLY CAREFUL TO AVOID POL SPILLS.	USMC
75	LAND NAV COURSE	ON FLW ROAD 10 AT WB 80057994, IN HUNTING AREA 3.	DPTM
77	K-9 TRAINING	1ST STREET ADJACENT TO BUILDING 2240.	LEC
88	PFT	PFT TRACK AT NORTHWEST CORNER OF MINNESOTA AVENUE AND CONSTITUTION.	3D BCT
90	PFT/D&C	EAST OF IOWA AVENUE; NORTH OF BAKER THEATER; AND SOUTH OF SOFTBALL FIELD; AT WB77467930.	3D BCT
91	PFT/D&C	BETWEEN TA 97 AND BUILDING 6150; BOUNDED ON THE EAST BY INDIANA AVENUE.	3D BCT
93A	PFT/D&C	SOUTHERN MIDDLE AND NORTHERN THIRDS OF PAVED PARKING LOT WEST OF BUCKEYE AVENUE BETWEEN 4TH STREET AND 6TH STREET; AT WB76957937.	3D BCT
93B	PFT/D&C	SOUTHERN MIDDLE AND NORTHERN THIRDS OF PAVED PARKING LOT WEST OF BUCKEYE AVENUE BETWEEN 4TH STREET AND 6TH STREET; AT WB76947945.	3D BCT
93C	PFT/D&C	SOUTHERN MIDDLE AND NORTHERN THIRDS OF PAVED PARKING LOT WEST OF BUCKEYE AVENUE BETWEEN 4TH STREET AND 6TH STREET; AT WB76947954.	3D BCT
93D	PFT/D&C	UNPAVED PARKING LOT BOUNDED ON NORTH BY 6TH STREET; ON SOUTHWEST BY 7TH STREET; AND ON EAST BY BUCKEYE AVENUE; AT WB76917928.	3D BCT
93W	PFT	BOUNDED BY ALABAMA AVENUE ON WEST; ON EAST BY BUCKEYE AVENUE; ON SOUTH BY 7TH STREET; AND ON NORTH BY 4TH STREET; AT WB76867948.	3D BCT
94	PFT/D&C	BETWEEN VIRGINIA AVENUE AND IOWA AVENUE.	3D BCT
95	PFT/D&C	BOUNDED ON WEST BY ALABAMA AVENUE; ON NORTHWEST BY BUCKEYE AVENUE; AND ON SOUTHWEST BY OAK STREET.	3D BCT
97	CONFIDENCE COURSE	ON WEST SIDE OF INDIANA AVENUE; NORTH OF INTERSECTION WITH MINNESOTA AVENUE.	TSB
98	PECS COURSE	BOUNDED ON EAST BY INDIANA AVENUE; ON NORTH BY FLW ROAD 12; AND ON SOUTH BY SIGNAL MAINTENANCE BUILDING.	TSB
99	CS CHAMBER	BOUNDED ON SOUTH BY DIRT ROAD AND T132A; ON EAST BY TA100; AND ON WEST BY DIRT ROAD.	TSB
100A	PHASE 1 TEST SITE	BOUNDED ON EAST BY INDIANA AVENUE AND ON THE SOUTH BY TA099.	3D BCT
100B	PHASE 2 TEST SITE	BOUNDED ON EAST BY INDIANA AVENUE AND ON THE SOUTH BY TA099.	3D BCT
101N/S	HOSTAGE NEGOTIATION TRAINING	BOUNDED ON EAST BY INDIANA AVE; ON SOUTH BY FLW ROAD 20; ON WEST BY NORTH-SOUTH GRID LINE 761; AND ON NORTH BY EAST-WEST GRID LINE 784; AT WB7677870 AND WB76367846.	ALET-D
102	PFT	WEST ON INDIANA AVENUE; SOUTH OF T100A; AT WB76477880.	3D BCT
103	PFT	EAST OF ALABAMA AVENUE; NORTH OF TA107; AT WB76847865.	USACMLS
106A	PFT	SOUTHWEST CORNER OF KANSAS AVENUE AND INDIANA AVENUE JUNCTION; BOUNDED ON NORTH BY KANSAS AVENUE; ON EAST BY INDIANA AVE; AND ON SOUTH BY TA149 AND DIRT ACCESS ROAD.	USAES
106B	PFT/H TO H	SOUTHWEST CORNER OF KANSAS AVENUE AND INDIANA AVENUE JUNCTION; BOUNDED ON NORTH BY KANSAS AVENUE; ON EAST BY INDIANA AVE; AND ON SOUTH BY TA149 AND DIRT ACCESS ROAD.	USAES
107	PFT/H TO H	BETWEEN ALABAMA AVENUE ON WEST AND METAL BUILDING ON EAST; SOUTHERN THIRD BETWEEN MINNESOTA AVENUE AND KANSAS AVENUE ON SOUTH.	USACMLS
108	PFT/H TO H	BOUNDED ON EAST BY ALABAMA AVENUE; ON WEST BY INDIANA AVENUE; AND ON NORTH BY BUILDING 839.	3D BCT
110	PARADE FIELD	BOUNDED ON WEST BY IOWA AVENUE; ON SOUTH BY KANSAS AVENUE; ON NORTH BY NORTHERN RUNWAY; AND ON EAST BY GRAVEL ROAD AREA.	DPTM
113	PFT/D&C	EAST OF GAMMON FIELD; WEST OF CONSTITUTION.	USAES
114	PFT/D&C	EAST OF GAMMON FIELD; WEST OF CONSTITUTION.	USAES
115	PFT/D&C	EAST OF GAMMON FIELD; WEST OF CONSTITUTION.	USACMLS
116	PFT/D&C	EAST OF GAMMON FIELD; WEST OF CONSTITUTION.	USACMLS
122	PFT	NORTH OF GERLACH FIELD; WEST OF SOFTBALL FIELD BETWEEN CONSTITUTION AND NEBRASKA AVENUE.	USAES
127	SURVEYING FIELD TRAINING	ON FLW ROAD 36, BEHIND BROWN HALL AT WB 77987684.	DPTM

