

U.S. Department of Agriculture Forest Service JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 <i>(Instructions on Reverse)</i>		1. WORK PROJECT/ACTIVITY Norovirus Response and Cleanup at A.T. Shelters and Privies	2. LOCATION George Washington and Jefferson National Forests	3. UNIT All Units of the George Washington and Jefferson National Forests
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 OSHA (Instructions on Reverse)		4. NAME(S) OF ANALYST(S) Matthew Helt	5. JOB TITLE Recreation Program	6. DATE PREPARED 2025-04-30
Required Standards and General Notes:	<p>Norovirus is found in the stool and vomit of infected people and can spread easily from person to person. People infected with norovirus are most contagious from the time they first start feeling ill through three days after they feel well again. People sometimes remain contagious for up to a month after they have recovered. People can become infected by eating food or drinking liquids that are contaminated by infected food handlers, touching surfaces or objects contaminated with norovirus and then touching their mouth before hand washing, or having direct contact with another person who is infected and then touching their mouth before hand washing. Therefore, good hand washing with soap and water is the key to preventing the spread of norovirus.</p> <p>Norovirus causes a highly contagious gastrointestinal illness. People with norovirus illness shed billions of virus particles in their stool and vomit, yet it takes only a very small number of particles (<20) for another person to get sick. Norovirus can be spread not only person-to-person but also through contact with contaminated surfaces, utensils, foods, and drinks. Good general sanitation practices, proper cleanup of areas around a norovirus vomiting or diarrhea incident, and separation of sick people from healthy people are essential to preventing further spread.</p> <p>PPE: Long pants, long sleeves, disposable impermeable gloves and footwear, and eye protection.</p>			
Available Personal Protective Equipment	PPE: Disposable impermeable gloves, facemasks with eye protection, shoe covers, and disposable gowns can all provide protection.			
Tools and Equipment	Chlorine bleach, disposable paper towels, hand soap, a bucket, a spray bottle/pump sprayer/backpack sprayer, a designated mop head or disposable mop heads, trash bags, and optional disposable scoops, small shovels, and dustpans			
Required Training	Read the CDC Preventing Norovirus When Camping, Hiking, or Outdoors webpage: https://www.cdc.gov/norovirus/prevention/outdoor-camping.html Read the CDC How to Prevent Norovirus webpage: https://www.cdc.gov/norovirus/prevention/index.html Read the NPS Norovirus Response and Cleanup webpage: https://www.nps.gov/articles/norovirus-response.htm Read the VDH Norovirus Infection webpage: https://www.vdh.virginia.gov/epidemiology/epidemiology-fact-sheets/norovirus-infection/ Read the EPA's Registered Antimicrobial Products Effective Against Norovirus (feline calicivirus) webpage: https://www.epa.gov/pesticide-registration/epas-registered-antimicrobial-products-effective-against-norovirus-feline			
Available Training	First Aid/CPR training; check in/checkout procedures			
7. TASKS/PROCEDURES		8. HAZARDS, POTENTIAL HAZARDS / INJURY SOURCE	9. ABATEMENT ACTIONS OR PROCEDURES Engineering Controls * Substitution * Administrative Controls * PPE	
Planning/Pre-Operation		Lack of Knowledge/Training	<ul style="list-style-type: none"> • All volunteers/employees disinfecting in or around privies and shelters must be trained by a competent and experienced person prior to performing work. • When applicable, refer to all tool/equipment manuals and Safety Data Sheets (SDS) for proper application, operation, rating, and care. • Review VDH Norovirus Infection webpage: <ul style="list-style-type: none"> ◦ https://www.vdh.virginia.gov/epidemiology/epidemiology-fact-sheets/norovirus-infection/ 	

