CASS COUNTY
GOVERNMENT

Subdivision Ordinance

Adopted March 6, 2006

Effective March 6, 2006

SUBJECT: ORDINANCE #2006-1 (CASS COUNTY SUBDIVISION ORDINANCE)

ADOPTED DATE: MARCH 6, 2006

AN ORDINANCE REGULATING SUBDIVISIONS IN CASS COUNTY:

WHEREAS, The County of Cass has a Home Rule Charter, enacted in 1994 pursuant to North Dakota Century Code Chapter 11-09.1; and

WHEREAS, within the Home Rule Charter Article 2, the electors granted the Cass County Board of Commissioners authority to provide for public health, safety and welfare, and to provide for zoning, planning and subdivision of public or private property within the county limits but outside the zoning authority of any city or organized township; and

WHEREAS, the Board of County Commissioners is responsible for the regulation of subdivision within the zoning authority of the organized townships, and the organized townships are responsible for the regulation of zoning, as generally recognized under the "Planning Function of Cass County," adopted May 3, 1993.

NOW, THEREFORE, be it ordained by the Board of Commissioners of the County of Cass that the Cass County Subdivision Ordinance, which is attached and incorporated by reference, is hereby enacted this 6th day of March, 2006.

APPROVED:

ss/Vern Bennett
Vern Bennett, Chairman
Board of Commissioners of the
County of Cass

ATTEST:

ss/Michael Montplaisir
Michael Montplaisir, County Auditor

(SEAL)

First Reading:	02/06/2006
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ARTICLE I

ADOPTION, AUTHORITY AND JURISDICTION

SECTION 101 **Adoption, Authority, and Repeal of Cass County Platting and Land Subdivision Regulations of 1992.**

101.01. This Ordinance is adopted by the Board of County Commissioners pursuant to the authority granted by the Home Rule Charter of Cass County and Chapter 11-09.1 of the North Dakota Century Code. In addition to powers granted to counties under the constitution and the laws of the State of North Dakota, Cass County has among its enumerated Home Rule powers the authority:

A. To provide for adoption, amendment, repeal initiations, referral, enforcement, and penalties for violation of ordinances, resolutions, and regulations to carry out its governmental and proprietary powers and to provide for public health, safety and welfare; and

B. To provide for zoning, planning, and subdivision of public or private property within the Cass County limits but outside the zoning authority of any city or organized township.

101.02. The Board of County Commissioners hereby enacts and ordains the following Ordinance governing the subdividing of land within the subdivision regulation jurisdiction of the Board of County Commissioners recognized under the "Planning Function of Cass County," May 3, 1993, and does hereby designate the Cass County Planning Commission as its agency to administer and enforce this Ordinance.

101.03. All provisions of the Cass County Platting and Land Subdivision Regulations of 1992 as amended are hereby repealed and the provisions of this Ordinance shall substitute for the former.

SECTION 102 **Jurisdiction.**

102.01. The County regulation of subdivision pursuant to this Ordinance shall in no way affect subdivision regulation within the corporate limits, or within the area of application of extraterritorial zoning jurisdiction, adopted pursuant to Section 40-47-01.1 of the North Dakota Century Code, of any municipality within Cass County. Additionally, this Ordinance shall in no way prohibit or prevent the use of land or buildings for farming or any of the normal incidents of farming.

102.02. The County regulation of subdivision pursuant to this Ordinance shall in no way affect, limit, or infringe upon the zoning authority of any city or organized township. The standards and requirements contained in this Ordinance shall apply as minimum standards for the regulation of

subdivision in those areas within the subdivision regulation jurisdiction of the County Board of Commissioners recognized under the "Planning Function of Cass County," May 3, 1993, which states the County regulates the subdivision of land and the townships currently regulate zoning. However, if a township, in its zoning ordinance, building code, road ordinance, or other ordinance, code, resolution, or regulation, imposes more restrictive standards and requirements than contained herein, such other standards and requirements shall prevail. These township standards and requirements shall be subject to enforcement by the agency assigned such jurisdiction by said ordinance, code, resolution, or regulation. All township ordinance requirements should be met or agreed to by the developer to the satisfaction of the township prior to approval of the plan by the Planning Commission. Approval of a plan by the Planning Commission shall not be construed as an indication that the plan complies with the local standard or requirement, only that the plan complies with the standards of this Ordinance and relevant requirements of law. The County regulation of subdivision pursuant to this Ordinance shall be consistent with the planning organization and responsibilities designated to the County and townships under the "Planning Function of Cass County," May 3, 1993.

102.03. With the Exception of Sections 102.04, 102.05, 102.06 and 102.07, the provisions of this Ordinance shall apply to and control all subdivisions whose plans have not been recorded in the office of the Recorder of Deeds in and for Cass County, North Dakota, prior to the effective date of this Ordinance.

102.04. The provisions of this Ordinance shall not affect an application for approval of a Preliminary or Final Plat which is pending Planning or County Commission action at the time of the effective date of this Ordinance and consistent with Sections 102.04, 102.05, 102.06 and 102.07 of this Ordinance, in which case the applicant shall be entitled to a decision in accordance with the governing ordinances as they stood at the time the application for the Plan was filed. Additionally, this Ordinance shall not affect any suit or prosecution pending or to be instituted, to enforce any provision of the Cass County Platting and Land Subdivision Regulations of 1992, or its applicable predecessor regulations, on an act done, contract executed, or liability incurred prior to the effective date of this Ordinance, nor shall any provisions of this Ordinance be construed to waive the obligations imposed upon an applicant to complete a previously approved Preliminary or Final Plat including the installation of all improvements required hereunder, in strict compliance with the requirements of the Cass County Platting and Land Subdivision Regulations of 1992 or any applicable predecessor regulations.

