

Glossary

AADT: is the average annual daily traffic, and is a measure used primarily in transportation planning and transportation engineering. It is the total volume of vehicle traffic of a highway or road for a year divided by 365 days. AADT is a useful and simple measurement of how busy the road is.

Aboriginal: Aboriginal peoples in Canada comprise the First Nations, Inuit and Métis. They are three distinctive groups of North America Indigenous peoples recognised in the Canadian Constitution Act, 1982, sections 25 and 35.

Abutment: An abutment is an end support of a bridge superstructure.

Adaptive management (AM): is a structured, iterative process of optimal decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. In this way, decision making simultaneously maximizes one or more resource objectives and, either passively or actively, accrues information needed to improve future management. AM is often characterized as "learning by doing."

Adverse Effects: negative effects on the environment and people that may result from a proposed project and its activities.

All-season road: A road that is motorable all year by the prevailing means of rural transport.

Alternative means of carrying out a project: The various technically and economically feasible ways, other than the proposed way, for a project to be implemented or carried out. Examples include other project locations, different routes and methods of development, and alternative methods of project implementation or mitigation.

All-weather road: Unpaved road that is constructed of a material that does not create mud during rainfall. All references made regarding all-weather road are derived from the reports from Dillon Consulting Ltd. or UMA reports in the 2000 -2006 period.

Amphibian: Cold-blooded animal of the Class Amphibia that typically lives on land but breeds in water (e.g., frogs, toads, salamanders)

Aquatic: relating to water; living in or near water, taking place in water.

Aquatic environment: The components related to, living in, or located in or on water or the beds or shores of a water body, including but not limited to all organic and inorganic matter, and living organisms and their habitat, including fish habitat, and their interacting natural systems.

Aquifer: is a subsurface zone of water-bearing permeable rock or unconsolidated materials (gravel, sand, silt, or clay).

Archaeology: is the science that studies human cultures through the recovery, documentation, analysis, and interpretation of material culture and environmental data, including architecture, artefacts, and landscapes, and biofacts.

Archaeological site: is a place (or group of physical sites) in which evidence of past activity is preserved (either prehistoric or historic or contemporary), and which has been, or may be, investigated using the discipline of archaeology and represents a part of the archaeological record.

Backhaul: is the return movement of a truck from its original destination to its original point of origin, especially when carrying goods back over all or part of the same route.

Backwater: A body of water that was created by a flood or tide or by being held or forced back by a dam.

Baseline environment: A description of the existing environment conditions prior to a specific development.

Bedrock: is the native consolidated rock underlying the surficial unconsolidated soils and rock.

Biodiversity: refers to the genetic variability within a species, diversity of populations of a species within a natural community or the wide array of natural communities and ecosystems throughout the world.

Biophysical: refers to a hierarchical land classification system with units characterized by distinct biotic and abiotic elements.

Bog: is a peat landform where the water table is at or slightly below the bog surface. The peat accumulates, creating a layer on average three to five metres thick and unaffected by the nutrient-rich groundwaters from the surrounding mineral soils. Precipitation, fog and snow are the primary water sources and consequently bogs have a low mineral content. Bog water acidity, usually between pH 4 and 4.8, is enhanced due to the organic acids that form during decomposition of the peat and the acids present within Sphagnum leaves. Plants found in bogs must be very adaptable to humidity, acidity and nutrient-poor soils. They may be treed or treeless and are usually covered with poorly or moderately decomposed Sphagnum and ericaceous shrubs. Wild flowers, notably orchids, are occasionally found.

Boreal forest: The Boreal Forest is Manitoba's largest forest zone, and largest biome, or ecological community. It is also sometimes referred to as the Northern Coniferous forest and covers about one-third of the province, stretching in a broad band across the north central and central part of the province, between the 2 main lakes in the province, and down the east side of Lake Winnipeg and across the provincial border into Ontario.

Manitoba's boreal regions are dominated by black spruce in the lowland bogs and fens, and jack pine, poplar and white spruce on the uplands. Trees are not the only important feature in Manitoba's boreal; muskeg (a mat of sphagnum moss), peat bogs, rivers, cold lakes and wetlands are found throughout the landscape.

Borrow areas: or borrow 'sites' or 'pits' are areas where materials (e.g. gravel, sand, silt, and clay) are excavated for use.

