SURVIVAL FACTORS GROUP

CHAIRMAN FACTUAL REPORT

ATTACHMENT 5
MOUNT VERNON FIRE INCIDENT COMMAND REPORT

Redacted

Bridge Collapse
Mount Vernon, WA; 05/23/2013

HWY-13-MH-012
(28 Pages)

Interstate 5 Bridge Collapse
Incident Command Report
May 26th, 2013

Incident Numbers:
Mount Vernon Fire: 2013-1697
State Mission Number: 13-1762

Incident Commander: Battalion Chief
Photos: Firefighter/Paramedic
Battalion Chief

Executive Summary

Shortly after 1900 hours on May 23rd, 2013 the Skagit 911 center began receiving 911 calls reporting that the northern part of the I-5 Skagit River Bridge had collapsed and there were cars in the water.

Shortly thereafter Skagit 911 simultaneously dispatched the Mount Vernon Fire Department, The Burlington Fire Department, Central Valley Ambulance Authority, and the Skagit County Sheriff's Office Water Rescue Unit to the incident. That response consisted of 3 Engines, a Ladder Company, 5 ALS Ambulances, 2 Fire Department Command Officers, 2 Rescue Boats, and 2 deputies with SAR responsibilities with a total of 28 personnel.

Three people were rescued from their cars by the Skagit County Sheriff's Water Rescue Unit with assistance from a US Navy Rescue Swimmer. The people rescued were all hypothermic, two of the people had minor injuries, and one person had more serious injuries. There were no fatalities.

Incident Response and Operations

At approximately 1900 hours on May 23rd, 2013 the Skagit 911 center began receiving 911 calls reporting that the northern part of the I-5 Skagit River Bridge had collapsed and there were cars in the water.

I was dispatched along with the initial units to the incident. During the response I reviewed the information provided by Skagit 911 on the MDC and was also provided with a verbal report by the dispatcher. Skagit 911 confirmed that the northern part of the I-5 Bridge over the Skagit River had collapsed and that there were cars in the water.

During the response I contacted Skagit 911 via radio and requested SCSO for watercraft support. I was informed by Skagit 911that they had already notified them and that they were responding. Based on the location of the incident and anticipated rescue operations I decided to respond to the north side of the incident via Whitmarsh Rd. As I crossed the Riverside Drive Bridge I had a full view of the incident and observed at least 2 vehicles in the water and 2 people either sitting on top of their cars or in the process of doing so.

As I arrived on scene I established Whitmarsh Command as I had not heard any other units arrive on scene. I initially surveyed the scene from the top of the levee and made the following observations:

- The northern span of the bridge had collapsed into a V-shaped pattern and appeared to be sitting on the bottom of the river.

- There was severe damage to the truss system of the collapsed section including fractured steel members.

- On the bridge pier to the south of the collapsed section the connections had pulled from the bolts and there was damage to the concrete portion of the pier. However, the pier appeared to be plumb and level.

- The next span to the south had what appeared to be severe damage to the 3rd truss member from the north.

- There were quite a few cars on the remaining three spans and the southern approach span in the northbound direction.

- The northern approach span appeared intact, the bridge pier appeared to be plumb and level and the connections to the collapsed span had pulled out of the pier causing damage to the concrete.

- There appeared to be three vehicles in the water: 1 Brown pickup truck, 1 orange SUV, 1 upside down vehicle.

- The Pick-up and SUV each had one occupant sitting on top of the vehicles.

During my initial size-up E111 arrived at the bridge from the south and walked out on the span. I was informed by Lt. [redacted] that he saw the three vehicles. The SUV and the pick-up had people sitting on their roofs and that the pickup had a third occupant who was lying on the front seat and appeared to be unconscious. During this conversation I instructed [redacted] to evacuate the people from their vehicles on the bridge and designated him as Division A. I also had Lt. [redacted] quickly look down river in attempt to ascertain if we had any vehicle occupants floating down the river. He stated that he could not see anyone and then proceeded to evacuate the bridge. Additionally, I assigned M129 to proceed a half a mile down river where ALT [redacted] established an observation point on the river at pre-established river point 8 (see attached map).

After I talked with E111, Lt. [redacted] from E1811 approached and suggested that we establish a rope line down to the water. I instructed him to set up on the Westside of the bridge and, later on, to also put a ladder in place to ease river egress. In order to quickly accomplish this task I assigned additional resources (L125) to assist. I also assigned Lt. [redacted] as the safety officer to monitor this activity.

