

## Temporary or Longer-Than-Anticipated Construction Site Closure/Shutdown Checklist

RULER Consult Ltd

Site check/measure	Yes/No	Date	Comments
Permanent works, partially complete, and temporary works are structurally safe (additional strengthening works, if necessary, have been designed and implemented on site) and they are safeguarded/secured, in particular those exposed to natural hazards and adverse weather conditions (such as flood, storm, earthquake, etc) for periods longer than originally intended or anticipated			
Cranes and lifting equipment are decommissioned as per the manufacturer's recommendations and secured against unauthorized access and malicious attempts			
Plant and Equipment have been removed from site premises			
All valuable material (e.g. copper cable, diamond cutters, etc) have been removed from site and adequately secured			
All laydown and material storage areas are adequately protected or relocated if such areas are prone to adverse weather conditions (e.g. flooding) and/or natural hazards (e.g. landslides)			
All openings and enclosures through which storm water, leaking water, wind, etc may enter into a structure in the project area are secured and made water and wind tight			

All water supply connections have been isolated and/or the network is equipped with an automatic leak detection and shutdown device in case of leakages			
All loose installations and light material are secured against stormy conditions			
In case of groundwater or storm water accumulation, drainage pipes are cleaned and connected to the discharge points. Measures are taken to avoid contamination and environmental impact (e.g. settling tanks)			
Dewatering pumps are kept operational and standby pumps are present with an automatic monitoring device to alert the responsible person when the pumps operate			
Gas supply is turned off			
In case of freeze potential, all pipes are fully drained			
Fire detection and alarm systems (both temporary and permanent) are operational and physically inspected on a weekly basis for potential faults rectification. Fault notifications are also transmitted remotely real time			
Automatic sprinkler systems and fire standpipes are operational and/or an automatic leak detection system has been installed to alert the responsible person			
All flammable liquids, high fire load materials and gas cylinders under pressure are removed from site and are secured in a controlled area under supervision			

All combustible materials including storage pallets are removed from site and securely stored			
Hot works are suspended. In case of limited hot works activities, the permit to work procedure is strictly adhered to and inspection for permit closure is carried out 30min and 1 hour post hot works completion			
Housekeeping is clear and adhered to, any waste and unused material are removed from site and all the trash containers and hoppers are empty.			
All power generators are shut off and the fuel tanks are empty, unless necessary for minimum operations and maintenance, in which case adequate supervisory control is established			
24/7 CCTV coverage of the site premises is available (to the extent possible but covering the critical storage areas) and security patrols are carried out. Security is maintained in accordance with the set operational standards where necessary, if possible.			
The Emergency Preparedness and Contingency plan is updated with the decelerated production or shutdown procedures, including the impact of natural hazards and adverse weather conditions			
All traffic diversion schemes and temporary traffic management are risk assessed for a period longer than anticipated to ensure public safety and the relevant authorities have been duly notified			

Site safety risk assessments have been updated to ensure that the site is safe against unauthorised access and trespassers			
Contact details of the responsible persons are posted at the site's main entrance and shared with the relevant emergency authorities (police, civil defense, etc)			
Detonators and explosives are removed from site and delivered temporarily to security authorities. No charging is left on site			
All slopes and earthworks are secured against collapse and/or ravelling and disintegration. Appropriate protection measures are in place for slopes exposed to weather conditions for periods longer than originally anticipated			
All tunnel faces are secured against collapse and/or ravelling and disintegration			
If a TBM is used, it is parked at a 'safe heaven' or in stable ground conditions. The excavation chamber is emptied, the face is secured under atmospheric conditions, including ground water ingress, and the grouting lines are emptied and cleaned. The muck gates are closed and routinely inspected and monitoring of the bulkhead pressure cells is continuously carried out remotely to ensure there is no water pressure build up			
The tunnel faces are dewatered with duty and stand by pumps and the drainage pipes are checked, cleaned and operational			

Tunnel section areas where ground deformations have not ceased are further secured and stabilized and continuous monitoring is taking place			
Instrumentation and monitoring results are routinely obtained and evaluated by the designer and the project team to ensure stability and structural and geomechanical adequacy. Trigger values and mitigation measures are defined, including an emergency response plan and communication arrangements with clear responsibility allocation			
Tunnel portals are secured and safeguarded against ground movements and natural hazards, such as flood, storm, landslides, etc			
Natural flow and flood diversion schemes and structures are protected against scour and erosion and additional measures are taken for increased flow for decelerated production of shutdown periods longer than anticipated			