Managing Stockpiles

Management of stockpiles

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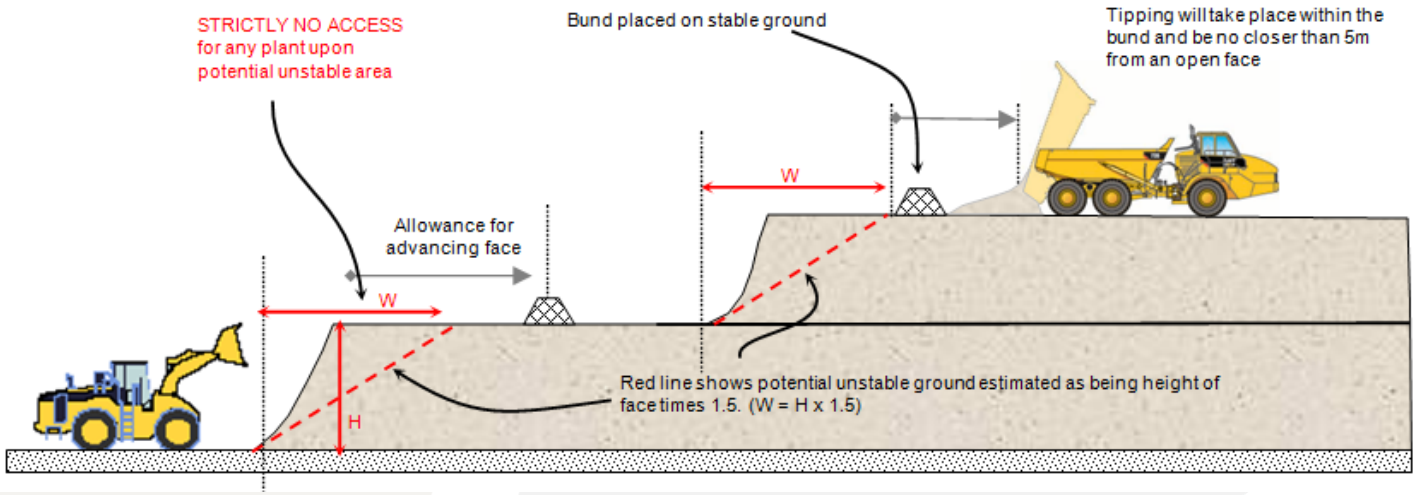
Pre-commencement Planning

- Prior to work commencing, a competent person appointed for the purpose will agree the method of safe construction with the machine operator
- Shown below is an **example** of a safe method of work. QNJAC recommends you take competent geotechnical advice which must take into account local factors when devising safe working methods.



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Inspection and Monitoring

- A competent person should be appointed to inspect stockpiles and tips before vehicles work on them, and ensure that vehicles cannot gain access to areas where material is being actively removed. This competent person should ensure that activities are coordinated so that vehicles and machinery are not adding material to a stockpile when material is being removed.
- This appointed competent person should inspect the stockpiles and actively worked tips at least once per day and report any defects. Any significant defects found should result in work being suspended and the defect rectified before work recommences.
- Stockpiles and tips not being worked should be inspected by a competent person at least once per week and take action against any significant defects identified.
- The machine operators should constantly monitor the stockpile or tip for signs of slumping, cracking or instability. Any defects should be reported and appropriate action taken.
- Inspections should consider whether the bunds and access routes comply with the design (i.e. they are in the correct location to allow for loading out and maintaining face stability).
- Records of tipped material must be kept.

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Layout

- Ideally a stockpile should be closed for tipping whilst loading out is taking place. If this is not possible, then the area affected by the loading out must be isolated from the stockpile access routes and tipping area.

- Materials will only be stockpiled in designated areas as identified on the quarry plan or agreed by appropriate site management.

- When creating a stockpile the access points for plant should have the ability to be readily closed off.

