

Golder Associates presentation for:

# Manitou Beach Dyke Raise



## Orientation Goal

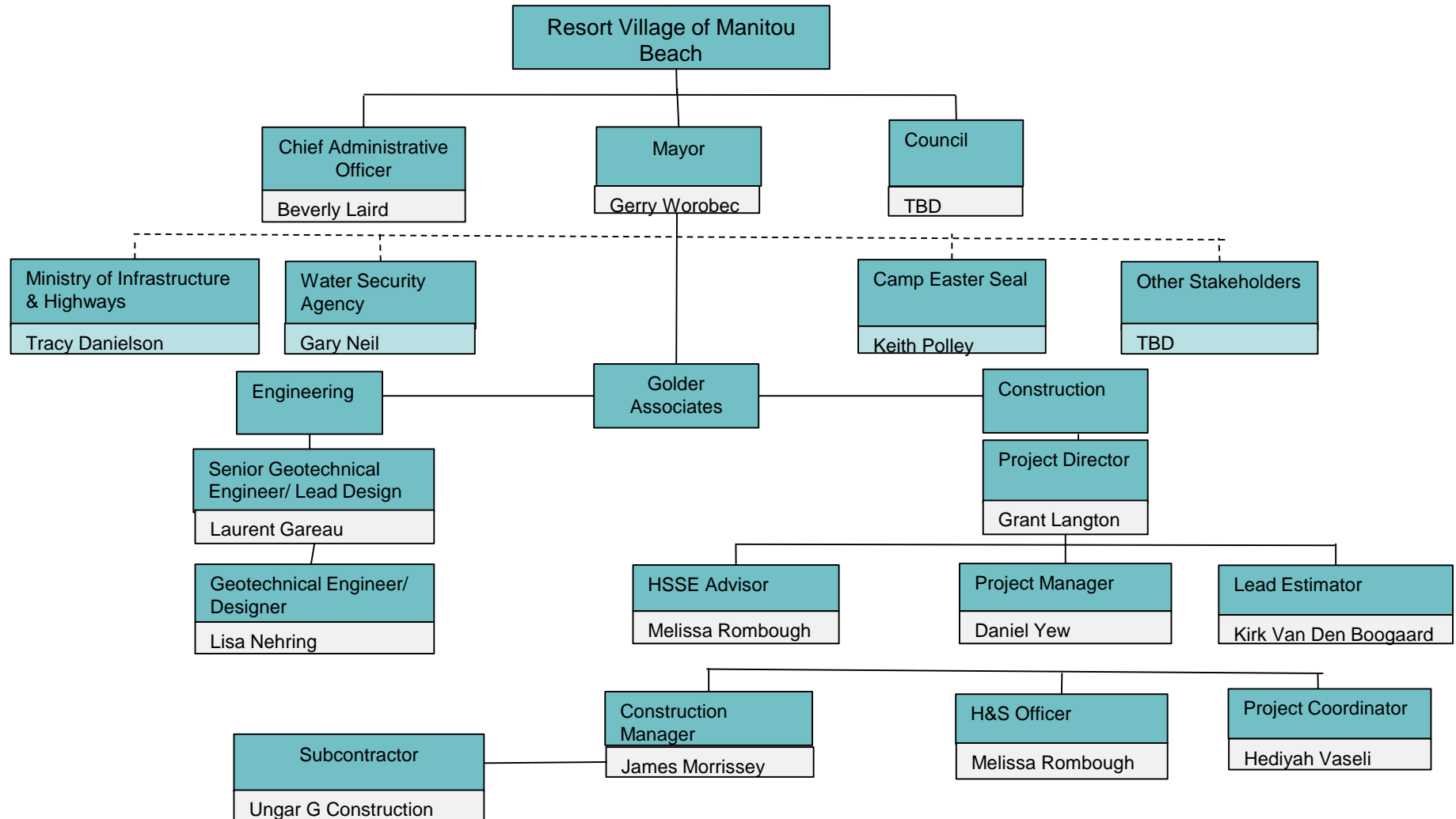
### Overview of the project and the safety for the project, and:

- To realize the importance of taking care of yourself and those around you;
- To understand the scheduled work;
- To understand the travel routes; and
- To understand the emergency procedures.

