

Remediation Technologies Symposium
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CHALLENGES
FACING
SECONDARY
EMERGENCY
RESPONDERS



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AGENDA



- » Overview of emergency spill response
- » Challenges facing secondary responders
- » Case studies
 - Motor vehicle accident near Edmonton, Alberta
 - Motor vehicle accident near Whitecourt, Alberta
- » Questions



Overview of Emergency Spill Response

- » What is Emergency Spill Response?
 - Within 48 hours
 - Limited information available
 - No predetermined spill response plan for incident location

Overview of Emergency Spill Response



» Environmental spills

- Reportable quantities (Federal, Provincial, Local)
- The products and volumes involved are not necessarily known
- Variable site conditions

» Secondary responders

- Not first line of responders
- Assess and establish control of the scene
- Mitigate the environmental impacts of the spill

Challenges Facing Secondary Responders

- » Every site is different
- » Each site has a unique combination of challenges
- » In determining the challenges at a given scene the priorities for responding can be determined
- » The spill will be managed based on priorities, which may change with time, particularly in the early stages of the response



Challenges Facing Secondary Responders



- » Products involved
 - Toxicity
 - Flammable/Explosive (petroleum)
 - Corrosive/Reactive (acids)
 - Radioactive
- » Resources
 - Experienced personnel
 - Equipment
 - Storage and disposal facilities

Challenges Facing Secondary Responders



- » Traffic
 - High volume locations
 - Proximity of impacts to traffic
 - High speed traffic
- » High profile locations
 - Highly visible locations
- » Serious injuries/fatalities
- » Media/Public
 - Traditional media
 - Social media

Challenges Facing Secondary Responders



- » Location factors
 - Steep terrain
 - Inaccessible areas
 - Soil conditions
- » Sensitive environments
 - Potable water sources
 - Sensitive groundwater/surface water
 - Migration pathways
 - Threatened habitat
 - Threatened/endangered species
 - Pathways/conduits

Challenges Facing Secondary Responders



- » Affected Third Party involvement
 - Third party owners
 - Municipalities/Government
 - First Nations
 - Parties involved in the incident
 - Insurance agencies
- » Underground and overhead utilities
 - Overhead/underground power
 - High pressure gas
 - Fiber optics

Challenges Facing Secondary Responders



- » Regulatory Agencies and Stakeholders
 - Environment Canada
 - Department of Fisheries and Oceans
 - Transport Canada
 - National Energy Board
 - Alberta Environment
 - Local Municipalities
 - Alberta Energy Resources Conservation Board
 - Alberta Infrastructure and Transportation
 - Landowners



Case Study 1:

»Motor vehicle accident resulting in a fatality and in a release of diesel fuel to ground surface

- Affected area of 40 m x 16 m

»Incident located near Edmonton, Alberta

- Center median of a high traffic intersection



- » Initial response
 - Fatality
 - Media
 - Responsible party



- » Initial response
 - Product recovery
 - Blocking off culverts
 - Absorbents



- » Subsequent response
 - Traffic
 - Time of year
 - Weather

Case Study One



- » Subsequent response
 - Confirmatory soil, surface, and groundwater sampling
 - Regrowth



Case Study Two



- » Motor vehicle collision
 - Release of diesel fuel to ground surface (~11.5 m³)
- » Incident located near Whitecourt, Alberta
- » Vehicle ignited
- » Fire water and product released into fish bearing creek



» Initial Response

- Ensure the safety of the work site
- Set up berms to protect the adjacent creek
- Time of year
- Weather



Case Study Two

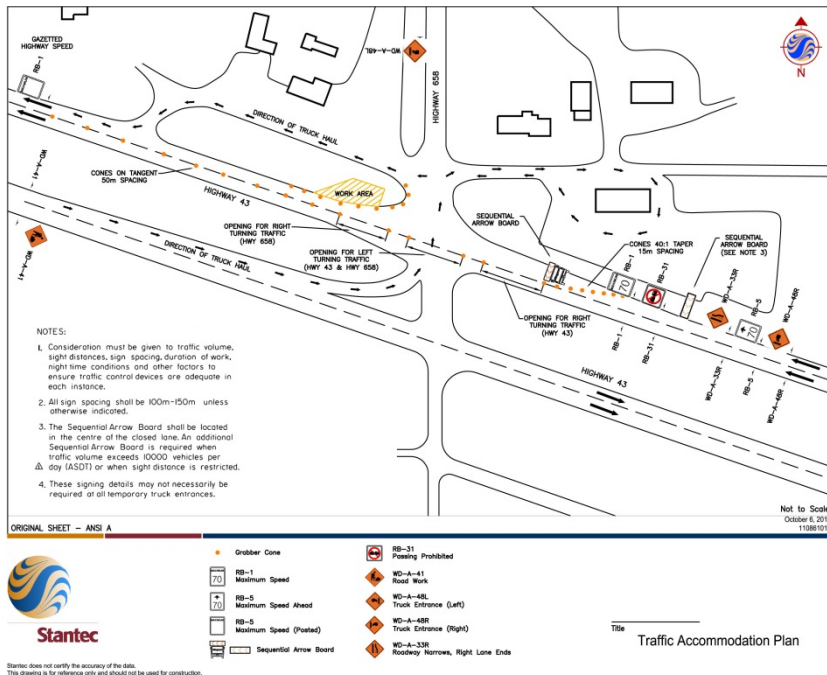


» Subsequent response

- Several fiber optic cables and underground services running through ditch
- Hydrovac



Case Study Two



» Traffic

- High speed traffic
- Twinned highways
- Site specific traffic plan
- Approvals required to change traffic patterns
- Located at busy intersection
- Heavy truck volume



Case Study Two



- » Subsequent response
 - Confirmatory soil, surface, and groundwater sampling
 - Installation of groundwater wells
 - Regrowth





Summary and Questions

- » Every site is different
- » No ERP in place
- » Challenges
- » Case studies

- » **Questions?**