TA	USE	LOCATION	UNIT
131	D&C	PARKING LOT EAST OF IOWA AVENUE BETWEEN NUTTER FIELD HOUSE AND DAVIS CLUB.	USAES
132	NBC PROFICIENCY TEST	WEST OF TA132; SOUTH OF TA99.	USMC
133	LEADERSHIP REACTION COURSE 6-8322	WEST OF TA98 AND INDIANA AVENUE; SOUTH OF FIRST DIRT ROAD; NORTH OF BUILDING 6150. There are 17 stations (wet and dry). Crews of 4 to 6 arrive 2 hours early to fill the pool, draw equipment, etc. Unit must provide an FLW certified RSO.	TSB
135	BAYONET ASSAULT COURSE	AT THE END OF THE DIRT ROAD RUNNING BETWEEN TA100 AND TA132, WEST OF INDIANA AVENUE.	TSB
136	WARRIOR TOWER	WEST OF TA98 AND INDIANA AVENUE; SOUTH OF TA 133	TSB
137	TEAMWORK DEVELOPMENT COURSE	WEST OF TA98 AND INDIANA AVENUE; SOUTH OF TA 133	TSB
147	SAPPER LEADER CRS	BOUNDED ON NORTH BY TA106; ON EAST BY INDIANA AVENUE; AT WB76287797.	USAES
153	PFT (INACTIVE)	TRACK WEST OF ARTILLERY CIRCLE AT WEST 20TH STREET.	DPTM
162	PFT	BETWEEN ALABAMA AND BUCKEYE AVENUE; BETWEEN BUILDING 1134 AND 1139.	USAES
164	MTOC DRIVERS TESTING COURSE	BOUNDED ON NORTH BY SOUTH DAKOTA AVENUE; ON EAST BY CAISSON DRIVE; ON WEST BY GRASS COVERED AREA; AND ON SOUTH BY BUILDING 230.	USACMLS
165	SURVEY FIELD TRAINING	WEST OF IOWA AT WB77097740.	USAES
166	MOCK MP VILLAGE	BOUNDED ON NORTH BY SOUTH DAKOTA; AT WB76507779.	USAMPS
167	ADV. LAW ENFORCEMENT TRAINING SITE	SOUTH OF TA166; AT WB76517767.	ALETD
168	DECON. TRAINING SITE	EAST OF INDIANA; AT WB76467801.	USACMLS
170	VERTICAL SKILLS	BOUNDED ON WEST BY CONSTITUTION; NORTH BY NEBRASKA AVENUE; EAST BY TA186; AT WB7747697.	USAES
182	PFT	EAST OF IOWA AVENUE; SOUTH OF BATTERY STREET; AT WB77457741.	USAMPS
183	PFT	BOUNDED ON EAST BY CONSTITUTION; ON NORTH BY CAISSON DRIVE; ON WEST BY ARTILLERY CIRCLE; AND ON SOUTH BY TSC WAREHOUSE AND MODEL SHOP.	USAMPS
184	PFT	EAST OF IOWA AVENUE AT WB77267728.	3D BCT
185	REINFORCEMENT AREA	BOUNDED ON NORTH BY 19TH STREET; ON WEST BY ARTILLERY.	USAMPS
186	END OF COURSE TESTING	BOUNDED ON NORTH BY NEBRASKA AVENUE AND ON SOUTH BY TA127.	USAES
187	LIGHT WHEELED VEHICLE MAINTENANCE COURSE	BOUNDED ON NORTH BY NEBRASKA AVENUE; ON EAST BY CONSTITUTION; AND ON SOUTH AND WEST BY TA212.	USAES
190	ROBOTICS TRNG/TESTING	ON ARTILLERY CIRCLE AT WB7707614.	DCD
192	MTOC DRIVER COURSE	ON ARTILLERY CIRCLE AT WB76977655.	USACMLS
193	MTOC DRIVER COURSE	ON ARTILLERY CIRCLE AT WB7773758.	USACMLS
201	BASIC TRAINING APFT	ON EAST SIDE OF IOWA AVENUE AT WB 76427657.	3D BCT
204	TEST SITE	SOUTHEAST OF SOUTH DAKOTA AVENUE.	TSB
206A	FIELD ENGR COMPLEX	ON FLW ROAD 1 (IOWA AVENUE).	USAES
206B	DEMOLITIONS & LANDMINE WARFARE COMPLEX	ON FLW ROAD 1 (IOWA AVENUE).	USAES
207	FIRE FIGHTING TRAINING SITE	WEST OF FLW ROAD 1; EAST OF TA210; AT WB75467597.	DPW
208	HMMWV COURSE	ON FLW ROAD 1; AT WB75507547.	USAMPS
209	AIR FORCE READINESS TRAINING	WEST OF FLW ROAD 1, ACROSS FROM TA 206, SOUTH OF AIRFIELD.	AIR FORCE
210	EVASIVE DRIVING COURSE	ON FLW ROAD 28 AT WB75447573; SOUTH OF AIRFIELD	ALETD

TA	USE	LOCATION	UNIT
211	FIXED BRIDGE TRAINING COMPLEX	SOUTHWEST OF FLW ROAD 1 AND FLW ROAD V AT WB 75667516.	USAES
215	CHEMICAL DEFENSE TNG FACILITY (CDTF)	WEST OF FORNEY ARMY AIRFIELD AT WB74607724.	USACMLS
219	NBC TRAINING COMPLEX	BOUNDED ON WEST BY FLW ROAD, NORTH OF TA238A, WB71207430	USAF DET
224	COUNTERMINE TEST FACILITY	AT WB71797465, FORMER BABBS DROP ZONE	MSBL
227	MEDICAL FIELD TRAINING SITE (INACTIVE)	AT WB72087346.	DPTM
228	MTOC DRIVING COURSE	SOUTH OF HWY 38; WEST OF FLW 1	USACMLS
230	MOUT VILLAGE	ON FLW ROAD 28 AT WB 71647548.	USAMPS
231	MTOC/HEMTT	ON FLW ROAD 5 AT WB 7147838.	USACMLS
232	EPW TRAINING SITE	NORTHWEST OF BLOODLAND LAKE AT WB72737406.	USAMPS
236	MTOC/5 TON	ON FLW ROAD PA AT WB7417202.	USACMLS
244	ENGR EQUIP OPERATORS COURSE	ON FLW ROAD 28 AT INTERSECTION WITH FLW ROAD 5 AT WB74287568. REMARKS: ALL VEHICLE OPERATION MUST BE CONFINED TO THE CONTROLLED WATERSHED LIMITS OF THE SEDIMENTATION BASINS.	USAES
245	EXP. INFANTRY BADGE TESTING SITE	ON FLW ROAD 1 AT WB75007501.	3D BCT
250	FLOAT BRIDGE, FOX VEHICLE TRNG COMPLEX	ON BIG PINEY RIVER ON FLW ROAD 25 AT WB8877783. REMARKS: 1. SENSITIVE AREA - BE ESPECIALLY CAREFUL TO AVOID POL SPILLS. THE RIVER IS A PUBLIC WATERWAY - DO NOT DELAY CIVILIAN WATER TRAFFIC UNNECESSARILY.	USAES
256	QUARRYMAN ASPHALT OPERATORS COURSE	ON FLW ROAD 25 AT WB81327530. REMARKS: 1. SENSITIVE AREA - THIS AREA IS ON A RIVER FLOOD PLAIN. THE RESPONSIBLE UNIT WILL MAINTAIN THE SEDIMENTATION BASIN THAT CATCHES ALL RUNOFF BEFORE ENTERING THE RIVER. THE ENVIRONMENT, ENERGY AND NATURAL RESOURCES DIVISION, DPW, IS RESPONSIBLE FOR WATER QUALITY CONTROL COORDINATION.	USAES
257C	LAND NAV COURSE	ON FLW ROAD 22 AT WB 82907837.	TSB
259	AIR FORCE ENGINEER COURSE	ON FLW ROAD 25 AT WB 81047579. REMARKS: 1. SENSITIVE AREA - THIS AREA IS ON RIVER FLOOD PLAIN. BE ESPECIALLY CAREFUL OF POL SPILLS. ABSOLUTELY NO DRIVING OFF THE EXISTING GRAVEL ROADS.	USAES
275	SAPPER LEADER COURSE BASE CAMP	ON FLW ROAD TT AT WB68287059. REMARKS: 1. THIS IS AN EXTREMELY SENSITIVE ARCHEOLOGICAL AREA. ABSOLUTELY NO EXCAVATION OF ANY KIND. NATURAL AND ARCHEOLOGICAL FEATURES ARE NOT TO BE DISTURBED. POINT OF CONTACT IS THE ENVIRONMENTAL AND NATURAL RESOURCES OFFICE, DPW.	USAES
400	BALLARD HOLLOW SMOKE TA	AT WB741812.	USACMLS
401	BAILEY/McCANN HOLLOW SMOKE TA	AT WB710695.	USACMLS
402	MUSGRAVE HOLLOW SMOKE TA	AT WB722658.	USACMLS
403	MUSHPADDLE HOLLOW SMOKE TA	AT WB668662.	USACMLS
601	RAPPEL #1	AT WB82247883.	DPTM
602	RAPPEL #2	ON FLW ROAD 25 AT WB83747832. REMARKS: 1. OLD QUARRY FACE. WELL CONSOLIDATED. ROCK, SHORT FACE.	DPTM
603	RAPPEL #3	AT WB81497659.	DPTM
604	RAPPEL #4	ON FLW ROAD NA AT WB79307459; IN HUNTING AREA 8. REMARKS: 1. NATURAL CLIFF. DO NOT DISTURB SOIL OR VEGETATION.	DPTM
605	RAPPEL #5	AT WB69326973.	DPTM
606	RAPPEL #6	SOUTH OF FLW ROAD D AT WB68747031 (SAPPER LEADER COURSE)	USAES
607	RAPPEL #7	AT WB74757973.	DPTM
608	RAPPEL #8	AT WB74667987.	DPTM
609	RAPPEL #9	AT WB7678188.	DPTM
610	RAPPEL #10	AT WB72298270.	DPTM

