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3 **Banks Township**  
4 Ordinance Number XX of 2021  
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6 An Ordinance to amend the Banks Township Zoning Ordinance Articles III, VI, and VIII pertaining to  
7 Firearms Training Facilities.  
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9 **THE TOWNSHIP OF BANKS HEREBY ORDAINS:**  
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11 **Section 1. Purpose**

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13 This Ordinance is intended to regulate the establishment and operation of firearms training facilities  
14 for concealed pistol license (CPL) and law enforcement training only.  
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16 **Section 2. Intent**

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18 It is the intent of this Ordinance to accomplish the following:  
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- 20 A. *Permitting, registration, and compliance.* Firearms Training Facility shall only be established  
21 and operated in accordance with a valid permit issued by Banks Township.  
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23 B. *Shot containment.* Each Firearms Training Facility shall be designed to contain the bullets or  
24 shot on the range facility.  
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26 C. *Noise mitigation.* Each Firearms Training Facility shall be designed to minimize off-site noise  
27 impacts generated by the activities conducted on the range facility.  
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29 **Section 2. Amendment of Article III.** Article III: Definitions is hereby amended as follows:  
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31 *dB(A):* The sound pressure level, in decibels, as measured using the impulse mode and "A"  
32 weighting net- work on a precision sound level meter.  
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34 *Firearm:* A weapon limited to pistols, shotguns, and rifles using .223 / 5.66 ammunition.  
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36 *Firing line:* A line parallel to a target from which firearms are discharged.  
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38 *Safety fan:* An area on a shooting range facility designed to contain all projectiles fired from a  
39 shooting range.  
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41 *Shooting range:* An area designed and improved to encompass shooting stations or firing lines,  
42 target areas, berms and baffles, and other related components.  
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44 *Shooting range facility:* A private facility, including individual shooting ranges, safety fans or  
45 shotfall zones, structures, parking areas, and other associated improvements, designed for the  
46 purpose of providing a place for the discharge of various types of firearms.  
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48 **Shooting station:** A fixed point from which firearms are discharged.

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50 **Shotfall zone:** An area within which the shot or pellets contained in a shotgun shell typically fall.

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52 **Surface Danger Zones (SDZ):** An area established to contain all projectiles and debris caused by  
53 firing ammunition and explosives (see Table 1). SDZ dimensions are dictated by the types of  
54 ammunition, types of targets, and types of firing activities allowed on the range.

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56 **Section 3. Amendment of Article VI.** Article VI: District Regulations is hereby amended as follows

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58 Section 6.01.3 Uses Subject to Special Approval (*Agricultural District*)

59 23. I Firearms Training Facility

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61 Section 6.02.3 Uses Subject to Special Approval (*Conservation/Recreation District*)

62 18. Firearms Training Facility

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64 **Section 4. Amendment of Article VIII.** Article VIII: Uses Subject to Special Approval and Supplemental  
65 Site Development Standards is hereby amended as follows:

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67 **18. Firearms Training Facilities**

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69 a. Shot containment. Shooting range facilities shall be designed to contain all the bullets or  
70 shot, or any other debris on the range facility based on the **Table 1** (*Maximum Range of*  
71 *Small Arms Ammunition*), **Figure 1** (*Surface Danger Zone with Impact Berm for Small Arms*  
72 *Firing*) and **Figure 2** (*Impact Berm for Open and Partially Baffled Ranges*).

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74 b. SDZ Design. A basic SDZ consists of three parts: impact area, ricochet area, and secondary  
75 danger area (**Figure 1**).

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77 i. The primary danger area established for the impact of all rounds extends 5° to either  
78 side of the left and right limits of fire and downrange to the maximum range of any  
79 ammunition to be used on the range.

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81 ii. The ricochet area is 5° to either side of the impact area and extends downrange to the  
82 maximum range of any ammunition to be used on the range.

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84 iii. The secondary danger area is that area paralleling, and 100 yards outside of, the  
85 outermost limits of the ricochet area and extending downrange to the maximum range  
86 of any ammunition to be used on the range.

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88 iv. Boundaries of SDZs must be posted with permanent signs warning persons of the  
89 danger of the live-fire range and prohibiting trespassing. The signs must be posted in a  
90 way that will ensure a person cannot enter the SDZ without seeing at least one legible  
91 sign (i.e., usually 200 yards distant or less).

92  
93 v. Limit of fire markers, both external and internal, must be placed to denote right and left  
94 limits of fire. Where cross firing is to be conducted, internal limit markers must be  
95 emplaced to denote internal right or left limits of fire from specific firing positions.