Borrow pit: The area left by the removal of material (usually sand or gravel) for construction purposes.

Broad Area Plan: Plan was initiated recognizing the need for sustainable planning recognizing the uniqueness of the east side of Lake Winnipeg, the importance and abundance of natural resources in the Area, and to follow-up on conclusions of the Climate Change Task Force Report which recognized there are many communities in the Area that do not have access to the transportation networks and economic opportunities that most Manitobans take for granted. It also identified some of the dramatic effects of climate change on winter road and food distribution systems historically relied upon by the remote communities in the Area.

Brush fire: is any uncontrolled, non-structural fire that occurs in the wilderness, wildland, or bush.

Calving: Giving birth to a calf as applied to moose and or caribou in the project study area.

Clear-Span Bridge: Small-scale bridge structure that completely spans a watercourse without altering the stream bed or bank built above the ordinary high water mark.

Cofferdams: A temporary dam constructed of earth, sheet piling or other material to enclose a work area and permit the control or removal of water.

Control points: Exact positions of often-surveyed geographic features used to register map sheets and transform coordinates.

Commercial trapping: Commercial trapping is managed through a Registered Trapline (RTL) System that is a furbearer harvest management system whereby a person, the "lineholder," is granted the exclusive opportunity to harvest furbearing animals in a certain area, the "RTL." The system ensures sustainable furbearer populations by controlling the number of trappers in that area and making the lineholder the steward of the resource. Some RTL sections are called "blocks," where no individual lines exist and all eligible community members trap within the block.

Construction phase: The period associated with the construction.

Constructability: a method for achieving optimum integration of construction knowledge and experience in planning, engineering, procurement and field operations in the construction process and balancing the various project and environmental constraints to achieve overall objectives.

Construction drawing: Engineering design with keyed notes detailing the work required and types of materials to be used in constructing the required works (e.g. road bridge, drainage structures, etc.)

Corridor: A designated strip of land between two locations used typically for infrastructure purposes and the associated rights-of way (e.g. road, transmission line, pipeline etc.)

Cultural Environment: The environment which has developed as a result of human economic and life activity and retains vestiges of such activity (material articles, cultural values and spiritual values).

Culvert: A metal, concrete, or plastic pipe through which water is carried.

Cumulative Effects: the combined effects of several projects on the environment.

Decommissioning: removed from service (e.g. camps, access roads, etc.)

Deleterious substances: Any substance that, if introduced to the environment, would cause adverse effects.

Demobilization: The process of withdrawal of resources from a project (e.g., construction equipment).

Deposit: Deposition is the geological process by which material is added to a landform or land mass.

Design Speed: is the maximum speed at which a vehicle can be operated safely on road in normal conditions.

Direct effect: An environmental effect that is a change that a project may cause in the environment; or change that the environment may cause to a project. A direct effect is a consequence of a cause effect relationship between a project and a specific environmental component.

Disposal: Final placement of unwanted materials or substances (e.g. destruction of toxic, radioactive or other wastes; surplus or banned pesticides or other chemicals; polluted soils; and drums containing hazardous materials).

Diversion ditch: A channel that acts to intercept and transport water from one location to another.

Downstream: In the direction of a stream's current.

Dredging: Is an excavation activity or operation usually carried out at least partly underwater, in shallow seas or fresh water areas with the purpose of gathering up bottom sediments and disposing of them at a different location.

Dust Control Plan: Procedures and design measures for the control of dust during construction

and operation.

Environment: The components of the Earth and includes: a) land, water and air, including all layers of the atmosphere, b) all organic and inorganic matter and living organisms, and c) the interacting natural systems that include components referred to in a) and b) (Canadian Environmental Assessment Act).

Environmental Assessment (EA): Process for identifying project and environment interactions, predicting environmental effects, identifying mitigation measures, evaluating significance, reporting and following-up to verify accuracy and effectiveness leading to the production of an Environmental Assessment report. EA is used as a planning tool to help guide decision making, as well as project design and implementation.

Environmental component: Fundamental element of the physical, biological or socio-economic environment, including the air, water, soil, terrain, vegetation, wildlife, fish, birds and land use that may be affected by a proposed project, and may be individually assessed in the environment.