APPENDIX C
BIVOUAC SITES

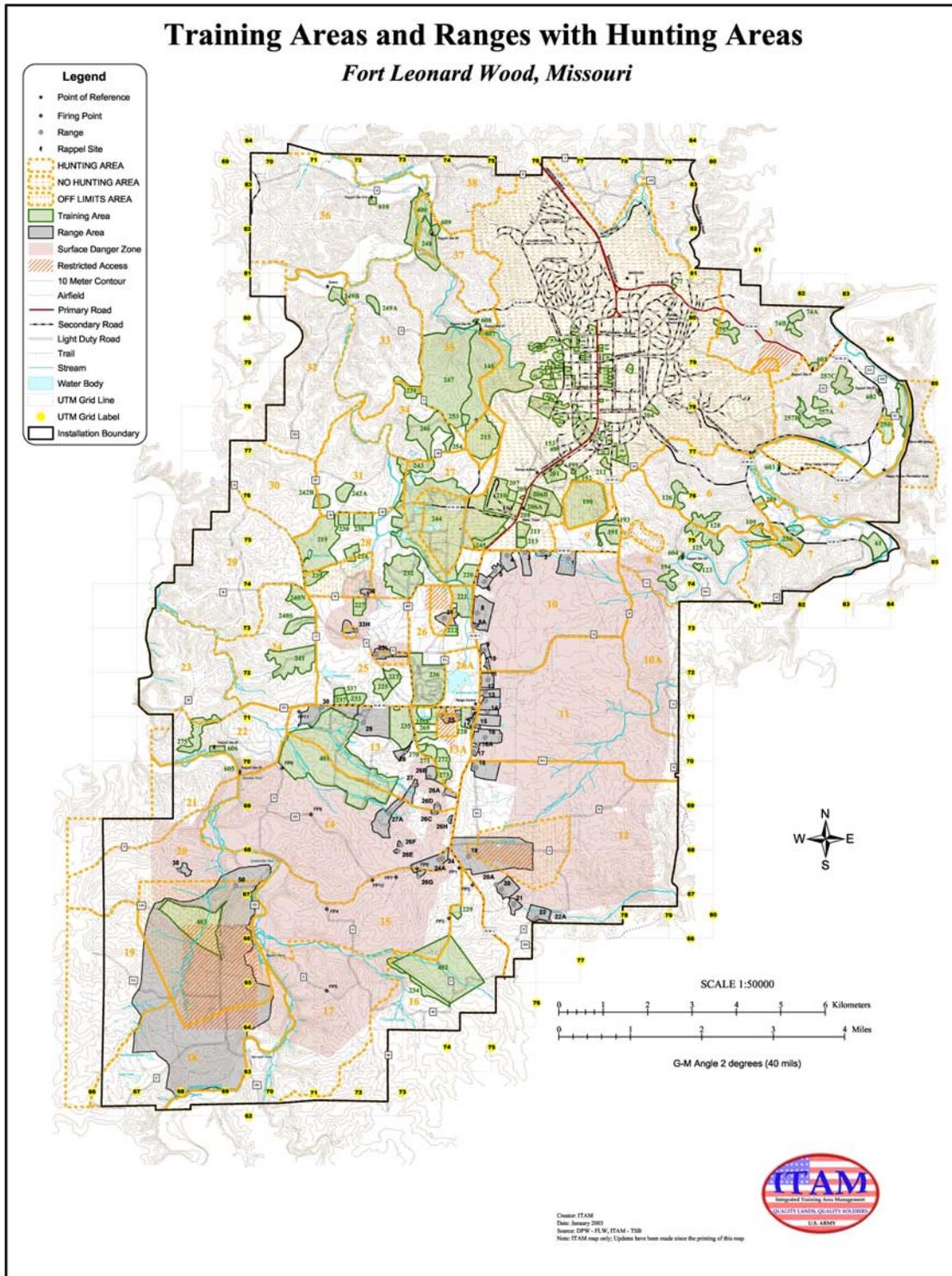
1. Grid coordinates mark the location of the telephone connection, if available. For sites without a telephone connection, grid coordinates mark the entrance to the training area.
2. The scheduling activity for all bivouac areas is the G3/DPTM. The responsible unit, designated as "UNIT" in the table below, ensures safe operation of the site, to include user maintenance and submission of work order for organizational maintenance (to range maintenance) and/or DS/GS maintenance (to DOL, DPW, and DOIM).

TA	HA	DESCRIPTION	LOCATION	COMS	UNIT	NOTES
70	7	INACTIVE	WB 83357470	RADIO	TSB	1
74	3	BIVOUAC/FTX	WB 81468003	RADIO	GC	2
74A	3	BIVOUAC/FTX	WB 81717990	RADIO	GC	2
109	8	BIVOUAC/FTX	WB 81087530	RADIO	TSB	3
123	8	BIVOUAC/FTX	WB 79617435	RADIO	TSB	3
125	8	BIVOUAC/FTX	WB 79597528	6-1563	TSB	3
126	6	MNCOA BIVOUAC/FTX	WB 79157575	6-1564	TSB	3
128	6	BIVOUAC/FTX	WB 79667533	RADIO	TSB	3
148		BIVOUAC/FTX	WB 75417849	6-1565	TSB	3
191	9	BIVOUAC/FTX	WB 77707524	RADIO	TSB	3
194	8	BIVOUAC/FTX	WB 79007396	6-1567	TSB	3, 4
220	26	BIVOUAC/FTX	WB 74597434	RADIO	TSB	3
221	26	BIVOUAC/FTX	WB 74157375	RADIO	USAES	3
222	26	INACTIVE	WB 74107295	RADIO	TSB	1
223	25	BIVOUAC/FTX	WB 72757187	6-1576	TSB	3, 4
225	25	BIVOUAC/FTX	WB 72577175	6-1576	TSB	3
229	16	BIVOUAC/FTX	WB 74246669	RADIO	TSB	3
TA233	25	BIVOUAC/FTX	WB 71827139	RADIO	TSB	3, 4
234	16	BIVOUAC/FTX	WB 73886475	RADIO	TSB	
237	25	BIVOUAC/FTX	WB 71527139	6-1575	TSB	3
238	31	BIVOUAC/FTX	WB 72157546	6-1576	TSB	3
239	28	BIVOUAC/FTX	WB 70817413	6-1592	TSB	3
240S	24	INACTIVE	WB 70577307	6-1578	TSB	1
240N	29	INACTIVE	WB 70737384	6-1577	TSB	1
241	24	LAND NAV, BIV	WB 70967248	RADIO	TSB	6
242A	30	BIVOUAC/FTX	WB 71647597	RADIO	TSB	3
242B	30 & 31	BIVOUAC/FTX	WB 71157583	6-1579	TSB	3
243	27	MECH CATEX, BIV/FTX	WB 73577668	6-1580	TSB	5
246	34	BIVOUAC/FTX	WB 73437734	RADIO	TSB	3
247	35	BIVOUAC/FTX	WB 73487935	6-1584	TSB	3
248	37N	MECH BIVOUAC	WB 73608153	RADIO	TSB	5
249A	31	LZ/BIVOUAC	WB 72458024	RADIO	TSB	6
249B	31	LZ/BIVOUAC	WB 71558057	RADIO	TSB	6
251	4	INACTIVE	WB 83297711	RADIO	TSB	1
253	35	BIVOUAC/FTX	WB 74377757	6-1583	TSB	3
254	34	BIVOUAC/FTX	WB 74037714	RADIO	TSB	3
257A	4	BIVOUAC/FTX	WB 82367805	6-1585	TSB	3
257B	4	BIVOUAC/FTX	WB 82027769	6-7244	TSB	3
269	13A	BIVOUAC/FTX	WB 73297049	RADIO	TSB	3
270	13A	BIVOUAC/FTX	WB 73337030	6-1587	TSB	3
271	13A	BIVOUAC/FTX	WB 73587021	6-1588	TSB	3, 4
272	13A	BIVOUAC/FTX	WB 73837000	6-1589	TSB	3, 4
273	13A	BIVOUAC/FTX	WB 73786967	6-1590	TSB	3
275	22	BIVOUAC/FTX	WB68407082	RADIO	USAES	7
337	25	BIVOUAC/FTX	WB 71607163	6-1575	TSB	3, 4

