CAYUGA COUNTY POLICY MANUAL
Section 68

Subject: Ladder Safety Policy
Effective Date: 12/20/11; Res 538-11.

Policy Title: Ladder Safety Policy

Objective: To establish procedures for the purpose of the County's Ladder Safety Policy to prevent injuries and assure safe operation when working with ladders.

Policy:

The use of portable ladders is a common part of many jobs conducted by Cayuga County employees, contractors, and volunteers. Because ladder use is so common in the workplace, it is important that affected personnel are trained in and follow all policies and procedures related to the safe operation of portable ladders.

The purpose of the County's Ladder Safety Policy is to prevent injuries and assure safe operation when working with ladders.

This Policy is applicable to all County employees, vendors/contractors, volunteers, and other individuals that are performing work or on behalf of the County (examples: work crew, inmates, etc.) who use portable ladders for County-related tasks.

GENERAL

Ladder use is regulated under 29 CFR 1910 (general industry standards) Subpart D-Walking-Working Surfaces and 29 CFR 1926 (construction standards) Subpart X -Ladders. Training requirements are presented in 29 CFR 1926.1060 – Training.

In addition to the above regulations, other County policies that may be applicable to this policy include, but are not limited to:

- General Safety Rules and Safe Work Practices
- Tools, and Power Tool Safety
- Fall Protection Policy

This policy will be made accessible to each affected employee, and each employee will be responsible for reading, understanding the information as it pertains to the tools and equipment that they use during the course of their work. Employees will sign and return the Ladder Safety Policy acknowledgement/certification form presented as **Appendix A** indicating that they have read, understand, and agree to comply with the terms set forth in this policy. The completed forms will be maintained by the Department Head.

TRAINING

In accordance with 29 CFR 1926.1060, affected County employees and volunteers will be trained by a competent person on the requirements of this policy to include:

- The nature of fall hazards;
- The correct and safe usage of portable ladders;
- Load-carrying capacities; and,
- Storage and maintenance;

Initial training will be provided prior to the employee/volunteer using a ladder. Refresher training will be provided if an employee/volunteer demonstrates a lack of understanding and/or skills required by this policy. Refresher training shall be provided at the discretion of the Department Head and is recommended at least biannually.

Training will be documented on the Ladder Safety Training documentation form presented as **Appendix B**.

Contractors and vendors using ladders for County-related projects should be expected to provide ladder training, and other health and safety training documentation as part of the purchasing/contracting "document submittal" process. If not presented as a requirement of the contract, Department Heads responsible for overseeing vendors/contractors should request this documentation to verify compliance with the requirements described above.

Training Record Forms and any other training documentation will be maintained by the Department Head.

RESPONSIBILITIES AND AUTHORITY

The following identifies some of the responsibilities for various parties affected by this policy.

County Management (County Legislature, County Administrator and/or their Appointed Risk Management Committee)

- Ensuring that Federal, State and Local laws, regulations, codes and ordinances are followed.
- Developing policies, accident prevention methods, procedures and programs.
- Conducting periodic safety inspections of all work locations.
- Assuring funding for required safety equipment, programs and employee training.

Department Heads

Department Heads have the primary responsibility for

- Implementing and enforcing compliance with the Portable Ladder Safety Policy by their department.
- Identifying the specific jobs or individuals to whom this policy applies.
- Identifying/inventorying all ladders used by employees in their department.
- Acting as or designating a competent person to inspect ladders used by affected employees in your department (under the control of your department).
- Assuring that ladders are appropriate for expected job tasks and that they are maintained in safe working order, repaired when appropriate, and rendered unusable and disposed of when repair is not possible or cost-effective.
- Ensuring that safety procedures presented in this and other County policies, as well as in Manufacturer's Operator's and Safety Manuals are implemented and enforced.
- Observing safety conditions of the department on a regular basis
- Assure appropriate training for supervisors and employees.
- Maintaining training records for all affected employees.