After talking with Lt. [redacted] I walked over the westside of the bridge to view the incident from a different angle. Once there I was able to determine that the upside down vehicle appeared to be a travel trailer. At this point information from WSP troopers on scene confirmed that the brown pickup was towing a travel trailer and that according to several witnesses that only two vehicles appeared to have gone down with the bridge; however; at this point it was unknown how many occupants were in the vehicles. Additionally, I was told that a truck had struck the bridge possibly causing the collapse.

Once on the westside of the bridge I encountered SCSO deputy [redacted] We had a conversation regarding the ETA of the SCSO rescue boat (30 min ~) and where we would remove the patients from the water. It was decided that we would bring them to the river bank adjacent to the northern pier as we had a calm eddy current there and the water was deep enough to get a boat to the shore. At this point I had Lt. [redacted] also run a ladder down the bank to facilitate easy egress. Deputy [redacted] joined the unified command team as did the WSP trooper, BPD command personnel, and CVAA PM [redacted]. PM [redacted] indicated that she would set up the triage group and would handle patient care.

During this phase of the incident and while waiting for the rescue boats the following actions/events took place:

- Skagit 911 had contacted the Coast Guard for air resources which I approved. ETA 60 minutes.

- I was notified by Skagit 911 that a Helicopter from Snohomish County would also be en-route.

- I was notified that NAS Whidbey had dispatched a Sea Hawk helicopter. They arrived within about 20 minutes of notification. Their initial assignment by me was to check down river to ensure that there were no victims floating down the river. After confirming this they landed and a Navy corpsman and rescue swimmer came to the ICP. Additional discussions with the corpsman included the Navy serving as an air ambulance for critical trauma, if needed. The corpsman, PM [redacted] and I agreed that would be plan. As a result of that decision and the fact we were going to put their swimmer in the water to assist with the rescue of the people from the pickup they kept the Sea Hawk spooled up ready to launch at a moment's notice.

- [redacted] interim DEM Director, came to the ICP where we discussed opening the EOC and calling Northwest Washington Incident Management Team, a FEMA trained AHIMT with extensive all-risk experience. We both agreed quickly that opening the EOC was a good idea along with calling the Type 3 team. While the rescues would most likely be over within the hour the logistical needs of WADOT, WSP, and local law enforcement would go on for the next 24 to 36 hours and that would require a Type 3 Incident Management Team to support.

- I noticed that the people awaiting rescue were starting to shiver indicating the progression of hypothermia. I anticipated that by the time these people made it to shore that they would probably be significantly hypothermic and unable to walk plus we might have a major trauma patient as well. Therefore, I made the decision that all patients would be loaded into stokes baskets and brought up the slope to triage. This was communicated to Lt. [redacted] L125 carries 1 stokes

basket so more were ordered through Skagit 911 from Burlington FD and Sedro-Woolley Fire Department.

- I was notified by Skagit 911 that a CBP rotor with FLIR capabilities was available and I confirmed my desire to have them to continue to respond. Shortly thereafter a CBP/ICE representative arrived and joined the unified command.

- One other important incident management objective was accomplished during this time as well. I gathered up the command team and talked about logistics as many agencies were starting to order equipment to support their night operations. In order to avoid duplication of efforts I suggested and all agreed, to consolidate all of our resource orders through Skagit DEM. I assigned Chief [redacted] Skagit County Fire District 6, to facilitate this process.

- Also during this time quite a number of self-dispatched resources began to arrive. The remarkable thing about this is that they checked in at the ICP or, in the case of some watercraft checked in via radio. There was only one case of freelancing that was quickly squelched by the incident command team.

Once the SCSO watercraft arrived the rescue of the individuals in the cars proceeded forthwith. The first person rescued was the person on top of the SUV. He was brought to shore after a short delay, went through triage, and was transported to UGH.

The next two rescues were a bit more challenging as the SCSO and [redacted] Marine Rescue boats were unable to pull right up to the vehicle due to collapse debris on the Westside and downed power lines and swift currents on the east or upriver side. Also, the SCSO personnel were concerned about entering the water without proper swift water equipment as entering the water would be required in order to rescue the more seriously injured female patient. Deputy [redacted] and I had a quick conversation with the Navy rescue swimmer and confirmed his ability to assist with this situation. He boarded the SCSO boat and assisted in the rescue of the people in the pickup truck. Both patients were transported to Skagit Valley Hospital.

