

Contents

Glossary of Terms	2
Acronyms and Abbreviations.....	5
List of Legislation	6
List of Websites	7
Bibliography	7

Glossary of Terms

Term	Definition
Adjustment	(Referring to a works program) The process of making changes to a works program that involve day-to-day operational matters only.
Amendment	(Referring to a works program) The process of making changes to a works program that involve the terms and conditions of the contract. These changes, in turn, may have 'flow-on' effects on day-to-day operational matters.
Angle of repose	The angle to the horizontal at which a pile of material will tend to rest, provided that it can move freely.
Arc	A curved portion of the Circumference of a circle; also known as a segment.
Bank volume	The volume of a material, such as soil, earth or rock, as it lies in its natural state.
Bar chart	A diagram, drawn either by hand or by using computer software, representing the activities that make up a construction project, so as to show how long each activity will take, the order in which activities will be completed and the relationships between activities.
Batter	The slope of the side of a cutting, measured as an angle or a fraction, after the side has been shaped during construction.
Carry factor	(Referring to the bucket of a loader) A number by which the Rated capacity of a bucket is multiplied to obtain the amount of loose material that is actually carried in the bucket on each machine cycle.
Central angle	The angle formed between two radii at the centre of a circle.
Chain	A unit of length in the Imperial system of weights and measures used in Australia before 1976; equal to 66 feet or 100 links or 1/80th of one mile in the former system; metric equivalent is 20.117 m.
Chord	A straight line within a circle, being that part of a Secant that does not extend outside the Circumference.
Circumference	The outer boundary of a circle, consisting of all points that are the same distance from the centre.
Coefficient of traction	A number used to describe the effects that the underfoot conditions are having on the gripping action of wheels or tracks of a machine against the surface of the ground.
Combined efficiency factor	A number, obtained by multiplying together the Task efficiency factor and the Operator efficiency factor; used to describe the overall efficiency of a machine.
Compacted volume	The volume of a material after it has been placed in a fill and compacted.
Contract	A form of job organisation in which there is an agreement between two parties about the work to be done, the price of the work and the conditions and specifications under which the work will be performed.

Term	Definition
Critical path	On a Bar chart, the pathway of activities through the project that has no slack time. Alternatively, the longest pathway of interconnected activities through a network chart.
Cycle time	The time taken by a machine to complete one round trip.
Diameter	The distance along a straight line, from one side of a circle to a point on the opposite side, that passes through the centre of the circle. The diameter is the Chord that passes through the centre of a circle; equal to twice the Radius.
Drawbar pull	The force available at the point of attachment of a tracked vehicle; it may be used either to pull a towed unit or to push material ahead of the machine blade.
Dumping time	(Referring to a truck cycle) Time taken for a truck to turn, back and dump the load.
Fixed time	The part of a machine's cycle time that depends on some characteristic of the machine and cannot be readily changed.
Grade assistance	The force of gravity that assists a machine in moving downhill.
Grade resistance	The force of gravity that must be overcome before a machine can move uphill.
Hauling time	(Referring to a truck cycle) The period of time between completion of loading and commencement of dumping.
Heaped capacity	The additional volume of loose material a container (such as a truck body or scraper bowl) can carry above the Struck capacity.
Hold point	An identified point in a construction process past which the contractor shall not proceed without a direction from the superintendent.
Kilograms pull	The figure obtained by dividing the machine's power in kilowatts by its speed in metres per second.
Load factor	The percentage decrease in the density of a material from its natural state to the loose state.
Loading time	(Referring to a truck cycle) The period of time that starts when the loader begins loading the truck, and ends when the truck moves away from the loader.
Loose volume	The volume of a material after it has been excavated from its natural or bank position and allowed to expand.
Milestone	A point within a project where progress is verified by the completion of an activity, or a point that marks the start of an activity.
Network chart	A diagram that represents, in the form of a network of inter-related lines, similar information to that shown in a Bar chart.
Operator efficiency factor	The number of minutes per hour (expressed as a percentage) during which a machine is working at full efficiency.
Potable	(Referring to water) Suitable for human consumption.
Predecessor	A task shown on a critical path network that must be completed ahead of others.

