



POLICE 1)

HOW TO BUY --- **FIREARMS TRAINING RANGE**

Key steps for product selection,
purchasing and implementation

Introduction

Building a firearms training range for law enforcement is a project that requires careful planning, consideration of safety and health protocols, adherence to legal requirements and thoughtful design to meet the department's training needs.

A well-designed range provides a controlled environment where officers can develop and maintain their firearms skills, essential for ensuring public safety and effective law enforcement.

A well-planned and well-constructed firearms training range not only enhances the skills and safety of officers but also ensures they will be prepared for any situation they may encounter in the line of duty. By investing in the most well-equipped training facility your budget can afford, your department can provide high quality training that improves the effectiveness and safety of law enforcement operations.

This Police1 guide provides comprehensive steps for constructing a firearms training range, from initial planning to final implementation.

Nancy Perry, Director of Content, LE & Corrections

Contents

03 Key Considerations Before Purchasing

15 Questions to Ask Vendors

22 Company Directory

REMINDER: Every department is subject to local or state purchasing rules. Make sure to understand and follow the procurement process for your department and take advantage of services provided by your city or county purchasing department.



**KEY CONSIDERATIONS
BEFORE DESIGNING &
BUILDING A FIREARMS
TRAINING RANGE**



A well-designed firearms training range is a significant investment that enhances the capabilities and safety of your organization. By following the steps outlined in this guide, from initial planning to final implementation, you can ensure that your range meets all necessary standards and serves as an effective training tool for your officers.

Engaging with experienced professionals, adhering to safety, health and regulatory requirements, and maintaining ongoing support and maintenance are key to maximizing the value of your firearms training range.

Here are some key considerations before building your firearms training range:



Health, safety and compliance

Safety is the foremost concern when building a firearms training range. The design must incorporate comprehensive safety measures to protect both range users and the surrounding community. This includes bullet traps, ballistic baffles, and secure entry and exit points to prevent accidental injury. Additionally, establishing clear safety protocols and training range personnel on these protocols is crucial.

Next is health. When designing any indoor range, and some types of outdoor ranges, you need to determine what kind of ventilation and dust capture system will be required. A quality range ventilation system is not just a nice-to-have feature it's a crucial component for the health and safety of both staff and students.

When a firearm is discharged, it releases lead dust and other harmful particulates into the air. If not properly ventilated, these pollutants can pose significant health risks if inhaled.

The San Mateo County Sheriff's Office has a hybrid outdoor range. The first 25 yards have a concrete floor, walls and ceiling, effectively making it an indoor range with no back wall. The next 75 yards have a gravel over dirt floor with concrete walls and angled baffles which are open to the sky. If anyone is training in the first 25 yards, the ventilation system must be running.

For further information on the use of ventilation to manage airborne and surface lead levels, see this [article](#) from the NIH (National Institutes of Health).

Selecting an appropriate location for the range is a critical step. Ideally, the site should be situated in a relatively isolated area to minimize noise disturbance to nearby residents. Natural barriers such as hills or forests can help contain noise and prevent projectiles from leaving the range area.

Finally, compliance with federal, state and local regulations is mandatory if you don't want your range shut down. Understanding local zoning laws and obtaining the necessary permits are essential to avoid legal complications. Engaging with local authorities and the community early in the process



can help address any concerns and foster support for the project. This can also expedite the permitting process and reduce the risk of delays.

Regulations may cover aspects such as noise levels, environmental impact and lead management. Consulting with legal advisors and regulatory agencies can help ensure that all necessary permits are obtained and that the range operates within legal requirements. Regular inspections and audits can help maintain compliance over time.



Budget and funding

Developing a comprehensive budget is vital for the successful completion of the project. The budget should cover all aspects, including land acquisition, design, construction costs, equipment purchases and most importantly, ongoing maintenance. It's important to account for potential contingencies and unexpected expenses.

Not budgeting for ongoing maintenance can mean that range equipment might eventually stop working, you could run afoul of health and safety laws, and you could be shut down by the auditors or government regulators.

Exploring various funding options can help secure the necessary financial resources. Possible sources of funding include federal and state grants, municipal funds and partnerships with private organizations. Applying for grants may require detailed project proposals and justifications, so it's advisable to allocate time and resources for this process.



Needs assessment

Conducting a thorough needs assessment is the foundation of the planning process. This involves identifying the specific training requirements of the department. Consider the types of firearms training needed, such as pistol, rifle and shotgun training and the ammunition to be used, as well as any specialized training scenarios, like active shooter drills, hostage situations, low-light shooting, or shooting at or from stationary or moving vehicles.