Environmental effect: In respect of a project, any change that the project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the *Species at Risk Act*. It may also refer to an effect of any change on i) health and socio-economic conditions, ii) physical and cultural heritage, iii) the current use of lands and resources for traditional purposes by Aboriginal persons, or iv) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance or any change to the project that may be caused by the environment; whether any such change or effect occurs within or outside Canada (*Canadian Environmental Assessment Act*).

Environmental Impact Assessment (EIA): is an assessment of the possible impact—positive or negative—that a proposed project may have on the environment; considering natural, social and economic aspects, the purpose of the assessment is to ensure that decision makers consider the ensuing environmental impacts to decide whether to proceed with the project.

Environmental policy: Is any course of action deliberately taken (or not taken) to manage human activities with a view to prevent, reduce, or mitigate harmful effects on nature and natural resources, and ensuring that man-made changes to the environment do not have harmful effects on humans.

Environmental monitoring: Periodic or continuous surveillance or testing, according to a predetermined schedule, of one or more environmental parameters. Monitoring is usually conducted to determine the level of compliance with stated requirements, or to observe the status and trends of a particular environmental component over time.

Earthwork: Earthwork is engineering works created through the moving of quantities of soil or unformed rock.

East Side Round Table: The East Side Round Table has been commissioned by Manitoba's Conservation Minister to bring forward recommendations and a sustainable land use plan for the East Side of Lake Winnipeg.

Ecodistrict: A cartographical delineation of distinct ecological areas, identified by their geology, topography, soils, vegetation, climate conditions, living species, and water resources. An ecodistrict provides a useful approximation of ecosystem potentials.

Ecoregion: A subdivision of ecozone, characterized by distinctive large order landforms or assemblages of regional landforms, small order macro-or mesoclimates, vegetation, soils, water, and regional human activity pattern/use.

Ecosystem: A functional unit including the living and the non-living things in an area, as well as

the relationships between those living and non-living things. For example, a decaying log comprises the ecosystem for a microbe because the log provides everything that microbe needs to survive and reproduce.

Ecotourism: Tourism to ecosystems to observe wildlife or to help preserve nature.

Effluent: Is the outflow of water from a natural body of water, or from a man-made structure.

Embankment: A long artificial mound of stone or earth; built to hold back water or to support a road, to serve as a flood protection measure, or provide a visual barrier..

Emergency Response Plan: A plan of actions to be implemented upon the realisation of an emergency situation.

Endangered: As defined by COSEWIC, a species facing imminent extirpation (no longer existing in the wild in Canada, but occurring elsewhere) or extinction (no longer exist). *Manitoba Endangered Species Act* (MESA): Enacted: 1) to ensure the protection and survival of endangered and threatened species in the province; 2) to enable the reintroduction of extirpated species into the province; and 3) to designate species as endangered, threatened, extinct, or extirpated. Additions or deletions to list of species under each designation are recommended by the Endangered Species Advisory Committee.

Erosion: Natural process by which the Earth's surface is worn away by the actions of water and wind.

Fauna: Fauna is all of the animal life of any particular region or time.

Fen: A fen is a peatland with a fluctuating water table at the surface. The water table is not stagnant, but moves through the peat very slowly by seepage and, in some cases, in open channels. The waters reaching the fen have moved through mineral soil and therefore have enhanced mineral content. The pH may vary widely, but fens are generally less acidic than bogs. Although similar to bogs, fens support marshy vegetation and present a greater diversity of plant species. The vegetation of fens is closely related to the depth of the water table and the chemistry of the waters present. The composition of vegetation may also reflect regional geographic variations. In general, the dominant materials are moderately decomposed sedge and brown mosses of variable thickness. Shrubs are prominent in drier fens where the water table is lower. Trees appear on the driest fen sites where features such as moss hummocks provide suitable habitats. Sites in fens with waters extremely low in dissolved minerals are poor fens and have Sphagnum mosses and ericaceous shrubs, while the richest fens have sedges and brown mosses.

Fill: soil or loose rock used to raise a grade. Can be manually or mechanically placed

First Nation: A term of ethnicity that refers to the Aboriginal peoples in Canada, who are neither Inuit nor Métis.