102.05. If an applicant has received approval of a Preliminary Plat prior to the

effective date of this Ordinance from the Planning Commission, no provision of this Ordinance shall be applied to adversely affect the right of the applicant to commence and complete any aspect of the approved Preliminary Plat in accordance with the terms of such approval and the subsequent filing of a Final Plat within six (6) months of the date of such Preliminary Plat approval.

102.06. If an applicant has received approval of a Final Plat prior to the effective date of this Ordinance from the Planning Commission, no provision of this Ordinance shall be applied to adversely affect the right of the applicant to commence and complete any aspect of the approved Final Plat in accordance with the terms of such approval within six (6) months of the date of such Final Plat approval by the Planning Commission.

102.07. If an applicant has received approval of a Final Plat prior to the effective date of this Ordinance from the Cass County Board of Commissioners, no provision of this Ordinance shall be applied to adversely affect the right of the applicant to commence and complete any aspect of the approved Final Plat in accordance with the terms of such approval.

SECTION 103 **Title.**

This Ordinance shall be known and may be cited as the "Cass County Subdivision Ordinance."

SECTION 104 **Purpose.**

This Ordinance is enacted for the following purposes: To protect and provide for the public health, safety, morals, public convenience, general prosperity, and public welfare of Cass County; to provide for adequate and convenient open spaces for traffic, utilities, access of emergency vehicles and for the avoidance of undue congestion of population; to prohibit land subdivision of such character where the land cannot be used safely for building purposes without danger to health or peril from fire, flood, or other menace; to require that adequate public facilities and necessary public improvements are available and will have sufficient capacity to serve the subdivision; to encourage the wise use and management of natural resources throughout the County in order to preserve the integrity, stability and beauty of the County and the value of its land; to establish reasonable standards, designs and procedures for land subdivision in order to further beneficial planning in the County, to insure proper legal descriptions of the land, and to implement the goals and objectives established by the Cass County Comprehensive Plan (2005).

SECTION 105 **Applicability.**

105.01. This Ordinance applies to any person, partnership, corporation, or limited liability company who or which being the owner or agent of any lot, tract, or parcel of land shall lay out, construct, open, or dedicate any street,

sanitary sewer, storm sewer, water main, or other improvements for public use, travel or other purposes or for the common use of occupants of buildings abutting thereon, or who sells, transfers or agrees or enters into an agreement to sell any land in a subdivision whether by reference to or by other use of a plat of such subdivision or erect any building thereon.

The description by metes and bounds in the instrument of transfer or other document used in the process of selling or transferring shall not exempt the seller or transferor from such penalties or from the remedies therein provided.

105.02. A county auditor's plat made pursuant to North Dakota Century Code 57-02-39 is for taxation purposes for convenience of tax officials in describing property on tax rolls and does not confer rights in or transfer title to land. Therefore, this "platting" of Auditor's Lots is not "platting" pursuant to this Ordinance. Thus, an Auditor's Lot is not approved by the County for sale or development.

105.03. For any change in a map of an approved or recorded subdivision plat, if such change affects any street layout shown on such map, or area reserved thereon for public use, or any lot line, or vacates any portion of said plat, such parcel shall follow the same procedures, rules and regulations as an original subdivision plat. When necessary, when any change in a map of a subdivision plat affects any street layout shown, in conjunction with the process identified in this Ordinance, the appropriate provisions of Chapter 24-07 of the North Dakota Century Code shall be followed.

105.04. Before any subdivision plat shall be recorded or be of any validity, it shall be approved by the Board of Cass County Commissioners as having made appropriate provisions for the public health, safety and general welfare and for such open spaces, drainage ways, streets, parks, playgrounds sites for schools and school grounds and that the public use and interest will be served by the platting of said subdivision and that the proposed plat complies with this Ordinance.

SECTION 106 Administration.

106.01. The Planning Commission shall approve, approve conditionally, or deny all subdivision plats and shall make recommendations for all subdivision plats in Cass County's jurisdiction to the Cass County Board of Commissioners. The Planning Commission shall adopt rules and by-laws to govern its membership, membership terms, meetings and officers not inconsistent with this Ordinance and the North Dakota Century Code.

106.02. The Board of County Commissioners shall grant final approval of all subdivision plats as provided in the North Dakota Century Code and this Ordinance. It shall further serve as the Board of Review for appeals on

Planning Commission decisions for variances, subdivision regulation amendments and other regulatory matters. The Board of County Commissioners shall also hear and adopt Comprehensive Plan amendments, Zoning Regulations and Zoning and Subdivision Regulation amendments in accordance with the North Dakota Century Code.

106.03. The Board of County Commissioners shall serve as the Board of Review for appeals on Planning Commission decisions for variances, subdivision regulation amendments and other regulatory matters. The Board of County Commissioners shall also hear and adopt Comprehensive Plan amendments, Zoning Regulations and Zoning and Subdivision Regulation amendments in accordance with the North Dakota Century Code.

106.04. The Cass County Planning Office shall serve as the administrative officer of the Planning Commission.

106.05. This Ordinance shall be construed and applied to the extent that it does not conflict with the provisions of Section 11-33.2-12 of the North Dakota Century Code.

SECTION 107 **Severability.**

If any section, sub-section, sentence, clause or phrase of this Ordinance is for any reason held to be invalid, such decisions shall not affect the validity of the remaining portions of this Ordinance.

ARTICLE II

DEFINITIONS

SECTION 201 **General.**
Unless otherwise expressly stated, the following terms shall, for the purpose of this Ordinance, have the meaning indicated below.

SECTION 202 **General Terms.**
In this Ordinance the following rules of interpretation shall be used:

Words used in the singular imply the plural and words used in the plural imply the singular.

