

A close-up photograph of a hand being washed under a stream of water. The water is clear and flowing, creating a dynamic splash around the hand. The skin of the hand is wet and glistening. The background is dark and out of focus, emphasizing the hand and the water. The word "Welcome" is overlaid in a large, white, sans-serif font, positioned diagonally across the upper right portion of the image.

# Welcome

# Environmental Health Shelter

Office of  
Emergency Preparedness

Office of  
Environmental Health Services

# Environmental Health Shelter

Office of  
Emergency Preparedness

Office of  
Environmental Health Services

# Welcome and Logistics

**Suzi Silverstein, MA, RD**

Assistant Director

Office of Emergency Preparedness

Virginia Department of Health



# Content



Welcome & Logistics

# Content



Welcome & Logistics

Opening Remarks

# Content



- Welcome & Logistics

- Opening Remarks

- Definitions, Chain of Commands, ICS



# Content



Welcome & Logistics

Opening Remarks

Definitions, Chain of Commands, ICS

Role of EH in a Shelter

# Opening Remarks

# Objectives

# Julie Henderson

Director, Division of Food and General  
Environmental Services  
Virginia Department of Health

# Objectives

**Participants will be able to describe the EH Specialist role in Shelter Management for:**

- conducting general building assessments (Facility)
- ensuring food safety (Food)
- protecting potable water supplies and ensuring safe drinking water/ice (Drinking Water & Ice)

# Objectives

**Participants will be able to describe the EH Specialist role in Shelter Management for:**

- investigating foodborne illness or food related complaints (Health/Medical)
- ensuring approved wastewater disposal (Sanitation)
- ensuring adequate and appropriate solid waste disposal (Solid Waste Generated)

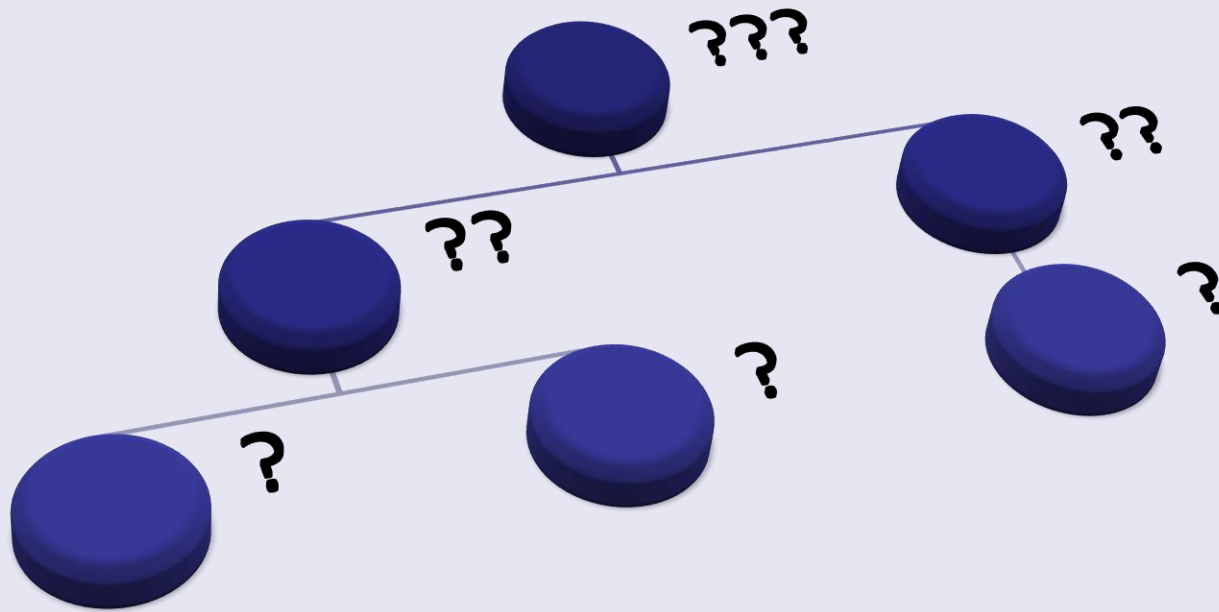
# Objectives

**Participants will be able to describe the EH Specialist role in Shelter Management for:**

- assessing child care facilities if provided by Shelter (Childcare Area)
- evaluating the sleeping area (Sleeping Area)



# Definitions and Chain of Commands



State Planning & SNS Coordinator  
Office of Emergency Preparedness  
Virginia Department of Health

# Shelters and Sheltering

## Shelter

- It is a short-term, overnight accommodation for individuals threatened or displaced by an emergency or disaster event.

# Shelters and Sheltering

## Shelter

- At the time this document was drafted, there were no specific state or federal mandates for required services, supplies, or features to be provided within shelters except for the requirements related to accessibility and nondiscrimination.

# Shelters and Sheltering

## Shelter

- At a minimum, it is recommended that shelters provide registration, food services, water, restrooms, climate control (heat or cooling), and security.