During the rescue of the pickup occupants the Snohomish rotor arrived. Through a Skagit SAR representative [redacted]) we were able assign them to making the second and more complete search of the river all the way down to the Westside Bridge. During this search they thought they may have at least one subject in the water as someone near or in the water was waving to them and pointing emphatically down the river. Shore based units were dispatched and made contact with the individual who stated that they were pointing out the remains of the travel trailer that were floating down the river. Thus the report of possible victims in the water 1.5 miles downstream was unfounded. After the search the Snohomish County rotor was released. During this part of the rescue the subject of a Temporary Flight Restriction (TFR) came up. I made the decision to request a 5 mile/5,000 foot TFR around the incident in order to prevent an aircraft accident. While I am not sure who actually made the request I believe [redacted] or the Navy facilitated this request. I know it got done because NWIMT got a call

from a State office on Friday morning wanting to get permission to fly through the TFR in order to bring the Congressional Delegation into the scene.

About the same time that Snohomish County was finishing their air search the CBP rotor arrived. In order to be as thorough as possible I had them use their FLIR device to check the river and its banks for possible victims. The FLIR gave us an opportunity to scour the river in a different fashion for victim(s) hidden in the brush and debris along the river banks. I am happy to report no other victims were located. Reports from the aircraft, E111 and 1802's observations that they could only see the two vehicles in the relatively shallow collapse area served to confirm that other witnesses only saw two vehicles go down with the bridge. An attempted search by SCSO divers of the collapse area was halted to lack of daylight, swift currents, and generally very dangerous conditions.

At this point the rescue operation was declared over. No injuries were incurred by any of the first responders. Safety of the rescuers and responders during all phases of the initial actions was strongly emphasized and appeared to be followed by all involved.

RADIO COMMUNICATIONS

Skagit County Fire and EMS agencies are dispatched and communicate over a VHF multi-site radio system that consists of 1 dedicated dispatch frequency and 10 tactical channels. Five of those tactical channels are repeated and 5 are simplex.

The incident occurred in an area of excellent radio coverage with six of the tactical channels available for use in this area. The incident utilized two tactical channels. TAC 3 was used for Incident Operations and TAC 9 was used to communicate with DEM for logistics requests.

Radio channel crowding was not an issue. All agencies used good radio discipline and a lot of the needed tactical communications were conducted face to face. This left the radio open for critical communications.

Skagit County Law Enforcement agencies use a multi-site UHF radio system. Each Law Enforcement Agency has their own main operations frequency and there are two county-wide law tactical repeaters. Law enforcement agencies used their own frequencies for operations and did not report any communications difficulties. The most critical law communications took place on the SCSO frequency between Deputy [redacted] and the Rescue Boat. No communications issues were reported.

I think one of the things that made this incident go so well was that there were no major communications headaches with the VHF and UHF radio systems. Where at many large scale incidents communications is one of the top things that fail, at this incident communications was one of the strong points and helped facilitate our success.

A major benefit of how we structured the unified command also assisted greatly in streamlining communications. All the key command staff from each agency were located in one spot which facilitated rapid and effective communications between agencies operating in different frequency bands and between federal and non-federal agencies.

CELLULAR AND LANDLINE COMMUNICATIONS

Like many other major incidents across the nation cellular communications became totally unavailable due to overwhelming usage. This situation was anticipated by myself and talked about with the unified command group. What was also interesting was that the regular telephone network became unusable as well presumably also due to overwhelming usage. Even more intriguing is that GETS and WPS were not available and/or did not work.

There were fiber optic and power distribution lines that crossed the river on the bridge. Since it is suspected that the fiber optic cable was damaged during the event it could have been a factor in the failure of the landline phone networks. Additionally, it is possible that the power outage caused by the severing of the power lines that crossed the bridge had an impact on the PSTN. Some follow-up with the phone and cellular companies should be an important goal during the after action review of this incident.

SKAGIT 911

Skagit 911 played a major role in the success of this incident. The initial dispatch was spot on. [redacted], based on initial reports, chose to dispatch this incident as an MCI major on initial notification. This resulted in a large component force of multiple agencies and jurisdictions being simultaneously notified of the event. This actually worked to decrease overall incident radio traffic and allowed the fire dispatchers to focus on the resource needs of the incident and provided the Incident Command Team with the proper resources during the initial phases of the incident.

[redacted] was the primary dispatcher on the Fire/EMS radio system. As the incident commander it was apparent that [redacted] experience and calm helped him anticipate my needs as the IC which resulted in a very smooth and effective radio interface between Skagit 911 and I, the dispatchers working the other radio consoles and the entire Incident Command Team. [redacted] had a major impact on the effectiveness of communications and the successful outcome of this incident.