The male includes the female and neuter genders.

The word "person" indicates a corporation, a sole proprietorship, an unincorporated association, a partnership, estate or any other legally recognized entity, as well as an individual.

The word "lot" includes the word "plot" or "parcel".

The word "buildings" includes "structures" and shall be construed as if followed by the words "or a part thereof".

The word "watercourse" includes "drain," "ditch," and "stream".

The word "may" is directory; the words "shall" and "will" are mandatory.

Words in the present tense may imply the future tense.

Terms not specifically defined in this Ordinance have the meaning commonly associated in conversation and/or in similar ordinances.

SECTION 203 **Specific Terms.**
Other terms or words used herein shall be interpreted or defined as follows:

Abutting. To physically touch or border upon; or to share a common property line.

Access. A way or means of approach to provide physical entrance to a property.

Access Drive. A private drive providing vehicular access to and between

parking areas for more than two parking spaces within a subdivision; any drive servicing two or more units of occupancy on a single lot.

AADT. Annual average daily traffic count.

Agricultural Land. Land used exclusively for the cultivation of the soil, the production of crops or livestock, or the science of forestry; also, land diverted from agricultural use by an active Federal farm program, provided the diverted land has a conservation cover of grass, legume, trees, or wildlife shrubs. Agricultural land may include, to a minor degree, farmsteads inhabited by the cultivator of the land housing for farm employees and land, used for preparation of agricultural products by the cultivator of the land.

Agriculture. *See Agricultural Land.*

Alley. A public right-of-way which affords a secondary means of access to abutting property (*see also Street*).

Animal Feeding Operation. A place where: livestock have been, are, or will be confined, concentrated and fed for 45 or more days in any 12 month period; pasture, crops, or other vegetation are not normally managed or sustained for grazing during the normal growing season; and, animal waste or manure accumulates. This term does not include an animal wintering operation. Adjoining animal feeding operations under common ownership are considered to be one animal feeding operation, if they use common areas or systems for manure handling.

Animal Wintering Operation. The confinement of cattle or sheep used or kept for breeding purposes in a feedlot or sheltered area at any time between October 15 and May 15 of each production cycle under circumstances in which these animals do not obtain a majority of their feed and nutrients from grazing. This term includes the weaned offspring of cattle and sheep, but does not include the breeding operations of more than one thousand (1000) animal units (as defined by the North Dakota Department of Health) or weaned offspring which are kept longer than one hundred and twenty (120) days and that are not retained for breeding purposes.

Applicant. A developer and/or landowner, as hereinafter defined, including heirs, successors and assigns, who has filed an application for subdivision.

Application for Subdivision. The application form and all documents and exhibits required of an applicant by the County Planner, Planning Commission or Board of County Commissioners for subdivision review

purposes.

Area Sketch. An area sketch is a rough map of a proposed subdivision and the surrounding land to be used for the purpose of discussion and clarification of proposed land divisions.

Big Box Retail. Single retail sales facility that has greater than twenty thousand (20,000) square feet of gross floor area and is contained in a single building.

Block. A tract of land which is entirely bounded by streets, public parks, cemeteries, railroads and/or watercourses.

Board of County Commissioners. The Board of County Commissioners of Cass County.

Borrow Pit. A pit or hole that has been excavated to provide earth that can be used as fill in another area.

Buildable Lot. All lots in a proposed subdivision that are not defined as an unbuildable lot due to environmental conditions and lots meeting all requirements of this Ordinance, as specified in Sections 307, 308 and 309.

Building. Any enclosed or open structure, other than a boundary wall or fence, occupying more than four (4) square feet of area and/or having a roof supported by columns, piers, or walls.

A. **Building, Accessory.** A detached, subordinate building, the use of which is customarily incidental and subordinate to that of the principal building, which is located on the same lot as that occupied by the principal building. Farm buildings not intended for habitation are considered to be accessory buildings.

B. **Building, Principal.** A building which is enclosed within exterior walls or fire walls and is built, erected and framed of component structural parts. The Principal Building is also designed for housing, shelter, enclosure and support of individuals, animals, or property of any kind and is a main structure on a given lot.

Building Setback Line. A line within a lot, designated on a plan as the minimum required distance between any structure and the adjacent street centerline, right-of-way line, natural feature, or as specified by any applicable zoning ordinances, regulations, or this Ordinance.

Capacity. The maximum number of vehicles that can be expected to pass over a given section of roadway or on a specific lane.

Cass County Planning Commission. The Cass County Planning Commission or, when authorized, the Planning Commission's staff.

Cass County Subdivision Ordinance. *See Ordinance*.

Clear Sight Triangle. An area of unobstructed vision at a street intersection defined by a line of sight between points at centerlines.

Comprehensive Plan. A document consisting of maps, charts and textual material, that constitutes a policy guide to decisions about the physical and social development of a municipality.

Condominium. A multiple unit land development in which there is a system of separate ownership of individual units of occupancy and undivided interest of land and common facilities.

County. The County of Cass, North Dakota.

County Commission. *See Board of County Commissioners*.

County Planning Commission. *See* Cass County Planning Commission.

Dedication. The deliberate appropriation of land by its owner for general public use.

Deed. A written instrument whereby an estate in real property is conveyed.

Deed Restriction. A restriction upon the use of a property placed in a deed. As specified in Section 309 of this Ordinance, a deed restriction refers to the legally binding restrictions placed on development as it relates to Sections 307, 308 and 309 of this Ordinance.

Density. The number of buildable lots permitted per acre, exclusive of street rights-of-way.

Design Standards. The specifications to land owners or subdividers for the preparation of plats, both preliminary and final, indicating among other things, the optimum, minimum or maximum dimensions of such items as rights of ways, blocks, easements and lots.

