Nebraska Outdoor Bridge Laboratory (NOBL)

Safety Protocol and Information

Yutan/Venice Location

Glenn Cunningham Reservoir Site

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Nomenclature

Name	Description
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
ATV	All-terrain vehicle
DHHS	Department of Health and Human Services
EHS	Environmental Health Services
EPA	Environmental Protection Agency
GFCI	Ground-fault circuit interrupters
NDOT	Nebraska Department of Transportation
NIOSH	National Institute for Occupational Safety and Health
NOBL	Nebraska Outdoor Bridge Laboratory
PFD	Personal flotation device
PPE	Personal protective equipment
SPF	Sun protection factor
OSHA	Occupational Safety and Health Administration
UNL	University of Nebraska-Lincoln
USGS	United States Geological Survey

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1. Introduction

The Nebraska Outdoor Bridge Laboratory (NOBL) facility consisting of two decommissioned steel bridge structures near Yutan/Venice located on Highway N-92 and one decommissioned concrete bridge structure located on Highway N-36 in north Omaha. These structures are planned to be used for research, education, and outreach as a joint venture between the University of Nebraska and Nebraska Department of Transportation. The objective of the NOBL project is to transform the two bridge sites (for a total of three bridges) into a national research and educational facility for bridge health and testing, which allows accessing various nondestructive and destructive evaluation and test verifications. The project PI is Dr. Richard L. Wood and co-PIs are Drs. Christine E. Wittich, Joshua S. Steelman, Jinying Zhu, Daniel G. Linzell, and Jay A. Puckett. In addition, a total of 36 students and postdoctoral research associates as of Fall 2019, including Dr. Mohammad Ebrahim Mohammadi, are predicted to participate in this research project at various stages. Mr. Peter Hilsabeck will serve as the Department of Civil and Environmental Engineering lab manager. All the project participants, including students, lab staff, contractors, researchers, scientists, and engineers, shall refer to and comply with the procedures outlined within this document as well as their own institution or firm's health and safety policies for the minimum safety requirements.

2. Site Hazard Assessment and Safety Training

As laid out by the University of Nebraska-Lincoln (UNL) Environmental Health and Safety (EHS) Virtual Manual, it is essential to perform a site hazard assessment to identify potential hazards (EHS 2020a and b). This should be done prior to the beginning of the fieldwork each day and as the tasks or potential hazards change. Note that within this project, the bridge sites are planned only to be accessed for inspection or any fieldwork during the daylight hours and in non-inclement weather conditions. Members of the team will be dispatched in at least pairs. Members will not access the worksite(s) without at least one other team member in the immediate area.

Reading through this safety protocol does NOT substitute for taking the minimal required safety courses and reading thru the UNL EHS Virtual Manual resource that has been set up for the NOBL team. Individual training and equipment records will be maintained by the NOBL team and available upon request. Note all interested parties should complete the NOBL Lab Interest Form available on the website or at https://go.unl.edu/nobl_form.

3. Equipment Description and Safety

The bridge structures span over the Platte River (two steel bridges outside of Yutan/Venice) and the Glenn Cunningham Reservoir (concrete bridge in north Omaha) and access to various elements of these bridge is required. Much of the observation and many of the tasks will be done from the ground, on a ladder, from an NDOT snooper truck (vehicle-mounted aerial lift), boat, or, if absolutely necessary, from a tube and clamp-style scaffolding temporarily erected at the site. An all-terrain vehicle (ATV) may also be used to transport tools and equipment to the site.

3.1 Snooper truck

Within this project, aerial lifts are used to access girders and transverse beams, lower bridge deck parts to install sensors, collect images, lidar scans, or visual assessments. OSHA (2020) requires that operators of aerial lifts receive training and demonstrate competency. The operators of the aerial lifts within this project are supplied and trained by NDOT. The lab manager will train riders of the lift of the minimal equipment-specific training needed.