**Safety is Everyone's Responsibility**  
**Work Safe, Home Safe**



# Project Organization Chart





# Location of Work



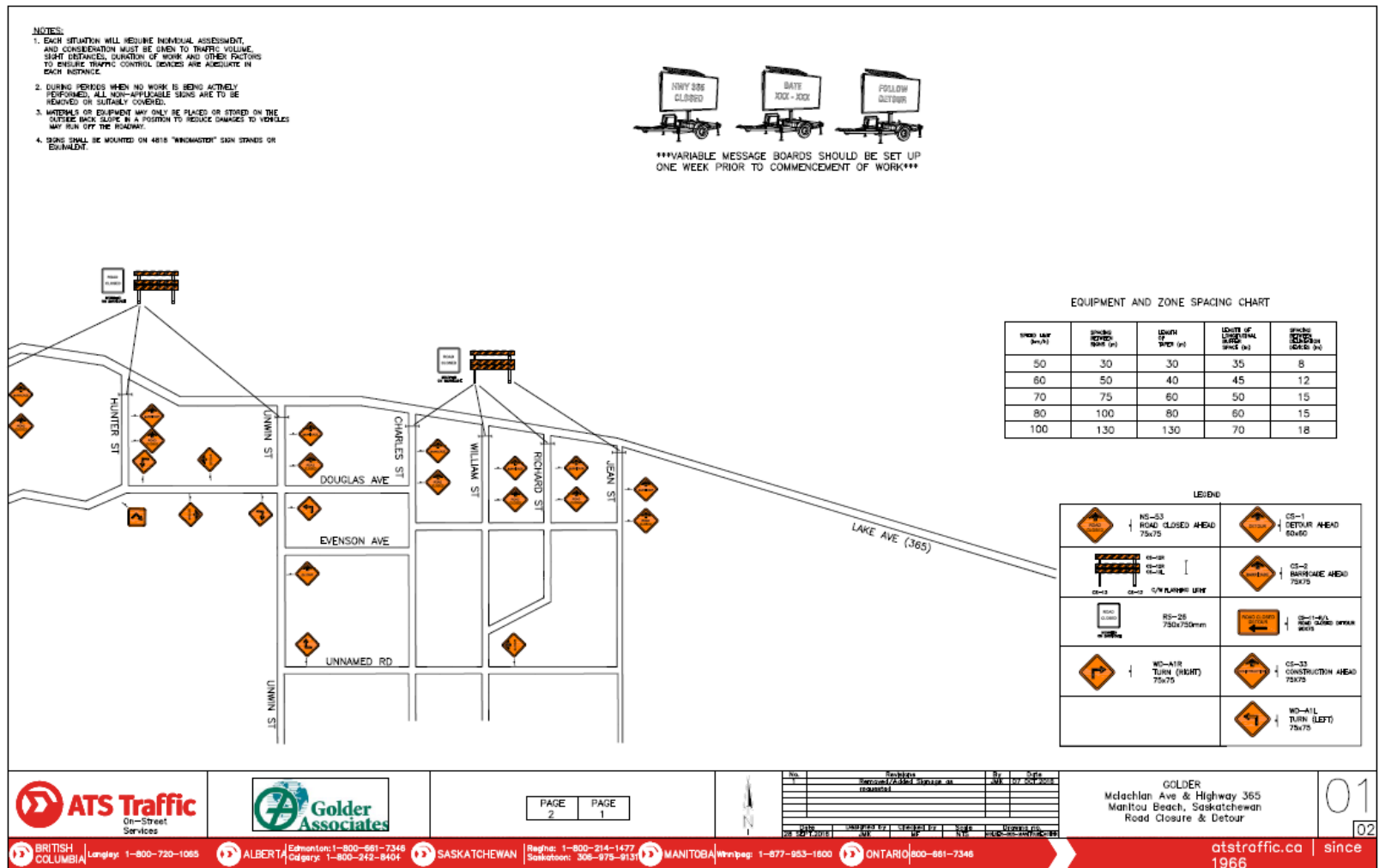


## Description of Work

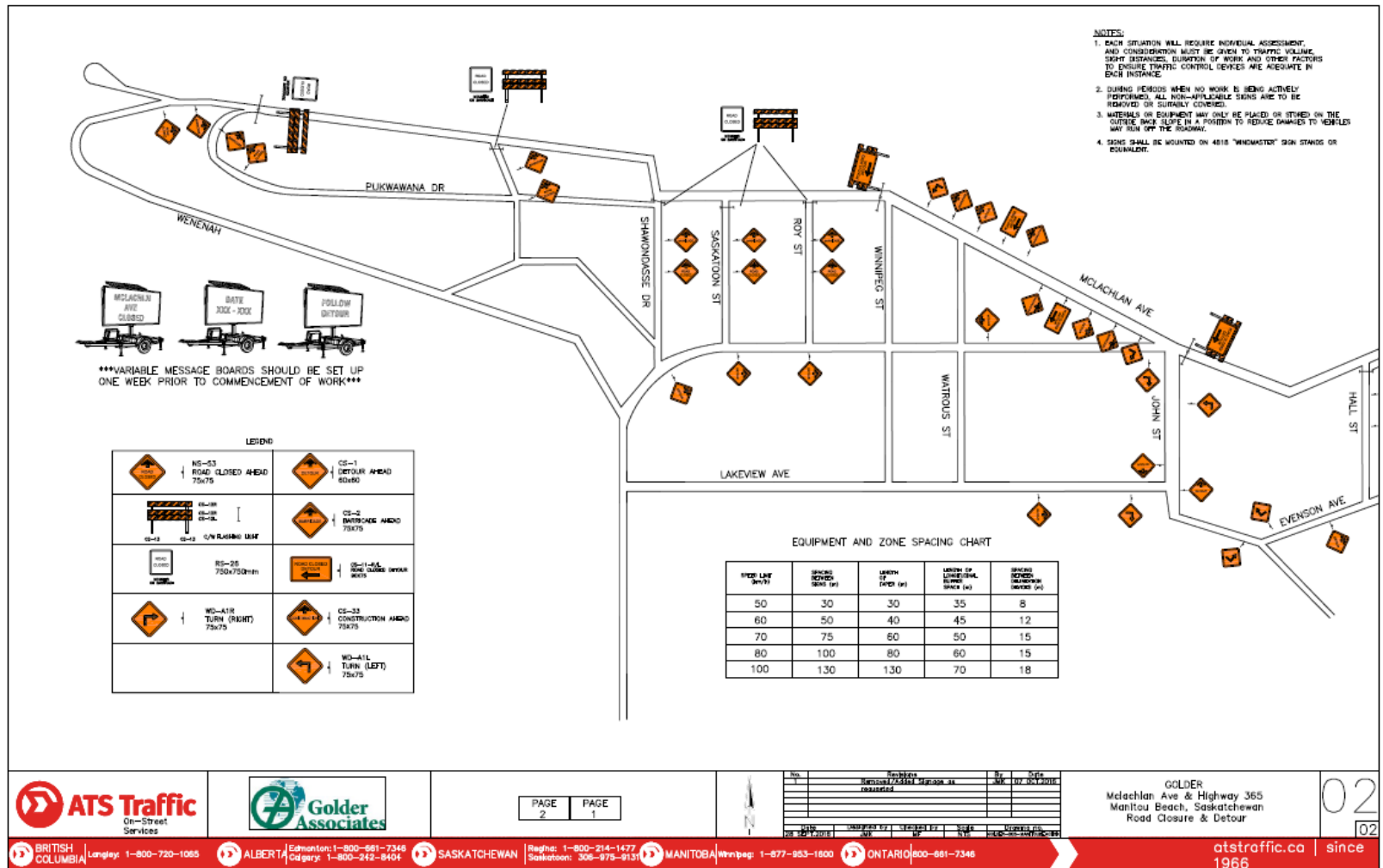
- Golder Associates has been contracted by the Resort Village of Manitou Beach to raising the elevation of the dyke to 498.5 meters along the water front from Camp Easter Seal to East Road. Work activities will be shared between Golder's Construction and Geotechnical divisions as well as various subcontractors.
- Works to include asphalt removals, clearing and grubbing, stripping, excavation, loading hauling and placing fill, rip rap, MSE construction, roadworks, utility relocations and extensions, environmental protection, and other ancillary works.
- Phase I and Phase II work schedule.
- Wellington Creek construction plans.