First order stream: a small stream that has no larger tributaries

Fish habitat: means spawning grounds and nursery, rearing, food supply and migration areas on which fish depend, directly or indirectly, in order to carry out their life processes. Habitat includes the water and the physical and biological components such as streambed, banks, vegetation, etc.

Fish salvage: Collection of fish from an isolated section of a watercourse or waterbody where the construction activities or ditch maintenance work is being done and relocating them upstream or downstream of this section.

Floodplain: is the flat or nearly flat land adjacent to a stream or river that experiences occasional or periodic flooding. It includes the floodway, which consists of the stream channel and adjacent areas that carry flood flows, and the flood fringe, which are areas covered by the flood, but which

do not experience a strong current.

Flood: is an overflow or accumulation of water beyond the normal seasonal high water mark. For design purposes, the design flood means a flood magnitude on a waterway or water body that, on average, is expected to occur once during a one hundred year period.

Flora: all plant life occurring in an area or time period, especially the naturally occurring or indigenous plant life.

Fragmentation: The breaking up of contiguous blocks of habitat into increasingly smaller blocks as a result of direct loss and /or sensory disturbance.

Fugitive dust: generated from wind erosion caused by generated by roadway construction activities, such as rock quarrying and crushing, blasting, excavation, fill placement and road grading.

Future project: Projects and activities included in a cumulative effects assessment for a proposed development. Future Projects have effects that overlap with those of the proposed development. Only projects and activities that are likely to proceed in the foreseeable future are considered to be future projects. Typically, these include projects and activities that have been approved, have been officially announced by the proponent, are in a government approvals process, or are directly associated with the project. Uncertain or hypothetical projects are not usually included.

Game: Animal hunted for food or sport (also see reference to small game).

Geology: A science that deals with the structure, process, composition, character, and history of the earth as recorded in rocks.

Geotechnical investigation: performed by geotechnical engineers or engineering geologists to obtain information on the physical properties of soil and rock around a site to design earthworks and foundations for proposed structures and for repair of distress to earthworks and structures caused by subsurface conditions.

Geotextile: permeable fabrics which, when used in association with soil, have the ability to separate, filter, reinforce, protect, or drain.

GIS (Geographic Information System): A computerized information system which uses geo-referenced spatial and tabular databases to capture, store, update, manipulate, analyze and display information.

Gravel: Is a coarse sedimentary rock that is unconsolidated and of a specific particle size range. Specifically, it is any loose rock that is larger than two millimetres (2 mm/0.079 in) in its smallest dimension (about 1/12 of an inch) and no more than 64 mm (2.5 in).

Gradient: is the slope that describes the incline, steepness or grade between two points or locations.

Grading: grading is the process of ensuring a level (or possibly sloped to specific degree) base for a construction work such as a foundation or the base course for a road.

Granite: a common, coarse-grained, light coloured, hard igneous rock consisting chiefly of quartz, feldspar, orthoclase or microcline and mica.

Groundwater: water located beneath the ground surface in soil pore spaces and in the fractures of lithologic formations.

Groundcover: refers to any plant that grows over an area of ground, used to provide protection from erosion and drought, and to improve its aesthetic appearance (by concealing bare earth).

Habitat compensation: The replacement of natural fish habitat, increase in the productivity of existing habitat, or maintenance of fish production by artificial means in circumstances dictated by social and economic conditions, where mitigation techniques and other measures are not adequate to maintain habitats for Canada's fisheries resources (Department of Fisheries and Oceans Habitat Policy).

Habitat fragmentation: Occurs when natural topographic features (e.g., rivers) or human disturbances break up wildlife habitat into smaller, relatively ineffective fragments. Habitat fragmentation results in the loss or isolation of effective wildlife habitat and is widely recognized as a leading cause in the loss of biodiversity. Fragmentation occurs at two scales: Landscape (within home ranges of individual animals) and Regional (interbreeding populations are cut off from each other, forming smaller 'island' populations).

Hazardous materials: Dangerous good in any solid, liquid, or gas form that can harm people, other living organisms, property, or the environment.

Heavy equipment: Engineering vehicles are heavy-duty vehicles, specially designed for executing civil engineering (construction) tasks (e.g., bulldozers, haulage trucks, graders, etc).

Heritage: Heritage refers to the ideas, experiences, and customs of Canadians or groups of Canadians that are passed on to future generations, and to the means of their preservation and recollection. Traditions cuisine, dress, religion, and language are examples of elements of heritage.