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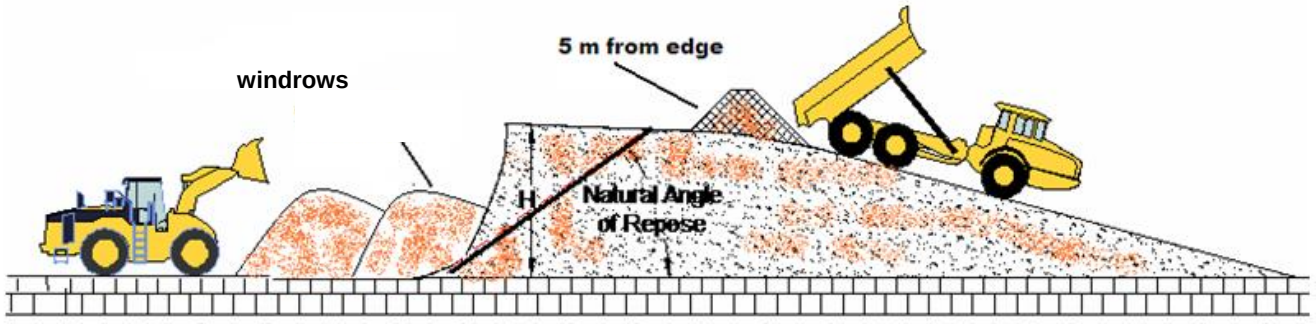
Stockpiling Material

- When stocking material always place material in windrows at the base of the pile this is important when the loading face is near vertical. Doing this provides support at the base of the stock pile. When material is to be tipped on top of the stock pile always maintain a safe distance from the edge, behind the angle of repose, leaving sufficient edge protection in place. If material has to be pushed off the end of the pile this must be carried out by a front end wheeled loader or Dozer (it may also be possible to pull material down using an excavator). Shown below is an **example** of a safe working method. QNJAC recommends you take competent geotechnical advice which must take into account local factors when devising safe working methods.
- (NB: Angle of repose – the steepest angle at which a sloping surface formed of loose material is stable)



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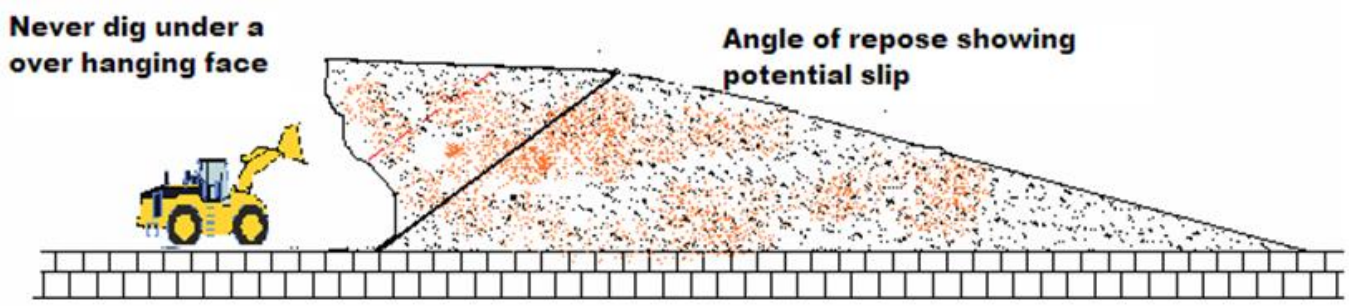
Loading out of materials

- Faces steeper than specified in the design should not be allowed to form. In the absence of any competent geotechnical advice, faces should not be any steeper than the angle of repose of the material in the stockpile/tip.
- The height of the stockpile at the loading out point should be no higher than the reach of the machine working it.
- If, at any time, the height of the loading out point is greater than the machine working it, the stockpile should be benched in accordance with the diagram shown at the beginning and end of this talk.
- A stand off in front of the advancing stockpile face should be maintained at all times. The exact distance should be determined by taking competent geotechnical advice.