Detention Basin. A reservoir which temporarily contains storm water runoff and releases it gradually into a watercourse or storm water facility.

Developer. Any landowner, agent of such landowner, equitable owner, or

tenant with the permission of the landowner, for whom subdivision plans are being or have been made.

Development. An activity which materially alters or affects the existing conditions or use of any land.

Development Plan. The provisions for development, including a plat of subdivision, all covenants relating to use, location and bulk of buildings and other structures, intensity of use or density of development, streets, ways and parking facilities, common open space and public facilities. The phrase "provisions of the development plan" when used in this Ordinance shall mean the written and graphic materials referred to in this definition.

Development Rights. An interest in and the right to use and subdivide land for any and all residential, commercial and industrial purposes and activities which are not incident to agriculture and open space, in accordance with zoning and other regulations. Development rights can be used, held, or transferred, from adjacent property under common ownership, to plat an additional buildable lot on a contiguous receiving property.

Double Frontage Lot. A lot with front and rear street frontage.

Drainage Easement. The land required for the installation of storm sewer or drainage facilities, or required along a natural stream or watercourse for preserving the channel and providing for the flow of water therein, or to safeguard the public against flood damage.

Drainage Plan. The plan of the subdivision showing the direction of surface water runoff and the removal of surface water or groundwater by drains, grading runoff controls, or other means.

Driveway. A private drive providing vehicular access between a street or access drive and a parking area for a single residential unit of occupancy, or a private drive for non-residential uses permitted to provide less than three parking spaces.

Easement. A right-of-way granted for limited use of property by the landowner for a public or quasi-public or private purpose and within which the owner of the property shall not have the right to make use of the land in a manner that violates the right of the grantee.

Eligible Land. An undeveloped quarter-quarter section or Government Lot that meets the conditions specified in Section 308 of this Ordinance.

Engineer. *See Register Engineer*.

Final Plat. *See Plat*.

Floodplain. The area of inundation which functions as a storage or holding area for floodwater to a width required to contain a base flood of which there is a one percent (1%) chance of occurring in any given year. The floodplain also contains both the floodway and the flood fringe. The floodway is the channel of a water course and the adjoining land area which are required to carry and discharge the base flood. The flood fringe is the adjoining area which may be covered by water of the base flood. The location of a floodplain shall be established in accordance with Section 612 of this Ordinance and may include an area of greater magnitude than the base flood if a greater flood hazard area is designated by a municipal ordinance.

Free Standing Retail. Single retail sales facility of up to twenty thousand (20,000) square feet in size that is situated independently on a lot and for which associated parking serves exclusively that facility.

Future Access Strip. A right-of-way reserved for the future improvement of a street.

Government Lot. Fractional sections in the rectangular (government) survey system that are less than one quarter-quarter section (40 acres) in area.

Grading. Any stripping, cutting, filling, stockpiling of earth or land, including the land in its cut or filled condition.

Gross Floor Area. The total floor area of a building.

Half Street. A street of less than the required right-of-way and/or road width, such as a street built from the shoulder edge to the eventual centerline (*See also Street*).

Historic Feature. Any building, site, structure, object, district or area that:

A. Is listed on the National Register of Historic Places.

B. Has received a Determination of Eligibility for the National Register from the National Park Service.

C. Which is listed on any officially adopted municipal register or inventory of historic features.

D. Which is listed on the State Historical Society of North Dakota 1990 North Dakota Comprehensive Plan for Historic Preservation: Archeological Component.

This term shall include the site, principal structures, accessory structures, yards, vegetation, fences, road alignments and signage associated with such features.

Homeowners' association (HOA). A group governing a subdivision through an association collecting monthly fees from all owners/members to pay for maintenance of common areas, handle legal and safety issues and enforce the covenants, conditions and restrictions set by the developer.

Horizon Year. The anticipated opening year of a development, assuming full buildout and occupancy.

Impervious Surface. A ground cover such as cement or asphalt though which water cannot penetrate.

Improvement Construction Assurance. The procedures, specified in Article V, by which a developer assures the construction of improvements required by this Ordinance.

Improvements. Physical changes to the land, including but not limited to, grading, paving, curbs, gutters, storm sewers and drains, improvements to existing watercourses, sidewalks, street signs, monuments, water supply facilities and sewage treatment facilities.

Influence Area. An area which contains 80% or more of the trips that will be attracted to a development site.

Intensive Vegetation Clearing. The complete removal of trees or shrubs in a contiguous patch, strip, row or block.

Land Development. The subdivision of land.

Landscape Architect. A landscape architect registered by the State of North Dakota.

Land Use. A description of how land is occupied or utilized.

Level-of-Service. A measure of the effect of traffic on the capacity of a road.

Lot. A designated parcel, tract, or area of land established by a plat or otherwise permitted by law and to be used, developed, or built upon as a

unit.

Lot Area. The area contained within the property lines of the individual parcel of land, excluding space within the street right-of-way. The lot area includes the area of any utility easement or storm water management facility.

Lot Depth. The average distance between the street right-of-way and the rear lot line, measured perpendicular or radial to the right-of-way.

Lot Frontage. That side of a lot abutting on the street right-of-way and regarded as the front of the lot.

Lot Line Marker. A metal plate or pin used to identify lot line intersections.

Lot Split. Division of a lot created by a previous subdivision into two parts in which at least one part will not be a buildable lot according to applicable zoning regulations and in which no existing easements or accesses are affected and no new easements or accesses are required.

Lot Width. The average distance between the side lot lines of a lot, measured parallel to the right-of-way.