Heritage resources: means a heritage site, a heritage object, and any work or assembly of works of nature or human endeavour that is of value for its archaeological, paleontological, prehistoric, historic, cultural, natural, scientific or aesthetic features, and may be in a form of sites or objects or combination thereof

Hydrometric station: A station on a river, lake, estuary, or reservoir where water quantity and quality data are collected and recorded.

Impact: A positive or negative effect of a disturbance on the environment or a component of the environment.

Indirect effect: A secondary environmental effect that occurs as a result of a change that a project may cause in the environment. An indirect effect is at least one step removed from a project activity in terms of cause-effect linkages. For instance, a river diversion for the construction of a hydropower plant could directly result in the destruction of fish habitat causing a decline in fish population, a decline in fish population could result in closure of an outfitting operation causing loss of jobs, thus, the river diversion could indirectly cause the loss of jobs.

Invasive: Tending to spread and then dominate the new area, and to spread through, usually causing harm or disruption to the local environmental conditions

Invasive species: Any species that has been introduced to an environment where it is not native, and that has since become a nuisance through rapid spread and increase in numbers, often to the detriment of native species.

IWSA: IWSA (Integrated Wood Supply Areas refers to an agreement entered into between Manitoba and Pine Falls Paper Company (now Tembec) as part of the 1979 Wood Supply agreement for Forest Management License (FML) 01. in the Province of Manitoba. An FML area is any area for which a forest management license is granted under *The Forest Act C.C.S.M. c. F150* for the purpose of providing timber on a sustained yield basis to a wood-using industry in Manitoba. The IWSA agreement identifies two areas located on both the east (Lake Winnipeg East Forest Section) and west (Inter Lake Forest Section) sides of Lake Winnipeg which are managed by the Crown but allow the licensee for FML 01 the first right of refusal of uncommitted harvesting rights in the designated area. First right of refusal means that the Company holding

the FML license has the first option to conduct its own operations within the IWSA in preference to other third parties seeking authority to harvest timber. In the event that a third party secures the necessary authority to harvest timber within the IWSA the Company has the first option to purchase the timber produced at competitive market prices.

Lacustrine: A type of deposit that comes from lakes which previously occupied the area. They are fine-grained soils that have settled through the water and accumulated on the lake bottom, typically leaving them in a soft condition.

Land cover: The physical coverage of land, usually expressed in terms of vegetation cover, or lack thereof.

Landfill: waste disposal sites used for the disposal of domestic, commercial, or construction wastes.

Landforms: Any geological feature, such as a mountain or valley, hills, floodplains, and wetlands, etc.

Land use: Is the human modification of natural environment or wilderness into built environment such as fields, pastures, and settlements.

Logging road: A road within a timber harvesting area on Crown Land built solely for the extraction of timber and includes landings and other works associated with the harvesting operation.

Mammal: Are a class of vertebrate animals whose females are characterized by the possession of mammary glands while both males and females are characterized by sweat glands, hair, three middle ear bones used in hearing, and a necrotic region in the brain.

Manitoba Conservation: is a department of the Government of Manitoba. It oversees environmental stewardship, species at risk, forestry, and related matters. The department is overseen by the Minister of Conservation.

Marine: A general term for things relating to the sea or ocean, and in context of the local study area this refers to glacial lake environments from which geological deposits are derived.

Marsh: Marshes are wetlands that periodically retain shallow surface water whose levels usually fluctuate due to flooding, evapotranspiration or seepage losses. There are permanent, semi-permanent and temporary marshes. Water sources include stream inflow, precipitation, and groundwater discharges. The water table usually remains at or below the soil surface, but soil water remains within the rooting zone for most of the growing season, except in years of extreme drought

Medicinal plants: Plants used by humans for therapeutic purposes.

Memorandum: is a document or other communication that aids the memory by recording events or observations on a topic, such as may be used in a business office

Merchantable: A tree or a stand of trees that has maturity (rotation age and/or size) and is suitable and/or ready for harvest.

Migratory Birds: Refers to the regular seasonal journeys undertaken by many species of birds.

Mitigate/mitigation: Actions taken during the planning, design, construction and operation of works to reduce or avoid potential adverse effects.