SUMMARY

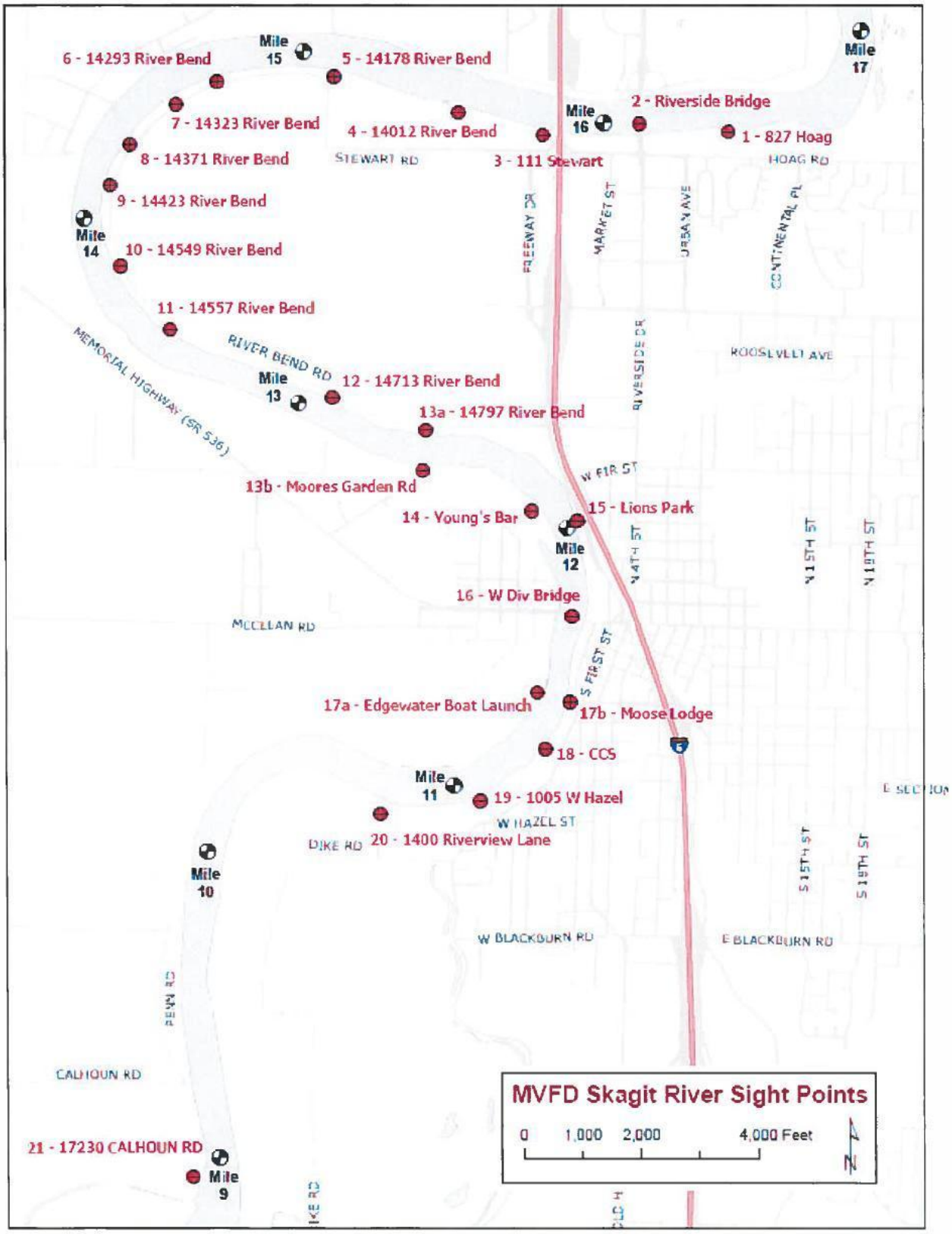
Three people were successfully rescued from the Skagit River following a motor vehicle collision with the support structure and subsequent catastrophic failure of the I-5 Bridge over the Skagit River. The success of the operation is rooted in the rapid development of an effective incident management structure, effective communications, and productive relationships amongst the on-scene leadership from all of the agencies involved.