Supervisors

Due to their close contact with employees, supervisors must take a primary role in the prevention of

accidents and the safety of employees under their supervision. Supervisor's responsibilities include:

- Implementing and enforcing compliance with the Portable Ladder Safety Policy in their work areas.
- Providing training support and on-going instruction (i.e., toolbox talks, one-on-one safety reminders, etc.) in safe ladder use (and other safety topics) to each affected employee.
- Observing and evaluating the use ladders and correcting any unsafe conditions or practices and reporting/correcting any found.
- Inspecting ladders used by used by employees and verifying that they are properly maintained and in safe operating condition (completion or monthly inspection checklist is recommended).
- Remove from service, **any** ladder that is not safe.
- Prohibit staff from using unsafe ladders.

Employees

Employee responsibilities include:

- Reading, understanding and following the procedures and practices outlined in this policy.
- Inspect ladders prior to use. Use the checklist provided in this policy.
- Operating ladders safely and in accordance to operating instructions and manufacturer's operator's guidelines. Appropriate protective equipment will be worn at all times.
- Reporting any defects to the supervisor immediately. The defective equipment will not be used if the defect impairs the safe operation of the ladder.
- Immediately reporting all work related accidents to their supervisors.
- Immediately reporting all unsafe conditions and practices to their supervisors and/or Department Head and/or County Administrator.
- Attending appropriate training as recommended by their supervisors.

GLOSSARY

Check — A lengthwise separation of the wood that occurs across the rings of annual growth.

Cleat — A rectangular ladder crosspiece placed on edge, upon which a person may step while ascending or descending.

Competent person — A person who can identify existing and predictable hazards in the work environment and who has authorization to take prompt measures to eliminate the hazards.

Decay — Disintegration due to action of wood-destroying fungi. Also known as dote or rot.

Extension ladder — A non-self-supporting portable ladder that is adjustable in length. It consists of two or more sections in guides or brackets that permit length adjustment. Length is designated by the sum of the lengths of each section, measured along the side rails.

Extension trestle ladder — A self-supporting portable ladder that is adjustable in length, consisting of a trestle ladder base and a vertically adjustable single ladder with means for locking the ladders together. Length is designated by the length of the trestle ladder base.

Failure — Load refusal, breakage or separation of components.

Fastening — A device that attaches a ladder to a structure, building, or equipment.

Handrail — A rail used to provide employees with a handhold for support.

Job-made ladder — A ladder that is fabricated by employees, typically at the construction site; non-commercially manufactured.

Load refusal — The point where the structural members lose their ability to carry the load.

Ladder — An appliance usually consisting of two side rails joined at regular intervals by crosspieces called steps, rungs, or cleats on which a person steps when ascending or descending.

Platform ladder — A self-supporting ladder of fixed size with a platform at the working level.

Point of access — All areas used by employees for work-related passage from one area or level to another.

Riser height — The vertical distance from the top of a tread or platform/landing to the top of the next higher tread or platform/landing.

Rungs — Ladder crosspieces of circular or oval cross-section on which a person steps when ascending or descending.

Safety feet — means a safety device placed on the foot of the side rails to reduce the likelihood of the base slipping. Safety feet may be flat pads covered with a nonslip material, pointed metal projections, or spur wheels.

Sectional ladder — A non-self-supporting portable ladder, nonadjustable in length, consisting of two or more sections that function as a single ladder. Its length is designated by the overall length of the assembled sections.

Single (or straight) ladder — A single section non-self-supporting portable ladder, nonadjustable in length. Its length is measured along a side rail.

Special-purpose ladder — A general-purpose portable ladder with modified features for specific uses.

Step ladder — A self-supporting portable ladder, nonadjustable in length that has flat steps and a hinged back. Length is measured along the front edge of a side rail.

Steps — The flat crosspieces of a ladder on which a person steps when ascending or descending.