Mitigation measures: developed to prevent or reduce adverse environmental and social effects to various stages of Project development.

Mitigation monitoring: A type of monitoring program that may be used to verify that mitigation measures were properly implemented and that such measures effectively mitigate the predicted

adverse environmental effects.

Model: A tool used to help visualize something that cannot be directly observed.

Model Forest: a place where the best sustainable forest management practices are developed, tested and shared across the country. It is an ideal laboratory for conducting research on sustainable forest management.

Monitoring: Continuing assessment of conditions at and surrounding an activity. This determines if effects occur as predicted or if operations remain within acceptable limits and if mitigation measures are as effective as predicted.

Morphology: The physical constitution, particularly the structural properties, of a soil profile as exhibited by the kinds, thickness, and arrangement of the horizons in the profile and by the texture, structure, consistence, and porosity of each horizon.

Muskeg: an acidic soil type common in Arctic and boreal areas, although it is found in other northern climates as well.

Net or residual environmental effects: Effects that remain after mitigation measures have been applied.

Non-status First Nations: a legal term referring to any First Nations individual who for whatever reason is not registered with the Federal government, and/or is not registered to a Band which signed a Treaty with the Crown.

Northern Affairs Communities: The NAC is a “political” organization of the communities under the legal administration of the Manitoba Department of Aboriginal and Northern Affairs. These communities are legal communities and may or may not be Métis. When the Métis community is referenced, it is in the broader social community context of Métis people within the geographic area who may or may not live within the political boundaries.

Off-reserve: A term used to describe people, services or objects that are not part of a reserve, but relate to First Nations.

Operations phase: Refers to the point at which construction of the ASR is complete and it begins to function as an ASR providing the transportation link intended transportation link.

Ortho-corrected photos: A rectified copy of a photograph (typically an aerial photograph), showing image features corrected for variations in scale and height displacements. An orthophoto will have its features registered to either a Digital Elevation Model (DEM) or Digital Terrain Model (DTM) to allow accurate measurements of features and relationships between features directly from the photograph.

Outcrop: The part of a rock formation that appears above the surface of the surrounding land cover and soil.

Overburden: The soil (including organic material) or loose material that overlies bedrock.

Palaeontology: is the study of prehistoric life, including organisms' evolution and interactions with each other and their environments (their paleoecology).

Parameters: Any set of physical, chemical or biological properties whose values determine the characteristics or behaviour of a system.

Passing Sight Distance: The length of roadway ahead required to pass another vehicle without meeting an oncoming vehicle.

Peatland: a wetland where organic material has accumulated because dead plant material production exceeds decomposition.

Pesticides: is any substance or mixture of substance intended for preventing, destroying, repelling or mitigating any pest.

pH: method of expressing acidity or alkalinity of a solution. pH is the logarithm of the reciprocal of the hydrogen ion concentration, with pH 7.0 indicating neutral conditions.

Physical environment: refers to the terrain, geology, hydrogeology, hydrology, air, water of the Project area.

Posted Speed: Maximum speed permitted at a specific location on a transport corridor.

Prairie: is considered part of the temperate grasslands, savannas, and shrublands biome by ecologists, based on similar temperate climates, moderate rainfall, and grasses, herbs, and shrubs, rather than trees, as the dominant vegetation type.

Precipitation: The amount of rainfall and snow generated.

Pristine: A completely natural state, and free from dirt or contamination.

Project Footprint: The extent of the physical works and associated activities where direct environmental effects are expected to occur as well as incidental physical disturbance in adjacent areas and indirect effects on habitat.

Quarry: is an open-pit operation from which rock is extracted, and is generally used for extracting building materials, such as dimension stone, construction aggregate, riprap, sand, and gravel, etc.

Radius: In classical geometry, a radius of a circle or sphere is any line segment from its center to its perimeter.

Rapid: a section of a river where the river bed has a relatively steep gradient causing an increase in water velocity and turbulence.

Right-of-way (ROW): Area of land controlled or maintained for the development of a road, pipeline or transmission line.

Riparian vegetation: A riparian zone or riparian area is the interface between land and a stream. Plant communities along the river margins are called riparian vegetation, characterized by hydrophilic plants.

Roadbed: The base over which a road's paving is installed. The roadbed is usually topped with graded crushed stone.