Within this project, the snooper truck will be used to access to hard to reach areas for data collection and visual assessments on a regular basis. The snooper truck(s) is provided by the Nebraska Department of Transportation (NDOT). In addition, NDOT provides the operators and organizes the transportation of the snooper to the project site. As these are decommissioned bridges, there is no need for traffic control considerations during the operation of snooper. Note that, in addition to instructions from the NDOT operator, the Department of Civil and Environmental Engineering lab manager, Mr. Peter Hilsabeck will

train personnel and researchers who are planning to work on the snooper truck (EHS 2020b). The following items are determined based on the NDOT regulations and procedures for using the snooper truck:

1. Maximum number of personnel on the platform
2. Fall protection type during working on the platform (as well as fitting of equipment)
3. Area of operation
4. Rescue plan

The following equipment will be used at various stages of the project to provide access or transport the needed equipment for tests:

1. Ladders
2. Boat
3. An all-terrain vehicle or ATV
4. Scaffolding, tube, and clamp-style

It is vital for project participants to review and follow the outlined safety regulations in regard to using a ladder, boat, ATV, and scaffolding installation and usage. Therefore, testing can be performed effectively in a safe manner. To use other means of transportation or access that is not listed here, please contact and consult with project PI, Dr. Richard L. Wood.

3.2 Ladder info

The following procedures must be considered when using ladders. For a more detailed explanation, please see OSHA publication 3124-12R 2003, Stairways and Ladders: A Guide to OSHA Rules provides additional guidance.

1. Select ladders based on anticipated use, surrounding hazards, and rated load capacity
2. Ladders should be tied off if it is anticipated that they could slide or gusty winds are anticipated. People should discontinue the use of a ladder if inclement weather approaches.

3. Do not exceed the safe working height of the ladder, or ascend the ladder higher than recommended by the manufacturer
4. Do not position a ladder in an area where it can be bumped or dislodged
5. Face the ladder while climbing and descending
6. Maintain three points of contact at all times

3.3 Boat

Within this project, a boat, likely a flat bottom Jon boat outfitted with a trolling motor, is used to access the structural and nonstructural elements of the bridges for various goals. This includes but is not limited to visual inspection, remote sensing data collection, and sensor installation. In general, the boat must be registered with the state of Nebraska and only used by an experienced operator who is trained and over the age of 18. The following rules listed below should be followed during boat operation. For more detailed information and description about these rules, please check the boat operation regulations detailed by the Nebraska Game and Parks.

1. Boat operators should not exceed a speed of more than 5 MPH (8.05 km/hr).
2. The boat should not operate in an area marked off or set aside as a prohibited area.
3. The boat should not be left in any public waters.
4. Boat operators born after 12/31/1985 must complete a Boating Safety Course and be in possession of a course certificate when operating the boat. The course is offered by Nebraska Game and Parks (www.outdoornebraska.gov/boatereducation).
5. The boat should be inspected before and when loaded. The boat must retain at least one-half of the total depth of the boat above the water when measured at the center of the boat and must meet the requirement of the manufacturer's capacity plate.
6. The following equipment is required to be onboard anytime your boat is afloat. Refer to the Nebraska Game and Parks guide for specific details:
    a. Life jackets/Flotation devices

b. Fire Extinguisher (if motorboat has enclosed fuel tank, enclosed space or enclosed engine)
c. Oars
d. Bailing bucket
e. Muffler
f. Whistle or bell
g. Backfire flame arrestor
h. Ventilating

7. Every boat (except sailboards) must carry one U.S. Coast Guard-approved Type I, II, III, or V life jacket of the suitable size for each person on board. Each vessel (except personal watercraft canoes, kayaks, and sailboards) must carry one U.S. Coast Guard-approved Type IV throwable device.
8. Boat in use from sunset to sunrise (at night), must display the following lights as specified. No other lights may be used, except a spotlight for difficult navigation.
    a. The white light must be visible for a distance of at least two miles. The red and green lights must be visible for a distance of at least one mile. The green light should be visible from the starboard side and the red from the port side.
    b. All sailboats, when mechanically powered, shall display the lights required for that class of a mechanically powered boat. All motorboats and sailboats must carry a lantern for a flashlight for emergencies. All vessels, while at anchor, must display the 360-degree white light (except while anchored in a docking or anchorage area).

3.4 All-terrain vehicle

Within this project, the ATV is used for a similar proposal to that of a boat that is used to access the structural and nonstructural elements of the bridges for various goals. This includes but is not limited to visual inspection, remote sensing data collection, and sensor installation. Within this project, it is planned that only Mr. Peter Hilsabeck, Department of Civil and Environmental Engineering lab manager, will

operate ATV to move tools and equipment. In addition, the following rules will be followed during the usage of ATV:

1. The area should be assessed for weather, road, soil, and water conditions before accessing the area on the ATV.
2. Anyone must wear a helmet when riding an ATV.
3. No riders, in addition to the operator, are allowed.
4. Tools and equipment should be properly restrained before moving the vehicle.
5. The ATV will be properly restrained and safely transported to the work sites.