		<ul style="list-style-type: none"> ● Review CDC Preventing Norovirus When Camping, Hiking, or Outdoors webpage: <ul style="list-style-type: none"> ○ https://www.cdc.gov/norovirus/prevention/outdoor-camping.html ● Review NPS Norovirus Response and Cleanup webpage: <ul style="list-style-type: none"> ○ https://www.nps.gov/articles/norovirus-response.htm
	Bleach Sensitivity/Allergy	<ul style="list-style-type: none"> ● Be aware of your sensitivity to bleach and bleach odors. ● A.T. Shelters are often 3-sided and A.T. privies are often cabana style and have ample air flow. ● Do not participate in disinfection activities if you have a sensitivity to the odor of bleach.
	Defective and/or Unlabeled Tools and/or Equipment	<ul style="list-style-type: none"> ● Ensure spray bottle/pump sprayer/backpack sprayer is in proper working condition. ● Label all tools used exclusively for disinfection only.
	Improper Handwashing (Using Hand Sanitizer)	<ul style="list-style-type: none"> ● Wash your hands well with soap and water to prevent norovirus: <ul style="list-style-type: none"> ○ Before eating, preparing, or handling food. ○ After using the bathroom ● Hand sanitizer does not work well against norovirus
	Improper Assessment	<ul style="list-style-type: none"> ● Occupational Exposure means: <i>Reasonably anticipated skin, eye, nose, or mouth contact with blood or other potentially infectious materials that may result from the performance of a person's duties.</i> ● Other Potentially Infectious Materials means: <i>The following human body fluids: urine, feces, vomit , or any other body fluids. This includes items that may have been exposed to or contaminated by these materials.</i> ● Determine if site location is an area of high risk: <ul style="list-style-type: none"> ○ Examples of high-risk sites may include: A.T. shelters, A.T. privies, trailheads with restrooms, trailheads without restrooms, sites adjacent to high density urban areas, known drug use areas, homeless encampments, high visitation sites, areas of unmanaged human waste, etc. ○ Examples of low-risk sites may include: backcountry areas, low visitation areas, rural areas, etc.
Mixing Bleach Solution	Eye Injuries/Exposure to Contaminants	<ul style="list-style-type: none"> ● Eye protection must fully cover the front and sides wrapping glasses, goggles, etc. ● Ensure eye protection provides enough visibility by keeping them clean. ● Discard and replace eye protection when scratched or vision becomes impaired. ● Do not adjust or remove eye protection with contaminated hands/gloves.

Disinfecting (Privies and Shelters) <ul style="list-style-type: none"> Cleaning Up Debris Disinfecting Areas 	Mixing Incorrect Ratios	<ul style="list-style-type: none"> Use a chlorine bleach solution with a concentration of 1,000 ppm to 5,000 ppm and change/remake the solution daily to maintain disinfectant properties. Recommended Chlorine Bleach Solution (Tbsp Bleach/Gal Water) to Inactivate Norovirus: <ul style="list-style-type: none"> Bleach % 1,000ppm 5,000ppm <ul style="list-style-type: none"> ■ 5.25% 4.9 Tbsp/Gal 24.4 Tbsp/Gal ■ 8.25% 3.1 Tbsp/Gal 15.5 Tbsp/Gal ■ 12.5% 2.0 Tbsp/Gal 10.2 Tbsp/Gal Clorox generally has 5.25% bleach
	Unnecessary Exposure	<ul style="list-style-type: none"> Limit the number of people involved in clean-up
	Biological Contamination	<ul style="list-style-type: none"> Review CDC How to Prevent Norovirus webpage: <ul style="list-style-type: none"> https://www.cdc.gov/norovirus/prevention/index.html Required PPE: Long pants, disposable impermeable gloves and footwear, and eye protection. Recommended PPE: Face protection, disposable gowns. Never touch contaminated areas with unprotected hands. Do not eat, drink, or smoke while disinfecting.
	Not Following the Decontamination Process	<ul style="list-style-type: none"> Size up area and plan sequence of work to limit contamination of tools and surfaces <ol style="list-style-type: none"> Clean and disinfect areas within a 25-foot radius of a vomiting or diarrhea incident. Pick up trash, clothing, and other contaminated objects with a trash grabber or gloved hands. Place all trash into an impermeable trash bag. Trash may be disposed of in a regular trash stream. Be cautious of sharp objects that may penetrate gloves. Clean visible debris after a vomiting or diarrhea incident with shovels and deposit into active bin In the shelter and privy area, disinfect forest areas with human waste and vomit as well as any hard surfaces people might have touched while sick (such as floors, picnic tables, toilet seats, door handles, walls of shelters,) To kill known norovirus contamination, leave the diluted bleach solution on the surface for at least 5 minutes before removing or wiping. This is the amount of time that the surface must remain wet to achieve disinfection. There is no harm in disinfecting all hard surfaces of a shelter and privy Avoid cross contamination: <ul style="list-style-type: none"> Clean and disinfect from unaffected areas to affected areas and from low-contamination areas to high-contamination areas. Discard or disinfect all materials used in a clean-up. Make cleaning supplies easily accessible (e.g. disposable paper towels, a bucket, a spray bottle, a designated mop head or