# Shelters and Sheltering

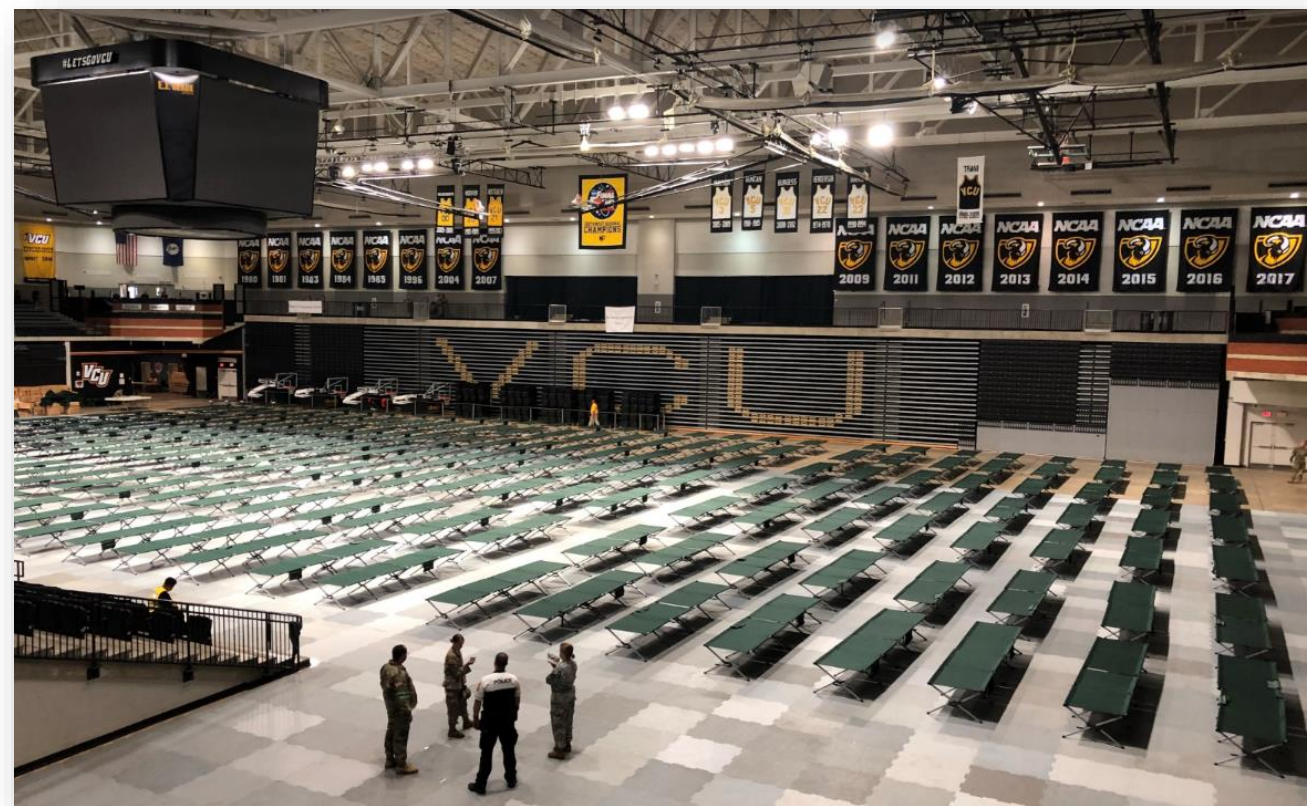
## Shelter

- Additional services that may be provided in shelters include but are not limited to: health services, reunification, childcare, showers, and laundry.

# Shelters and Sheltering

## Sheltering

- Action taken by an individual to seek protection or refuge when disaster strikes, *or*
- Action taken by an agency or organization to provide such refuge





# Shelter Types

Shelter in Place

Refuge of Last Resort (ROLR)

General Population Shelter

Medical Shelter

## **Shelter-in-place**

To harbor in a safe area within the building or structure currently occupied at the time of and during a disaster or emergency event

Refuge of Last Resort (ROLR)

General Population Shelter

Medical Shelter

## **Refuge of last resort (ROLR)**

A type of mass care facility that is not recommended for shelter, offering only protection or refuge from environmental hazards in the event individuals do not or cannot evacuate

## **Refuge of last resort (ROLR)**

ROLRs do not provide any services or support and are intended to function as a place of refuge from the elements until it is safe to return home or evacuate to another location.

## **Refuge of last resort (ROLR)**

A ROLR is not a shelter and the term “shelter of last resort” will not be used in state-level shelter planning to reduce confusion.

## **General population shelter**

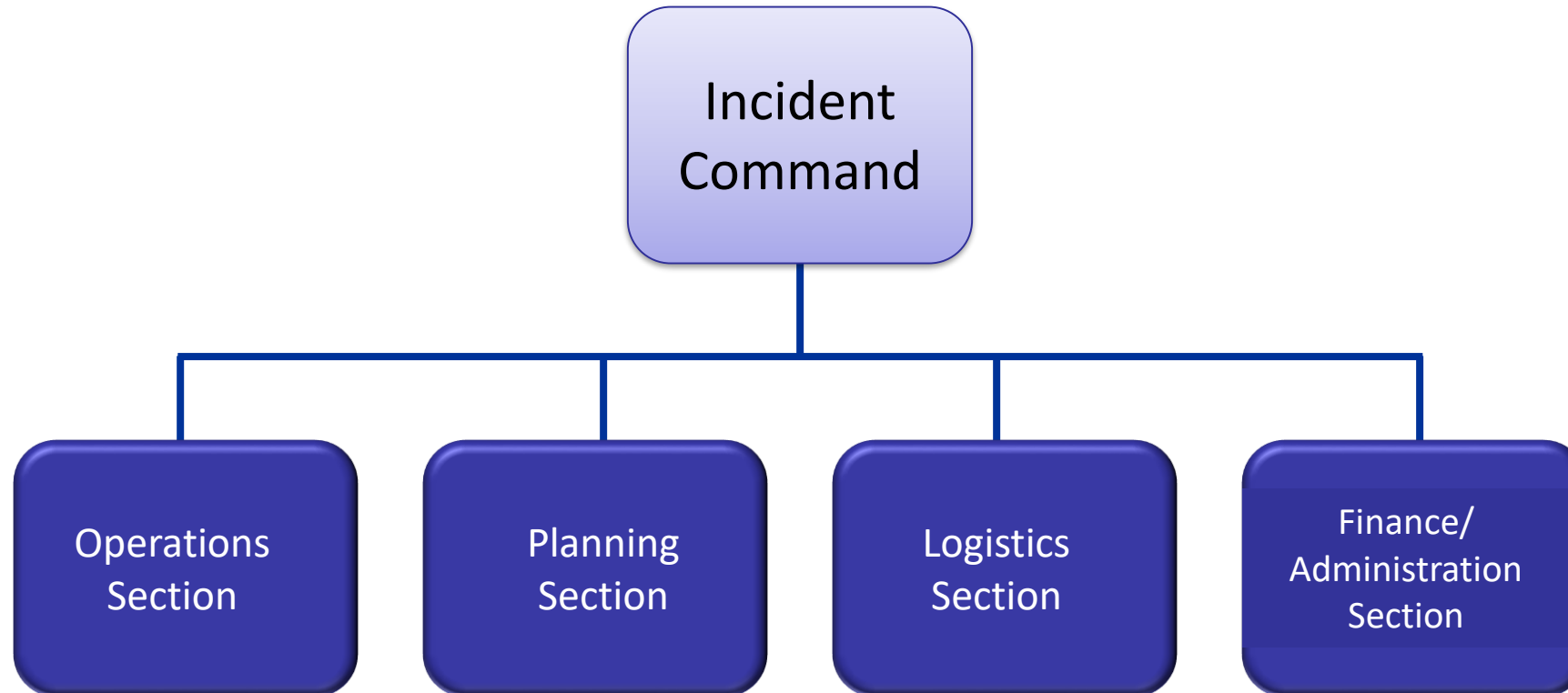
A facility that provides temporary, overnight shelter to all individuals, including those with disabilities or access, functional, and non-critical medical needs