# Traffic Control Plan

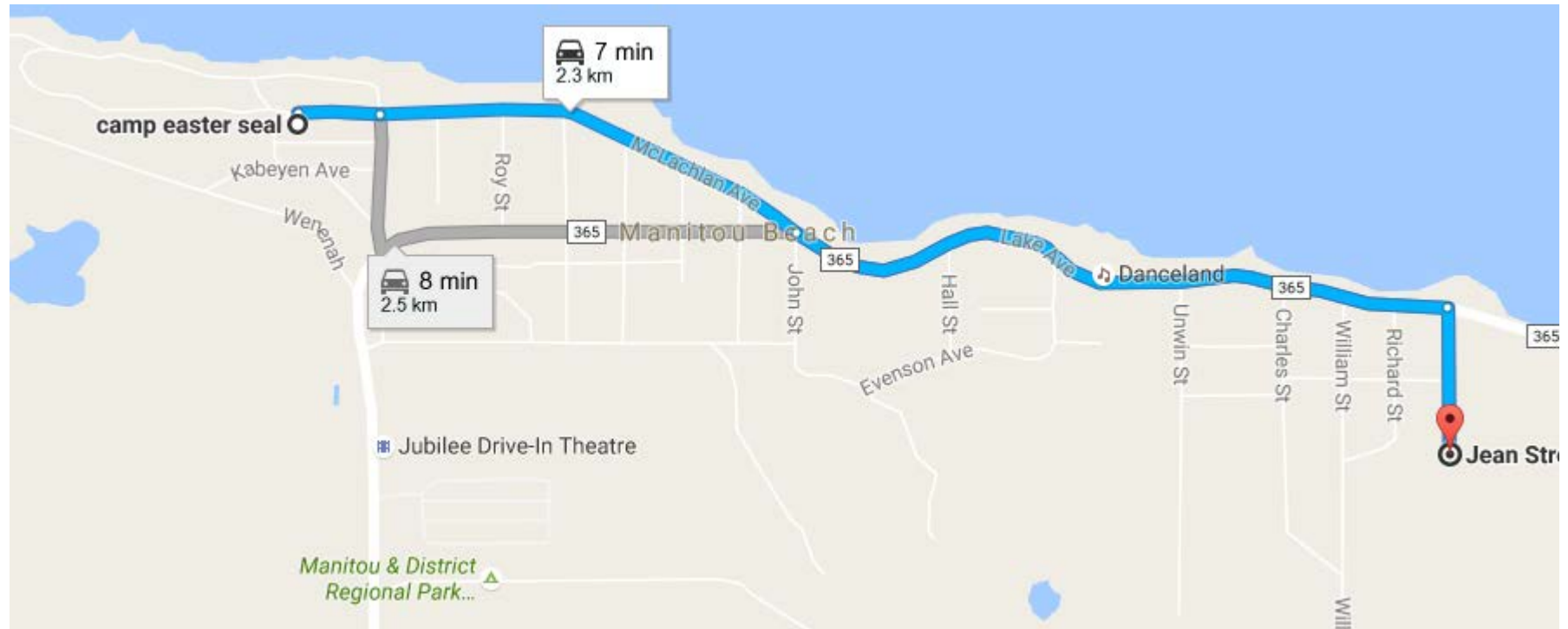


# Traffic Control Plan



# Haul Roads

## ■ Clay Haul







# Haul Roads

- Granular and rock haul





## Site Specific Hazards

- Working near water;
- Lightning;
- Working near public walkway;
- Working adjacent to public roadways and highway;
- Working adjacent to unstable ground conditions;
- Slipping/tripping hazards;
- Access;
- Nuclear Gauge;
- Environmental hazards;
- Personal protective equipment (PPE);
- Noise;
- Handling sharp objects;
- Temperature extremes;
- Overhead powerlines;
- Underground utilities;
- Working with powered tools or equipment;
- Housekeeping; and
- Moving heavy equipment.



## Regulations and Permits

- Site operations are governed, as a minimum, by Saskatchewan Employment Act, The Occupational Health and Safety Regulations, 1996 and The Occupational Health and Safety (Prime Contractor) Regulations; and
- WSA Aquatic Habitat Protection Permit;
- DFO Self-Assessment and Letter of Advice;
- Highway Usage Permit;



## Red Rope with Danger Tag

- **Red Danger Tape** means that an imminent danger is present, you must not cross **Red Danger Tape** at any time. If you enter you may be seriously injured or killed. If you set up the **Red Danger Tape** you must also put a tag on it with your name, trade and expected date of completion of the job; and
- “DO NOT CROSS UNLESS INVITED BY SUPERVISOR IN AREA”.



<b>DANGER</b>	<b>DANGER</b>
<b>BARRICADE TAG</b>	<b>BARRICADE TAG</b>
REASON/TASK _____	POTENTIAL HAZARD _____
RESPONSIBLE PERSON _____	PERMISSION TO ENTER MUST BE OBTAINED EACH TIME ENTRY IS REQUIRED.
SUPERVISOR _____	PERSON TO CONTACT _____
DATE _____	PHONE # _____
WARNING! ENTRY OF BARRICADE AREA WITHOUT THE IMMEDIATE CONSENT OF THE RESPONSIBLE PERSON VIOLATES SAFETY RULES!	ESTIMATED COMPLETION: DATE _____ TIME _____ AM/PM



# Yellow Rope with Yellow Caution Tape

- **Yellow Rope and Caution Tape** means there's a hazard present. Ensure you are aware of the hazard and that the area is safe to enter before proceeding;
- For “Caution” areas yellow rope must be used with yellow caution tape every 4 feet. If needed, caution tags may be used; and
- This will also get used and laid out for pedestrians walkways.





# Mobile Equipment and Light Vehicles

- Speed limit on site is 30km/h unless posted otherwise;
- Always drive at a safe and controlled speed for the road conditions Do not park near heavy vehicles or equipment - remain in view of the operator or operator cab; and
- Vehicles without back-up alarms must sound the vehicle horn three times before reversing and twice before moving forward.