Notes:

1. Environmentally sensitive area, off limits to training
2. Military police working dog area only
3. Hand tool excavation only
4. Closed for restoration
5. Mechanical excavation is authorized. Must remain 25 feet from standing trees
6. No excavation
7. Sapper Base Camp

APPENDIX D
RANGE AND TRAINING AREA MAP WITH DEPICTION OF CANTONMENT AREA
(Digitally available through Range Control or copy the embedded graphic below)



APPENDIX E
FIRE DANGER CLASS RESTRICTION CHART

DANGER CLASS	RESTRICTIONS
0 (VERY LOW)	None.
1 (LOW)	All authorized ammunition, explosives and pyrotechnics are allowed on live fire ranges and training areas, as approved by Range Control.
2 (MODERATE)	Do not use white phosphorus (WP) or other incendiary devices on ranges and training areas where a large accumulation of vegetation and debris exists.
3 (HIGH)	Tracer ammunition, pyrotechnics, WP, or incendiary devices will be used only on ranges and training areas that are contained by a currently maintained firebreak. The range or training area does not have to be burned prior to firing unless WP or incendiary devices are to be used. Range Control will approve use.
4 (VERY HIGH)	Flares and WP will not be used. Tracer ammunition, pyrotechnics, explosives, and explosive projectiles will be used only on ranges and training areas that are contained by a currently maintained firebreak and preburned as approved by the Fort Leonard Wood SFO. Range Control will approve use.
5 (EXTREME)	Only ball and blank ammunition and will be used. No other type of ammunition, pyrotechnic or explosive will be used with the exception of hand grenades, which may be used on Range 31, and demolition explosives may be used on Range 33 and Range 36 for EOD emergency operations only.

APPENDIX F
SAMPLES OF FORMS

RANGE CONTROL TRAINING AREA INSPECTION CHECKLIST				
UNIT w/Phone #: _____ TRNG AREA: _____ MAG: _____				
NUMBER OF TROOPS: _____ NUMBER OF DRILLS: _____ NUMBER OF OFFICERS: _____				
INPROCESSING			OUTPROCESSING	
UNIT REP: _____			UNIT REP: _____	
CARD NO.: _____ EXP DATE: _____			CARD NO.: _____ EXP DATE: _____	
RC INSPECTOR: _____			RC INSPECTOR: _____	
IN PROC		OUT PROC		
YES	NO	YES	NO	
				Was area properly policed?
				Were all fighting positions filled with dirt?
				Were all tent ditches filled with dirt?
				Were all obstacles removed?
				Were any living trees/shrubs cut?
				Were pallets/firewood neatly stacked?
				Were portable toilets/10 holers clear?
				Were fireguards and fire extinguishers present?
				Is there communication with Range Control from TA?
				Was the unit briefed on clearance procedures?
REMARKS/COMMENTS:				
TELEPHONE: YES _____ NO _____ PHONE NUMBER: _____				
DATE CLEARED SITE: _____				
INPROCESSING CHECKLIST RECEIVED BY: _____				

FLW FORM 23 (Rev Mar 03) Previous Editions Obsolete

APPENDIX G
REQUEST FOR LATRINE SUPPORT

ATZT-TC-AC

8 MAY 03

MEMORANDUM FOR Directorate of Public Works, Operations Branch, ATTN: ATZT-DPW-EO

SUBJECT: Portable Latrines

1. Request portable latrines be placed at WB 704618 for an FTX conducted by B-3-10 IN from 1200 hours on 22 Aug 00 to 1200 hours on 25 Aug 00.
2. The unit will have 173 male and 174 female personnel on site.
3. A strip map is attached.
4. POC for this memorandum is 1SG Sanford at 596-8248.

BART O. RIDDEL
CPT, IN
Commanding

APPENDIX H
ENVIRONMENTAL PERMIT COMPLIANCE

1. PURPOSE. The purpose of this appendix is to aid leaders in the planning, execution, and reporting of training. This involves the following activities covered by the FLW Air Permit:

- Fog Oil
- Flame Field Expedients (FFE)
- Smoke/CS Grenades
- FOX Vehicle/Biological Integrated Detection System (BIDS)
- Asphalt Production
- Rock Crushing
- Unpaved Route Training

2. APPLICABILITY. These procedures apply to all military police and chemical unit training, and to asphalt and quarry operations, conducted on Fort Leonard Wood. Contact the Directorate of Public Works (DPW), Environmental, Energy, and Natural Resources (EENR), for more information.

3. KEY TERMS.

a. MET Data Event- A scheduled event that requires favorable meteorological data from Range Control to execute training in compliance with the FLW air permit.

b. Non-MET Data (MET-D) Event- A "scheduled" training event that does not require meteorological data to execute and is not reportable under the FLW permit.

c. Wet Code- An initiation code given by Range Control indicating approval to begin a training event.

4. OPERATIONAL CHECKS.

a. Pre-Operations Checks:

(1) Ensure training area requests and overlays are submitted to Range Control.

(2) Confirm training plan at the weekly Range Operations scheduling meeting.

(a) Confirm routes, number of smoke/CS grenades, number of smoke pots, number of vehicles, amount of simulant use, and amount of FFE and/or fog oil as appropriate to be used during the training event.

(b) Confirm the time and location of the training event and route authorization.

(c) Confirm alternate training activities/sites in the event that training requiring MET data cannot be conducted.

b. During-Operations Checks:

(1) General Procedures:

(a) Contact Range Control upon occupation of range/training area (TA) and receive an "occupation code". The code is permission to occupy only, not to begin training.

(b) Maintain continual communications with Range Control during all training events.

c. Range/TA Procedures:

(1) Give the Range Control Desk Sergeant the names and card numbers of OIC and RSO.

(2) Inform Range Control this is a MET Data Event. Confirm the usage of smoke/CS grenades, smoke pots, FFE, simulants and/or fog oil for training. A pyrotechnics window is required for smoke/CS grenades and smoke pots.

(3) Call Range Control and request a "wet code". Unit may have to wait 15 minutes to ensure satisfactory MET data.

(4) After 15 minutes, units will receive MET data conditions from Range Control.

(5) If the data is a GO, the unit will be given a "wet code" to begin training.

(6) If the data is a NO-GO, the unit cannot conduct training that requires monitoring of MET data. Range Control will advise the unit to call back in 15 minutes. The unit may decide to conduct their alternate training activity that does not involve MET data.

(7) If the MET data goes out of tolerance, Range Control will direct the unit to stop all applicable training until further notice.

d. Unpaved Route Training Procedures:

- (1) Give the Range Control desk sergeant the six-line communication report in accordance with paragraph 3-18, this regulation.
 - (2) Inform Range Control this is a MET Data Event. Confirm the usage of routes and smoke/CS grenades for training. A pyrotechnics window is required.
 - (3) Call Range Control and request a "wet" code.
 - (4) After 15 minutes, units will receive MET data conditions from Range Control.
 - (5) If the data is a GO, the unit will receive a "wet code" to begin training.
 - (6) If the data is a NO-GO, the unit cannot conduct training that requires monitoring of MET data. Range Control will advise the unit to call back in 15 minutes. Alternate training not dependent on MET Data may be conducted.
 - (7) If the MET data goes out of tolerance, Range Control will direct the unit to stop all applicable training until further notice.
- e. Post-Operations Checks. Upon completion of training, the unit will notify Range Control of:
- The number of personnel trained
 - The number of smoke/CS grenades and/or smoke pots used
 - The amount of FFE or fog oil used
 - The number of simulants used
 - The amount of quarry rock and/or asphalt produced
 - The number of vehicles used during training.