In addition to a traditional live-fire range, you may also want to think about adding a simulation shoot house to train for adaptive urban assault, building search and clearing, as well as force-on-force. However, that discussion is out of scope of this guide.

Determining the range capacity is another critical aspect. This includes the number of shooting lanes and the overall capacity to accommodate the department's personnel and training schedule. Engaging with trainers and officers can provide valuable insights into the practical needs of the range.



Range design

Deciding whether your range(s) will be indoor, outdoor, or both is an important consideration.

Indoor ranges offer controlled environments, which can be used year-round regardless of weather conditions and can be used for low-light training during the day. However, they can be more expensive to build and maintain.

Outdoor ranges, on the other hand, are generally more cost effective but require additional considerations for weather and environmental impact.

The layout of the range should include shooting lanes, a control room, secure storage areas for weapons and ammunition, restrooms, and one or more classrooms for instruction. Incorporating ballistic protection, such as bulletproof or bullet-trapping walls and ceilings, is essential to deflect or contain stray bullets and ensure safety.

As discussed above, proper ventilation is crucial to remove lead and other contaminants from the air. This not only ensures a healthy environment for users but also helps in complying with Occupational Safety and Health Administration (OSHA) standards.

The National Shooting Sports Foundation (NSSF) offers dozens of [articles](#) and [expert assistance](#) to help with your range design.



Equipment and technology

There are several considerations around the purchase of equipment and technology for a police firearms range.

1. Target systems

Selecting the right target systems is essential for effective training. Fixed or turning target holders that are located at the backstop or can be moved to specific distances and brought to the firing line on overhead tracks are simple, cost effective and suitable for basic marksmanship training.

Flat or 3D targets, which can be moved on tracks or robotic vehicles, can provide much more dynamic training scenarios that simulate real-life situations, improving officers' reaction times and decision-making skills.

Interactive targets, which use advanced technology to create realistic training scenarios, can further enhance training effectiveness. These systems can simulate various threat levels and scenarios, allowing officers to practice critical decision-making under stress.

2. Lighting

Lighting on a range should be as shadowless and even as possible and protected from wayward projectiles. Building fixtures into the baffle system is one solution. For an outdoor range, fixtures need to be waterproof. If you train for low-light shooting, a handheld remote control can make the transition between lights on and lights off easier.

Think about adding some "Hollywood" lighting fixtures, such as patrol car light bars, lightning/strobes and entertainment venue simulators to help train your officers for active shooter events.



3. Range control systems

A well-equipped control room is essential for managing the range. This includes controls for lighting, target movement and a public address (PA) system. A computer-based control system, perhaps with presets for specific training scenarios, can provide a centralized interface for managing all aspects of the range operation.

Surveillance systems, including cameras and monitoring systems, are vital for overseeing range activities and ensuring safety. These systems can help monitor compliance with safety protocols and provide a record of training sessions for review and analysis. Like body-worn camera footage, training footage should be archived in case of lawsuits.

4. Safety equipment

Providing high quality safety equipment is crucial to protect range users. Hearing protection, such as earmuffs or earplugs, is essential to prevent hearing damage from repeated gunfire exposure. Ballistic-rated eye protection is mandatory for all personnel to protect against potential eye injuries.

Maintaining well-stocked basic first aid and gunshot wound kits, keeping range staff up to date with the latest Stop the Bleed protocols, and having a written plan for emergency medical response are also essential. In the event of an injury, immediate access to the appropriate medical supplies and trained personnel can make a significant difference in the outcome.



Environmental considerations and noise management

There are several considerations regarding the management of environmental issues and noise for a police firearms range.

1. Lead management

Effective lead management is critical for both health and environmental reasons. Bullet traps and backstops should be designed to capture projectiles and prevent lead contamination. Regular cleaning and maintenance of these systems is necessary to ensure their effectiveness.

Implementing a recycling program for spent bullets and casings can help reduce environmental impact and recover valuable materials. Working with specialized contractors experienced in lead management can help ensure compliance with environmental regulations.

2. Noise reduction

Noise reduction is a major concern, especially for ranges located near residential areas. For indoor ranges, soundproofing materials can be used to minimize noise pollution. This not only protects the surrounding community but also creates a more comfortable environment for range users.

For outdoor ranges, natural barriers such as berms, trees and other landscaping features can help reduce noise levels. Installing noise-reducing materials on range structures also can be effective in minimizing noise pollution.



Construction and implementation

Before beginning construction, review the following areas:

1. Hiring contractors

Hiring experienced contractors is crucial for the successful construction of a firearms training range. Look for contractors with a proven track record in designing and building ranges or similar facilities. Reviewing past projects and checking references can help ensure you choose the right contractor for the job.