## Medical shelter

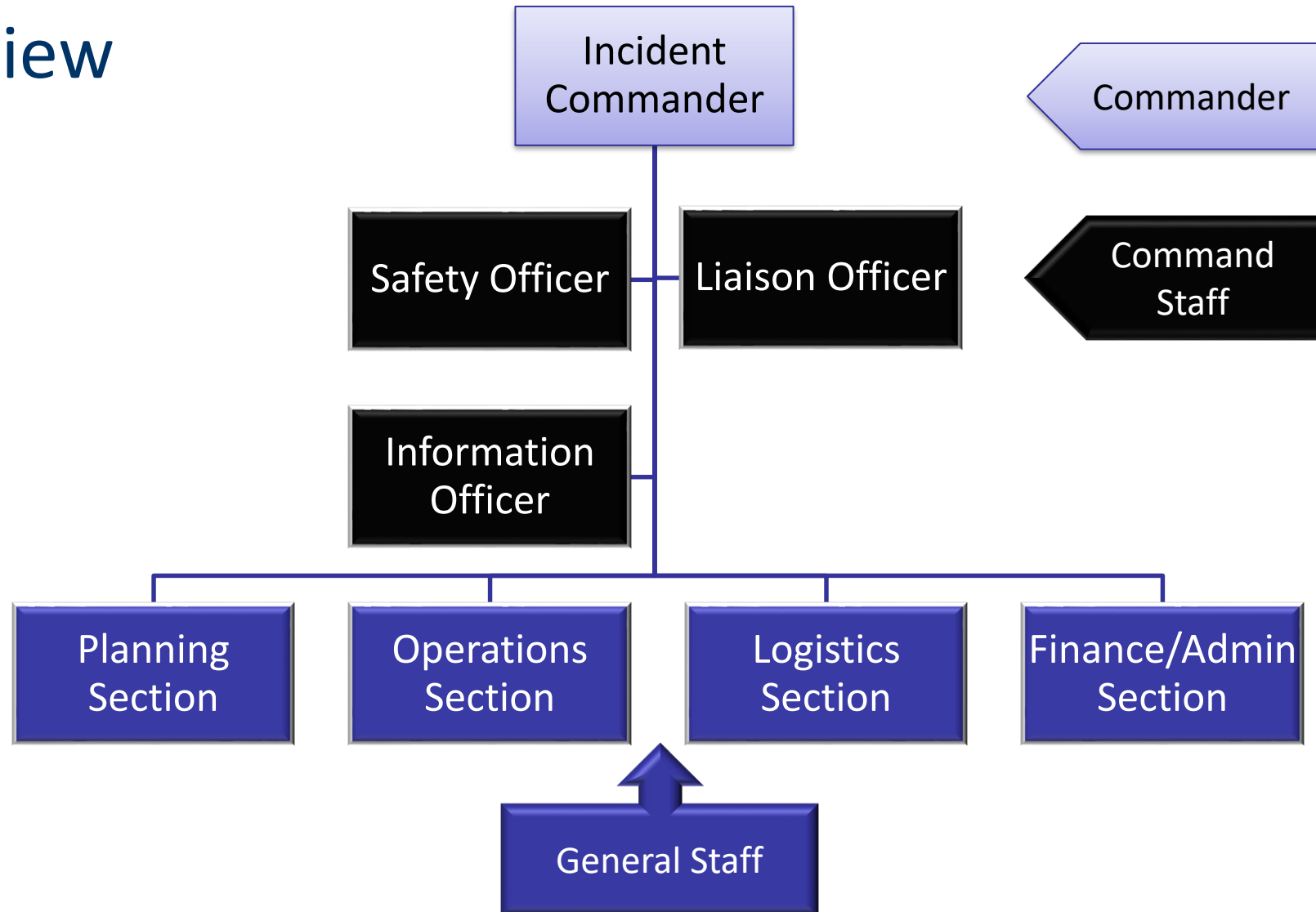
A facility or a portion of a facility that provides shelter to individuals who require clinical medical care by licensed healthcare professionals