5. APPROVED TRAINING SITES.

a. Bids/FOX Sites:

Babb Airfield	Firing Point 6	Range 27
TA 231A	TA 400	TA 401

b. Smoke/CS Grenade Sites:

Range 24	Range 33	TA 125
TA 126	TA 148	TA 194
TA 230	TA 233	TA 237
TA 238	TA 240S	TA 241
TA 243	TA 400	TA 401

6. POINTS OF CONTACT.

a. For more specific range operations information:

- (1) Range Control Desk – 596-2525
- (2) Meteorological NCO – 596-4532

b. For more specific information on the air permit contact the Directorate of Public Works, EENR:

- (1) Air Compliance POC – 596-8627
- (2) Environmental Coordinator – 596-0882

APPENDIX I
Fort Leonard Wood Environmental Overlay Guidelines

1. Fort Leonard Wood Environmental Overlay was designed to provide information about natural and cultural resources and other environmentally sensitive or other wise off-limits areas on Fort Leonard Wood. It is printed at a scale of 1:50000, and can be overlaid directly on the Fort Leonard Wood Reservation Special Map. The overlay, which supplements all existing regulations, guidelines, and state and federal laws, is intended to be used by scheduling personnel, trainers, planners, land managers, and regulatory personnel in order to minimize damage to sensitive areas and help guide future development. The DPW Environmental and Natural Resources Division will periodically update this overlay. Any questions regarding this overlay or training restrictions in these areas should be referred to DPW Natural Resources Branch (596-0871). The categories and their respective restrictions/training limitations are as follows:

a. Endangered Bat Area – Restricted. These locations are extremely sensitive due to the presence of federally endangered species. They are sensitive to disturbance, development, training activities, and noise, especially during the spring and fall migration periods. Any activities must be approved by DPW natural Resources in consultation with the U.S. Fish and Wildlife Service. Disturbance of bats during hibernation may cause bat mortality.

Brooks Cave	(WM 7701 7376)	Saltpeter Cave #3	(WM 6855 6859)
Wolf Den Cave	(WM 7257 7476)	Freeman Cave	(WM 8339 7556)
Joy Cave	(WM 7250 7456)	Davis Cave #2	(WM 6787 6965)

(1) The following constraints apply to all activities to ensure that bat habitat is neither altered nor destroyed.

- (a) These caves are off-limits for military operations.
- (b) There will be no development in the 20-acre area (162-meter radius) surrounding these caves.
- (c) Foot maneuvers are permitted within this restricted use zone.
- (d) No smoke, CS gas, pyrotechnics, or noise simulators are permitted during the followings periods:

Wolf Den Cave, Brooks Cave, Joy Cave, and Davis Cave #2:	August 1 – May 31
Saltpeter Cave #3, Freeman Cave:	April 1 – October 31

(2) Bat Management Zone 1. The area between a 162 and a 457-meter radius from the cave (160 acres). No bivouac, smoke, CS gas, or use of noise simulators is permitted during the following dates from 1 hour before sunset to 1 hour after sunrise:

Wolf Den Cave, Brooks Cave, Joy Cave, and Davis Cave #2:	March 15 – May 31 and August 1 - October 15
Saltpeter Cave #3, Freeman Cave:	April 1 – October 31

(3) Bat Management Zone 2. The area between a 457 and a 1932-meter radius from the cave. Disruptive activities should be given a low priority or restricted, especially during the spring and fall. The DPW Natural Resources Branch must approve any training activity, which results in the loss of tree canopy. Bat Management Zones 1 and 2 combined represent a 1.2 mile (1932 meter) radius buffer zone around known Indiana and Gray bat locations. Undisturbed stream corridors and forest canopy are important habitat components and are not to be impacted without approval from DPW Natural Resources. Noise should be minimized within this area, especially during the spring and fall periods. Foot maneuvers are permitted year-round. Development of training facilities and sites should be given a low priority within this zone.

b. Bald Eagle Nest. A buffer zone has been established around this nest site (WB 8330 7920). This zone extends up to ¼ mile (406 meters), in some places, from the nest site. Activities that have potential to disturb nesting eagles are restricted in this area during the period of 1 January thru June 30. Human entry is prohibited unless performed in connection with necessary eagle research and management by qualified personnel.

(1) Military training activities are not authorized within the established buffer zone during the period if 1 June thru 30 June. The restriction is to include all foot and vehicle traffic, CS gas, smoke, pyrotechnics and demolition simulators.

(2) Recreational activities (hunting, hiking or fishing from the bank) that require access to the Big Piney River by walking/driving through established buffer zones are prohibited. This does not restrict persons from floating on or fishing in the Big Piney River from a boat.

(3) Access trails will be closed to restrict vehicle access from 1 January thru 30 June.

c. Riparian (River and Streams) Zone, Water Quality and Biological Concerns. Riparian zones are the most biologically diverse areas on the installation, providing habitat for many animals and plants. Most of the known wetlands on Fort Leonard Wood are located along major streams and should not be disturbed or encroached upon. This zone also provides important habitat for the federally endangered Bald Eagle and two endangered bats. Management and training activities are designed to maintain water quality and minimize development and soil disturbance on floodplains:

(1) Any digging, filling, draining, or alterations of wetlands is prohibited without appropriate state and federal permits. Wetland resources are located primarily in the stream zone. However, uplands wetlands (i.e., wet sinkholes, and seeps) do exist and should not be altered in any way.

(2) Bivouac activity is permitted on case by case basis with DPW Natural Resource Branch approval and coordination with Range Control.

(3) Terephthalic Acid (TPA) smoke pots and grenades may not be deployed within 120 meters the Big Piney river or Roubidoux Creek from sunset to sunrise during the period 15 March to 31 October.

(4) Streams should be crossed only at designated ford sites. All travel by wheeled/tracked vehicles in streambeds is prohibited.

(5) Tracked and wheeled vehicles use on gravel roads only. No tracked/wheeled vehicle use on unimproved roads, firebreaks or cross terrain maneuvers.

(6) Use POL products and other hazardous materials with care and report spills immediately.

(7) Minimize development activity impacts on floodplains in order to control erosion and sediment displacement.

(8) Unless specified in elsewhere in this regulation, digging activities, which causes soil disturbance or vegetation removal must be approved by DPW Natural Resources Branch.

d. Landfills (Active and Inactive). Training activities in these areas, and especially activities involving digging, must be coordinated with DPW Environmental Branch (596-0869).

e. Training Area Guideline (TAG) Site. Training activities in these areas that cause soil disturbance or vegetation removal are prohibited without prior coordination with DPW Natural Resources Branch.

f. Former U.S Forest Service Lands transferred to FLW in 2001. Authorized training activities included designated bivouacs, foot land navigation, road marches and vehicle convoys on improved roads (gravel roads only). Activities not authorized in this area include:

(1) Use of pyrotechnics or gas.

(2) Off road vehicle travel on unimproved roads, firebreaks or vehicle cross terrain maneuvers.

(3) Bivouac activities outside of designated TA's (Designated TA's are 240S, 240N, 241, 242A, 242B, 249A and 249B) Any earth disturbing activities.

APPENDIX J
RFMSS Status Codes

PEN-CUST	Pending-Customer – The request has not been approved through the chain of command. A number will follow the status. 1 - Platoon 2 - Company 3 - Battalion 4 - Brigade
CAN-CUST	Customer Canceled – Someone in the chain of command has cancelled the request.
DISA-CUST	Customer Disapproved - The request is invalid, or the request is not needed.
PEN-RC	Pending-Range Control – The request is pending the approval of DPTM.
DISA-RC	Range Control Disapproved – DPTM has disapproved the request. This status is used when the request has conflicts.
CAN-RC	Range Control Canceled – The request is invalid, or the request is not needed.
COND-RES	Conditional Reservation – The request has been reserved to hold the facility, but <u>DOES NOT</u> grant the requestor access to the facility.
RES	Reservation – The request is in an approved status.

APPENDIX K
REFERENCES

SECTION I. REQUIRED PUBLICATIONS.