Tread — The horizontal member of a step.

Tread depth — The horizontal distance from front to back of a tread, excluding nosing, if any.

Tread width — The horizontal distance from front to back of the tread, including nosing.

Trestle ladder — A self-supporting portable ladder, nonadjustable in length, which consists of two sections hinged at the top to form equal angles with the base. Length is measured along the front edge of a side rail.

PORTABLE LADDERS - INTRODUCTION

Most ladder falls involve portable ladders that move, tilt, or shift while a worker is climbing or descending. Unstable or slippery base surfaces are the primary reasons ladders fail. Other reasons include a misstep or a slip of the foot, loss of balance, an overreach, and being struck by a vehicle or other object.

Workers can reduce ladder fall risks by doing the following:

- Frequently inspect and maintain ladders.
- Match tasks to appropriate ladders.
- Set up ladders correctly.
- Climb and descend ladders properly.

Ladder Ratings

There are many types of portable ladders, but they all receive one of four ratings, based on their maximum working load (the maximum weight they can safely support). Before you use a ladder, check its rating and be sure not to subject it to a load greater than its rated capacity.

Rating	Working Load
Extra Heavy Duty (I-A)	300 pounds
Heavy Duty (I)	250 pounds
Medium Duty (II)	225 pounds
Light Duty (III)	200 pounds

TYPES OF PORTABLE LADDERS

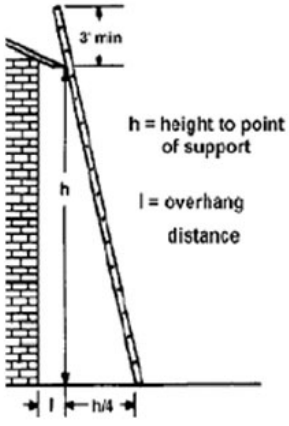
Portable ladders are either non-self-supporting (such as the straight ladder) or self-supporting (such as the standard step ladder). Within one of these two categories, you are likely to find the right size, shape and type of ladder to accomplish your task.

Non-Self-Supporting-Ladders

Length is extremely important in selecting the proper straight ladder. If the ladder is used to reach a roof or elevated platform, select one that can extend at least **three feet** above the point of support. Please refer to the following table to help in length selection.

Straight Ladder Length for Various Heights	
Height to Reach (feet)	Recommended Ladder Length (feet)
9.5	16
13.5	20
17.5	24
21.5	28
24.5	32
29	36

Set up and placement of a ladder is also important in safe use. Straight ladders should be positioned so that the horizontal distance between the foot of the ladder and the support against which it is placed is equal to one-fourth the height of the ladder at the top of support. In other words, for every four feet up in height the ladder should extend one foot out from the wall or point of support as depicted below.



Single Portable or Straight Ladder
The single portable or straight ladder is indispensable for general use. It is the most common type of portable ladder and has the widest range of applications. When used on slippery surfaces, this ladder must have slip–resistant feet or be secured to prevent it from sliding.

Rubber or neoprene ladder shoes are recommended for smooth, dry surfaces, and spikes are recommended for snow or ice. Single portable ladders must not be longer than 30 feet and are intended for use by only one worker at a time. Such ladders are available in wood, metal, and reinforced fiberglass.

Extension or Section Ladder
Extension ladders offer the greatest length in a general purpose ladder. The ladder consists of two or more sections that travel in guides or brackets, allowing adjustable lengths. The sections must be assembled so that the sliding upper section is on top of the lower section. Each section must overlap its adjacent section a minimum distance, based on the ladder's overall length

The overall length is determined by the lengths of the individual sections, measured along the side rails. The table shows the minimum overlap for ladders up to 60 feet long.

Ladder Length	***Overlap***
Up to and including 36 feet	3 feet
Over 36 through 48 feet	4 feet
Over 48 through 60 feet	5 feet

Note: Install positive stops on the individual ladder sections to ensure the required overlap.