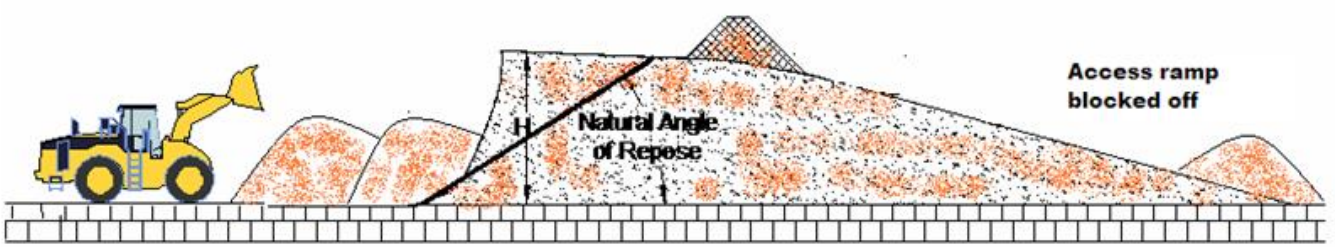
Loading from a stock pile

- Never dig under an overhanging face. This can cause compacted material to collapse or slip. If a face becomes steeper than the design or the angle of repose of the material, or becomes overhung then loading must stop from that area immediately. A sufficient stand off should be placed in front of the face to prevent access and to catch any collapsed material. The face will have to be dressed to its natural angle of repose using an excavator.



Edge Protection and Stand-offs

- Sufficient edge protection must be in place when access is required for stocking out material, a minimum of 1.5 metres or the radius of the largest machines wheel. If the edge protection has been lost due to loading from the pile or the stock pile will not be accessed for a significant time, then the access roads should be blocked off at the bottom. Edge protection will have to be constructed when access is next required



Placement of materials

- Materials should be spot tipped as far from the edge as practical. When undertaken by a dumper, placement should be made a safe distance from the edge. Competent geotechnical advice should be taken to specify this distance. This is to prevent instability of the stockpile as weight transfers to the back axles whilst unloading.

- Spot tipped material should then be pushed over the edge by a dozer or shovel.

- **End tipping over the edge is strictly forbidden.**

- Tip material will be pushed by dozer or loading shovel, up and over the face to maintain a bund between the machine and the open edge.

- Work should not start after a break without an inspection of the face for signs of slumping, cracking or instability. Any significant defect should be recitified before work re-commences.

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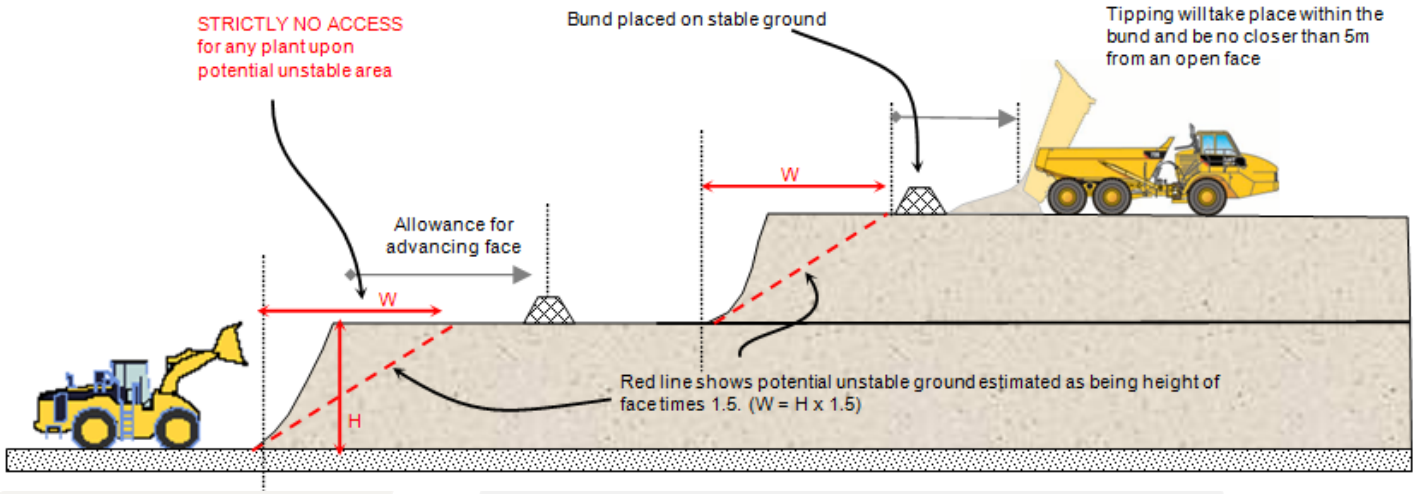
Conclusion

- Remember this **example**.....
  QNJAC recommends you take competent geotechnical advice which must take into account local factors when devising safe working methods.



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