## View from inside a Skid Steer





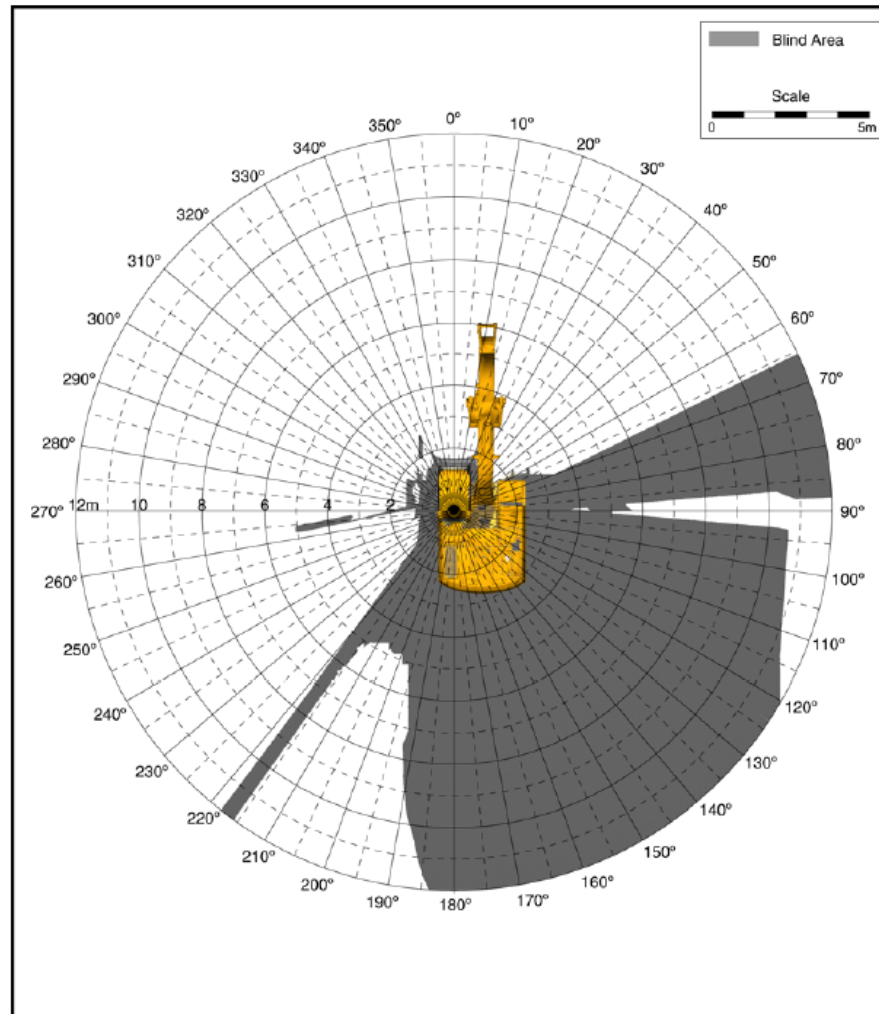
## View from inside an Excavator





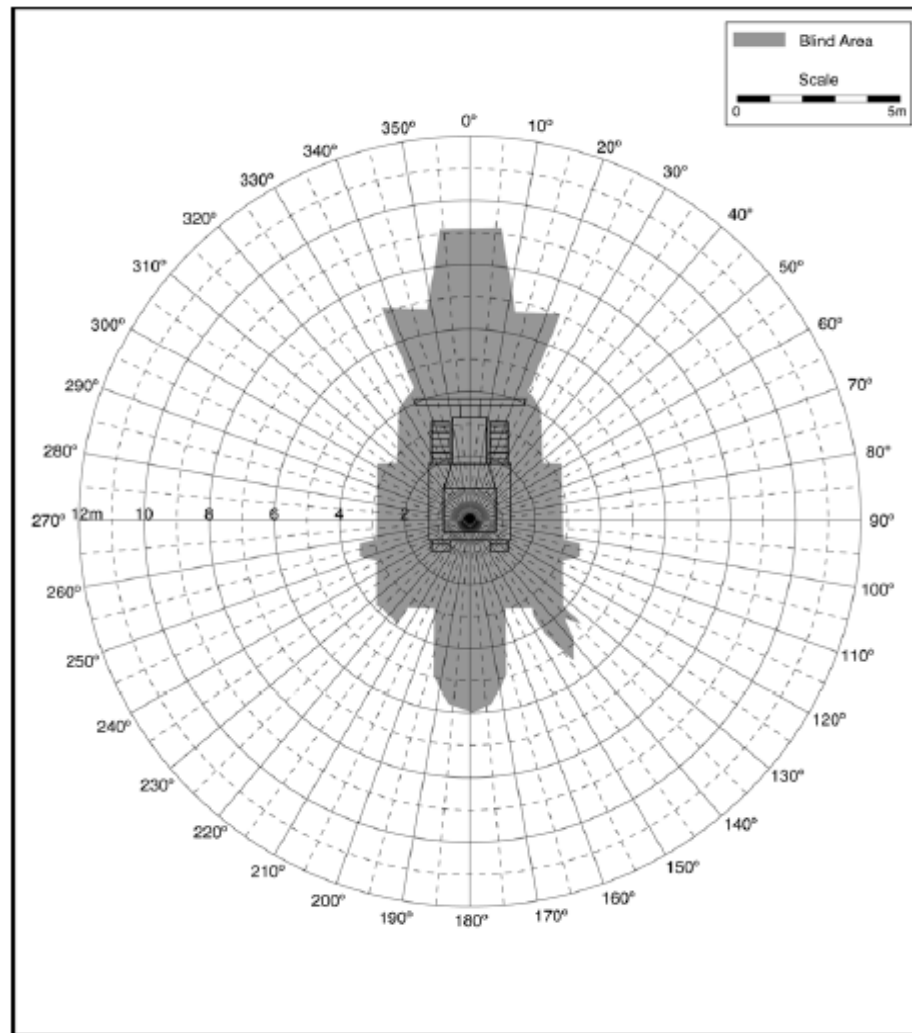


# Excavator Blind Spot



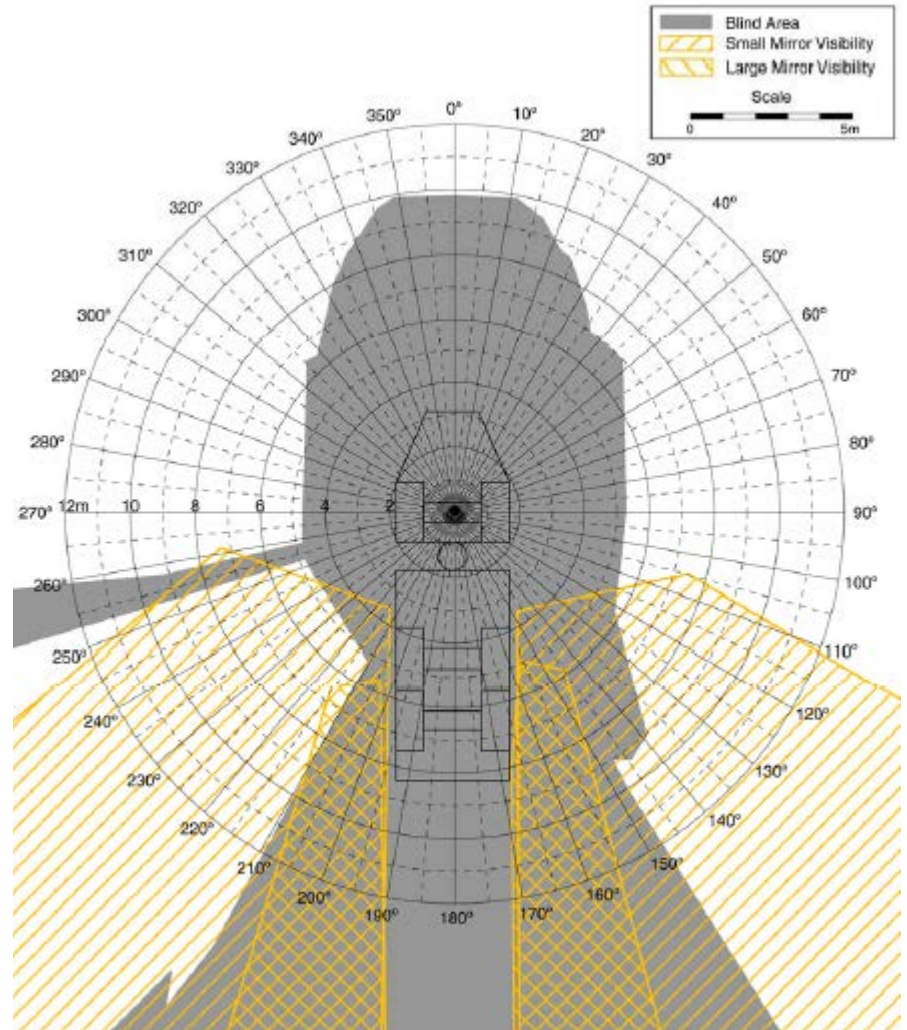


# Dozer Blind Spot





# Dump Truck Blind Spots





## Fatal Risk Control

# FATAL RISK CONTROLS



### Working around Heavy and Mobile Equipment

- Be visible and identify your safe spot.
- Do not enter the zone of influence of mobile equipment until you have positive OK.



### Working at Heights

- Where fall potential has been identified, use fall prevention measures against falls.
- Do not stand within 2 m of an open edge where there is the potential to fall greater than 1.8 m without approved fall protection.



### Driving

- Always wear a seatbelt.
- Respect the road rules, drive at a speed appropriate to the conditions.
- Do not use your cell phone.
- Do not drive after 14 hours or legislated work.



### Working Around Suspended Loads

- Do not pass under a suspended load.
- Remain at a safe distance from a suspended load.



### Acutely Hazardous Substances/Atmospheres

- Know what you are working with.
- Know the environments in which you are working.
- Do not enter a confined and/or restricted space without understanding and following the required entry procedures.



### Ground Stability

- Do not enter an unsupported excavation that is deeper than your waist.
- Scan continuously for signs of ground instability.
- Avoid entering areas of unsupported ground.







# Emergency Response – Muster Points

- Location of muster points.
- What is a muster point and an emergency meeting point.