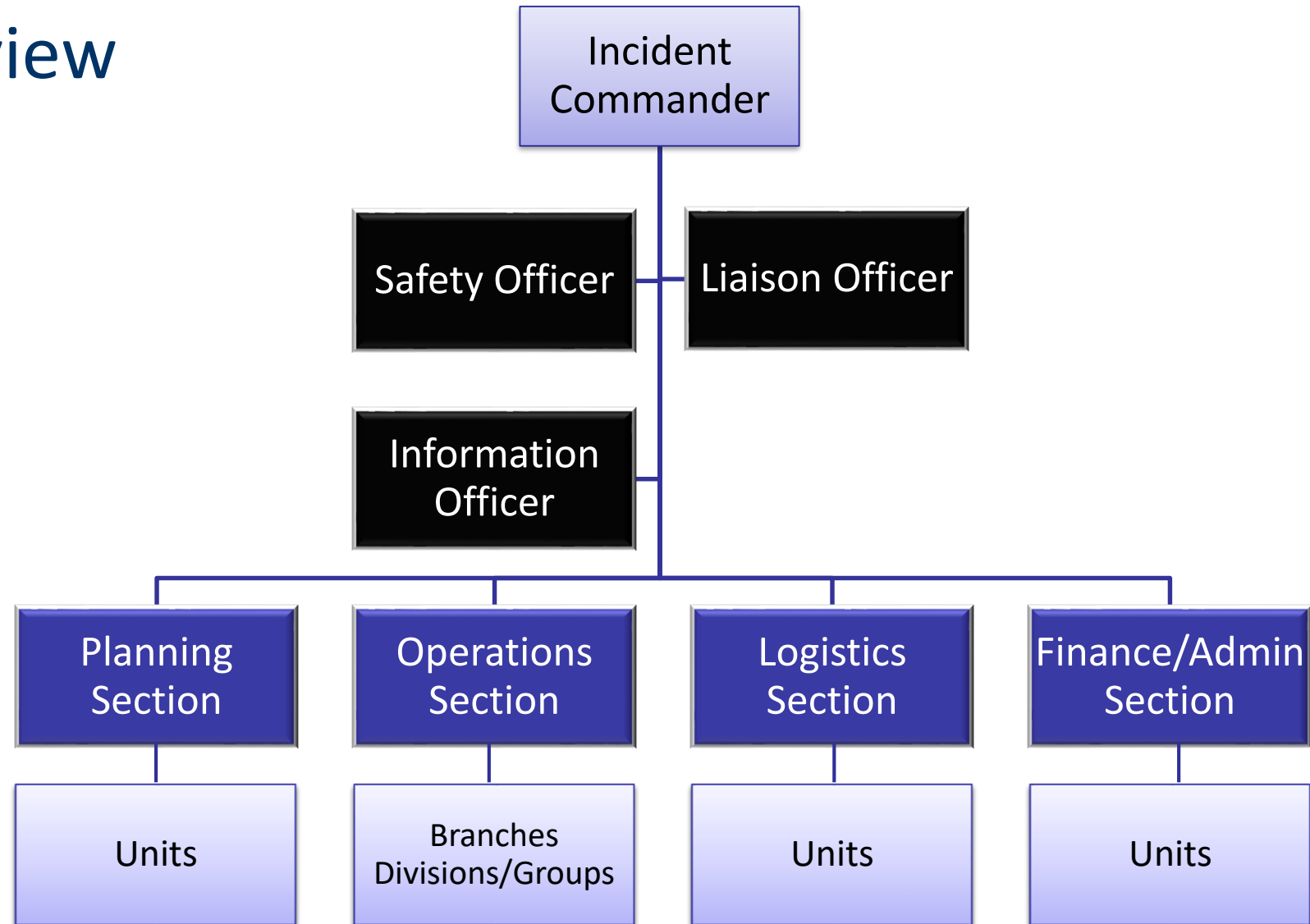
# ICS Overview



# ICS Overview



# ICS Overview

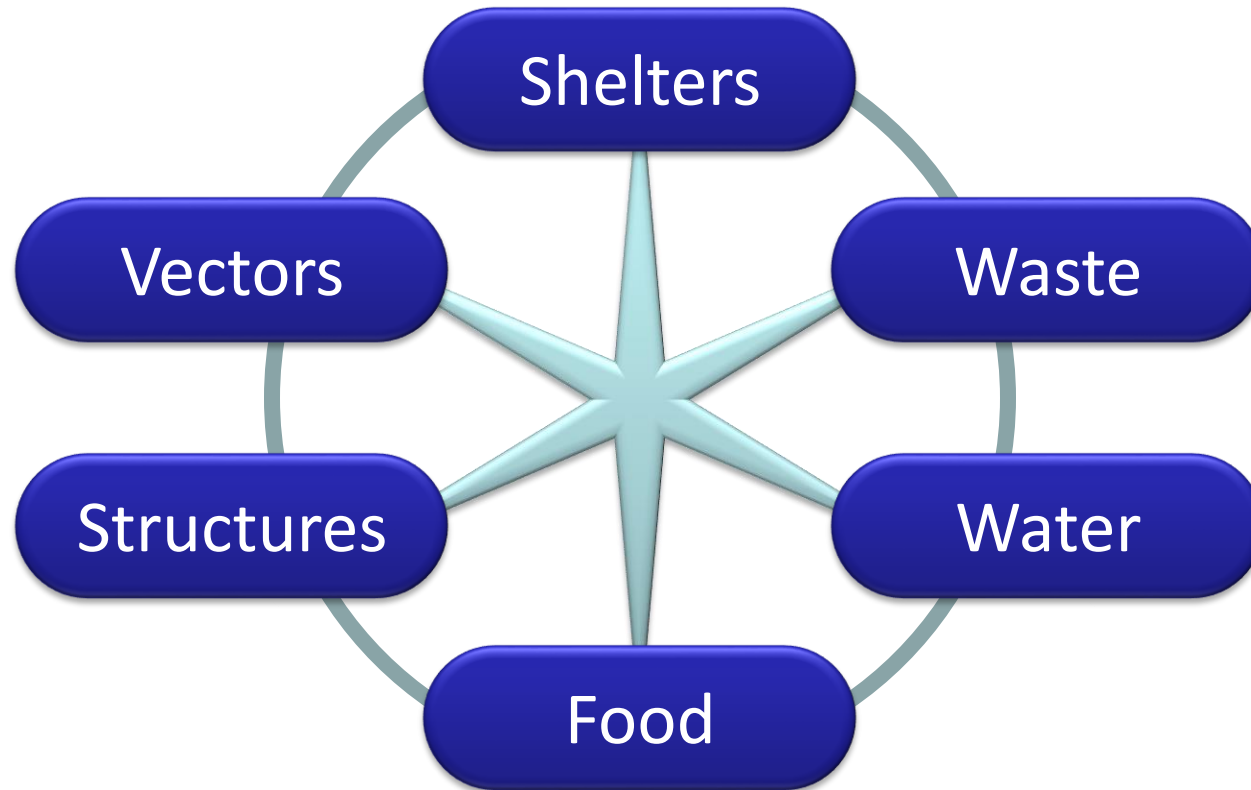


# Role of EH in a Shelter

# Food Safety Consultant

## Virginia Department of Health

# Inter-dependency of EH Areas of Responsibility



# Environmental Health Assessment Form For Shelters



## VDH ENVIRONMENTAL HEALTH ASSESSMENT FORM FOR SHELTERS For Rapid Assessment of Shelter Conditions during Disasters



### I. ASSESSING AGENCY DATA

<sup>1</sup>Agency /Organization Name \_\_\_\_\_ <sup>90</sup>Immediate Needs Identified: ☐ Yes ☐ No  
<sup>2</sup>Assessor Name/Title \_\_\_\_\_  
<sup>3</sup>Phone \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ <sup>4</sup>Email or Other Contact \_\_\_\_\_

### II. FACILITY TYPE, NAME AND CENSUS DATA

<sup>5</sup>Shelter Type ☐ Community/Recovery ☐ Special Needs ☐ Other \_\_\_\_\_ <sup>6</sup>ARC Facility ☐ Yes ☐ No ☐ Unk/NA <sup>7</sup>ARC Code \_\_\_\_\_  
<sup>8</sup>Date Shelter Opened \_\_\_\_/\_\_\_\_/\_\_\_\_ (mm/dd/yr) <sup>9</sup>Date Assessed \_\_\_\_/\_\_\_\_/\_\_\_\_ (mm/dd/yr) <sup>10</sup>Time Assessed \_\_\_\_:\_\_\_\_ ☐ am ☐ pm  
<sup>11</sup>Reason for Assessment ☐ Preoperational ☐ Initial ☐ Routine ☐ Other \_\_\_\_\_  
<sup>12</sup>Location Name and Description \_\_\_\_\_  
<sup>13</sup>Street Address \_\_\_\_\_  
<sup>14</sup>City / County \_\_\_\_\_ <sup>15</sup>State \_\_\_\_ <sup>16</sup>Zip Code \_\_\_\_\_ <sup>17</sup>Latitude/Longitude \_\_\_\_\_/\_\_\_\_\_  
<sup>18</sup>Facility Contact / Title \_\_\_\_\_ <sup>19</sup>Facility Type ☐ School ☐ Arena/Convention center ☐ Other \_\_\_\_\_  
<sup>20</sup>Phone \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ <sup>21</sup>Fax \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ <sup>22</sup>E-mail or Other Contact \_\_\_\_\_  
<sup>23</sup>Current Census \_\_\_\_\_ <sup>24</sup>Estimated Capacity \_\_\_\_\_ <sup>25</sup>Number of Residents \_\_\_\_\_ <sup>26</sup>Number of Staff / Volunteers \_\_\_\_\_