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- vi. For open ranges, the top elevation of the earth impact berm should be 26 feet above the range surface for ranges 100 yards long or longer and 16 feet above the range surface for ranges 50 yards long or less. The impact berm should extend 50 yards beyond where the target line ends for 100-yard-long ranges or until joining with the side containment, if provided for ranges 50 yards long or less.
- vii. The preferred slope of the impact berm face is 1 to 1 or steeper. The steeper the slope, the more likely the berm is to absorb projectiles. The top should be 10 feet wide. The impact slope should be constructed with a 3-foot layer of easily filtered soil (to reclaim the lead projectiles) free of boulders, trees, rocks, stones, or other material that will cause ricochet. The rear slope should be appropriate to the native soil and maintenance requirements.
- viii. The thickness of earth material used to construct the impact structures for positive protection against the ammunition shall be no less than 6 feet. The design of the impact berm for open and partially baffled range shall be designed as referenced in **Figure 2**.
- c. Noise mitigation. Noise levels measured at the property line where the facility is maintained or, in the case of leased land, at the property line of any leased parcel shall not exceed sixty-five (65) dBA when located adjacent to residential or commercial property or seventy-five (75) dBA when adjacent to industrial property.
- d. The site should be landscaped to provide for erosion control, noise abatement, maintenance, appearance, fire protection, and safety.
  - i. Berms should be planted with grass to prevent erosion. Ground cover is acceptable on existing berms that have been maintained and where erosion is not an issue.
  - ii. Heavy landscaping may be used to cut down on noise transmission. Plants and trees may be planted behind the firing position shelters to alleviate noise transmission.
- e. Setbacks. All shooting stations on a range facility shall be located a minimum of two hundred (200) feet from any property line. The Planning Commission has the discretion to reduce the setbacks based on a review of existing conditions, such as, but not limited to, natural vegetation, topography, location of structures, direction of the Surface Danger Zone, and noise contours.
- f. Warning signs. Warning signs meeting National Rifle Association (NRA) guidelines for shooting ranges shall be posted at one hundred-foot intervals along the entire perimeter of the shooting range facility.
- g. Distance from occupied dwelling. A firearms training facility shall be located at least one-fourth (¼) mile (one thousand three hundred twenty (1,320) feet) from any existing occupied dwelling; not including the applicant's dwelling. The Planning Commission has the discretion to reduce this distance based on a review of existing conditions, such as, but not limited to, natural vegetation, topography, location of structures, direction of the

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Surface Danger Zone, and noise contours.

- h. Hours of operation. The outdoor shooting range of the firearms training facility shall be allowed to operate between 10AM and 7PM, Monday through Saturday only during the months of January 1 through September 30, and 10AM and 2PM Monday through Saturday only from October 1 through December 31.
- i. Parking. The firearms training facility shall provide one parking space per shooting station or one space per two occupants for the classroom instructional area based on the occupancy established by the Antrim County Building Department.
- j. Liability insurance. The permittee shall be required to carry a minimum of one million dollars (\$1,000,000.00) of liability insurance paid on an annual basis and annually provide the Township with a copy of the insurance renewal. Such insurance shall name Banks Township as an additional insured party and shall save and hold Banks Township, its elected and appointed officials, and employees acting within the scope of their duties harmless from and against all claims, demands, and causes of action of any kind or character, including the cost of defense thereof, arising in favor of a person or group's members or employees or third parties on account of any property damage or injury or loss of life arising out of the acts or omissions of the permittee, his/her group, club, or its agents or representatives. The Township shall be notified of any policy changes or lapses in coverage.
- k. Application and Site Plan Requirements
  - i. Permit application. An application for a permit to establish and operate a firearms training facility shall be submitted by the legal property owner(s) or owner's agent to Banks Township. Such permit shall be secured prior to issuance of any other building or improvement permit by Banks Township.
  - ii. Required information. The applicant shall provide sufficient information as required by these provisions to properly evaluate the permit application. In addition, copies of any written agreements from the adjoining property owners and a letter from the insurance company to provide liability insurance shall accompany the permit application.
  - iii. Site plan. A site plan for the entire range facility which shows the following applicable information drawn to an appropriate scale, shall accompany the permit application:
    - a) Property lines for any parcel upon which the range facility is to be located, north arrow, plan scale, date, and ownership information for the site.
    - b) Complete layout of each range, including, shooting stations, or firing lines, target areas, shot- fall zones or safety fans, backstops, berms, and baffles.
    - c) Projected noise contours.
    - d) Existing and proposed structures; occupied dwellings within one-fourth (1/4) mile (one thousand three hundred twenty (1,320) feet); roads, streets, or other

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access areas; buffer areas; and parking areas for the range facility;

e) Topography of the subject property and adjacent properties within 500 feet;

e) Any other appropriate information related to the specific type of range(s) being proposed as requested by the Planning Commission.