Major Subdivisions. *See Subdivision.*

Mediation. A voluntary negotiating process in which parties in a dispute mutually select a neutral mediator to assist them in jointly exploring and settling their difference, culminating in a written agreement which the parties themselves created and consider acceptable.

Minor Subdivision. *See Subdivision.*

Mixed Use. A development that provides multiple compatible uses in close proximity to one another. And/or a land use pattern that seeks to increase concentrations of population and employment in well defined areas with a mix of diverse and compatible land uses.

Mobile Home. A transportable, single-family dwelling intended for permanent occupancy, contained in one unit, or in two or more units, designed to be joined into one integral unit and capable of again being separated for repeated towing, which arrives at a site complete and ready for occupancy except for minor and incidental unpacking and assembly operations and constructed so that it may be used without a permanent foundation. The term "manufactured home" may be used synonymously.

Mobile Home Lot. A parcel of land in a mobile home park, improved

with necessary utility connections and other appurtenances necessary for the erection thereon of a single mobile home.

Mobile Home Park. A parcel or contiguous parcels of land which has been so designated and improved that it contains two or more mobile home lots for the placement thereon of mobile homes.

Monument. A concrete or stone monument used to identify street line intersections.

Municipal Governing Body. The Council in cities, the Board of Commissioners in townships, the Board of County Commissioners, or any other similar body with the final decision-making, budgeting and appointing authority of a general purpose unit of government.

Municipality. Any city, township, county or other similar general purpose unit of government.

Non-site Traffic. Vehicle trips passing within the study area as defined in the traffic impact study that do not enter or exit the site and are generally the result of through traffic and traffic generated by other developments.

Off-Street Parking. Parking spaces provided outside of the right-of-way of a street or highway.

On-Street Parking. Parking spaces provided within the right-of-way of a street or highway.

Ordinance. The Cass County Subdivision Ordinance, as subsequently amended.

Parcel. *See Lot.*

Peak Hour. The hour during which the heaviest volume of traffic occurs on a road.

Pedestrian Way. A right-of-way, publicly or privately owned, intended for human movement by walking or bicycling.

Personal Services. Establishments primarily engaged in providing services involving the care of a person per a person' personal goods or apparel. It includes uses such as barber shops, beauty salons, shoe repair shops and dry cleaners.

Pervious Surface. Ground cover through which water can penetrate at a rate comparable to that of water through undisturbed soils.

Plan. *See Plat*.

Planning Commission. *See Cass County Planning Commission*.

Plat. The map or plan of a subdivision, whether preliminary or final.

A. **Preliminary Plat.** A tentative drawing or map of a proposed subdivision meeting the requirements herein enumerated.

B. **Final Plat.** A drawing or map of a subdivision meeting all the requirements of the County and in such form as required by Cass County for the purpose of recording.

Preliminary Plat. *See Plat*.

Public Improvement. Any improvement or other facility for which a governmental unit may ultimately assume responsibility for maintenance and operation.

Public Meeting. A forum held pursuant to Chapter 44-04-19 and Chapter 44-04-20 of the North Dakota Century Code.

Public Utility. Any person, firm, corporation, municipal department, or board duly authorized to furnish and furnishing, under public regulation, to the public, electricity, gas, heat, power, steam, telephone, telegraph, transportation, or water.

Receiving Property. A parcel that receives a transferred development right from a contiguous undeveloped quarter-quarter section or Government Lot (*See Sending Property*) under common ownership, as specified in Section 308 of this Ordinance.

Registered Engineer. An individual licensed and registered as a professional engineer under the laws of the state of North Dakota.

Registered Land Surveyor. An individual licensed and registered as a professional land surveyor under the laws of the state of North Dakota.

Restrictive Covenant. A restriction on the use of land usually set forth in the deed.

Retention Basin. A reservoir designed to retain storm water runoff with its primary release of water being through the infiltration of said water into the ground.

Reverse Frontage Lot. A lot with front and rear street frontage, where vehicular access is prohibited to and from the higher intensity street.

Right-of Way. The total width of any land reserved or dedicated for public use to be occupied by a street, crosswalk, railroad, electric transmission line, oil or gas pipeline, water main, sanitary or storm sewer main, shade trees, or for other special use.

Road. The surface of a street, drive, or alley available for vehicular traffic. (*See also street*)

Runoff. The surface water discharge and rate of discharge of a given watershed after a full rain or snow that does not enter the soil but runs off the surface of the land.

Sedimentation. The process by which soil or other surface material is accumulated or deposited by wind, water, or gravity.

Sending Property. A parcel that transfers its development right to a contiguous or eligible property under common ownership (*see Receiving Property*) as specified in Section 308 of this Ordinance.

Service Street. *See Street,* Alley *(Service Street).*

Setback Line. *See Building Setback Line.*

Shared Parking. When parking spaces are shared among different structures or uses or among mixed uses and can include properties with different owners.

Shared Trips. Vehicle trips entering and exiting the site which were using the facility on the adjacent streets and therefore did not generate new trips on the road.

Shopping Center. An area that is comprised of three (3) or more commercial establishments, the purpose of which is primarily retail sales, that has a combined gross floor area of twenty thousand (20,000) square feet or more, that is owned or managed as a unit.

Sight Distance. The length of road visible to the driver of a vehicle at any given point in the road when viewing is unobstructed by traffic.

Site. The existing lot of record proposed for a subdivision.

Solid Waste. Any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other

discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining and agricultural operations and from community activities. The term does not include:

A. Agricultural waste, including manures and crop residues, returned to the soil as fertilizer or soil conditioners; or

B. Solid or dissolved materials in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges that are point sources subject to permits under Section 402 of the *Federal Water Pollution Control Act*, as amended [Pub. L. 92-500; 86 Stat. 816; 33 U.S.C. 1251 et seq.], or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended [68 Stat. 919; 42 U.S.C. 2011 et seq.].