### III. FACILITY

<sup>27</sup>Structural damage ☐ Yes ☐ No ☐ Unk/NA  
<sup>28</sup>Security / law enforcement available ☐ Yes ☐ No ☐ Unk/NA  
<sup>29</sup>Water system operational ☐ Yes ☐ No ☐ Unk/NA  
<sup>30</sup>Hot water available ☐ Yes ☐ No ☐ Unk/NA  
<sup>31</sup>HVAC system operational ☐ Yes ☐ No ☐ Unk/NA

### VIII. SOLID WASTE GENERATED

<sup>64</sup>Adequate number of collection receptacles ☐ Yes ☐ No ☐ Unk/NA  
<sup>65</sup>Appropriate separation ☐ Yes ☐ No ☐ Unk/NA  
<sup>66</sup>Appropriate disposal ☐ Yes ☐ No ☐ Unk/NA  
<sup>67</sup>Appropriate storage ☐ Yes ☐ No ☐ Unk/NA  
<sup>68</sup>Timely removal ☐ Yes ☐ No ☐ Unk/NA



# Environmental Health Shelter Assessment Form Instruction Sheet

## VDH Environmental Health Shelter Assessment Form Instruction Sheet

### **I. ASSESSING AGENCY DATA**

1. Assessing Agency/Organization Name: self-explanatory.
2. Assessor Name/Title: self-explanatory.
3. Assessor Phone contact: self-explanatory.
4. Email or Other Contact: Note email or describe any other means of communication for assessor (e.g., radio, pager).

### **II. FACILITY TYPE, NAME and DATA**

5. Shelter Type. "Community/Recovery": general public. "Special Needs": population with specific medical requirements. "Other": relief workers base camp, etc.
6. ARC Facility: Is the shelter managed by the American Red Cross?
7. If #6 is yes, indicate ARC Facility code.
8. Date Shelter Opened: self-explanatory.
9. Date Assessed: self-explanatory.
10. Time Assessed: self-explanatory.
11. Reason for Assessment. "Preoperational": before opening. "Initial": first assessment after opening. "Routine": assessments occurring on a regular basis (e.g., daily, weekly). "Other": occurrence such as an outbreak or a complaint.
12. Location Name and Description: Example:

c. special needs shelters, 60–100 ft<sup>2</sup> per person.

34. Free of injury/occupational hazards: With regard to general safety, some examples include:
  - a. Is the facility free of frayed or exposed electrical wires, carbon monoxide hazards, hazardous materials, etc.?
  - b. Are on-duty staff and members wearing PPE?
35. Free of pest/vector issues: note presence of mosquitoes, fleas, flies, roaches, rodents, etc.
36. Acceptable level of cleanliness: self-explanatory.
37. Electrical grid system operational: self-explanatory.
38. If generator in use: check for appropriate location, capacity, adequate fuel and ventilation.
39. If #38 is yes, indicate whether the generator fuel type is gas, diesel, solar, etc.
40. Indoor temperature (°F): temperature measurement from a random location inside facility (ASCE standard for temperatures in buildings).

### **IV. FOOD**

41. Preparation on site: self-explanatory.
42. Served on site: self-explanatory.
43. Safe food sources: source

60. Hand-washing supplies available: water, soap, and paper towels; if water is unavailable, hand sanitizers (at least 60% alcohol).
61. Toilet supplies available: toilet paper, feminine hygiene supplies, and diapers/pads for children and adults.
62. Acceptable level of cleanliness: self-explanatory.
63. Sewage system type: self-explanatory.

### **VIII. SOLID WASTE GENERATED**

64. Adequate collection receptacles: minimum 1 (30-gal) container for every 10 persons.
65. Appropriate separation between medical/infectious waste and general refuse.
66. Appropriate disposal and labeling in approved containers.
67. Appropriate storage and separation from common areas.
68. Timely removal of waste – collected regularly.
69. Check all types of waste generated at facility (e.g., solid, hazardous, medical).

### **IX. CHILDCARE AREA**

70. Clean diaper-changing facilities: self-explanatory.
71. Hand-washing facilities available: for adults and children with paper towels, soap, and water.

# I. Assessing Agency Data

## I. ASSESSING AGENCY DATA

<sup>1</sup>Agency /Organization Name \_\_\_\_\_

<sup>90</sup>Immediate Needs Identified: ☐ Yes ☐ No

<sup>2</sup>Assessor Name/Title \_\_\_\_\_

<sup>3</sup>Phone \_\_\_\_ - \_\_\_\_ - \_\_\_\_

<sup>4</sup>Email or Other Contact \_\_\_\_\_

## II. Facility Type, Name, and Census Data

### II. FACILITY TYPE, NAME AND CENSUS DATA

<sup>5</sup>Shelter Type ☐ Community/Recovery ☐ Special Needs ☐ Other \_\_\_\_\_ <sup>6</sup>ARC Facility ☐ Yes ☐ No ☐ Unk/NA <sup>7</sup>ARC Code \_\_\_\_\_

<sup>8</sup>Date Shelter Opened \_\_\_\_/\_\_\_\_/\_\_\_\_ (mm/dd/yr) <sup>9</sup>Date Assessed \_\_\_\_/\_\_\_\_/\_\_\_\_ (mm/dd/yr) <sup>10</sup>Time Assessed \_\_\_\_:\_\_\_\_ ☐ am ☐ pm

<sup>11</sup>Reason for Assessment ☐ Preoperational ☐ Initial ☐ Routine ☐ Other \_\_\_\_\_

<sup>12</sup>Location Name and Description \_\_\_\_\_

<sup>13</sup>Street Address \_\_\_\_\_

<sup>14</sup>City / County \_\_\_\_\_ <sup>15</sup>State \_\_\_\_ <sup>16</sup>Zip Code \_\_\_\_\_ <sup>17</sup>Latitude/Longitude \_\_\_\_\_/\_\_\_\_\_

<sup>18</sup>Facility Contact / Title \_\_\_\_\_ <sup>19</sup>Facility Type ☐ School ☐ Arena/Convention center ☐ Other \_\_\_\_\_

<sup>20</sup>Phone \_\_\_\_-\_\_\_\_-\_\_\_\_ <sup>21</sup>Fax \_\_\_\_-\_\_\_\_-\_\_\_\_ <sup>22</sup>E-mail or Other Contact \_\_\_\_\_

<sup>23</sup>Current Census \_\_\_\_\_ <sup>24</sup>Estimated Capacity \_\_\_\_\_ <sup>25</sup>Number of Residents \_\_\_\_\_ <sup>26</sup>Number of Staff / Volunteers \_\_\_\_\_

## XI. Comments

**XI. COMMENTS** *(List Critical Needs on Immediate Needs Sheet)*

## XII. Immediate Needs Sheet

[illegible]