Appointing an experienced project manager to oversee the construction process is also important. The project manager should ensure that timelines are met, quality standards are maintained, and any issues that arise are promptly addressed.

2. Construction phases

The construction process typically involves several phases. During the pre-construction phase, legal requirements are addressed, the site is cleared and prepared, and all necessary permits are secured. This phase sets the foundation for the entire project.

The construction phase involves the actual building of the range according to the design plan. Regular inspections should be conducted to ensure that construction meets safety and quality standards.

Post-construction involves a thorough inspection and testing phase to ensure that all systems function correctly and that safety measures are effective. A “soft opening” with range staff and a small number of students can help you determine what necessary adjustments or corrections should be made before the range is fully operational.



Training and maintenance

Effectively training staff and implementing a maintenance plan will be key to the success of your police firearms range.

1. Staff training


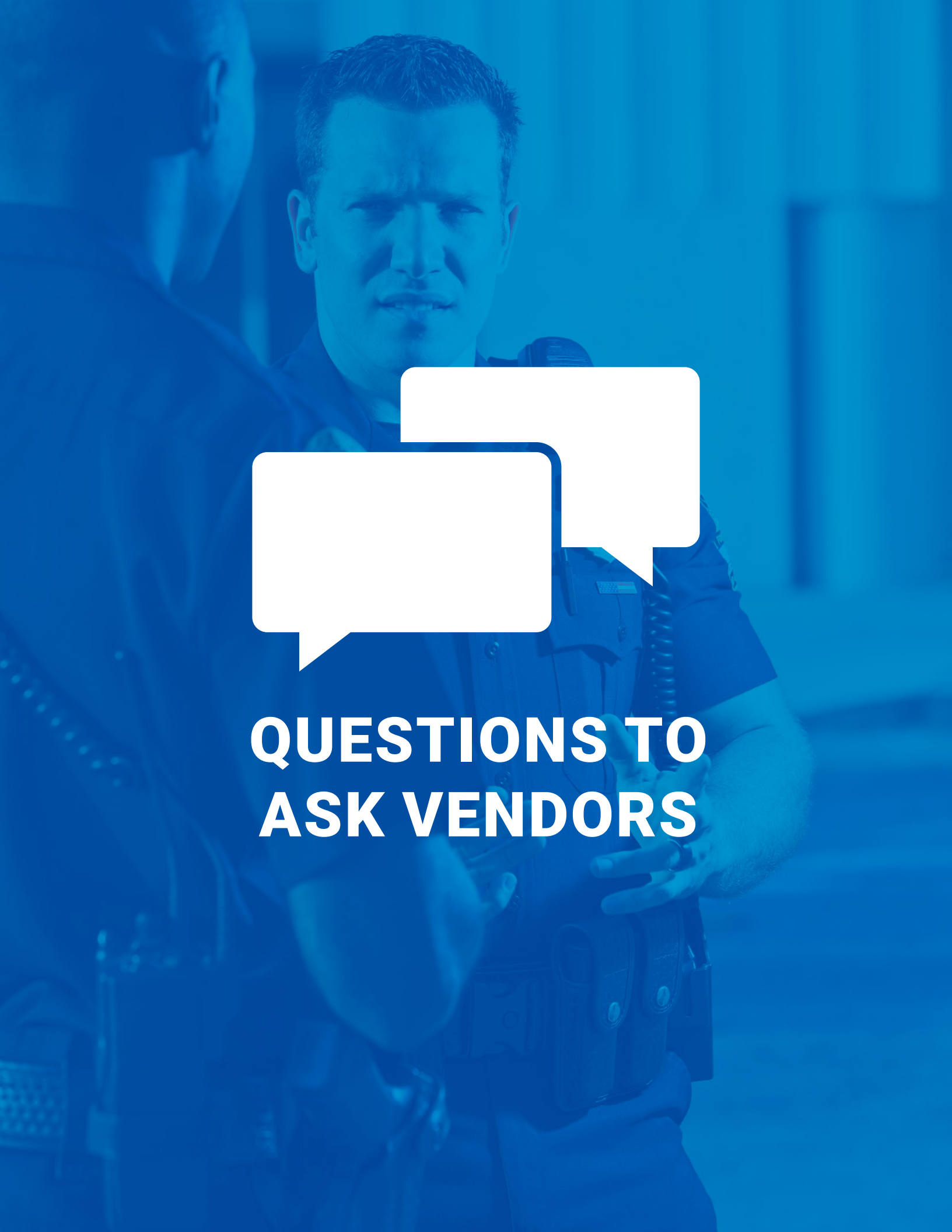
Staff tasked with running and maintaining the range should hold RSO (range safety officer) or CRSO (chief range safety officer) certificates from a recognized training organization, such as the NRA or POST. Additional range-specific training for staff on the operation and safety protocols is essential. Initial training should cover all aspects of range operation, including the use of control systems, target systems, and safety equipment.