Staff. The Cass County Planning and Highway Department staff.

Steep Slope. Lands having average slopes with a horizontal to vertical change of 11:1 (or steeper), slope to rise ratio, as measured over horizontal distances of fifty (50) feet or more.

Storm Water Management Data. The plan information, designed in accordance with Section 607 and 608 of this Ordinance, which identifies design and construction details for managing the quantity and quality of storm water runoff.

Storm Water Management Facilities. Those controls and measures (e.g., storm sewers, berms, terraces, bridges, dams, basins, infiltration systems, ditches, watercourses and floodplains) used to implement a storm water management program.

Street. A strip of land, including the entire right-of-way, publicly or privately owned, serving primarily as a means of vehicular and pedestrian travel and furnishing access to abutting properties. This term shall include the terms avenue, boulevard, road, highway, freeway, parkway, lane, alley, viaduct or any other way used for similar purposes. Streets shall conform to one of the following categories:

A. **Principal Arterial.** An interregional road in the street hierarchy system which carries vehicle traffic to and from the region as well as any through traffic. This street may be a controlled access street.

B. **Minor Arterial.** The Minor arterial street system interconnects with the principal arterial system. It provides connections between boroughs, larger villages, major resort areas and other traffic generators which develop substantial volumes of traffic.

C. **Collector.** This classification includes streets that provide connections with local access and arterial streets. They may serve a traffic corridor connecting villages, small boroughs, shopping points, mining and agricultural areas on an intra-county or municipal basis.

D. **Local Access.** This classification provides direct access to adjacent land and includes connections to farms, individual residences and commercial properties and to higher classes of highway systems.

E. **Alley** (Service Street)**.** A service road that provides secondary means of access to lots. Alleys are on the same level as a local access street and are used in cases of narrow lot frontages. No parking shall be permitted and alleys should be designed to discourage through traffic. AADT level corresponds to that of local access street.

F. **Cul-de-sac.** A street with a single means of ingress and egress and having a turnaround. The design of the turnaround may vary. Cul-de-sacs shall be classified and designed according to anticipated ADT level: A residential street will use the design standards of a local access street; a non-residential street will use the design standards for Commercial/Industrial streets.

G. **Marginal Access Street.** A service street that runs parallel to a higher-order street and provides access to abutting properties and separation from through traffic. Marginal Access Street may be designed as local access street or collector according to anticipated daily traffic.

H. **Divided Street.** A street in which the traffic directions are physically separated.

I. **Stub Street.** A short dead-end street which is a portion of a street which has been approved in its entirety. Stub streets may extend to a property line to permit connection of streets in adjoining subdivisions.

Street Line. The right-of-way line of any given street.

Street, private. A street not accepted for dedication by a municipality.

Structure. Any man-made object having an ascertainable stationary location on or in land or water, whether or not affixed to the land.

Subdivision. A division of a lot, tract, or parcel of land, creating one or more lots, tracts, or parcels for the purpose, either immediate or future, of sale or of building development and any plat or plan which includes the

creation of any part of one or more streets, public easements, or other rights of way, whether public or private, for access to or from any such lot, tract, or parcel and the creation of new or enlarged parks, playgrounds, plazas, or open spaces. The following shall not be considered a subdivision and shall be exempt from the requirements of this Ordinance:

A. a division of land which may be ordered or approved court or affected by testamentary or intestate provisions;

B. a division of land for use as right-of-way for public facilities which do not involve any new streets or easements of access;

C. a division of land made to correct errors in prior divisions pursuant to Chapter 40-50.1 North Dakota Century Code;

D. a division of land into lots, tracts, or parcels of ten (10) acres or more in size for the purpose of agricultural use with no anticipation of dwelling unit construction and does not involve any new streets, easements or accesses other than field accesses;

E. a division of land into lots, tracts, parcels in which one lot, tract, or parcel has existing a single family residential dwelling and the other lot(s), tract(s), or parcel(s) is/are also exempt by the previous stated exemptions; or

F. a lot split as defined in this Ordinance.

The term "subdivision" shall be further defined into two classifications, which are as follows:

(1) Minor Subdivision: A division of land into lots, tracts, or parcels not exceeding four (4) total buildable lots;

(2) Major Subdivision: A division of land into lots, tracts, or parcels exceeding four (4) lots.

Subject Tract. The site proposed for a subdivision.

Substantially completed. Where, in the judgment of the Planning Commission, at least ninety (90) percent (based on the cost of the required improvements for which financial security was posted) of those improvements required as a condition for final approval have been completed in accordance with the approved plan, so that the project will be able to be used, occupied or operated for its intended use.

Surveyor. *See Registered Land Surveyor*.

Top of Bank. The elevation at which water overflows the natural banks of streams or the waters of the state and begins to inundate upland areas

Tract. *See Lot*.

Trip. A single or one-directional vehicle movement.

Unbuildable Site. A portion of a tract of land which due to physical or environmental conditions cannot support or is inappropriate for construction of a road, structure, or any other man-made improvement. Examples include wetlands, sinkholes, landslides, floodways, endangered species habitats and hazardous waste dumps.

Unbuildable Lot. Those lots in a proposed subdivision or lots or parcels resulting from a subdivision of land that are restricted from development due to environmental conditions such as steep slopes, the presence or wetlands or waterways, or sending properties restricted from development because of Sections 307, 308 and 309 of this Ordinance.

Variance. A process for alleviating specific requirements imposed by this Ordinance and provided under Sections 305 and 904 of this Ordinance.