Photo by Liz Roll from FEMA

### III. Shelter Facility





### III. FACILITY

- |   |                              |                             |                                 |
|---|------------------------------|-----------------------------|---------------------------------|
| 27 Structural damage                      | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 28 Security / law enforcement available   | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 29 Water system operational               | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 30 Hot water available                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 31 HVAC system operational                | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 32 Adequate ventilation                   | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 33 Adequate space per person              | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 34 Free of injury /occupational hazards   | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 35 Free of pest / vector issues           | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 36 Acceptable level of cleanliness        | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 37 Electrical grid system operational     | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 38 Generator in use, 39 If yes, Type_____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| 40 Indoor temperature _____ °F            |                              |                             | <input type="checkbox"/> Unk/NA |



# Knowledge Check

**Which of the following areas are EHS responsibilities?**

Food                  Waste Water                  Crowd Management

Water                  Solid Waste                  Shelter Layout

Laundry              Traffic/Parking              Security

Mass Vaccination

# Knowledge Check

**Which of the following areas are EHS responsibilities?**

- |                  |                 |                  |
|------------------|-----------------|------------------|
| ✓ Food           | ✓ Waste Water   | Crowd Management |
| ✓ Water          | ✓ Solid Waste   | Shelter Layout   |
| ✓ Laundry        | Traffic/Parking | Security         |
| Mass Vaccination |                 |                  |

# Questions



[eprtraining@vdh.virginia.gov](mailto:eprtraining@vdh.virginia.gov)

## IV. Shelter Food



## IV. Shelter Food

**Special considerations are required in mass feeding operations:**

- Feed large numbers of responders and the affected public
- Managed by non-governmental organizations
- Prepared in a variety of locations: fixed or permanent

# Mass Feeding Operations: Pre-operational Assessment

- 24/7 management contact information
- Type of food operation
- Menu items
- Approved food suppliers

# Mass Feeding Operations: Pre-operational Assessment

- Food preparation, service, and disposal
- Food preparation schedule
- Food safety training of management and staff/volunteers
- Safe, approved water source

# Mass Feeding Operations: Pre-operational Assessment

- Sewage disposal
- Solid waste disposal
- Vector control and pest management
- Plans for disrupted utilities
- Personal hygiene



## IV. Shelter Food-Food Safety Goals:

- To reduce the risk of foodborne illness
- To intervene and ensure that corrective action is taken when food safety may be compromised
- To work with food operator to provide safe, sound, honestly presented food
- To educate the public and volunteers, food safety before, during, and after an emergency or disaster.

# Equipment and Methods for Ensuring Food Safety

- Approved food temperature measurement devices (e.g., thermocouple thermometer)
- Approved alcohol swabs
- Sanitizer measurement device
- Temperature strips

# Equipment and Methods for Ensuring Food Safety

- Flashlight
- Disposable gloves
- Hand-washing reminder signs
- Inspection forms and educational brochures as per district policy
- Camera

## IV. Shelter Food

### IV. FOOD

- |   |                              |                             |                                 |
|---|------------------------------|-----------------------------|---------------------------------|
| <sup>41</sup> Preparation on site               | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>42</sup> Served on site                    | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>43</sup> Safe food source                  | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>44</sup> Adequate supply                   | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>45</sup> Appropriate storage               | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>46</sup> Appropriate temperatures          | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>47</sup> Hand-washing facilities available | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>48</sup> Safe food handling                | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>49</sup> Dishwashing facilities available  | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>50</sup> Clean kitchen area                | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |

# Knowledge Check

True/False. In general, shelters must discard donations of cooked foods from the public and not serve them to shelter residents because the food preparation methods and standards of outside sources are unknown

# Knowledge Check

True/False. In general, shelters must discard donations of cooked foods from the public and not serve them to shelter residents because the food preparation methods and standards of outside sources are unknown



## VI. Shelter Health/Medical

- Respond to food borne illness complaints, reported out breaks, & unusual food related injuries
- Work effectively with Nurses and Epidemiologists
- Perform environmental assessments during FBI outbreaks

### VI. HEALTH / MEDICAL

<sup>55</sup>Reported outbreaks, unusual illness / injuries ☐ Yes ☐ No ☐ Unk/NA

# Questions



[eprtraining@vdh.virginia.gov](mailto:eprtraining@vdh.virginia.gov)



# Drinking Water

Emergency Preparedness and Security Coordinator  
Virginia Department of Health  
Office of Drinking Water

## V. Shelter Drinking Water and Ice

### V. DRINKING WATER AND ICE

- |                                     |                              |                             |                                 |
|-------------------------------------|------------------------------|-----------------------------|---------------------------------|
| <sup>51</sup> Adequate water supply | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>52</sup> Adequate ice supply   | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>53</sup> Safe water source     | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>54</sup> Safe ice source       | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |

# Types of Drinking Water Advisories

Boil

Do Not Drink

Do Not Use



# Types of Drinking Water Advisories

## Boil

Do Not Drink

Do Not Use

Boil Water Advisory (BWA) - DO NOT DRINK TAP WATER WITHOUT BOILING IT FIRST

- Use boiled or bottled water for drinking, beverage and food preparation, and making ice until further notice.



# Types of Drinking Water Advisories

## Boil

Do Not Drink

Do Not Use

Boil Water Advisory (BWA) - DO NOT DRINK TAP WATER WITHOUT BOILING IT FIRST

- Boiling kills bacteria and other organisms in the water. Boiling is the preferred method to assure that the tap water is safe to drink.



# Types of Drinking Water Advisories

## Boil

Do Not Drink

Do Not Use

Boil Water Advisory (BWA) - DO NOT DRINK TAP WATER WITHOUT BOILING IT FIRST

- Bring all tap water to a rolling boil, let it boil for one (1) minute, and let it cool before using, or use bottled water.



# Types of Drinking Water Advisories

Boil

DO NOT DRINK THE WATER.

**Do Not Drink**

- Do not use the water for drinking, making ice, brushing teeth, washing dishes, or preparing food until further notice.

Do Not Use





# Types of Drinking Water Advisories

Boil

DO NOT USE THE WATER.

Do Not Drink

**Do Not Use**

- You should not use the water for drinking, making ice, brushing teeth, washing dishes, washing clothes, bathing/showering, food preparation, or toilet flushing.
- Bottled water should be used for all of the above necessities until further notice.