More information on the safe operation of ATV's may be found in the UNL EHS All-Terrain Vehicle Safe Operating Procedure found at https://ehs.unl.edu/sop/s-atv.pdf. In the future, any authorized person who has not previously operated the ATV should learn and familiarize himself with the vehicle prior to operating using the online resources that provide free training. For example, www.ATVsaftey.org.

3.5 Scaffolding, tube and clamp-style

Within this project, tube and clamp-style scaffolding will be used as a last resort to access hard to reach areas of the bridges either for detailed inspection, data collection, or sensor installation. No suspended scaffolding will be used. The bridge lab manager will serve as the competent person and oversee the rental, design, installation, use, and tear down of the equipment.

OSHA (2020a) has specific and detailed requirements concerning the use of scaffolding to protect against injury resulting from falls, collapse, or failure of the support structure, falling tools, materials, or debris. Similar to portable ladders, the following general requirements apply:

1. The foundation upon which scaffolding rests must be firm, level, and capable of carrying the load without settling or displacement
2. Unstable objects such as boxes, rocks, bricks, etc. must not be used as supports or for leveling

3. Use must be consistent with the rated load, and the design must meet or exceed OSHA's standard planking must also adhere to OSHA design and use requirements, including overlap/securing and maximum spans. Scaffolding higher than 60 ft (18.2 m) in height must be designed by a Professional Engineer
4. Scaffolding must be inspected before each use
5. Damaged or defective scaffolding must be immediately removed from service
6. Guardrails or personal fall arrest systems are required
7. Using scaffolds is prohibited during storms and high winds and in near proximity to overhead electrical lines. (Note: No overhead power lines are currently installed in the areas)
8. Surfaces must be kept clean and free of excess debris, tools, or other trip hazards to ensure enough spacing for working

The scaffolding installation should meet the standards in several provisions, as described by OSHA (2020a):

1. Assess the work area, site conditions, and work to be performed.
2. Conduct a pre-operation inspection to verify that all scaffold components are functioning correctly and/or are correctly assembled.
3. Keep the platform free from tripping hazards such as hand tools, equipment, or materials.
4. No wheels will be used on the footings of the scaffolding.
5. Guardrail height—The height of the top rail for scaffolds manufactured and placed in service after January 1, 2000, must be between 38 inches (0.9 meters) and 45 inches (1.2 meters). The height of the top rail for scaffolds manufactured and placed in service before January 1, 2000, can be between 36 inches (0.9 meters) and 45 inches (1.2 meters)
6. Crossbracing—When the crosspoint of crossbracing is used as a top rail, it must be between 38 inches (0.97 m) and 48 inches (1.3 meters) above the work platform.

7. Midrails— Midrails must be installed approximately halfway between the top rail and the platform surface. When a crosspoint of crossbracing is used as a mid-rail, it must be between 20 inches (0.5 meters) and 30 inches (0.8 m) above the work platform.
8. Footings—Support scaffold footings shall be level and capable of supporting the loaded scaffold. The legs, poles, frames, and uprights shall bear on base plates and mudsills.
9. Platforms—Supported scaffold platforms shall be fully planked or decked.
10. Guying ties and braces—Supported scaffolds with a height-to-base of more than 4:1 shall be restrained from tipping by guying, tying, bracing, or the equivalent.
11. Capacity—Scaffolds and scaffold components must support at least four times the maximum intended load.
12. Training—Employers must train each employee who works on a scaffold on the hazards and the procedures to control the hazards.
13. Inspections—Before each work shift and after any occurrence that could affect structural integrity, a competent person must inspect the scaffold and scaffold components for visible defects, which could affect the structural integrity and to authorize prompt corrective actions.
14. Erecting and Dismantling—When erecting and dismantling supported scaffolds, a competent person must determine the feasibility of providing a safe means of access and fall protection for these operations.
15. To inspect manila or plastic (or other synthetic) rope being used for top rails or mid-rails.
16. Follow the manufacturer's allowable load limit for the scaffold components and platforms, along with recommended bracing to ensure a rigid and structurally-sound scaffold.

4. Safety Topics

4.1 Fall protection

This section discusses the fall protection safety details for personnel who will be at heights over six feet while using ladders, aerial lifts (snooper truck), and work on scaffolding. Working at heights poses the hazard of falling; as a result, the safety precaution in regard to fall protection is 100% tie off at all times whenever personnel is working over 6 feet in height off of the ground or next highest structure. This will be accomplished using guardrails, if available and appropriate personal fall protection equipment, such as a harness and lanyard.