Watercourse. A permanent topographic feature, whether natural or man-made, that serves to gather and carry flowing surface water such as a permanent or intermittent stream, a river, creek, brook, run, or ditch; and which measured by the width of the channel during normal high water.

Watershed. All land and water within the confines of a drainage basin.

Wetlands. Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturate soil conditions, including swamps, marshes, bogs and similar areas.

ARTICLE III

PLAN PROCESSING PROCEDURES

SECTION 301 **Pre-Application Review.**

The purpose of the pre-application meeting or Area Sketch Plan review is to afford the applicant the opportunity to receive the advice and assistance of county staff. Such meeting and/or review shall be considered as confidential between the applicant and staff. However, any documents submitted to county staff relative or resulting from this meeting are subject to the North Dakota Open Records Laws pursuant to Chapter 44-04 of the North Dakota Century Code.

Materials submitted, provided or discussed by the applicant during the pre-application review shall not satisfy any portion of the materials needed to complete a subdivision application. Only a complete subdivision application can be formally acted upon by the County. Furthermore, any advice or assistance given by the county staff shall not be considered the County's final response. The County Board ultimately has the final say in all subdivision requests.

301.01. **Pre-Application Review.**

A. The purpose of the pre-application meeting or area sketch plan review is to afford the applicant the opportunity to receive the advice and assistance of county staff prior to formal application for approval. Such meeting and/or review shall be considered as confidential between the applicant and staff. However, any documents submitted to county staff relative or resulting from this meeting are subject to the North Dakota Open Records Laws pursuant to Chapter 44-04 of the North Dakota Century Code.

B. Applications for proposals requiring a Preliminary Plat approval, plans which involve the creation of new streets or community storm water detention or retention facilities and plans for the development of nonresidential structures are strongly urged to discuss such proposals with county staff and to prepare and submit Area Sketch Plans for review prior to submission of the application for approval. Submission of an Area Sketch Plan, even though strongly recommended, is not mandatory and shall not constitute formal filing of a plan with the Planning Commission.

C. Area Sketch Plans prepared for review and discussion should include those items listed in Section 401 of this Ordinance.

D. The applicant may request that the county staff provide written comments on submitted Area Sketch Plans as a follow-up to any meetings held to discuss the plan. As stated in subsection B, submission of an Area Sketch Plan, even though strongly recommended, is not mandatory and shall not constitute formal filing of a plan with the Planning Commission.

E. Materials submitted, provided or discussed by the applicant during the pre-application review shall not satisfy any portion of the materials needed to complete a subdivision application. Only a complete subdivision application can be formally acted upon by the County. Furthermore, any advice or assistance given by the county staff shall not be considered the County's final response. The County Board ultimately has the final say in all subdivision requests.

SECTION 302 **Preliminary Plat Applications.**

With the exceptions specifically noted in this Ordinance, a Preliminary Plat is required for all Major Subdivisions. All other plans may be submitted as Minor Subdivisions in accordance with Section 306 of this Ordinance.

Preliminary Plats may be filed with the County Planner on any business day. The Planning Commission will officially review a plan at a particular meeting in accordance with a schedule which shall be published as a public notice. Such schedule shall take into account additional time allowed to municipalities to review and comment on the plans prior to action by the Planning Commission.

302.01. **Application Requirements.** All Preliminary Plat Applications shall include the following and shall be submitted at least twenty-one (21) days prior to the next regularly scheduled Planning Commission meeting.

A. Eight (8) full-size and twenty (20) 11"x17" reduced copies of the Preliminary Plat, plus one (1) additional copy if the site is within one (1) mile of a municipal boundary (including ET Boundary) and one (1) additional copy if the site abuts a State road. All plans shall be either black on white or blue on white paper prints.

B. Two (2) copies of all reports, notifications and certifications which are not provided on the Preliminary Plat, including storm water management plans and calculations.

C. One (1) application form (obtain from County Planner) completely and correctly executed, with all information legible and bearing all required signatures.

D. A Filing fee shall accompany the Preliminary Plat, consisting of a check or money order drawn to the Cass County Highway Department (*see Appendix 20 for fee schedule*). Note: A separate filing fee must be submitted for each application. If one check is issued for multiple plans, a detailed breakdown of the individual fee assessments must accompany the payment.

E. When connection to an existing sanitary sewer system is proposed, written notice from the authority providing sanitary sewer service indicating that sufficient capacity to service the proposed development is available shall be provided. Such notice shall:

(1) Be dated within six (6) months of the plan application

(2) Identify the term of reservation and

(3) Provide capacity for the entire development (partial capacity based on phases of development will not be acceptable).

F. When connection to an existing water supply system is proposed, written notice from the authority providing water service indicating that sufficient capacity to service the proposed development is available shall be provided. Such notice shall:

(1) Be dated within six (6) months of the plan application

(2) Identify the term of reservation and

(3) Provide capacity for the entire development (partial capacity based on phases of development will not be acceptable).

G. Where the subject tract contains an electric transmission line, a gas pipeline, a telecommunication line, or a petroleum or petroleum product transmission line located within the lots proposed to be developed, written notice from the entity with rights to such area as to the location of required setback and/or right-of-way lines and approval of any changes to the land located within such area shall be provided.

H. **Incomplete Applications.** A Preliminary Plat application shall be accompanied by all required plans and documents and the required filing fee. The county staff shall have seven (7) days from the date of submission of an application to check the plans and documents to

determine if on their face they are in proper form and contain all the information required by this Ordinance. If defective, the application may be returned to the applicant with a statement that the application is incomplete within the seven (7) day period; otherwise the application shall be deemed accepted as of the date of submission. Acceptance shall not, however, constitute a variance of any deficiencies or irregularities. The applicant may appeal a decision by the Planner under this section to the Planning Commission in accordance with Section 905 of this Ordinance.