Roadbed Width: refers to the total distance of both the travelled lanes of the road, and the road shoulder.

Runoff: is the water flow which occurs when soil is infiltrated to full capacity and excess water, from rain, snowmelt, or other sources flows over the land.

Satellite imagery: consists of photographs of Earth or other planets made by means of artificial satellites.

Sediment: any particulate matter that can be transported by fluid flow, and which eventually is deposited.

Sediment transport: is used to describe the movement of solid particles (sediment) and the processes that govern their motion.

Shoreline: The shoreline zone is the area that is seasonally flooded. It starts approximately at the water's edge, extends up the shore and includes an area under water during the spring floods and after major rain events. Plants in this zone tolerate 'wet feet' for short periods of time.

Shoulder Edge Treatment: is the distance allocated for the treatment of the shoulder of the road

with tackifiers or emulsions that will provide a measure of erosion protection along the shoulder or edge of the shoulder.

Side slope: is the gradient of the face of the slope of the road.

Silt: is soil or rock derived granular material of a grain size between sand and clay (0.05 to 0.002 mm in diameter, and containing less than 12% clay).

Slope Failure: The movement of material on an unstable slope.

Slope stabilization: Design of earth slopes as it relates to road construction, and concerns slope stability and slopes that could be used under average conditions in cuts and embankments.

Small game: Small furbearing mammals that are hunted or trapped for food or sport; and waterfowl and upland birds (e.g. ruffed grouse, spruce grouse, and sharp-tailed grouse) that are hunted for food or sport. Small game does not include wolves or coyotes as they are considered large predators.

Sorbent: is a material used to absorb liquids or gases.

Span: Span is a section between two intermediate supports, e.g. of a beam or a bridge

Spawning: is the production or depositing of large quantities of eggs in water. The process is done by aquatic animals such as amphibians and fish.

Species: In biology, a species is: a taxonomic rank (the basic rank of biological classification) or a unit at that rank. In addition a group of plants or animals having similar appearance; a rank in the classification of organisms.

Species at risk: an extirpated, endangered or threatened species or a species of special concern (*Species at Risk Act*).

Species at Risk Act (SARA): The federal Act which provides for the legal protection for wildlife species listed under 'Schedule 1' of the Act.

Staging areas: is a predesignated temporary location established where personnel, supplies, and equipment can be temporarily housed or parked while awaiting operational assignment. Staging Areas may include temporary storage, feeding, fuelling, and sanitation services.

Stockpile: a pile or storage location for bulk materials, forming part of the bulk materials handling process.

Streambed: the channel bottom of a stream, river or creek; within the physical confine of the normal water flow channel.

Streamflows: is the flow of water in streams, rivers, and other channels, and is a major element of the water cycle.

Stopping Sight Distance: is the distance along a highway for which a vehicle, or other object, is continuously visible in daylight under normal atmospheric conditions.

Subgrade: is the base for a construction work such as a foundation or the base course for a road. The earthworks created for such a purpose are often called the sub-grade.

Subsistence fishing: Fishing for food (consumed by the local group of people who do the fishing) and not for commercial sale.

Surface water: is water collecting on the ground or in a stream, river, lake, wetland, or ocean; it is related to water collecting as groundwater or atmospheric water.

Surveys: a process for gathering information via various means (e.g. telephone interview,

questionnaire etc.), without detailed verification on the activity being examined.

Sustainability: Capacity of a thing, action, activity or process to be maintained indefinitely in a manner consistent with the spirit of Manitoba's Principles and Guidelines of Sustainable Development.

Sustainable development: is a pattern of resource use that aims to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for future generations.

Swamp: is a wetland featuring temporary or permanent inundation of large areas of land by shallow bodies of water.

Terrain: or relief refers to the lay of the land; and is usually expressed in terms of the elevation, slope, and orientation of terrain features. Terrain affects surface water flow and distribution.

Terrestrial: Pertaining to organisms living habitually on the land or ground surface.

Threatened: A species likely to become endangered if limiting factors are not reversed. (COSEWIC)

Threshold: A limit or level which if exceeded likely results in a noticeable, detectable or measurable change or environmental effect that may be significant. Example thresholds include water-quality guidelines, acute toxicity levels, critical population levels and wilderness criteria.