- a. AR 75-1 (Malfunctions Involving Ammunition and Explosives). Cited in para 7-2a.
- b. AR 75-15 (Responsibilities and Procedures for Explosive Ordnance Disposal). Cited in para 4-8c(4), 7-2a and 7-3h.
- c. AR 385-40 (Accident Reporting and Records). Cited in para 7-2a and 7-3h.
- d. AR 385-61 (The Army Chemical Agent Safety Program). Cited in para 3-9k.
- e. AR 385-62 (Regulations for Firing Guided Missiles and Heavy Rockets for Training, Target Practice and Combat). Cited in para 3-1g and 4-7a.
- f. AR 385-63 (Policies and Procedures for Firing Ammunition for Training, Target Practice and Combat). Cited in para 1-7c(2), 1-7c(5), 1-7d(3), 3-1g, 3-2, 3-2e, 3-9l, 3-10i, 4-1c, 4-7a, 4-8e(2), 4-8h(3), 4-9b and 4-9g6c.
- g. AR 385-64 (US Army Explosives Safety Program). Cited in para 4-7a.
- h. AR 405-80 (Management of Title and Granting Use of Real Property).
- i. AR 600-55 (The Army Driver and Operator Standardization Program (Selection, Training, Testing and Licensing). Cited in para 3-25b4(a).
- j. DA Pam 385-61 (Toxic Chemical Agent Safety Standards). Cited in para 3-9k.
- k. DA Pam 710-2-1 (Using Unit Supply System (Manual Procedures). Cited in para 3-1r.
- l. FM 3-4 (NBC Protection). Cited in para 3-19g, 4-8e(3).
- m. FM 3-11 (Flame, Riot Control Agents and Herbicide Operations). Cited in para 3-10 and 3-10i.
- n. FM 5-250 (Explosives and Demolitions). Cited in para 4-7a, 4-8a, 4-8a(5), 4-8a(6), 4-8a(7), 4-8a(8), 4-8a(9), 4-8e(3), 4-8f, 4-8h, 4-8h(3), 4-8h(11), 4-8i3(b) and 4-8m(8).
- o. FM 3-100 (Chemical Operations Principles and Fundamentals). Cited in para 3-17a.
- p. FM 20-32 (Mine/Countermining Operations). Cited in para 4-8k(2).
- q. FM 21-10 (Field Hygiene and Sanitation). Cited in para 3-7g(1).
- r. FM 21-18 (Foot Marches). Cited in para 3-18d(1).
- s. FM 21-25.26 (Map Reading and Land Navigation). Cited in para 3-18b(1).
- t. FM 3-100.4 (Environmental Considerations in Military Operations).
- u. FM 101-5-1 (Operational Terms and Graphics). Cited in para 3-18b(3).
- v. FM 6-50 (Tactics, Techniques and Procedures for the Field Artillery Cannon Battery). Cited in para 4-9g4.
- w. FM 3-97.61 (Military Mountaineering). Cited in para 3-21a.
- x. TM 9-1300-200. (Ammunition, General). Cited in para 4-8k(1).
- y. TM 9-1370-207-10 (Operator's Manual - Pyrotechnic Simulators). Cited in para 4-8m(1) and 4-8m(8).
- z. TM 9-1370-208-10 (Photoflash Cartridges, Surface Flares and Miscellaneous Pyrotechnic Items, Operator's Manual). Cited in para 4-8m(1) and 4-8m(8).
- aa. TM 9-1375-213-12 (Operators and Unit Maintenance Manual (Including Repair Parts and Special Tool Lists); Demolition Materials). Cited in para 3-10e and 4-8l.
- bb. TM 10-4500-200-13 (Operators Organizational and Direct Support Maintenance Manual (Including Repair Parts and Special Tool Lists); Heaters, Space: Radiant-Type, Portable (Type I, Model 1941, Solid Fuel) (NSN 4520-00-257-4077); (Type II, Model 1941 Liquid Fuel) (4520-00-927-4214); (Yukon Model M1950, Solid or Liquid Fuel) (4520-00-287-3353); Heaters, Immersion: Liquid Fuel Fired for Corrugated Cans (All Makes and Models) (4540-00-266-6835) (Preway Model 447-2EX) (4540-00-266-6834). Cited in para 3-25b4(a).
- cc. TM 43-0001-28 (Army Ammunition Data Sheets for Artillery Ammunition: Guns, Howitzers, Mortars, Recoilless Rifles, Grenade Launchers and Artillery Fuses (Federal Supply Class 1310, 1315, 1320). Cited in para 4-7a and 4-7d.
- dd. FLW Reg 58-1 (Management of Nontactical Use Vehicles). Cited in para 6-1.
- ee. FLW Reg 210-21 (Hunting and Fishing Regulation). Cited in para 3-8d and glossary – section II.
- ff. FLW Reg 210-25 (Privately Owned Firearms and Other Weapons). Cited in para 4-11a.
- gg. FLW Reg 350-8 (US Army Engineer Center and Fort Leonard Wood TRADOC and FORSCOM Permanent Party/Unit Training Directive. Cited in para 2-1m and 2-2b).
- hh. FLW Reg 385-4 (Soldier Movement on Foot). Cited in para 3-18d(1).
- ii. FLW Reg 385-5 (Risk Management). Cited in para 3-3b.
- jj. FLW Reg 385-6 (Safety Program). Cited in para 7-2a.
- kk. FLW Reg 420-1 (Troop Support to Combat Vegetation Fires). Cited in para 3-25a(6).
- ll. FLW Reg 700-2 (Ammunition). Cited in para 3-9g, 3-9g(4)(b) and 4-7a.
- mm. GTA 05-08-012 (Individual Safety Card). Cited in para 3-19d and 3-19g.

SECTION II. REFERENCE PUBLICATIONS.

- a. AR 40-5 (Preventive Medicine).
- b. AR 190-11 with Change 1 (Physical Security Of Arms, Ammunition And Explosives).
- c. FM 3-50 (Smoke Operations).
- d. FM 5-34 (Engineer Field Data).

- e. FM 7-8 (Infantry Rifle Platoon and Squad).
- f. FM 21-75 (Combat Skills of the Soldier).
- g. TB Med 81 (Cold Injury).
- h. TB Med 507 (Occupational and Environmental Health Prevention, Treatment and Control of Heat Injury).
- i. TRADOC Reg 350-6 (Enlisted Initial Entry Training (IET) Policies and Administration).
- j. TRADOC Reg 350-29 (Prevention of Heat and Cold Casualties).
- k. United States Army Engineer School Live Mine Training System Risk Assessment Plan.
- l. Basic Combat Training Program of Instruction 21-114.
- m. TSP No 3.
- n. FLW Commanders Environmental Handbook
- o. Memorandum, U.S. Army Infantry School, ATSH-TDB, Fort Benning, Georgia, 12 April 91, subject: Basic Combat Training Foot Marches.

SECTION III. PRESCRIBED FORMS.

- a. FLW Form 23, Range Control Training Area Inspection Checklist. Prescribed in page 3-7b.
- b. FLW Form 23-1, Range Control Range Inspection Checklist.
- c. FLW Form 377-1, Range Safety Card. Prescribed in para 1-7c(11), 1-7d(4), 3-7b, 3-7h, 3-21d, 4-1g, 4-8n(2), 4-11b and 4-11d(2).

SECTION IV. REFERENCED FORMS.

- a. DA Form 581, Request for Issue and Turn-In of Ammunition.
- b. DA Form 2203-R, Demolition Reconnaissance Record.
- c. DA Form 2408-4, Weapon Record Data.
- d. DA Form 4283 Facilities Engineering Work Request
- e. DA Form 4379-R, Ammunition Malfunction Report.
- f. FLW Form 364, Fort Leonard Wood Excavation Permit.

GLOSSARY

Section I. Abbreviations and Acronyms.