Ongoing training is also important to ensure that staff remain updated on new technologies, changes in regulations, and best practices. Regular refresher courses can help maintain high standards of safety and efficiency.

2. Maintenance plan

A written maintenance plan is crucial to keeping your range in optimal condition. Regular inspections should be scheduled to identify and fix any wear and tear or potential safety hazards. This includes checking ventilation systems, bullet traps, and other equipment.

Routine cleaning and maintenance are essential to ensure the range operates safely and effectively. Addressing repairs promptly can prevent accidents and prolong the lifespan of the range and its equipment.



QUESTIONS TO ASK VENDORS



When selecting equipment vendors, it's important to ask specific questions to ensure their products meet your needs. Inquire about the compatibility of target systems and control systems with your range design and training requirements. Ask if the vendor offers customization options to meet specific training scenarios.

Support and maintenance services are also critical. Ensure that the vendor provides comprehensive support and maintenance services post-installation. This includes technical support, regular maintenance and access to replacement parts.

Ask to speak to customers for each vendor to get an idea of the processes the vendor followed and how it was to work with them.

Here are some suggested questions to ask equipment vendors during the purchasing process:



Compatibility:

- Are your target systems and control systems compatible with our range design and training requirements?
- Can your equipment integrate with our existing training infrastructure and software?
- Is your equipment designed for use indoors or outdoors? What temperature range is it rated for?

Customization:

- Do you offer customization options for your target systems to meet specific training scenarios?
- Can your control systems be tailored to our department's unique needs and safety protocols?

Support and maintenance:

- What kind of support and maintenance services do you offer post-installation?
- Do you provide training for our staff on how to use and maintain the equipment?
- Are replacement parts readily available, what is the turnaround time for obtaining them, and how long do you stock replacement parts after the system that uses them is discontinued?

Warranty:

- What does your warranty cover, and how long is it?
- Are there extended warranty options available?



Safety and compliance:

- How do your systems ensure user safety, and do they meet all relevant safety standards and regulations?
- Can you provide documentation to verify compliance with OSHA and other regulatory body rules?
- Do you have staff who can attend compliance and audit meetings if required?

Performance and reliability:

- What is the expected lifespan of your equipment under typical usage conditions?
- Can you provide references or case studies from other departments that have used your products?

Technological advancements:

- How often do you update your technology, and are software or hardware updates included in the purchase or service agreement?
- What future advancements or upgrades are planned for your products?



Selecting the right construction contractor is equally important. Ask about the contractor's experience in building firearms training ranges. Review their past projects and check references to ensure they have a proven track record.

Inquire about the construction timeline and any potential additional costs. A detailed timeline helps in planning and ensures the project stays on track. Understanding potential additional costs can help in budget planning and avoiding unexpected expenses.

Here are some suggested questions to ask contractors during the purchasing process:



Experience:

- What experience do you have in building firearms training ranges or similar facilities?
- Can you provide examples of past projects and references from previous clients?

Project management:

- What is your project management process, and who will be our main point of contact during construction?
- How do you handle unexpected challenges or changes during the construction process?
- What are your terms if construction is blocked due to external events, such as weather, appearance of historical artifacts, or protests?

Timeline:

- Can you provide a detailed timeline for the construction phases, from site preparation to final inspection?
- What measures do you take to ensure the project stays on schedule?
- Will you accept penalties if construction runs late due to your own delays?

Cost and budget:

- Are there any potential additional costs that might arise during the construction process?
- How do you handle cost overruns or unexpected expenses?



Compliance and permits:

- How do you ensure compliance with local zoning laws and building codes?
- Will you handle the permitting process, or will we need to manage that?

Quality control:

- What quality control measures do you have in place to ensure the construction meets safety and quality standards?
- How do you address any deficiencies or issues identified during inspections?

Post-construction support:

- Do you offer post-construction support or maintenance services?
- How do you handle warranty claims or repairs after the project is completed?

Environmental considerations:

- How do you manage environmental impact during construction, particularly concerning lead and noise pollution?
- What measures do you take to minimize the environmental footprint of the construction process?

Your department is sure to have other important questions. Tell the vendor which questions you'd like answered in writing and then forward those responses to the people involved in the purchase.

FIREARMS TRAINING RANGE COMPANY DIRECTORY



POLICE1

Research products, check out deals and read more original articles about firearms training at Police1's product resource center.

POLICE1 FIREARMS TRAINING

police1.com/police-products/firearms/training/

 **LEXIPOL**