DEFINITIONS

AHIMT – All Hazard Incident Management Team
CBP – U.S. Customs and Border Patrol
CVAA – Central Valley Ambulance Authority
DEM – Department of Emergency Management
EOC – Emergency Operations Center
FEMA – Federal Emergency Management Agency
FLIR – Forward Looking Infrared
GETS – Government Emergency Telephone System
ICE – Immigration and Customs Enforcement
ICP – Incident Command Post
MDC – Mobile Data Computer
NWIMT – Northwest Washington Incident Management Team
PM - Paramedic
PSTN – Public Switched Telephone Network
SAR – Search and Rescue
SCSO – Skagit County Sheriff's Office
TFR – Temporary Flight Restriction
WADOT – Washington State Department of Transportation
WPS – Wireless Priority Service

Appendix A

River Map
Swiftwater/Flood Rescue Checklist


Mile 15
6 - 14293 River Bend
5 - 14178 River Bend
Mile 17
7 - 14323 River Bend
4 - 14012 River Bend
Mile 16
2 - Riverside Bridge
1 - 827 Hoag
8 - 14371 River Bend
STEWART RD
3 - 111 Stewart
HOAG RD
9 - 14423 River Bend
Mile 14
10 - 14549 River Bend
FREEWAY DR
MARKET ST
URBAN AVE
CONTINENTAL PL
11 - 14557 River Bend
MEMORIAL HIGHWAY (SR 536)
RIVER BEND RD
RIVERSIDE DR
ROOSEVELT AVE
Mile 13
12 - 14713 River Bend
13a - 14797 River Bend
13b - Moores Garden Rd
W FIR ST
14 - Young's Bar
15 - Lions Park
Mile 12
N 14TH ST
N 15TH ST
N 19TH ST
16 - W Div Bridge
MCLEAN RD
S FIRST ST
17a - Edgewater Boat Launch
17b - Moose Lodge
18 - CCS
Mile 11
19 - 1005 W Hazel
W HAZEL ST
DIKE RD
20 - 1400 Riverview Lane
Mile 10
S 15TH ST
S 19TH ST
W BLACKBURN RD
E BLACKBURN RD
CALHOUN RD
MVFD Skagit River Sight Points
0 1,000 2,000 4,000 Feet
21 - 17230 CALHOUN RD
Mile 9

Swiftwater/ Flood Search and Rescue (SF/SAR)
Incident Commander Checklist

Phase I: Size up

- ☐ **Primary Assessment**
  - ☐ Establish Command (ICS, consider Unified Command)
  - ☐ Secure Witness / RP, interview
  - ☐ Determine location/number/condition of victim(s)
    - ☐ Point Last Seen (PLS)
  - ☐ Identify immediate hazards
    - ☐ Water level rising/falling (mark water level)
    - ☐ Surface loads (debris), hydraulics, strainers, hypothermia
- ☐ **Secondary Assessment (Evaluate incident needs)**
  - ☐ **RESCUE or RECOVERY mode?**
  - ☐ Initiate pre-planned response as appropriate:
    - ☐ Sheriff (River Boat from Burlington)
    - ☐ SAR Special Rescue Team (Swiftwater Tech's, Zodiak boat, Rope Rescue)
    - ☐ George Larson Marine Rescue (River Boat, Hovercraft)
    - ☐ Dive Rescue (Divers, River Boat)
  - ☐ Consider additional resources
  - ☐ Establish Logistics support
    - ☐ Rehab for cold rescuers

Phase II: Pre-Rescue Operations

- ☐ Secure general scene, deny entry
- ☐ Secure rescue scene
  - ☐ Limit risk to untrained rescuers
  - ☐ Assure team response to opposite bank
  - ☐ PPE required within 10 feet of bank
  - ☐ Assign downstream safety (Throw bags)
  - ☐ Assign upstream spotters
- ☐ Tag-In all personnel
- ☐ Establish Communication Plan:
  - ☐ assign tactical and command channels
- ☐ Form Incident Action Plan
  - ☐ Talk (Self Rescue), Reach, Throw, *Wade, *Row, *Go, Helo
- ☐ Backup plans
- ☐ Subject Personal Protective Equipment (PFD, Helmet, Chem-light)
- ☐ Pre-Rescue briefing

Phase III: Rescue Operations

- ☐ Implement primary action plan
  - ☐ *Contact Subject
  - ☐ *Apply Subject's PPE
  - ☐ *Remove subject to safe area
- ☐ Transfer to ALS, Consider hypothermia

Phase IV: Termination

- ☐ Personal Accountability Report (PAR)
- ☐ Consider De-Con of rescuers

Appendix B

Photos