AEC
Army Environmental Center

AGL
above ground level

AIT
advanced individual training

ALEDT
Advanced Law Enforcement Training Division

ALS
Ammunition Logistics Section

AMCCOM
United States Army Armament, Munitions and Chemical
Command

AMC
United States Army Material Command

ATDC
Anti-terrorist Driving Course

AR
Army regulation

ARSO
Assistant Range Safety Officer

ASP
Ammunition Supply Point

ATTN
attention

BCT
basic combat training

BDU
battle dress uniform

CALFEX
combined arms live fire exercises

CATEX
combined arms training exercise

CDTF
Chemical Defense Training Facility

CEV
combat engineer vehicle

CG
Commanding General

CMTC
Combat Maneuver Training Center

CP
Command Post

CS
chloroacetophenone sulfur

CTG
Command Training Guidance

CVC
combat vehicle crewman

D&C
drill and ceremonies

DA
Department of the Army

DAC
Deputy Assistant Commandant

DAITM
Department of the Army Investigation Team for Malfunctions

DPW
Directorate of Public Works

DOD
Department of Defense

DOIM
Directorate of Information Management

DOL
Directorate of Logistics

DOTD
Directorate of Training and Doctrine

DPTM
Directorate of Plans, Training and Mobilization

DRC
Directorate of Reserve Component

DZ
Drop Zone

DZSO
Drop Zone Safety Officer

DZST
Drop Zone Safety Team

EBSO
Engineer Branch Safety Office

EENR
Environmental Energy and Natural Resources

Engr
Engineer

EOD
explosive ordnance disposal

FAA
Federal Aviation Administration

FAST
Fully Automated Targeting System

FDC
fire direction center

FFE
Flame Field Expedient

FLW
Fort Leonard Wood

FM
field manual

FM
frequency modulated

FORSCOM
United States Army Forces Command

FT
feet

FTX
field training exercise

GLWACH
General Leonard Wood Army Community Hospital

GTA
graphic training aid

HAHO
High Altitude High Opening

HC
hexachloroethane

HEMTT
heavy expanded mobility tactical truck

HEP
high explosive plastic

HMMWV
high mobility multi-purpose wheel vehicle

HW
hazard waste

IAW
in accordance with

IET
initial entry training

ITAM
Army Integrated Training Area Management Program

ITAMP
Installation Training Area Management Program

ITRO
Interservice Training Review Organization

JROTC
Junior Reserve Officer Training Corp.

LAO
Logistics Assistance Office

Lbs
pounds

LEC
Law Enforcement Command

MAC
Manscen Activities Calendar

MANSCEN & FLW
United States Army Maneuver Support Center
and Fort Leonard Wood (same as MANSCEN)

MDI
Modern Demolition Initiators

MDNR
Missouri Department of Natural Resources

Med
medical

MEDDAC
Medical Department Activity

MEL
MANSCEN Events List

MET
Meteorological

MET -D
Meteorological Data

MILES
Multiple Integrated Laser Engagement System

mm
millimeter

MMR
military munitions rule

MOPP
Mission oriented protective posture

MOS
Military occupational specialty

MOUT
Military operations on urbanized terrain

MSD
minimum safe distance

MSO
MANSCEN Safety Office

MTOC
Motor Transportation Operators Course

NBC
nuclear, biological, chemical

NCO
Noncommissioned officer

NCOA
Noncommissioned Officer Academy

NCOIC
Noncommissioned officer in charge

NG
National Guard

NLT
no later than

NSN
National Stock Number

NOE
Nap of the Earth

NOTAM
notice to airmen

OIC Officer in Charge	SAP Satellite Accumulation Point
OPFOR opposing force	SCO Smoke Control Officer
OV Office Vision	SDO Staff Duty Officer
PAO Public Affairs Office	SDZ Surface Danger Zone
PECS physical endurance combat skills	SFC Sergeant First Class
PFT physical fitness training	SFO Senior Fire Officer
POC point of contact	SGT Sergeant
POI program of instruction	SLC Sapper Leader Course
POL petroleum, oils and lubricants	SMCT Soldier's Manual of Common Tasks
POV privately owned vehicle	SOP standing operating procedure
POW privately owned weapon	SP start point
PM Provost Marshall	SSG Staff Sergeant
QASAS Quality Assurance Specialist, Ammunition Surveillance	STP Soldier Training Publication
RA Regular Army	TA training area
RC Reserve Component	TAG training area guideline
RCNI Range Control Number Identifier	TATSS TRADOC Automated Training Schedule System
RCO Range Control Officer	TB technical bulletin
RCRA Resource Conservation and Recovery Act	TC training circular
Reg regulation	TET Total Engineer Training
RETS Remote Targeting System	TFW Tactical Fighter Wing
RFMSS Range Facility Management Support System	TM technical manual
ROTC Reserve Officer Training Corp	TOT Time on Target
RSC Range Support Company	TPA terphthalic acid
RSO Range Safety Officer	TRADOC United States Army Training and Doctrine Command

TSB
Training Support Battalion

TSC
Training Support Center

USAES
United States Army Engineer School

USAMPS
United States Army Military Police School

UXO
unexploded ordnance

VHF
very high frequency

VT
Variable Trim

VFR
Visual Flight Rule

WBGT
wet bulb globe temperature

WP
white phosphorous

Section II. Explanation of Terms.

Ammunition and explosives. Includes (but is not necessarily limited to) all items of ammunition; propellants, liquid and solid; high and low explosives; guided missiles; warheads; devices; pyrotechnics; chemical agents; and components and substances associated therewith, presenting real or potential hazards to life and property.

Ammunition and explosives area. An area specifically designated and set aside from other portions of an installation for the development, manufacture, testing, maintenance, storage, or handling of ammunition and explosives.

Area. Large land areas that encompass ranges and training areas outside the cantonment area. During periods where no training is scheduled for a given area, these areas may be used for recreation pursuant to FLW 210-21 and FLW 210-14.

Assistant Range Safety Officer. A qualified commissioned or warrant officer or noncommissioned officer (SSG or higher) designated by the OIC to assist the RSO in carrying out the safety responsibilities for the range activities.

Barricade. An intervening barrier, natural or artificial, of such type, size, and construction as to limit in a prescribed manner the effect of an explosion on nearby buildings or exposure.

Blast impulse. The product of the overpressure from the blast wave of an explosion and the time during which it acts at a given point (that is, the area under the positive phase of the overpressure-time curve).

Blast overpressure. The pressure, exceeding the ambient pressure, manifested in the shock wave of an explosion.

Bloodland Range Training Complex. All ranges and training areas on Fort Leonard Wood outside the cantonment area.

Bloodland Troop Trail. A trail running north and south, parallel to Iowa Ave. Closed to wheeled vehicles, except trail vehicles for foot marches.

Center of impact. Center of the dispersion pattern of impact bursts. From the point of view of range only, it is the range center; from the point of view of deflection, the deflection center.

Chemical agent. A substance that is intended for military use with lethal or incapacitating effects upon man through its chemical properties. Excluded from chemical agents for purposes of this Standard are riot control agents, chemical herbicides, smoke- and flame-producing items, and individual dissociated components of chemical agent ammunition.

Clearances.

a. **Surface clearance.** A range clearance where the surface area is searched visually and dud/UXO and other munition contamination are removed and disposed of properly. Surface-cleared ranges are restricted to activities that require no ground breaking and limited access.

b. **Shallow clearance.** A range clearance where the area is systematically swept with standard service mine detectors and all ferrous cased dud/UXOs on the surface and down to a depth of 20-24 inches should be located, removed, and disposed of properly. The use of shallow cleared areas is restricted to activities causing only shallow surface disturbance, such as agriculture.

c. **Moderate depth clearance.** A range clearance, following surface and shallow clearance, to a depth of five feet, using a detector system more sensitive than the service mine detector. All items located are dug up and disposed of properly. Moderate depth clearance is required when an area is to undergo development.

d. **Deep clearance.** A range clearance that is usually only required at "point" locations (i.e., where deep underground utilities or the foundations of a large building are to be placed). The area is first cleared by use of mine detectors and then in 5-foot layers to the necessary depth.

Combined arms live fire exercise (CALFEX). A combat exercise in which an Army/Marine Corps combined-arms team, in combat formation, conducts a coordinated combat firing and maneuver practice in executing the assault, seizure, and defense of appropriate objectives. Tactical air support may be included.

Contaminated area. Any area where there is known or suspected unexploded munitions regardless of type or the means by which they got there.

Cookoff. A functioning of any or all of the explosive components due to high temperatures within the weapon.