Extension ladders are made of wood, metal, or reinforced fiberglass. Wood ladders cannot have more than two sections and must not exceed 60 feet. Metal and fiberglass ladders can have as many as three sections; however, the overall length must not exceed 72 feet. Individual sections of any extension ladder must not be longer than 30 feet. Extension ladders are for use by only one person at a time.

Make sure extension ladders have non-slip bases if there is a chance the ladder can slip. Cord-face ladder shoes are recommended for wet surfaces, rubber or neoprene ladder shoes for smooth dry floor surfaces, and steel spikes for ice or snow. Be careful if you use an extension ladder on oily, metal, or concrete surfaces. Place the ladder securely and tie it off to prevent it from slipping.

Self-Supporting Ladders

Standard Stepladder
The standard stepladder, a general purpose ladder, has flat steps and a hinged back. It is self-supporting and nonadjustable. An industrial model, designed for heavy service demands, has oversize back legs, heavy-duty flat steps, and knee braces that increase rigidity and durability.

Standard stepladders should be used only on surfaces that offer firm, level footing such as floors, platforms, and slabs. They are available in metal, wood, or reinforced fiberglass versions, and are intended to support only one worker at a time. Remember not to stand on, or work from, the top step. The ladders must have a metal spreader or locking arms. They cannot be longer than 20 feet, measured along the front edge of the side rails.

Two-way Stepladder
The two-way stepladder is similar to the industrial standard stepladder; however, each side of this ladder has a set of steps. The extra set of steps offers convenience and versatility: One person can work from either side or two people can work from the ladder at the same time – once on each side.

Platform Ladder
The platform ladder is a special-purpose ladder that has a large stable platform from which you can work at the highest standing level. The ladder's length is determined by the length of the front edge of the side

rail from the bottom of the ladder to the base of the platform. The length of a platform ladder cannot exceed 20 feet.

Trestle Ladder
A trestle ladder is a self-supporting portable ladder that has two sections hinged at the top, forming equal angles with the base. A variation of the trestle ladder, the extension trestle ladder, includes a vertically adjustable single ladder that can be locked in place. (The single extension section must lap at least three feet into the base section.) Trestle ladders are used in pairs to support planks or staging. The rungs are intended to be used as steps.

The angle of spread between open front and back legs must be 5 ½ inches per foot of length. The length cannot be more than 20 feet, measured along the front edge of the side rails. Rails must be beveled at the top and have metal hinges to prevent spreading. Metal spreaders or locking devices are also required to keep the rails in place.

Selecting Ladders
Ladders dome in different types because workers who use them have different needs. In the previous section, major types of portable ladders were identified and the tasks for which they are appropriate. However, many of the special-purpose ladders were omitted, which are usually variations of general purpose ladders, designed to meet a special need.

Examples Include: platform, trolley, side-rolling, shaft, and manhole ladders. The important point: You are likely to save time and energy and reduce your risk of injury if you choose the right ladder for your task.

USING LADDERS

Ladders are easier and safer to use when you match them with the appropriate task. Still, most portable-ladder accidents happen when workers do one or more of the following: fail to inspect ladders regularly, place ladders inappropriately, or ignore safe practices when climbing or descending. The guidelines below address each of these issues.

At the Beginning of Each Job
- Select the appropriate ladder for your task or job.
- Inspect the ladder before you use it. Make sure it is in sound condition – clean and undamaged.

Placing a Ladder
- Move the ladder near the work you are doing.
- Look up and check for overhead hazards (example: electrical wires).
- Angle the ladder properly. The base should extend not less than one-fourth the ladder's length. The minimum slope should be 50 degrees.
- Place a solid rest for the rail tops across window openings.
- Protect the base of a tall, occupied ladder if it could be struck by vehicles or pedestrians.

Do Not
- Place a ladder in front of an unlocked, unguarded door.
- Place a ladder on boxes, tables, trucks, or other moveable objects.