Term	Definition
Primary plant	Major equipment items that can continue working whether or not they receive material from other machines
Radius	The distance from the centre of a circle to its circumference; this distance is the same at all points on the circumference (Plural: radii).
Rated capacity	(Referring to the bucket of a loader) A volume in cubic metres of loose material, specified by the manufacturer of a machine, that can be safely carried in the bucket.
Returning time	(Referring to a truck cycle) The period of time that starts when the truck begins to move away from the dump, and ends when the truck returns to the loading site.
Rimpull	The force available between the tyre of a wheeled vehicle and the ground to propel the vehicle forward.
Rolling resistance	The resistance that must be overcome before a wheeled machine can start to move over level ground.
Scope of works	The parts of a task, activity or project that a person at a given level in a construction organisation is responsible for and can clearly identify.
Secant	A straight line that crosses a circle at two points on the circumference and does not pass through the centre.
Secondary plant	Machines whose outputs depend on receiving material from primary plant or other machines.
Sector	The part of a circle enclosed between an arc or segment and two radii.
Slope	A number used to state how steep a piece of ground is. The number may be stated as an angle (e.g. 27°) or a ratio (e.g. 1 in 3) or a percentage (e.g. 33%). Where a ratio is used, it is the rise (vertical distance) divided by the run (horizontal distance); where a percentage is used, this amount is multiplied by 100.
Spotting time	(Referring to a truck cycle) Time required to manoeuvre the truck into position for loading.
Static plant	Machines such as crushers, Airtrac drills or compressors that cannot move under their own power, but must be moved or carried to and from the works site by other machines.
Struck capacity	The volume of loose material a container can carry when filled exactly to level.
Successor	A task shown on a critical path network that cannot be commenced until other, specified tasks have been completed.
Swell	The percentage increase in the volume of a material when it is removed from the natural state.
Tangent	A straight line that touches the Circumference of a circle at one point only, forming a right angle (90°) to the Radius of the circle.
Task efficiency factor	A number used to express losses of machine efficiency due to such influences as the nature of the task, local conditions on site, or the type of machine in use.

Term	Definition
Total resistance	<p>The total amount of resistance that a wheeled machine must overcome before it can start to move in a given situation; it may be equal to:</p> <p>The sum of Rolling resistance and Grade resistance (for a machine travelling uphill)</p> <p>Rolling resistance (for a machine travelling on level ground)</p> <p>Rolling resistance minus Grade assistance (for a machine travelling downhill).</p>
Traction	The force available as a result of the gripping action of wheels or tracks of a machine against the surface of the ground.
Travel time	The time spent on the haul and return portions of a machine cycle.
Waiting time	(Referring to a truck cycle) The additional time required if the truck has to wait at the loading or dump site.
Witness point	An identified point in a construction process at which an activity is observed.
Work breakdown structure	The process of subdividing the major activities of a construction project into smaller parts, until they reach the level of the individual operations.
Works program	A detailed, written record of work that must be carried out to complete a construction job.

Acronyms and Abbreviations

Acronym/abbreviation	Meaning
Ch	Chainage
DBYD	Dial before you dig
ML	Megalitre (one million litres)
Pi (π)	A number describing the relationship between the diameter and the circumference of a circle; approximately equal to 3.14 159 265 358 979... or, for practical purposes, 3.1416.
PSC	Pre-stressed concrete
RCBC	Reinforced concrete box culvert
RCP	Reinforced concrete pipe

List of Current Legislation

Acts (Queensland)

Acquisition of Land Act 1991

Contaminated Land Act 1991

Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987

Environmental Protection Act 1994

Fisheries Act 1994

Forestry Act 1957

Harbours Act 1955

Integrated Planning Act 1997

Land Act 1994

Native Title (Queensland) Act 1993

Nature Conservation Act 1992

Queensland Heritage Act 1992

Transport Infrastructure Act 1995

Transport Planning and Co-ordination Act 1994

Water Resources Act 1989

Workplace Health and Safety Act 1995

Regulations

Work place Health and Safety Regulation 1997

Acts (Commonwealth)

Environmental Protection and Biodiversity Conservation Act 1999

Other

Manual of Uniform Traffic Control Devices

List of Websites

The following websites are recommended:

www.bom.gov.au

www.dialbeforeyoudig.com.au

www.dnr.qld.gov.au

www.epa.qld.gov.au

www.legislation.qld.gov.au

www.mainroads.qld.gov.au

www.qgm.gov.au

www.trainandemploy.qld.gov.au

www.whs.qld.gov.au

Bibliography

The following literature is recommended:

- Dwyer, J. (1997). *The Business Communication Handbook*. (4th edn). Prentice-Hall: Sydney.
- Queensland. Department of Main Roads (1999). *Standard Specification Roads*. (series of documents, accessible from website).
- Queensland. Department of Main Roads (various dates). *Standard Drawings Roads*.
- Queensland. Department of Main Roads (2003). *Manual of Uniform Traffic Control Devices (Queensland)*.