# Site Emergency Procedures

- **TAKE COMMAND** - Assign the following duties to specific personnel;
- In Case of Injury/ Incident: **Determine severity and act accordingly;**
- If **critical/life threatening immediately call 911** and dispatch one site personnel to rendezvous point to escort emergency services to incident location;
- If First Aid is required - Contractor trained personnel shall immediately administer first aid as required; and
- **In Case of Serious Injury the Contractor Site Foreman shall:**
  - Contact trained first aider on site giving brief and concise details of where and what. If emergency services are required immediately call 911 and dispatch one site personnel to a determined emergency meeting point and escort emergency services to incident location.



## Site Emergency Procedures Cont'd

- If knowledgeable (a) give life support, artificial respiration and CPR (never give mouth to mouth only with a pocket mask. (b) endeavour to stop any serious bleeding by applying direct pressure;
- **Do not** move an injured person unless there is immediate danger to life or limb;
- **Do not** risk yourself or others if it is dangerous to do so. Keep Calm. Do not take any action that could cause more, or aggravate the injury. Provide only the relief that is absolutely necessary while waiting for first aid and your supervisor. Reassure and calm the injured person; and
- **ISOLATE THE ACCIDENT SCENE** - Barricade, rope off or post a guard at the scene to make sure that nothing is moved or changed until the Construction Manager and the Site Safety Advisor have completed their investigation.