Securing a Ladder
- Nail or lash a ladder in place if it will be used repeatedly in the same spot.
- Select a ladder that will extend at least 36 inches above the access area it is serving.

Do Not

- Do not work on ladder in exposed areas during a serve storm or strong wind.
- Do not work on ladder covered with ice or snow
- Do not use a portable ladder if an approved stairway could be used instead.

Ascending and Descending

- Face the ladder at all times.
- Grasp the side rails with both hands; you have a better chance of avoiding a fall if a rung or step fails.
- Raise and lower heavy, awkward loads with a hand line or hoist.
- Attach light, compact tools or materials to the ladder or to yourself.
- Maintain three points of contact with the ladder at all times (two hands and a foot, or two feet and a hand).
- If you are using the ladder to access a dark space (example: ceiling plenum, attic, etc.) get a portable light to aid in visibility and to avoid climbing into area where unseen hazards may be present (protruding nails, electrical wires, etc.).
- When descending the ladder, be cognizant of the last step down to prevent falls, or stepping onto something sharp or unstable.

Do Not

- Do not slide down the ladder.
- Do not climb when your hands or shoes are slippery.
- Do not use your hands for carrying items.
- Do not carry awkward loads when ascending or descending a ladder.
- Do not place tools or materials on a ladder if they could fall off.

Metal Ladders

Make sure steps and rungs have a skid-resistant surface that minimizes the risk of slipping. ("Skid resistant" means corrugated, knurled, dimpled, or coated with skid resistant material.)

Do Not

Do not use any ladder with conductive side rails near exposed, energized equipment. Such ladders must be permanently, legibly marked with the words "**WARNING – Do Not Use Around Energized Electrical Equipment."**

Precautions

- Place both feet firmly on the ladder rungs and steps.
- Mare sure only one person stands on, or works from, a standard ladder. (Use a scaffold or a second ladder if two or more people are doing the same task.)
- Immediately inspect any ladder that has collapsed, tipped over, or been exposed to oil or grease. Clean and repair the ladder if necessary.
- Remove defective ladders from service. Tag or mark defective ladders with the words "Dangerous, Do Not Use."
- Make sure an extension ladder extends at least 36 inches above an access landing.
- Keep the area around the top and bottom of a ladder free of debris.
- Keep the load on the ladder (including you) below its maximum load capacity.

DO NOT

- Do not paint ladders. Paint conceals defects. Use transparent preservatives instead.
- Do not use ladders with broken, patched, oily, or cracked rails, rungs, or steps.
- Do not reach out over the side rails, lean, or turn excessively on a ladder.
- Do not use a ladder as guy, brace, or skid.
- Do not stand or sit on the top two steps of a stepladder.
- Do not use a self-supporting ladder without first opening it up and securing the metal spreader or locking device.
- Do not load a ladder beyond its maximum load capacity.

TRANSPORTING LADDERS

Some ladders are easier to move than others. Here are a few guidelines to help you protect ladders and the people who use them.

When you hand-carry a ladder, keep the front end elevated, especially around blind corners, in aisles, and through doorways. You will reduce the chance of striking another person with the front of the ladder.

When you transport a ladder in a truck or trailer, place it parallel to the bed; avoid tossing, throwing or dropping it in the bed. If you transport a long ladder on a short truck bed over long distances, support the ladder so it will not sag or bend. Drive slowly over rough terrain. Tie the ladder securely to eliminate nicking, gouging, chafing, and road shock. Make sure that a ladder that extends beyond the tailgate of a truck is properly flagged when going on the road.