4.2 Personal protective equipment (PPE)

The project participants should use personal protective equipment (PPE) to enhances safety during the fieldwork. The PPE gear selected for personnel should be selected, fit, and maintained appropriately to protect workers according to their activity and reviewed by the lab bridge manager prior to being issued. In general, the PPE used should consist of the items listed below based ANSI, ASTM, and OSHA regulations/standards:

1. **High visibility apparel including vests, coats, hats, and pants** that meet ANSI/ISEA 107-2004ANSI Class II, III / ISEA "American National Standard for High-Visibility Safety Apparel."
2. **Long pants and sleeved shirts** other than high visibility apparel
3. **Footwear** to protect foot, ankle, and toes that meet ASTM F2413.
4. **Gloves** to protect hands.
5. **Hard hats** that meet the requirements specified by ANSI Z98.1.
6. **Safety glasses and goggles** to protect eyes that meet the requirements specified by ANSI Z87.1-1989.
7. **Hearing protection** must be used by personnel when working in high noise environments. If high noise levels are suspected, contact the EHS office to have a documented hazard assessment

conducted. They can help identify less noisy methods, equipment and get UNL participants enrolled in the program, if necessary.

8. **Tyvek suits** should be used in case of general clean-up or if there is a potential to be exposed to an environmental hazard.
9. **Air-purifying respirators** that meet NIOSH approval with an oil-proof P class filter must be used by personnel if the fieldwork will involve exposure to airborne dust, toxic gaseous chemicals, or biological hazards. If this equipment is to be used, each participant must be enrolled in the UNL Respiratory Protection Program. Contact the UNL EHS office for further information and to set up an initial training session.
10. **Coast Guard-approved life jackets** that roll head up must be worn when working over water and not 100% tied off for fall protection. Life jackets will also be worn when in the boat or working near water or wading water.
11. During fieldwork, clothing to provide **protection from the sun, including hats, sunglasses, light-colored long pants, and sleeve shirts, as well as routine use and frequent reapplication of sunscreen** with at least a sun protection factor (or SPF) of 30, is advisable. Details about the heat stress can be found in the UNL EHS Virtual Manual (EHS 2020).
12. **To protect from cold stress, layered and loose clothing** can provide insulation, comfort, and proper blood circulation. In addition, to reduce body heat loss, the head, hands, face, and ears should be covered. Details about the cold stress can be found in the UNL EHS Virtual Manual (EHS 2020).
13. To avoid insect stings and bites, use **insect repellants** as directed on the label and wear long pants and sleeve shirts, gloves, closed-toed footwear that covers the ankle. In addition, do not wear perfumes, hairsprays, or other scented products that may attract insects. Details about insect stings and bites can be found in the UNL EHS Virtual Manual (EHS 2020).

4.3 Other potential site hazards

During the site survey for other hazards, personnel should also consider the environmental hazards as discussed by EHS (2020):

a) Traffic Control: All three of these bridges have been decommissioned by the State of Nebraska, meaning that there should be no active motor vehicle traffic in and on these bridges. Team members working on-site will park vehicles in the designated spots away from traffic on active roadways and any other equipment being operated it the area. They will wear high visibility clothing and remain vigilant for moving equipment at all times.

b) Lack of Illumination: spotlights or flashlights should be provided to increase visibility.

c) Walking Sloped Surface Site Access: As the project sites potentially require the personnel and researchers to access and work on the sloped surfaces and grounds, the site assessment survey must also approximately identify these areas and plan to prepare appropriate access and egress. In addition, the plan should consider falling materials within the sloped areas, identify loose rocks or soil.

d) Overhead or Adjacent Area Hazards: There are no railroads, pipelines, or electrical lines over the site area.

e) Confined Space: At the Yutan site, there are utility boxes and manholes (utility or maintenance holes) that are considered “confined spaces” and which can partially be flooded, as seen in the past. Personnel and researchers are prohibited from working in any confined spaces unless adequate protection has been provided. If the entrance to a confined space is deemed necessary, personnel will contact the EHS office immediately before any work is performed. EHS will conduct a site audit and assist in the entry process.

f) Biological Hazards: The girders should be assessed for the presence of bats or pigeon droppings or fungus prior to any work within these areas. Due to potentially harmful consequences such as Histoplasmosis, personnel and researchers must use appropriate PPE as discussed in the earlier

section of this report before work. In addition, the site assessment should consider potential dangers such as snakes and other wildlife. Personnel must use the appropriate PPE when working in areas of long grasses and dense vegetation. Lastly and more importantly, the site survey must plan to reduce the identified potential hazard by changing and modifying the test or data collection procedures or introduce administrative control to mitigate the risk. For more details about safety assessments, please see the Job Safety Assessment Procedures provided by EHS (2020).