# Emergency Response – First Aid

- 3 short blasts of the air horn in an Emergency to contact the first aid attendant; or
- If you have a radio, you can call the First Aid Attendant and repeat (first aid, first aid, first aid).



10 - 20	minimum plus • Class A attendant and supplies	minimum plus • Class A attendant and supplies • blankets, stretcher and splints	minimum plus • Class A attendant and supplies • blankets, stretcher and splints
21 - 40	minimum plus • Class A attendant and supplies	minimum plus • Class A attendant and supplies • blankets, stretcher and splints	minimum plus • Class B attendant and supplies for high hazard work <sup>2</sup> • Class A attendant and supplies for other work • blankets, stretcher and splints



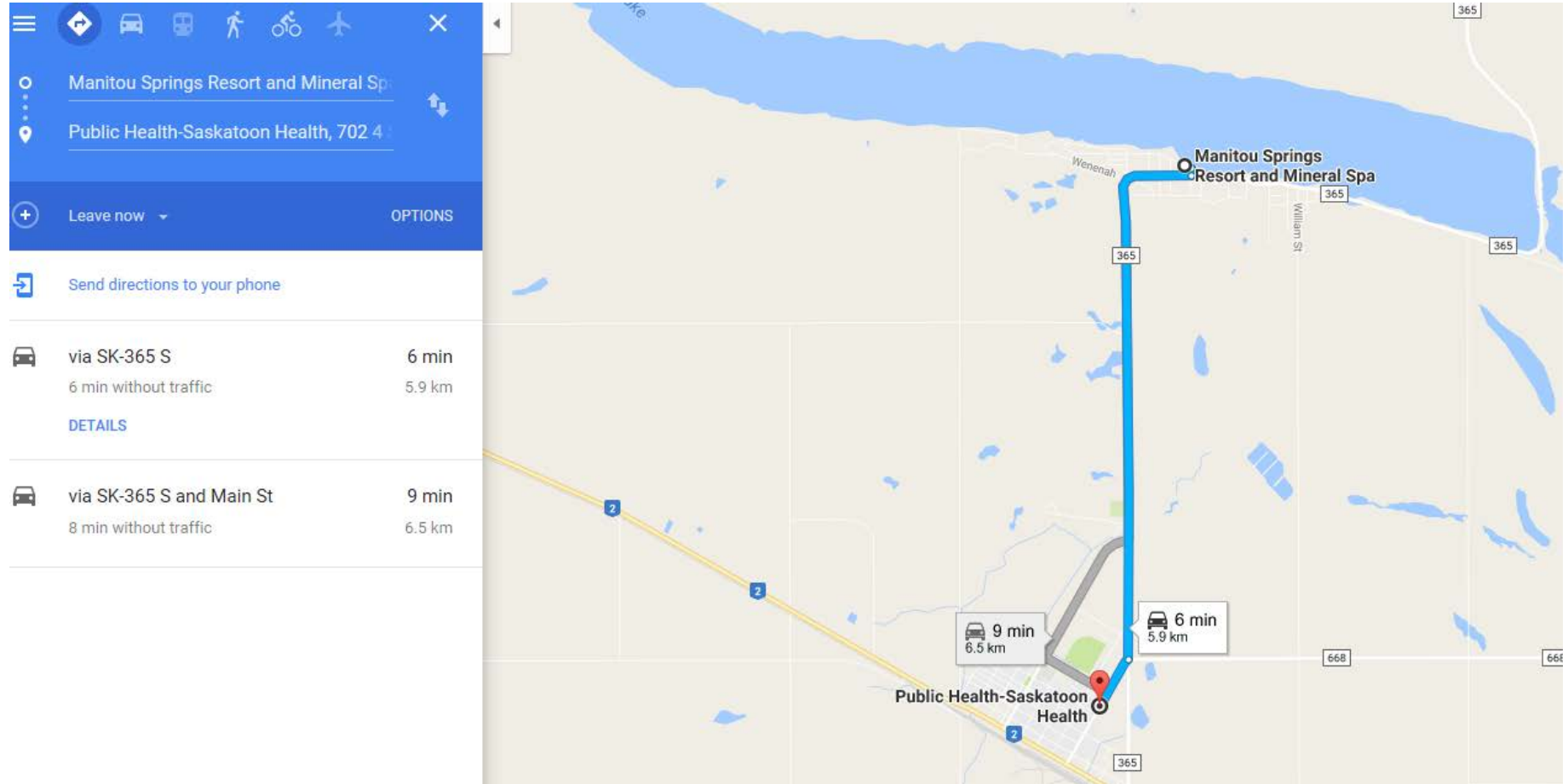
# Emergency Response - Evacuation

- One long continuous blast of the air horn along with radio contact indicates the need for evacuation of the project site;
- All workers are to immediately cease the work they are involved in and secure their area, if it would pose a risk if not done; and
- **Equipment should be safed and shut off so it does not pose an immediate risk to workers.**





# Closest Hospitals







## Emergency Procedure (Lightning 30-30 Rule)

- To estimate how far away the lightning is, count the seconds between the flash of lightning and the thunderclap. Each second is about 300 metres. If you count fewer than 30 seconds, look around for shelter. If fewer than 5 seconds, take shelter urgently: lightning is near and you do not want to be the tallest object in the area. It is recommended to wait 30 minutes after the last lightning strike in a severe storm before venturing outside again.