STORING LADDERS

Another way to prolong a ladder's life is to store it properly. Here are some useful storage tips:

- The storage area should be well ventilated.
- Wood ladders should not be exposed to moisture or excessive heat. Avoid storing ladders near stoves, steam pipes, or radiators.
- Store straight or extension ladders in flat racks or on wall brackets. Mare sure there are enough brackets to support the ladder so that it does not sag. If the ladder rails have a lateral curve, the wall brackets should match the curve.
- Store stepladders vertically, in a closed position, to reduce the risk of sagging or twisting. Secure stored ladders so that they will not tip over if they are struck.
- Store ladders, especially wood ladders, promptly after using them. Exposure to moisture and sun will shorten the life of a wood ladder.

MAINTAINING AND REPAIRING LADDERS

Neglected ladders quickly become unsafe ladders. Step bolts slacken, step sockets and other joints work loose, hold sizes increase – eventually the ladder becomes twisted and unstable.

Periodic maintenance extends a ladder's life and saves replacement costs. Maintenance includes regular inspection of the ladder, repairing damage and tightening step bolts and other fastenings.

Replace lower steps on wooden ladders when one-fourth of the step surface is worn away. Typically, the center of a step receives the most wear. (Mineral abrasive or other skid-resistant material reduces wear.)

- Do not use cleats to repair rung ladders.
- Do not paint a wood ladder – paint conceals defects.

Consider stocking repair parts if you use different types of ladders. Typical parts include ladder bolts, related hardware, and lower steps or rungs (which wear out faster than upper steps or rungs).

Improving Slip Resistance

Slip-resistant materials are often used on industrial ladder treads. Notable is the anti-slip treatment on metal platform ladders used in file and parts rooms, tool cribs, and frozen-food lockers. The obvious benefit of slip-resistant material is that it reduces fall risks when a worker is climbing or descending.

Ladder Hazards Checklist

Begin your work with a ladder that will not let you down. Use the checklist below to make sure the ladders you use are hazard free.

- Are ladders kept in good condition?
- Are the joints between steps and side rails tight, all hardware and fittings securely attached, and moveable parts operating freeing without binding or excessive play?
- Are non-slip safety feet on each single or multiple-section portable rung – type ladder?
- Are ladder rungs and stops kept free of grease and oil?
- Are workers instructed to face the ladder when ascending/descending it?
- Are workers prohibited from using ladders that have missing steps, rungs, cleats, broken side rails, or other faulty parts?
- Are workers instructed to not stand or step on the top step of any portable ladder?
- When portable ladders are used to reach elevated platforms and roofs, does the ladder extend at least 36 inches above the elevated surface?
- Are portable metal ladders legibly marked with signs reading “CAUTION – Do No Use Around Electrical Equipment” or equivalent wording?
- Are steps, rungs, or cleats of ladders spaced no more than 12 inches apart?
- Are portable ladders secured or lashed to prevent displacement when they are used?
- Are wood cleats attached to the side rails of job-made ladder in one of the following ways:
    - By housing the cleats into the side rails by at least one-half inch.
    - By securing wood strips (same thickness as the cleats) to the side rails between each cleat.
    - By securing the cleats to the side rails with bolts.
- Is there at least seven inches of space behind the cleats to allow secure footing?

APPENDIX A

CAYUGA COUNTY
LADDER SAFETY POLICY

I certify that I have read, understand, and agree to comply with the terms set forth in this policy. I further understand that if I have questions regarding the information provided in this policy, I can request such information from my Supervisor, or Department Head.

Employee Name (printed):_____

Department:_____

Employee Signature:_____

Witness:_____

Date:_____

APPENDIX B

CAYUGA COUNTY
LADDER SAFETY TRAINING

The employees identified below have received training on the safe use and maintenance of portable ladders. This training included:

- ☐ A review of the County's Portable Ladder Safety Policy
- ☐ Identifying and minimizing ladder hazards
- ☐ The nature of fall hazards in the work area
- ☐ How to correctly use, place, handle, and maintain ladders
- ☐ The maximum load-carrying capacities of ladders
- ☐ OSHA/PESH requirements for the types of ladders to be used

Training Date	Employee Name (Print)	Employee Signature	Trainer Signature