I. Technical Information

Table 1: Maximum Range of Small Arms Ammunition

Caliber	Maximum Range of Small Arms Munitions	
	Meters	Yards
.38 Revolver	1900	2077
.40 Pistol	1908	2086
.45 Pistol	1500	1640
.357 Magnum	2160	2362
12 Gauge Shotgun	600	650
.223 / 5.56 Rifles	3100	3390

Source: U.S. Department of Energy; Office of Health, Safety and Security; Range Design Criteria, DOE O 473.3, 06/04/2012

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Figure 1: Surface Danger Zone with Impact Berm for Small Arms Firing at Fixed Ground Targets

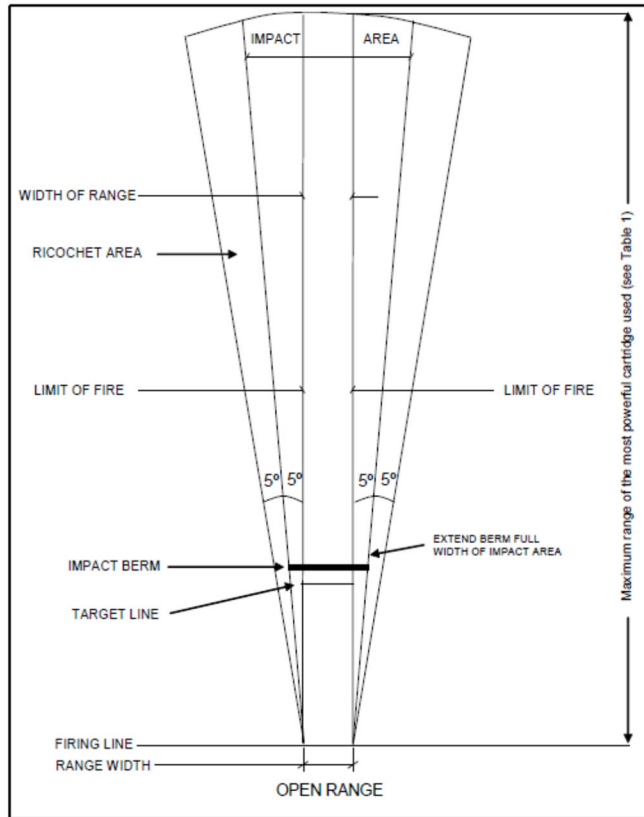
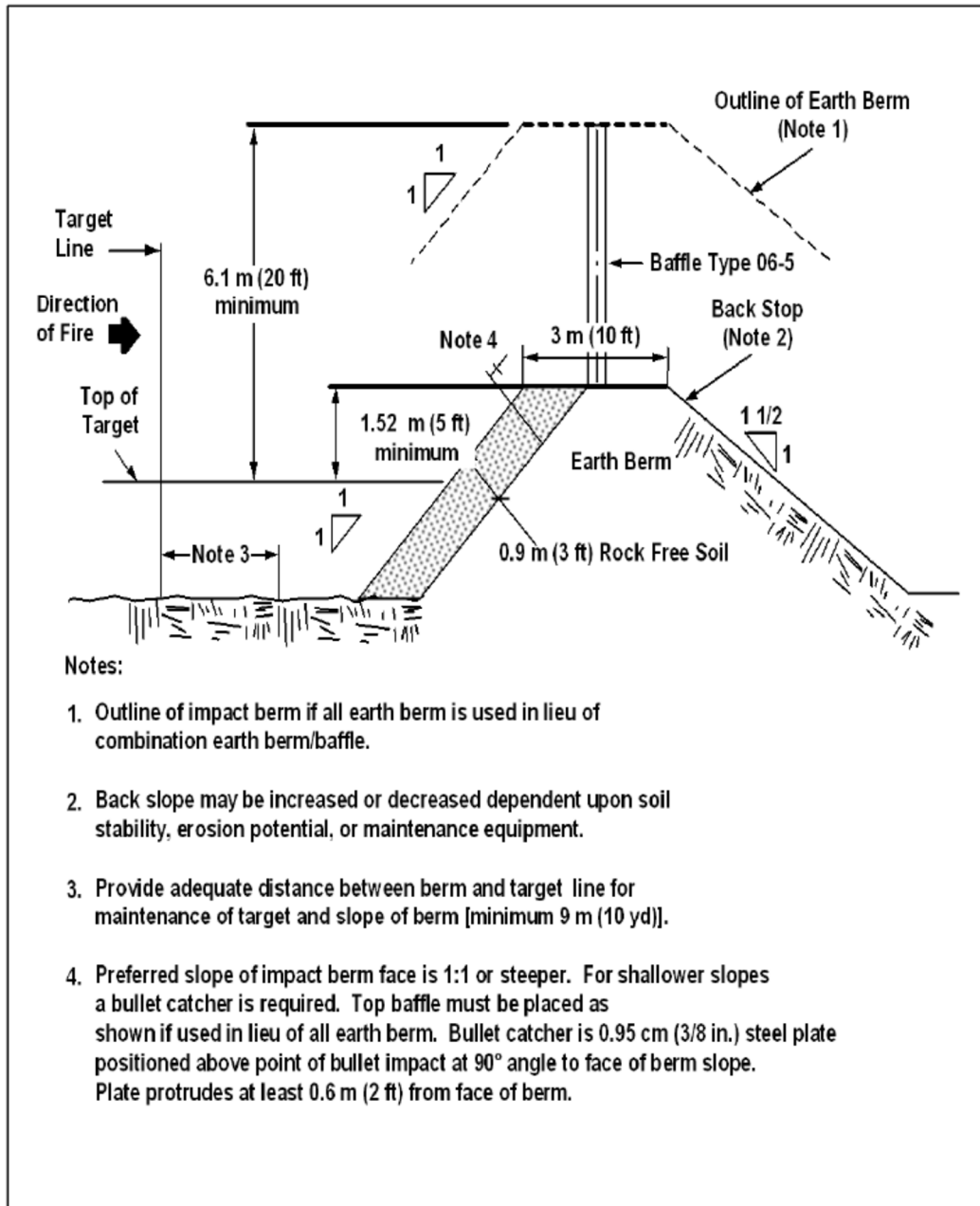