# Emergency Procedure (Cold weather)

WIND CHILL CHART										
		Ambient Temperature (°C)								
		4	-1	-7	-12	-18	-23	-29	-34	-40
Wind km/h	Velocity mph	Equivalent Chill Temperature (°C)								
Calm										
0	0	4	-1	-7	-12	-18	-23	-29	-34	-40
8	5	3	-3	-9	-14	-21	-26	-32	-38	-44
16	10	-2	-9	-16	-23	-30	-35	-43	-50	-57
24	15	-6	-13	-20	-28	-36	-43	-50	-58	-65
32	20	-8	-16	-23	-32	-39	-47	-55	-63	-71
40	25	-9	-18	-26	-34	-42	-51	-59	-67	-76
48	30	-16	-19	-22	-36	-44	-53	-62	-70	-78
56	35	-11	-20	-29	-37	-46	-55	-63	-72	-81
64	40	-12	-21	-29	-38	-47	-56	-65	-73	-82

Adapted from: Threshold Limit Values (TLV™) and Biological Exposure Indices (BEI™) booklet; published by ACGIH, Cincinnati, Ohio

<b>Little danger</b> in less than one hour exposure of dry skin	<b>DANGER</b> – Exposed flesh freezes within one minute	<b>GREAT DANGER</b> – Flesh may freeze within 30 seconds
<b>Maximum danger</b> of false sense of security		



# Emergency Procedure (Worker in Water)

- Check weather forecast before work and confirm conditions prior to undertaking work.
- All personnel working within 1.5 meters of shore or other watercourse to wear CSA approved PFDs.
- Life buoys to be kept within easy access of all working areas on shore.
- Have active, operating radios at all times personnel are located out onshore and preferable with a buddy system, first aid kit in nearby truck and site office.
- Keep spine board available in Village office.
  
- Man Overboard
  - When person overboard is discovered, life buoy is thrown out immediately if close enough to shore.
  - “Man overboard” is called over radio.
  - Follow medical procedures for treatment.



# Emergency Procedure (Fire)

- Place yourself out of danger;
- Warn other personnel in the area if they are endangered;
- Notify Emergency Services ( 911) and dispatch one site personnel to a determined emergency meeting point and escort emergency services to incident location;
- Follow up by calling and notifying the site foreman or supervisor;
- Attempt to control or extinguish the fire using the appropriate extinguisher for the fire, to the extent of your capability;
- Each piece of equipment is equipped with a fire extinguisher;
- Personnel should familiarize themselves with the different types of fire extinguishers and their use; and
- All fire extinguishers should be checked for signs of damage, leakage, usage and handed in for replacement if found to be faulty.





# Emergency Procedure (Underground Strike)

- If you suspect a natural gas line has been damaged:
- DO:
  - 1) Call SaskEnergy's 24-Hour Emergency # 1-888-700-0427 and 911. Any line damage, no matter how minor must be reported to SaskEnergy. Damage includes nicks to the coating on steel pipe and scratches to plastic pipe.
  - 2) Turn off machinery and eliminate all sources of ignition.
  - 3) Shut off vehicle engines.
  - 4) Remove any sources of ignition and extinguish cigarettes or any open flame.
  - 5) Evacuate the area, including buildings. Move people upwind if possible.

- 6) Prevent vehicles and bystanders from entering the area.
- 7) Call the fire department if there is a danger of fire.
- 8) Avoid contact with any natural gas escaping from the pipeline.
- 9) Notify people in nearby buildings, as gas might enter through drains if the break or leak is underground or through fresh air intakes and windows if gas leak is in the air.

## DON'T:

- 1) Attempt to repair the leak or stop escaping gas.
- 2) Turn electrical switches on or off.
- 3) Operate any machinery, including vehicles.



# Emergency Procedure (Powerline Strike)

- If you see a fallen power line on the ground or damaged power line:
- Always assume that power lines on the ground or that appear damaged are live. A live power line may not be sparking or making any sounds.  
Remember that:

- 1) Power lines can be dangerous, even if they're not sparking, smoking, or making a buzzing sound.
- 2) Stay away from fallen or damaged power lines - at least 10 metres (33 feet). That's about the length of a standard city bus.
- 3) Call 911 and let them know that a power line has fallen or is damaged.
- 4) Keep others in the vicinity at least a bus-length away.







## Questions



***Work Safe, Home Safe***