

**DUST STOP LIQUID CONCENTRATE (DSLCL)**  
**QUESTIONNAIRE DEFINITIONS**

Cypher environmental prides itself in providing a customized approach to every project; we know that no two projects are the same, understanding the variables such as size, project type, material type, traffic frequency and traffic type are paramount to providing the best solution.

A significant amount of time and effort is placed on providing the best solution for the issue of dust control based on the circumstances of a particular project. Areas such as dimensions of the project are easily determined while others such as traffic type and traffic frequency are somewhat subjective. In order to provide some framework for understanding these terms, Cypher provides the following reference information:

**Road Type:**

Mine Haul	<ul style="list-style-type: none"> <li>– A crude road built to facilitate the movement of people, equipment, and/or materials along the route of a job.</li> <li>– A road built to carry heavily loaded trucks (60-450 ton) at a good speed; the grade is limited and usually kept to less than 17% of climb.</li> <li>– Truck haulage cost amounts to between 30 and 50 per cent of total surface mining costs and up to 60 per cent of total forestry operation costs. The savings from appropriate design, construction and maintenance of haulage roads and utilization of the most suitable materials is thus significant.</li> </ul>
Access Road	<ul style="list-style-type: none"> <li>– A road providing a means of entry into a region or approach to another road, site or project; usually exposed to heavy traffic (not as significant as a haul road).</li> <li>– A road that provides access to a specific destination, as to a main highway or to a property that lies within another property.</li> </ul>
Secondary Road	<ul style="list-style-type: none"> <li>– A road supplementing a main road, usually wide enough and suitable for two-way, all-weather traffic at moderate or slow speeds (lighter vehicles than an access road).</li> </ul>
Parking Lot	<ul style="list-style-type: none"> <li>– A cleared unpaved area that is intended for parking vehicles, these surfaces can be exposed to additional shear forces not found on other road types due to static shear (static wheel forces when steering while stopped).</li> </ul>
Erosion Control	<ul style="list-style-type: none"> <li>– Is the practice of preventing or controlling wind or water erosion in agriculture, land development, coastal areas, river banks and construction.</li> <li>– Effective erosion controls are important techniques in preventing water pollution, soil loss, wildlife habitat loss and human property loss.</li> </ul>



Tailings Pile	<ul style="list-style-type: none"> <li>– Any static pile of material that is not exposed to vehicle or foot traffic.</li> <li>– Also includes storage piles.</li> </ul>
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**Material Type:**

The **Material Type** is a reflection of the size of the dominant aggregate particles in a road / soil, starting at the small end of the scale; Well Compacted Fines and getting larger as we reach the High Gravel Content end of the scale.

Sandy	<ul style="list-style-type: none"> <li>– Granular material.</li> <li>– Finer than gravel and coarser than silt.</li> <li>– Particles range in diameter between 0.0625 mm to 2mm.</li> </ul>
Well Compacted Fines	<ul style="list-style-type: none"> <li>– High clay / silt content.</li> <li>– Cohesive soils (clay / silt) that are dense and tightly bound together.</li> </ul>
Light Gravel Content	<ul style="list-style-type: none"> <li>– Fine Sized / Dirty Gravel (more fines).</li> <li>– This is small (4–8 mm) particulate gravel.</li> </ul>
Medium Gravel Content	<ul style="list-style-type: none"> <li>– Medium Sized / Less Dirty (less fines).</li> <li>– This is medium (8-16 mm) particulate gravel.</li> </ul>
High Gravel Content	<ul style="list-style-type: none"> <li>– Coarse Gravel (Little to No Fines – difficult to compact)</li> <li>– This is larger (16-32 mm) particulate gravel.</li> </ul>

**Traffic Frequency:**

The area i.e. dimensions of the surface are easily determined while other variables such as traffic type and traffic frequency are somewhat subjective. In order to provide some framework for understanding these terms, Cypher provides the following reference information:

Traffic Frequency	Per hour	Per 8 hour	Per 12 hour	Per 24 hour
Low	1 – 10	1 – 80	1 – 120	1 – 240
Medium	10 – 25	80 – 200	200 – 300	240 – 600
High	> 25	> 200	> 300	> 600
Constant	<ul style="list-style-type: none"> <li>– Traffic that exceeds the 25 vehicles per hour and remains at a steady state for extended periods. Generally, traffic numbers are averages over a long period, encompassing high and low traffic periods. Constant traffic indicates regular passage of vehicles at stable intervals for long periods (e.g. every 2 minutes for 24 hours a day).</li> </ul>			
Tailings Pile	<ul style="list-style-type: none"> <li>– Any static pile of material that is not exposed to vehicle or foot traffic.</li> <li>– Also includes storage piles</li> </ul>			



**Traffic Type:**

Traffic Type	Vehicle Weight (tons)	Vehicle Weight (kg)	Vehicle Weight (lbs)
Heavy	> 100	> 100,000	> 220,463
Medium	22 – 100	22,000 – 100,000	48,500 – 220,462
Light	< 22	< 22,000	< 48,500
Tailing Pile	<ul style="list-style-type: none"> <li>– Any static pile of material that is not exposed to vehicle or foot traffic.</li> <li>– Also includes storage piles.</li> </ul>		

**Average Traffic Speed:**

This represents the speed at which the majority of vehicles will travel on the road. Choose “Tailings Pile” for any projects that will not receive any traffic.

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\*\*Note that these definitions are for general familiarity; all roads will have a mixture of various sized aggregates in them but will have a visible maximum aggregate size that we are referring to here. If you are uncertain about the category of a road, a picture of the surface should be emailed to your Cypher representative for clarification.

\*\*This information is provided as a guide only, specifics of the project should be discussed with your Cypher representative to clarify individual project details.