4.4 Considerations for working near or wading water

Within this project, it is predicted that the team will potentially work near or wade a shallow body of water to collect data or inspect the bridge conditions. Here, the shallow water refers to a water body with a depth of one ft or less. In these conditions, the team should minimally follow procedures listed by the guide to safe field operations of the United States Geological Survey or USGS (2020):

1 The team should review the field plans to determine the best section for wading and if any potential risks are noted and the maximum velocity and depths that may be encountered.

2 The team should determine whether the river stage is rising or falling and should be aware of rapid rises in the river stage before wading and anticipate and allow for changes in water flow conditions. To determine raising or falling of water level, one practical idea is to select an object (such as rock, stump, mark along the bank, etc.) that is just above the water surface and keep watching it to determine if the river stage is rising or falling.

3 The personnel who are wading the water should always probe the stream bed ahead with a rod when moving in the water.

4 The personnel who are wading the water should keep their feet spread apart and alignment of legs parallel to the flow for better stability.

5 If the water velocity becomes too high for safe wading, personnel in the water must not turn around as when the greater area of the front or back of the body is exposed to the current, sweeping

downstream becomes more likely. The best practice for the personnel is to back out carefully and bracing themselves with the wading rod.

6 Personnel should wear a personal flotation device (PFD) or coast guard-approved life jackets when wading water.

7 Personnel who are wading the water should not wear boots or waders that are too tight or too loose.

8 Personnel who are wading the water should be aware of sand channels where potholes, quicksand, and scour can be hazardous; in particular, the areas close to bridge piers are prone to scour.

9 Personnel who are wading the water should be aware of slick, steep banks, and swampy areas and watch for debris and ice drifting.

5. Chemical Safety

As OSHA (2020c) described, the chemical hazards and toxic substances introduce various types of health hazards, including but not limited to irritation, sensitization, and physical hazards (e.g., flammability, corrosion, and explosibility). It is anticipated that very few chemicals (spray paint, adhesives, adhesive remover such as acetone and gasoline as a fuel source) will be introduced to the work sites. All empty containers, visible waste, contaminated rags, paper, and PPE will be collected and properly disposed of in the engineering bridge lab in Lincoln.

Other chemical hazards pertain to the possibility of an exposure to lead, crystalline silica, and/or asbestos that is already in use on the bridges as lead paint, concrete, and construction material (e.g., concrete, sprayed-on insulation or fireproofing). It is anticipated that areas on existing structures will be minimally disturbed on the surface in an area of one square inch to ensure that the sensor will properly adhere to the structure. If any greater disturbance (including surface painting (in excess of routine sensor marking), grinding, sanding, welding, etc.) to an area of the structure is planned, personnel must contact the EHS office immediately before any work is performed for a complete hazard assessment. Power tools used on site should be equipped with a HEPA-filtered method of dust collection.

Information on how personnel and researchers possibly are exposed to the lead, silica, and asbestos is provided in this section.

- Asbestos and crystalline silica are naturally occurring minerals, while lead is a naturally occurring metal whose use and removal is highly regulated by OSHA and the EPA.
- All three are known or probably human carcinogens.
- Other potential health hazards:
    - Asbestos has shown effects including asbestosis (inflammation and permanent damage to the lungs) and other nonmalignant lung and pleural disorders.
    - Respirable crystalline silica also has shown permanent damage to the lungs, an increased presence of tuberculosis (in those with silicosis), chronic pulmonary disease (COPD), and other illnesses such as renal disease.
    - Lead has shown effects on the blood, kidneys, and nervous, immune, and cardiovascular systems.
- Potential routes of exposure to the body are primarily achieved thru inhalation of dust or fumes and ingestion.
- Good personal hygiene and handwashing should be practiced. No smoking, eating, or drinking should occur in areas where these substances may be present.

6. Tools

Throughout the project, various tools may be used by researchers and personnel to collect data, plan, and conduct tests. Researchers not only have to be trained to use the equipment properly but also must follow the standard procedures to use the equipment as detailed by the equipment manufacturer. In addition, if equipment requires training, the users must participate the required training prior to using the equipment.