Detonation. A violent chemical reaction within a chemical compound or mechanical mixture evolving heat and pressure. A detonation is a reaction which proceeds through the reacted material toward the unreacted material at a supersonic velocity. The result of the chemical reaction is exertion of extremely high pressure on the surrounding medium forming a propagating shock wave that originally is of supersonic velocity. A detonation, when the material is located on or near the surface of the ground, is characterized normally by a crater.

Direct fire. Fire delivered on a target when the piece is laid by sighting directly on the target, using the gun sighting equipment.

Downwind hazard area. The area beyond the impact point that may be affected by a riot control chemical agent or by smoke due to downwind drift caused by wind direction and speed.

Dry code. Acknowledgement from Range Control that the training event is over.

Dud/UXO. Ammunition which has failed to function as designed after firing. As a result, it is in a hazardous and unpredictable condition. This does not include misfires.

Dud/UXO area. Areas known to contain unexploded live ammunition.

Explosion. A chemical reaction of any chemical compound or mechanical mixture that, when initiated, undergoes a very rapid combustion or decomposition releasing large volumes of highly heated gases that exert pressure on the surrounding medium. Also, a mechanical reaction in which failure of the container causes the sudden release of pressure from within a pressure vessel, for example, pressure rupture of a steam boiler. Depending on the rate of energy release, an explosion can be categorized as a deflagation, a detonation, or pressure rupture.

Firing lane. The area within which an aircraft or vehicle-mounted weapon is fired. It consists of a start firing line, cease-firing-disarm line, and left and right limits of fire.

Firing line. The line from which weapons are fired and forward of which no one is permitted during firing except as cited in this regulation.

Firing position. The point or location at which a weapon other than demolitions is placed for firing. (For demolitions, the firing position is the point or location at which the firing crew will be located during demolition operations).

Hangfire. A delay in functioning.

High-angle fire. Fire delivered at elevations greater than the elevation producing maximum range; fire, the range of which decreases as the angle of elevation is increased. Mortars deliver high-angle fire.

Low-angle fire. Fire delivered at angles of elevation equal to or below that corresponding to the maximum range of the gun and ammunition.

MAG Drop. A field connection location when telephones can be connected to the FLW telephone system.

Malfunction. The failure of a weapon or ammunition to function in accordance with the intent of its design.

Meteorological-data (MET-D) event. For units which are required to comply with the Fort Leonard Wood Air Compliance Permit: A scheduled training event that requires favorable meteorological data collected by Range Control in order to execute training in compliance with the FLW Air Permit. MET-D events require an overlay, a scheduled Training Area and a Range Control-issued wet code to begin the event.

Misfire. A complete failure to fire, not necessarily hazardous, but, since it cannot readily be distinguished from a delay in functioning or hangfire, must be handled as worst case in accordance with procedures for the weapons system.

Occupation code. Approval from Range Control to occupy a training area. (A wet code is required to begin training.)

Officer in charge (OIC). The officer or NCO in charge of troops (or of the training of troops in a school situation) conducting firing on or using range facilities and having responsibility for the operation of the firing range.

Overhead fire. Fire that is delivered over the heads of unprotected friendly troops occupying Area D. Troops wearing kevlar helmets, "flak" jackets, and protective masks are considered unprotected. It does not apply to artillery crews occupying Area E due to approved tactical firing formations.

Public traffic route. Any public street, road, highway, navigable stream, or passenger railroad (includes roads on a military reservation that are used routinely by the general public for through traffic).

Range. Any area on the post designated and habitually used for the firing of weapons with live ammunition, weapon training for a special purpose, or use of demolitions.

Range Control Officer. A commissioned officer or civilian who supervises and enforces installation range safety and coordinates range use, maintenance, modification, and installation of ranges and training facilities in accordance with this regulation and the policies of the commander.

Range safety officer (RSO). A qualified commissioned or warrant officer, or noncommissioned (E6 or higher) officer, who is the direct representative of the officer in charge of firing. The RSO is responsible to the OIC for insuring the adequacy of safety when firing is being conducted and for final determination that, before firing, settings placed on in-direct fire weapons and ammunition represent data within prescribed safety limits.

Responsible Unit. Unit responsible for ensuring training facility is safe for operation. Submits work orders for organizational maintenance. Responsibility does not imply ownership. RCO is final approval authority for training outside cantonment area.

Roadblocks. A permanent or temporary barrier to foot and vehicular traffic beyond which personnel are forbidden to pass without the prior approval of Range Control or the officer in charge of the activity for which the roadblock is established. A roadblock may be a wire barrier, gate, or a sign.

Roadguard. A roadguard is an occupied location to restrict access to a given area. Usually roadguards are used to stop or redirect vehicular traffic during periods when weapons are firing over or across main roads and the firing would endanger passengers in vehicles traveling those roads. Roadguards must establish and maintain communication with the OIC of the training in progress for which they are a part.

Scheduling Activity. The organization directly responsible for maintaining, scheduling, reporting use and training conflict resolution.

Senior Commander. Commandants, Garrison Commander, and the Commander, 3rd Basic Combat Training Brigade.

Safety radius. The distance from a weapon considered safe for personnel. It is also the minimum distance that troops will be kept away from a misfire, dud/UXO, or any potential explosion hazard and the distance required to move from a potential cookoff that cannot be cleared from the weapon.

Smoke Control Officer (SCO). A range safety certified commissioned, warrant, or noncommissioned officer in the rank of staff sergeant or above or a qualified civilian instructor. The SCO must be knowledgeable of and exercise the health and safety precautions that are associated with hexachloroethane (HC) and fog oil smoke. SCO is responsible for command and control of all aspects of the training and must be physically present in the training area.

Surface danger zone. That segment of the range area endangered by a particular type of weapon firing and consists of the following areas:

- a. Target area. The point or location to which the weapon is to be fired. (For demolitions, the target area is the point or location at which the demolition charge is emplaced).
- b. Impact area. The primary danger area for indirect fire weapons that are established for the impact of all rounds. When

applied to direct fire weapons, it is the area located between established range limits. The impact area is within the approved surface danger zone.

c. Ricochet area. The area between the impact area and Area A that parallels the line of fire. It is provided to contain ricochet projectiles.

d. Area A. The area (secondary danger area) that parallels the impact area laterally. It is provided to contain fragments from items exploding or ricocheting on the right or left edge of the impact area.

e. Area B. The area (secondary danger area) on the downrange side of the impact area and Area A. It is designed to contain fragments from items exploding on the far edge of the impact area.

f. Area C. The area (secondary danger area) on the up range side of the impact area and parallel to Area B. It is designed to contain fragments from items exploding at the near edge of the impact area (also referred to as the short limit of the target area).

g. Area D. The area between Area C and Area E. It is a safe area for troop occupation for training purposes.

h. Area E. The area between Area D and the firing position. It is endangered by muzzle debris, overpressure, and injurious noise levels. Area E may be occupied only by weapon crews firing from an approved tactical configuration (circular, box, star, etc.).

Tactical roadblock. Temporary barriers, block craters, etc., used in tactical training. Tactical roadblocks will be constructed in a manner to permit passage of emergency traffic and be removed upon completion of exercise.

Training area. A particular portion of the Fort Leonard Wood reservation identified by a number in which training activities are conducted.

Training exercise. A term used to denote a certain type of activity on a specific piece of terrain. It includes range firing, demonstrations, and field training exercises, testing of material and other special field activities. It may include live ammunition, blanks, demolitions, pyrotechnics, simulators, and chemical ammunition.

Training facilities. Committee/storage buildings, relocatable metal buildings, bleachers, latrines, range towers, warming tent frames, mess tables, rifle racks, firing lanes/lines, target devices/targets, lane markers, and other authorized items not considered training aids.

Troop limits. That portion of a range or exercise area beyond which personnel and vehicles will not go except upon specific authorization by Range Control. A troop limits area will not be occupied when it falls within the surface danger area of another range or problem area unless advance written coordination is effected between the units concerned and Range Control.

User maintenance. Maintenance performed on a day-to-day basis by using units/activities on ranges, training areas and related facilities which requires no alteration to the range or facilities.

Waiver. Written authorization which specifically permits deviation from the mandatory requirements of applicable regulations for a specified time, not to exceed one year from date of issuance.