# Questions



[eprtraining@vdh.virginia.gov](mailto:eprtraining@vdh.virginia.gov)

# Links for additional information

<http://www.vdh.virginia.gov/drinking-water/emergency-preparedness-and-security/>

<https://www.cdc.gov/healthywater/emergency/index.html>

# Shelter Sanitation

**Scott M. Vogel**

Environmental Health Coordinator

Private Well Program

Office of Environmental Health Services

Virginia Department of Health

## VII. Shelter Sanitation

### VII. SANITATION

- |  |                                    |                                  |                                   |                                 |
|--|------------------------------------|----------------------------------|-----------------------------------|---------------------------------|
| <sup>56</sup> Adequate laundry services                | <input type="checkbox"/> Yes       | <input type="checkbox"/> No      | <input type="checkbox"/> Unk/NA   |                                 |
| <sup>57</sup> Adequate number of toilets               | <input type="checkbox"/> Yes       | <input type="checkbox"/> No      | <input type="checkbox"/> Unk/NA   |                                 |
| <sup>58</sup> Adequate number of showers               | <input type="checkbox"/> Yes       | <input type="checkbox"/> No      | <input type="checkbox"/> Unk/NA   |                                 |
| <sup>59</sup> Adequate number of hand-washing stations | <input type="checkbox"/> Yes       | <input type="checkbox"/> No      | <input type="checkbox"/> Unk/NA   |                                 |
| <sup>60</sup> Hand-washing supplies available          | <input type="checkbox"/> Yes       | <input type="checkbox"/> No      | <input type="checkbox"/> Unk/NA   |                                 |
| <sup>61</sup> Toilet supplies available                | <input type="checkbox"/> Yes       | <input type="checkbox"/> No      | <input type="checkbox"/> Unk/NA   |                                 |
| <sup>62</sup> Acceptable level of cleanliness          | <input type="checkbox"/> Yes       | <input type="checkbox"/> No      | <input type="checkbox"/> Unk/NA   |                                 |
| <sup>63</sup> Sewage system type                       | <input type="checkbox"/> Community | <input type="checkbox"/> On site | <input type="checkbox"/> Portable | <input type="checkbox"/> Unk/NA |

## VII. Shelter Sanitation

What is the primary job as EHS in shelter?

PREVENTION:

- Gastrointestinal diseases
- Respiratory diseases
- Environmental hazards
- Vectors

ADVISOR vs. REGULATOR









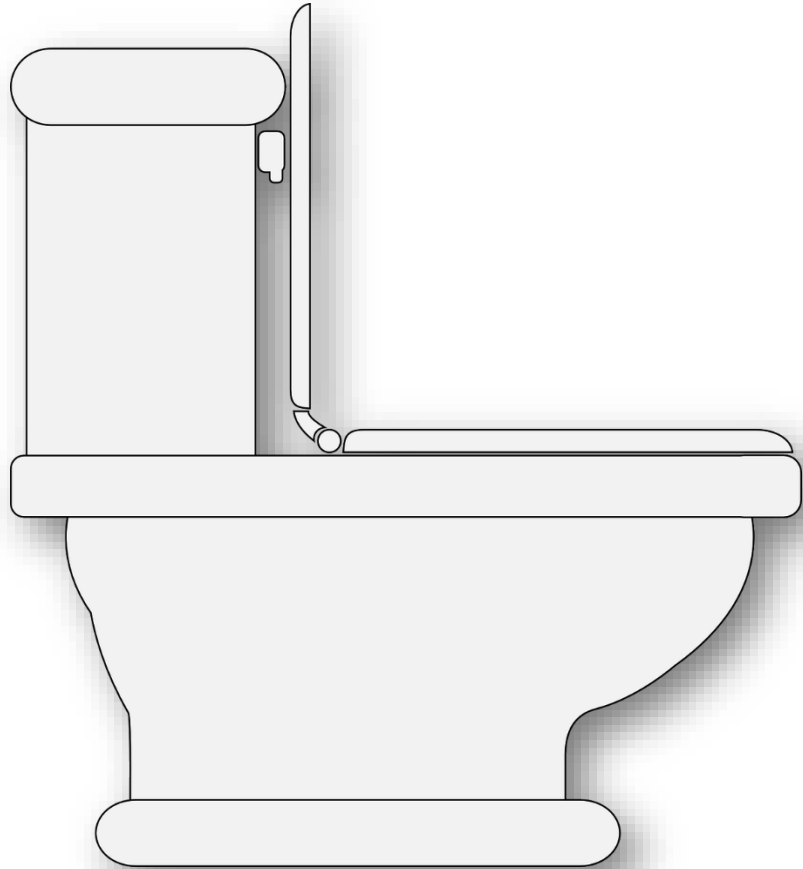
## VII. Shelter Sanitation

### Laundry

- Cross Contamination - Area to store soiled laundry/Area to store clean AND clearly marked
- Gloves!
- 105-120 degrees for 10 minutes wash
- 160 degrees for 30 minutes dry time
- ...or use bleach, or use a contractor for the entire operation







## VII. Shelter Sanitation

### Toilets:

- 1 per 20 in general (1 per 20 females: 1toilet/1urinal for 25-59 males)
- ADA Facilities
- Men's and Women's separated
- WELL STOCKED! Consider season, location





What is wrong with this picture?

## VII. Shelter Sanitation

### Showers:

- 1 bathing facility per 15 people
- Men's and Women's







## VII. Shelter Sanitation

### Hand washing stations:

- 1 per 15 people
- Hot water, if available
- Well stocked with soap, hand towels, and/or sanitizer
- Signs and education materials

## VII. Shelter Sanitation

Service Daily



Service Every 3 Days



## VII. Shelter Sanitation

- Hyper Cleaning! Not standard facility cleaning, frequent
- Trained cleaning staff! - sharps, spills, biohazard or chemical, spill kits
- Proper disinfectants AND concentrations
- Methods that are appropriate
- Cleaning staff protection – masks, gloves, etc.





## VII. Shelter Sanitation



### Bodily Fluids Guidance – CDC

- Protective mask, glove, gown, goggles
- Clear the area – no cleaning with people close by if you can help it!
- 1:10 ratio of 5% bleach to water (not hot water)
- Treat and remove organic material (wash and rinse), treat again with disinfectant (sanitize)
- <https://www.cdc.gov/infectioncontrol/guidelines/environmental/background/services.html>

## VII. Shelter Sanitation

### **General Assessment/Inspection Considerations:**

- Rapid vs. comprehensive inspections
- Length of operation or scope of event
- Type of operation and disaster
- Timing: meal prep, maintenance and cleaning, crowds, etc.

All affects what you need to focus on and how to spend time

## VII. Shelter Sanitation

### General Assessment/Inspection Considerations:

- Try to correct things while you are there
- Discuss results with manager and get signature – you may need to see multiple managers (shift/areas of management)
- Consider options, fixes, procedural changes, improvisation (like coolers for handwashing), critical control points, EDUCATION and STAFF TRAINING – USE YOUR SKILLS!