		<p>disposable mop heads, plastic garbage bags and bag-ties, and optional disposable scoops, small shovels, dustpans)</p> <ul style="list-style-type: none"> Once you have begun to disinfect an area, avoid adjusting your clothing, resting your hands on your hips or in pockets, folding your arms, etc. Keep your hands off your body, and touch nothing but tools and equipment related to disinfection.
	Improper Hand Washing	<ul style="list-style-type: none"> After handling anything potentially contaminated (even with gloves), always wash hands well with soap and water, followed by hand sanitizer (never hand sanitizer alone).
	Contact with Bleach/Bleach Solution	<ul style="list-style-type: none"> Wear proper PPE: Long pants, disposable impermeable gloves and footwear, and eye protection.
Cleanup (Removal/Containment/Disposal of PPE)	Biological Contamination	<ul style="list-style-type: none"> Remove washable/reusable gowns and over clothing, dispose in a dedicated container or laundry basket. Disposable gowns may be used, as long as they provide suitable protection from contaminants. Remove gloves by use of a safety method: One glove removed inside out and held by the opposite hand and turning the remaining glove inside out and disposed of in trash. Remove and clean safety glasses and spray shields. PPE trash may be disposed of in regular trash streams. Disinfect all equipment used in the cleanup, and wash your hands well with soap and water!
10. OFFICIAL SIGNATURE	11. TITLE Forest Supervisor	12. DATE 5/14/2025

Previous edition is obsolete

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JHA Instructions (References-FSH 6709.11 and .12)

The JHA shall identify the location of the work project or activity, the name of employee(s) involved in the process, the date(s) of acknowledgment, and the name of the appropriate line officer approving the JHA. The line officer acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.

Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.

Block 7: Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).

Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:

- a. Research past accidents/incidents.
- b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.
- c. Discuss the work project/activity with participants.
- d. Observe the work project/activity.
- e. A combination of the above.

Block 9: Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:

- a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment, and furniture.
- b. Substitution. For example, switching to high flash point, non-toxic solvents.
- c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices.
- d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills, and portable water pumps).
- e. A combination of the above.

Block 10: The JHA must be reviewed and approved by a line officer. Attach a copy of the JHA as justification for purchase orders when procuring PPE.

Blocks 11 and 12: Self-explanatory.

Emergency Evacuation Instructions (Reference FSH 6709.11)

Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.

Be prepared to provide the following information:

- a. Nature of the accident or injury (avoid using victim's name).
- b. Type of assistance needed, if any (ground, air, or water evacuation).
- c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.
- d. Radio frequencies.
- e. Contact person.
- f. Local hazards to ground vehicles or aviation.
- g. Weather conditions (wind speed & direction, visibility, temperature).
- h. Topography.
- i. Number of individuals to be transported.
- j. Estimated weight of individuals for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

JHA and Emergency Evacuation Procedures Acknowledgment

We, the undersigned work leader and crew members, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:

SIGNATURE DATE

SIGNATURE DATE
