

**APPENDIX G**  
**GLOSSARY**

**Alluvial** - comprised of clay, silt, sand, gravel, and/or other detritus deposited by water. Usually refers to accretionary overbank, floodplain or levee deposits.

**Biomantling** - Disturbance of the upper part of soil dominantly by bioturbation and consists of at least 50 percent biofabric, but also includes physical disturbance processes such as cryogenesis. Predominates in the upper part of the solum, but it may include deeper levels in some soils and ranges from a few centimeters to many meters thick. Biomantles typically occur above finer textured illuvial and other subsoil horizons, above pans, above bedrock, above saprolite and/or other weathered material.

**Bioturbation** - The disturbance and mixing of sediment by the activity of living organisms.

**Buried Horizons** - Any of the series of distinctive layers found in a vertical cross section of any well-developed soil or stratigraphic sequence. It is commonly used to describe a well-developed soil or strata that has subsequently been buried by more recent sediment.

**Colluvial** - comprised of rock detritus or soil transported by gravity on or at the foot of slopes.

**Cultural Resources Management** - A system designed to preserve archaeological or historic sites which are threatened by construction. (See Phase I, Phase II, and Phase III and Mitigation).

**Cumlic Soil Horizon** - Refers to gradual accretion of sediment within the surface (A) soil horizon that is gradual enough to create thicker-than-normal horizon. Usually forms in a floodplain or near the toe of a colluvial slope where regular, gradual sedimentation may occur.

**Depositional Environment** - The type of environment under which sediments are deposited (e.g., fluvial, eolian, glacial). The location of a cultural site in reference to the surrounding landscape plays an important factor in the changes that occur to it over time. Common natural processes that alter the site once it is abandoned include erosion and sedimentation. Lack of deposition may allow many cultures to exist on the same land surface over a great time span. Rapid deposition may diffuse those same cultures over a thick sedimentary sequence.

**Diamicton** - unconsolidated fill (crudely-to-unstratified, matrix-supported conglomerate)

**Driftless Area** - region never covered by glacial ice during the Wisconsinan Stage.

**Ecotone** - transition area between two adjacent ecological communities.

**Eolian** - deposited, produced, transported, eroded by wind.

**Facies** - a rock or group of rocks that differs from comparable rocks in composition, age, fossil content, etc. Usually refers to different depositional environments within related landforms (i.e., channel/bar depositional facies verse floodplain/levee depositional facies).

**Fluvial** - produced by stream action (usually relates to channel depositional and erosional processes).

**Geoarchaeology** - The application of earth science perspectives and methods to the study of archaeology.

**Geomorphology** - The study of the characteristics, origin and evolution of both the present-day and ancient landscapes and landforms (e.g., river terraces, glacial moraines).

**Geoprobe** - Small hydraulic digging equipment. Depending of sediment conditions, the GeoProbe is limited to less than twenty meters depth.

**Giddings Soil Probe** - A piece of hydraulic digging equipment similar to a drill-rig, but more cost effective and easier to operate and maneuver. The Giddings soil probe is limited to less than ten to fifteen meters depth.

**Global Positioning System (GPS)** - A highly specific locational device based on information transmitted by a constellation of 24 satellites orbiting the earth at a very high altitude.

**Holocene** - see Quaternary Period.

**Hydric** - characterized by or requiring an abundance of moisture. Usually refers to wetland conditions or soils.

**Hypsithermal** - a post-glacial climatic period that was warmer and generally drier than present; temperatures peaked between 6500 BP and 6000 BP.

**Indurated** - hardened or partly cemented soil or sedimentary horizons.

**Lacustrine** - of or relating to lakes.

**Lithology** - the study of rocks; character of a rock formation.

**Midden** - a refuse deposit.

**Mitigation** - Steps taken to reduce the impact of a construction project on an historic site. Mitigation can range from site avoidance to excavation and thorough study.

**Mn/DOT** - Minnesota Department of Transportation.

**Mollic** - soil processes related to grassland or prairie conditions.

**Mollisol** - soil formed under grassland or prairie conditions. Usually characterized by a thick, organic-rich surface (A) soil horizon and contains high concentrations of calcium and magnesium ions.

**National Register of Historic Places Criteria** - Criteria established by the Secretary of the Interior for properties or sites to be included on the National Register of Historic Places. See Bulletin 16A for a description of these criteria.

**Paleoenvironment** - The environment of a former period of geologic time, including the climate, plant life, air water, minerals, organisms, etc.

**Paleosol** - Horizon(s) that was formed as part of a soil sequence at some time in the past and is now buried. Usually marked by the presence of a previous surface (A) soil horizon that is now buried within a sedimentary sequence.

**Particle-Size Analysis** - An examination of the three different particle sizes in sediments or soils (sand, silt and clay) in order to describe and interpret the natural processes responsible for their deposition. For example, firing-upward sequences are indicative of flood deposits that were deposited under decreasing energy.

**Pedogenesis** - the formation and development of soil.

**Pedology** - the scientific study of soils.

**Phase I** - An exploratory survey of an area to determine location and boundaries of any historic or archaeological sites potentially eligible for the National Register of Historic Places.

**Phase II** - A thorough investigation of an historic or archaeological site to make recommendations regarding its eligibility for listing on the National Register of Historic Places.

**Phase III** - An excavation of an historic or archaeological site listed or eligible for listing on the National Register of Historic Places prior to its demolition for new construction.

**Physiography** - of or relating to physical geography.

**Quaternary Period** - The geologic period ranging from two million years ago to the present. It is divided into two epochs: the Holocene (10,000 years ago to the present) and the Pleistocene (two million to 10,000 years ago).

**Radiocarbon Dating** - Determination of the age of objects of organic origin by measuring the amount of carbon14 isotope they retain. It will be used in constructing the predictive model to determine the ages of soils.

**Remote Sensing** - A general term in this project for the acquisition of environmental data from "remote" sources, especially aircraft and satellites, but can also, as in this project, include other near-surface geophysical methods. Remotely-sensed data are an information source well suited to geographic information systems (GIS) in the creation of archaeological predictive models.

**Sedimentology** - The study of sedimentary rocks and other deposits formed by deposition of sediment.

**SHPO** - State Historic Preservation Office.

**Solum** - the altered (i.e., weathered) layer of soil above the parent material that includes the A- and B-horizons.

**Stratum** - A single bed of sedimentary rock, generally consisting of one kind of matter representing continuous deposition.

**Stratigraphy** - A branch of geology dealing with the classification, nomenclature, correlation, and interpretation of beds/layers of rock or earth.

**Transect** - In this case used as a noun, a transverse path across a parcel of land. Parallel transects will be surveyed for archaeological sites for the predictive model.

**Varve** - alternately finer and coarser layers of silt and clay that comprise a cycle of deposition in a body of still water. Usually forms as seasonal couplets within glacial lakes with the fine-grained layer formed when the lake is frozen and the coarser-grained layers developed during summer melt periods.

**Vertisol** - A clayey soil formed in areas with distinct wet and dry seasons and characterized by deep, wide cracks developed in the soil when dry. The swelling and shrinking of the clay commonly creates an uneven surface