Topography: is the description of such surface shapes and features, and is concerned with local detail in general, including not only relief but also vegetative and human-made features, and even local history and culture.

Topsoil: the upper, outermost layer of soil, usually the top to 2 inches (5.1 cm) to 8 inches (20 cm). It has the highest concentration of organic matter and microorganisms and is where most of the biological soil activity occurs.

Tourism: is travel for recreational, leisure or business purposes.

Toxic substances: A chemical or mixture that may present an unreasonable risk of injury to health or the environment.

Traditional Knowledge (TK): Traditional Knowledge is considered to be:

- The observation and experience of the land.
- Aboriginal law regarding how the environment works.
- The understanding of place in the world – how things are connected, including spiritually; the relationship to the land;
- The goals and aspirations;
- The outlook on the proposed projects – concerns; acceptability;
- Identity and culture;
- The stewardship of the land; and
- A base for natural resource management.

Traditional Knowledge, both traditional and modern, from Elders is passed on to others.

Transportation modes: Including vehicles, rail, dirigibles, hovercraft and ferries.

Treaty rights: Special rights to lands and entitlements that Indian people legally have as a result of treaties; rights protected under section 35 of the Constitution Act, 1982.

Turbidity: is the concentration of undissolved, suspended particles present in a liquid phase.

Turbidity curtains: is a non-permeable geotextile cloth curtain that floats in a water column, and has flotation at the top and anchoring at the bottom to keep it vertical in a water body, enabling turbid waters to be retained behind the curtain body.

UNESCO World Heritage Site designation: To encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity.

Upstream: in the direction against a stream's current.

UTM Coordinates: Universal Transverse Mercator (UTM) coordinate system is a grid-based method of specifying locations on the surface of the Earth that is a practical application of a 2-dimensional Cartesian coordinate system. It is used to identify locations however it differs from the traditional method of latitude and longitude.

Washout: is the sudden erosion of soft soil or other support surfaces by a gush of water and sediments, usually occurring during or after a heavy downpour of rain (a flash flood) or other stream flooding.

Waste disposal: Processing and or removal of wastes to final place of deposition or transfer to a place for re-use or recovery.

Waste management: is the collection, transport, processing, recycling or disposal, and monitoring of waste materials.

Wastewater: comprises liquid waste discharged by domestic residences, commercial properties, industry, and/or agriculture and can encompass a wide range of potential contaminants and concentrations. In the most common usage, it refers to the municipal wastewater that contains a broad spectrum of contaminants resulting from the mixing of wastewaters from different sources.

Water bodies: is any significant accumulation of water, such as oceans, seas, and lakes, and smaller pools of water such as ponds, puddles or wetlands.

Watercourse: is any flowing body of water that include rivers, streams, brooks, creeks.

Water Crossing: structure used for traversing between right and left banks of a water course.

Water table: The upper surface of a zone of saturation where the water level is where the groundwater pressure is equal to atmospheric pressure and recognized as the 'surface' of the groundwater at local area.

Waterway: is any navigable body of water that include rivers, lakes, seas, oceans, and canals.

Wetland: land where the water table is at, near or above the surface or which is saturated for a long enough period to promote such features as wet-altered soils and water tolerant vegetation. Wetlands include organic wetlands or "peatlands," and mineral wetlands or mineral soil areas that are influenced by excess water but produce little or no peat (Federal Policy on Wetland Conservation – Implementation Guide for Federal Land Managers, Wildlife Conservation Branch, Canadian Wildlife Service, Environment Canada. 1996). The development of wetlands is a function of several factors: climate, hydrology, soil and water chemistry, geomorphology of the area and biology (fauna and flora). The Canadian Wetland Classification System provides a more accurate description of wetlands by separating them according to class, form and type (e.g., bogs, fens, swamps, marches, and shallow water).

Winter roads: are temporary roads made of compacted and graded snow and ice that facilitates transport to and from communities without permanent roads.

Woodland: is an area covered in trees, usually at low density, forming an open habitat, allowing sunlight to penetrate between the trees, and limiting shade.

World Heritage Site: is a site (such as a forest, mountain, lake, desert, monument, landscape, building, complex, or city) that is on the list that is maintained by the international World Heritage Programme administered by the UNESCO World Heritage Committee.