6.1 Communication

Within this project, the researchers and team must plan in regard to communication devices depending on the scope of the fieldwork during testing or data collection. All the researchers and personnel that are present within the project site during site visits, tests, or data collections must be equipped with a communication means and be able to communicate with each other directly. The communication can be through two-way walkie-talkies or cell phones.

6.2 Power tools, electrical safety and extension cords

As laid out by OSHA (2020g), the cordless, battery powered tools used within this project must be equipped with safety switches and guards. Power tools should be equipped with HEPA-filtered dust collection systems, or additional safeguards should be in place. Contact EHS for more information. In addition, a workspace where the equipment is used and wires are routed should be kept as dry as possible to prevent accidents. All extension cords should be rated for outdoor use, equipped with GFCI protection and regularly inspected to ensure that they are in good condition. Any damage to the insulation, prongs or wiring and the extension cord should immediately be removed from service and properly discarded. Only double insulated power tools should be used on site.

To prevent hazards associated with the use of power tools, OSHA (2020g) recommends the following precautions listed below. For more detail about the power tools, please visit the OSHA (2020g).

1. Users must not carry or hold a power tool by the cord
2. Users must not yank the cord to detach the power tool cord from the receptacle
3. The cords and wires must be placed and stored away from heat, oil, and particularly sharp edges
4. The power tools should be disconnected during storage
5. The power tools should be disconnected from power prior to servicing and cleaning, and when changing accessories such as blades, bits, and cutters

6. Personnel that are not involved in using the power tools must remain at a safe distance from the work area
7. If needed, the operator of the power tools should secure the working area with C-clamps or a vise
8. The operator of the power tools must avoid accidental starting by not hold fingers on the switch button while carrying a plugged-in tool
9. The operators must follow the equipment's user manual instructions for charging and maintaining the equipment including but not limited to lubricating and changing accessories
10. The operators must be positioned comfortably and balanced when operating power tools
11. The operators must be equipped with appropriate PPE when operating the power tools such as portable hand grinder or drill.
12. The operators of power tools must remove all damaged power tools from use and tag the damaged equipment appropriately
13. If extension cords are used within the project, the outlets they are plugged into such as on the snooper truck or the cords themselves must be equipped with ground-fault circuit interrupters (GFCI) as described by OSHA (2020h)

7. Emergency Response Action Plans

Each team will be trained on the proper way to contact authorities in case of an emergency. The information will be specific to each worksite and contain the proper street address to give to the 911 dispatcher. Written information will be available at each site and to each member of the team. A basic first aid kit will be present at the worksite as a part of the regular tools and equipment taken to the worksite. It will be inspected and maintained by the NOBL team.

- **Yutan/Venice:**
    - The site is referred to as "Highway 92 (or West Center Road) and Platte River **Decommissioned** Bridges". It will be necessary to state which bridge (east or west) as well as the location on/under the bridge.

- Depending on which bridge (east or west), either the Yutan or Waterloo Volunteer Fire Department will be dispatched to respond. Both have the equipment, trained members on the regional dive team and are trained to perform over the water and swift water rescues.
- Yutan Volunteer Fire Department may be contacted at the non-emergency message phone (402) 625-2273 or by email at yutanvfd@yutanvfd.org. Their website is http://yutanvfd.org/default.htm.
- Waterloo Volunteer Fire Department may be contacted at the non-emergency message phone (402) 779-4250. Their website is http://www.waterloofire.ne.gov/.

- **Highway 36 – Glenn Cunningham Reservoir:**
    - The site is temporarily referred to as "Highway 36 and Glenn Cunningham Reservoir **Decommissioned** Bridge". It will be necessary to state which side of the bridge as well as the location on/under the bridge.
    - Further investigation and outreach need to be done with the Douglas County Department of Roads Engineer to determine which of four area volunteer and paid fire departments would be responding to the site and the official street address. Depending on the exact location, it is possible that the Irvington, Bennington or Ponca Hills Volunteer Fire Departments or the Omaha Fire Department (paid) may respond. Confirmation will be made that each of these departments has the proper equipment, trained members on the regional dive team, and are trained to perform over the water and swift water rescues.
    - Douglas County Engineer's office may be contacted at (402) 444-6372. Their website is https://www.dcengineer.org/.

Details on contacting the responding volunteer fire department for each site will be established and an effort will be made to contact each one to review possible needs for emergency rescue on site will be made in the future.

8. Safety Resources and References

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