## VII. Shelter Sanitation

Provide educational resources, signs, etc.

**Protect Your Water Well During Hurricanes/ Flooding**

Last year more than **750,000** private wells were affected by hurricanes and flooding.

**HERE ARE SOME TIPS IF YOUR WELL IS FLOODED DURING A HURRICANE**

-  Do not drink the water or wash with it, but use an alternative supply such as bottled water.
-  Stay away from the well pump while it's flooded to avoid electrical shock.
-  Get a qualified water well contractor or pump installer to — Clean and turn on the pump, flush the well, disinfect the well.


 Check with the local emergency management agency about any guidance relating to local conditions or specific contamination threats due to area flooding.

For more information:  
<http://wellowner.org/hurricane-resources/>




**NGWA**  
National Ground Water Association

**Dirty Hands Can Be Scary!**

**Prevent Illness**  
Wash your hands often with soap and water.



[www.dirtyhandscanbes scary.com](http://www.dirtyhandscanbes scary.com)

# Knowledge Check

What is the #1 most effective way to prevent the spread of disease in a shelter?

*Handwashing*



# Knowledge Check

True/False. The number of brick and mortar fixtures in the shelter determine the number of people that it can serve?



# Knowledge Check

True/False. To clean up bodily fluids, add one cup of bleach to 1 gallon of hot water and mop up the fluids.



# Questions



[eprtraining@vdh.virginia.gov](mailto:eprtraining@vdh.virginia.gov)



## VIII. Shelter Solid Waste Generated



## VIII. Shelter Solid Waste Generated

### VIII. SOLID WASTE GENERATED

- |   |                                |                                    |                                  |                                 |
|---|--------------------------------|------------------------------------|----------------------------------|---------------------------------|
| <sup>64</sup> Adequate number of collection receptacles | <input type="checkbox"/> Yes   | <input type="checkbox"/> No        | <input type="checkbox"/> Unk/NA  |                                 |
| <sup>65</sup> Appropriate separation                    | <input type="checkbox"/> Yes   | <input type="checkbox"/> No        | <input type="checkbox"/> Unk/NA  |                                 |
| <sup>66</sup> Appropriate disposal                      | <input type="checkbox"/> Yes   | <input type="checkbox"/> No        | <input type="checkbox"/> Unk/NA  |                                 |
| <sup>67</sup> Appropriate storage                       | <input type="checkbox"/> Yes   | <input type="checkbox"/> No        | <input type="checkbox"/> Unk/NA  |                                 |
| <sup>68</sup> Timely removal                            | <input type="checkbox"/> Yes   | <input type="checkbox"/> No        | <input type="checkbox"/> Unk/NA  |                                 |
| <sup>69</sup> Types                                     | <input type="checkbox"/> Solid | <input type="checkbox"/> Hazardous | <input type="checkbox"/> Medical | <input type="checkbox"/> Unk/NA |

# Knowledge Check

**Which of the following are key critical components of shelter assessment tools?**

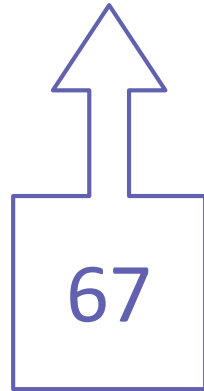
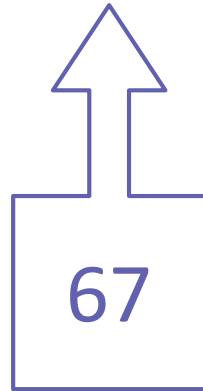
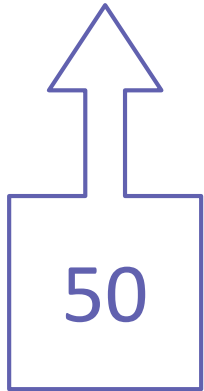
- ✓ a. Food Service
- ✓ b. Sanitary Facilities
- ✓ c. Housekeeping
- ✓ d. Laundry Facilities
- ✓ e. Drinking Water Safety

# Knowledge Check

A shelter is developed to accomodate 1000 residents. What are the bathroom/handwashing/shower/laundry requirements?

# Knowledge Check

A shelter is developed to accommodate 1000 residents. What are the bathroom/handwashing/shower/laundry requirements?





## IX. Shelter Childcare Area

### IX. CHILDCARE AREA (If Provided By the Shelter)

- |  |                              |                             |                                 |
|--|------------------------------|-----------------------------|---------------------------------|
| <sup>70</sup> Clean diaper-changing facilities   | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>71</sup> Hand-washing facilities available  | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>72</sup> Adequate toy hygiene               | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>73</sup> Safe toys                          | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>74</sup> Clean food/bottle preparation area | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>75</sup> Adequate child/caregiver ratio     | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>76</sup> Acceptable level of cleanliness    | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |

*Next Slide*

## IX. Shelter Childcare Area

### Adequate child/caregiver supervisor ratio (75):

- Birth-12 months (3:1)
- 13-30 months (4:1)
- 31-35 months (5:1)
- 3 years (7:1)
- 4-5 years (8:1)
- 6-8 years (10:1)
- 9-12 years (12:1)

## X. Shelter Sleeping Area



## X. Shelter Sleeping Area

### X. SLEEPING AREA

- |   |                              |                             |                                 |
|---|------------------------------|-----------------------------|---------------------------------|
| <sup>77</sup> Adequate number of cots/beds/mats | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>78</sup> Adequate supply of bedding        | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>79</sup> Bedding changed regularly         | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>80</sup> Adequate spacing                  | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |
| <sup>81</sup> Acceptable level of cleanliness   | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unk/NA |



# Questions



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# Training Courses

- **Environmental Health and Shelters**, CDC/Tulane University, TRAIN ID# 1009207
- **Environmental Health Training in Emergency Response (EHTER) Operations course**, CDC, hosted by the Federal Emergency Management Agency's (FEMA) Center for Domestic Preparedness (CDP)

# Contact Information

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# VDH Resources

Office of Emergency Preparedness

<http://vdhweb.vdh.virginia.gov/emergency-preparedness/>

Directory

<http://vdhweb.vdh.virginia.gov/emergency-preparedness/emergency-preparedness-and-response-resources/>

OEP Leadership Distribution list

[dutyofficer@vdh.virginia.gov](mailto:dutyofficer@vdh.virginia.gov)

Office of Environmental Health

<http://vdhweb.vdh.virginia.gov/environmental-health-services/>

A close-up photograph of a hand being washed under a stream of water. The water is clear and flowing, creating a dynamic splash around the hand. The skin of the hand is wet and glistening. The background is dark and out of focus, emphasizing the hand and the water. The text "Thank You" is overlaid in a white, sans-serif font, positioned diagonally across the upper right portion of the image.

*Thank You*