# 1. Risk Assessment for: Driving through flood waters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **WORK LOCATION:** | **Various (Throughout City)** | **DESCRIPTION OF WORK:** | **Driving through flood waters** | | |
| **COMPLETED BY**: | **Nathan Peters** | **ASSESSMENT DATE:** | **May 10, 2017** | **RANKING:** | **Medium** |

**2. WORK ACTIVITIES- (Include PPE Requirements for Quick Reference)**

|  |
| --- |
| **List Task Activity: Driving through flood waters to sandbag areas, provide alerts and evacuations, delivery of supplies and any other reason why you would need to cross the flood waters**. |
| **PPE Required: High Visibility Vest, communication device (cell/2-Way), PFD (as a precautionary measure for if getting stranded in the flood water)** |

**3. HAZARDS & RISK LEVEL RATINGS: SCORE = C + P + E = Rate** 3-4 are L**OW** 5-6-7 are **MEDIUM** 8-9 are **HIGH** priority

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HAZARD #** | **HAZARD IDENTIFICATION** | **CONSEQUENCES** | **PROBABILITY** | **EXPOSURE** | **RISK** | **RATING**  **L/M/H** |
|  | Unknown depths and potential debris | 3 | 3 | 3 | 9 | High |
|  | Standing water (15cm/6 inches or less) | 1 | 3 | 3 | 7 | Medium |
|  | Standing water (30cm/1 foot or less) | 2 | 2 | 2 | 6 | Medium |
|  | Standing Water (60 cm/2 feet or less) | 3 | 2 | 2 | 7 | Medium |
|  | Flowing Water (potential to float away) | 3 | 2 | 2 | 7 | Medium |
|  | Downed electrical lines (electrocution hazard) | 3 | 2 | 1 | 6 | Medium |
|  | Biological contaminants (Needles, dirty water, etc.) | 2 | 2 | 2 | 6 | Medium |
| **RISK TOTAL:** | | **2** | **2** | **2** | **6** | **Medium** |

**Add up the individual columns: (Consequence, Probability, Exposure, Risk and divide by number of hazards)**

**4. MATRIX FOR RANKING THE HAZARDS:**

|  |  |  |  |
| --- | --- | --- | --- |
| **SCORE** | **1** | **2** | **3** |
| **CONSEQUENCES:** | first aid / minor damage | lost time injury/moderate damage | fatality / major damage |
| **PROBABILITY:** | unlikely | possible | likely |
| **EXPOSURE:** | rarely (less than 1/month) | often ( 3 times/week) | everyday |

**5. CONTROL MEASURES FOR EACH HAZARD IDENTIFIED IN SECTION 3**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **HAZARD #** | **LIST ALL EXISTING CONTROL MEASURES**  **(Eliminate, Substitute, Engineering, Administrative, PPE)** | **RECOMMENDATIONS** | **Date required** | **Person Responsible** | **Initial when complete** |
|  | Avoid if possible- drive around, use a vehicle with higher clearance (trucks), watch other vehicles to see how they fare, if you can’t see any road markings there is a potential that the road has washed out underneath- if necessary cross in a steady motion- too fast you will lose traction and steering and too slowly you’ll get stuck. If large debris visible contact EOC and get the proper equipment out to safely remove the debris. | Don’t drive through unknown water unless absolutely necessary. |  |  |  |
|  | Proceed steady and slow, if you are in a passenger car you are running the risk of brake, steering and engine damage. Use trucks that have clearance and more weight. |  |  |  |  |
|  | At 1 foot of water, a passenger car should **NO** longer attempt to cross as they have the potential to float away. If in truck with clearance proceed steady and slow |  |  |  |  |
|  | At 2 feet of water- **NO** Pickup trucks or SUV’s are to pass through. May need to procure certain equipment to facilitate a safe crossing. | **DO NOT ATTEMPT to CROSS** |  |  |  |
|  | At the first sign of downed electrical- call 911, alert the EOC and stay at the location with 4-Ways and beacons on to ensure no one else attempts crossing. EOC will contact Fortis to come to site. |  |  |  |  |
|  | Proper hygiene practices (hand washing, avoid touching mouth, eyes, face, nose) Have a needle disposal kit in the truck in the chance that a needle has washed up. | Needle training for anyone that handles biologicals. |  |  |  |

**6. HIERARCHY OF CONTROL MEASURES: (Must be followed in the order below)**

|  |  |  |
| --- | --- | --- |
| **ORDER** | **CONTROL** | **DESCRIPTION** |
| **1** | **ELIMINATION:** | Can the hazard be removed at the source? Can the task be eliminated entirely? Example: eliminating the need to have a worker enter an excavation by hydro-excavating to expose underground infrastructure. |
| **2** | **SUBSTITUTION:** | Can a hazard, hazardous process or hazardous material be substituted with one with no hazards? Example: using salt water brine instead of a chemical for deicing the roads. |
| **3** | **ENGINEERING:** | Engineering controls include isolation, ventilation and equipment modification. These controls focus on the source of the hazard. Example: a guard placed around a saw blade, or a shoring system placed in an excavation. |
| **4** | **ADMINISTRATIVE:** | Remove or reduce the exposures by reducing the duration, frequency and severity of exposure to hazards. Example: changes to work procedures & practices, scheduling, job rotation, breaks during heat/cold exposure. |
| **5** | **PPE:** | Personal Protective Equipment does not control the hazard but reduces the effect of exposure to the hazard has on the worker. PPE must always be the last line of defense Example: earplugs, latex gloves, CSA boots, CSA Hard Hats |

# 7. REVIEWED BY:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **DATE** | **REVISION DATE** | **PRINT NAME** | **POSITION** | **SIGNATURE** |
| **May 10/17** |  | **Sarah Josefson** | **Safety Coordinator** | **Sarah Josefson** |
|  |  |  |  |  |

**THE HAZARD IDENTIFICATION AND ASSESSMENT PROCESS**

1. Identify the task to be assessed, determine if the task is **H**igh, **M**edium or **L**ow risk
2. Include workers who have experience in performing the task, ensure the process is lead by someone who has training and experience in

conducting hazard assessments. These individuals must have some type of formal training.

1. Identify hazards associated with the tasks. Consider PHYSICAL, CHEMICAL, BIOLOGICAL, AND PSYCHOLOGICAL
2. Rate the hazards by degree of risk using the following matrix:

|  |  |  |  |
| --- | --- | --- | --- |
| **SCORE** | **1** | **2** | **3** |
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| **PROBABILITY:** | unlikely | possible | likely |
| **EXPOSURE:** | rarely (less than 1/month) | often ( 3 times/week) | everyday |

**TOTAL** the three columns: **(T)**

* 3-4 are **low** priority hazards
* 5-7 are **medium** priority hazards
* 8-9 are **high** priority hazards

The **high** priority hazards are addressed first, followed by the **medium** priority hazards. **Low** priority hazards may not require attention at this time, they may simply require monitoring. The Hierarchy of Control Measures must be followed when eliminating or mitigating hazards in the following order:

|  |  |  |
| --- | --- | --- |
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Hazard Assessments **must be reviewed** in accordance with Hazard Assessment Program Guide.