

February 7, 2025
QUARRY ADAPTIVE OPERATIONAL PRINCIPLES
(Preliminary - Evolving)

The following Mandatory and Adaptive Discretionary Quarry operation principles are proposed.

Mandatory Principles

The Mandatory Operational Principles are:

1. Implementation of an Adaptive Management Plan.
2. Performance Criteria to protect Horning's Mills Community and Pine River headwaters from water quantity and quality degradation.
3. No diversion of surface or groundwater flows from the Pine River headwaters to the Boyne River headwaters.
4. No raising of water tables on Duivenwoorden Pit lands or in NAT-01 Wetland.
5. No root zone flooding of agricultural fields.
6. Removal of Deep (Gasport) Aquifer Hydraulic Barriers prior to closure.
7. Termination of quarry and / or groundwater extraction if Performance Criteria are breached by Quarry operations.

Operational Discretionary – Design Principles

The following discretionary solutions may be implemented based on operational experience for conditions 'as found' or reasonably anticipated and as determined by Strada to be necessary to meet Performance criteria. Typical Design Details to be shown on the Site Plans.

8. Provision for separation (or merging) of Upper Aquifer (Guelph), Deep Aquifer Non- Contact Water and Quarry Sump Contact Water based on operating conditions as found or as anticipated.
9. Ground Water Extraction and Infiltration Infrastructure and transmission components to be implemented when there are excess quantity and/or adverse quality inflows into the Quarry excavation or as anticipated.
10. Implementation of Pressure Relief Wells as required to facilitate Lift 2 / Lift 3 extraction and construct Lift 3 Hydraulic Barriers if deemed necessary.
11. Implementation of vertical Hydraulic Barrier Walls for Lift 1 or Lift 3 (High or Low Pressure) if deemed necessary.
12. Provision of stormwater quality treatment (denitrification) riparian wetland storage pond for Quarry contact water and contaminated Upper Aquifer non-contact water as may be required.
13. Provision of surface pond and/or aquifer storage to support continuous 24/7/365 groundwater infiltration to Pine River headwaters.
14. Implementation of pathogenic treatment of surface water discharge to Infiltration media as required.
15. Implementation of SCADA and hydraulic controls for water management and maintenance of downgradient dry weather flows to the Pine River headwaters and Horning's Mills community.