Figure 2: Impact Berm for Open and Partially Baffled Range



- m. Best Practice Management. Gun range berms and shortfall zones are a source of residual lead materials from expended ammunition. Over time, dissolved lead materials can migrate through soils to the groundwater. Further, termination or abandonment of the facility may constitute a hazardous waste and require mitigation through the Resource Conservation and Recover Act (RCRA). The following best management practices shall apply.
  - i. Prior to Construction. The firearms training facility shall have a soil sample taken at the impact side of proposed location of the berm and another mid-point from the impact

280 berm to the shooting station. The soil sample needs to assess the level of lead and pH  
281 in the soil prior to construction. The soil sample test results shall be provided to the  
282 Township. The ideal soil pH value for a shooting range is between 6.5 and 8.5.

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284 ii. During Operation. The following activities shall occur on an annual basis.

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286 a) Once a year, soil samples shall be performed in the same locations and the  
287 results shall be provided to the Township. If the soil samples indication an  
288 increase in dissolved and/or an increase in soil pH the owner shall undertake  
289 measures to correct these increases and provide a plan to the Township.

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291 b) Once a year, the soil on the impact area of the berm should be raked and  
292 screened for lead materials and disposed of at a recycling facility. Proof of  
293 recycling and the amount in pounds of recycled materials shall be provided to  
294 the Township.

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296 c) In order to control the dispersion of lead materials phosphate shall be spread in  
297 the shooting range which binds the lead minimizing off-site migration or  
298 subsurface groundwater interface. Generally, 15 to 20 pounds of phosphate  
299 per 1,000 square feet will effectively control lead migration.

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301 iii. Closure of Firearms Training Facility. The following action shall occur when the facility is  
302 closed.

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304 a) The impact berm shall be demolished, and the dirt shall be disposed in a  
305 certified landfill that accepts residual lead materials. The owner shall provide  
306 the Township with documentation that confirms the disposal of the material.

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308 b) Soil samples shall be conducted in the location of the former impact berm to  
309 determine the levels of lead and pH. Based on the sample test results, the firm  
310 conducting the samples shall determine if any additional soil amendments are  
311 needed to adjust the soil to normal ranges. A copy of the soil samples and soil  
312 remediation plan shall be provided to the Township.

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314 c) Performance Bonds: To ensure compliance with the demolition and removal of  
315 the firearms training facility, the Township may require a deposit, (cash,  
316 certified check, irrevocable bank letter of credit, or security bond), to cover the  
317 estimated cost of demolition and removal. The performance guarantee shall be  
318 deposited, with the Township Clerk, at the time of the issuance of the permit  
319 authorizing the activities or project. The Township may not require the deposit  
320 of performance guarantee before the Township is prepared to issue the permit.