302.02. **Plan Requirements.** All Preliminary Plats shall be prepared in conformance with the provisions of Section 402 of this Ordinance and any other applicable requirement of law.

302.03. **Distribution.** The Planning Commission shall distribute one (1) copy of the Preliminary Plat to each of the following individuals:

A. Cass County Engineer.

B. Cass County Planning Commissioners.

C. Water Resource District.

D. Electric company.

E. Telephone company.

F. Gas Company.

G. Cass Rural Water Users.

H. North Dakota Department of Transportation (if the subject site abuts a State road).

I. County Sanitarian.

J. Adjoining municipality (if site is located within one (1) mile of a municipal or ET boundary).

K. Cities of Fargo and West Fargo.

L. The county will also notify the applicant or representing agent and all land owners within a minimum distance of one thousand (1000) feet of proposed Preliminary Plat.

M. Appropriate chairman of the board(s) of township supervisors.

(1) The County Planner shall, by registered mail, notify the appropriate chairman of the board(s) of township supervisors that an application for subdivision approval has been submitted to the County and that the board of township supervisors is requested to make a recommendation on the application. Prior to submission of a Final Plat for subdivision approval by the Board of Commissioners, the Township Board having jurisdiction shall have transmitted a registered letter to the County Planner certifying the proposed subdivision is consistent with all Township zoning regulations and providing additional comments when warranted. If the County Planner has not received, by registered mail, a recommendation by the board of township supervisors within sixty (60) days of notification, the planner shall forward their recommendations to the Board of County Commissioners for final action.

302.04. Planning Commission Action. The County Planner will schedule the Preliminary Plat application for action at a regularly scheduled public meeting within ninety (90) days of the first public meeting of the Planning Commission after the date of filing.

In general, the County Planner will schedule the Preliminary Plat application for action at the first Planning Commission meeting which is at least twenty one (21) days following filing. However, a municipality may request the Planning Commission to delay action on the application up to ninety (90) days from the date of filing to allow for the submission of its comments to the Planning Commission. The Preliminary Plat will, therefore, be considered at a public meeting by the Planning Commission in accordance with a schedule that allows time for review of the Plan by the municipality.

302.05. Notification of Commission Action. Within fifteen (15) consecutive days after the meeting at which the Preliminary Plat is reviewed, the staff shall send written notice of the Planning Commission's action to the following individuals:

A. Landowner or his agent.

B. Applicant.

C. Firm that prepared the plan.

D. Township Chairman.

If the application is disapproved, the County Planner will notify the above individuals, in writing, of the defects in the application and will identify the requirements which have not been met, citing the provisions of the statute or ordinance relied upon.

302.06. **Compliance with Planning Commission Action.** If the Planning Commission conditions its Preliminary Plat approval upon receipt of additional information, changes and/or notifications, such data shall be submitted and/or alterations noted on two (2) copies of the Plan to be submitted to county staff for approval.

302.07. **Planning Commission Approval.** Approval of a preliminary application shall constitute approval of the proposed subdivision as to the character and intensity of development and the general arrangement of streets, lots, structures and other planned facilities, but shall not constitute Final Plat approval. The Preliminary Plat may not be recorded in the office of the Cass County Recorder of Deeds.

302.08. **Preliminary Plat Duration.** Preliminary Plat approval will be effective for a one (1) year period from the date of the Planning Commission's approval of the Preliminary Plat application; therefore, Final Plat applications for the entire project must be filed within one (1) year of Preliminary Plat approval unless the Planning Commission grants a variance by extending the effective time period of the approval.

SECTION 303 **Final Plat Application.**

An application for Final Plat Approval can be submitted only after the following, when required as noted, have been completed.

The receipt of an unconditional Preliminary Plat approval in accordance with Section 302 of this Ordinance, when a Preliminary Plat approval is required.

Final Plats may be filed with the County Planner on any business day; however, the Planning Commission will officially review the plan at a particular meeting only if the Plan was filed at least twenty one (21) days prior to that meeting.

The Final Plat may be submitted in sections, each section covering a reasonable portion of the entire proposed subdivision as shown on the approved Preliminary Plat; provided that each section, except for the last section, shall contain a minimum of twenty five (25) percent of the total

number of lots as depicted on the approved Preliminary Plat unless the Planning Commission specifically approves a lesser percentage for one or more sections.

The Planning Commission may accept a Final Plat modified to reflect a change to the site or its surroundings which occurs after the Preliminary Plat review. The Planning Commission shall determine whether a modified Final Plat will be accepted or whether a new Preliminary Plat shall be submitted.

303.01. **Application Requirements.** All Final Plat applications shall include the following:

A. Eight (8) full-size and twenty (20) 11”x17” reduced copies of the Final Plat sheet(s) to be recorded, plus one (1) additional copy if the site is within one (1) mile of a municipal boundary (including ET Boundary) and one (1) additional copy if the site abuts a State road. All plans shall be either black on white or blue on white paper prints.

B. Two (2) copies of all reports, notifications and certificates which are not provided on the Final Plat, including storm water management plans and calculations.

C. One (1) application form (obtain from County Planner) completely and correctly executed, with all information legible and bearing all required signatures.

D. A Filing fee shall accompany the Final Plat, consisting of a check or money order drawn to the Cass County Highway Department (*see Appendix 20 for fee schedule*). Note: A separate filing fee must be submitted for each application. If one check is issued for multiple plans, a detailed breakdown of the individual fee assessments must accompany the payment.

E. One (1) copy of all applicable supplementary data, notices and certificates required in Sections 403.04 and 403.05 of this Ordinance.

F. A Final Plat application shall be accompanied by all required plans and documents and the required filing fee. The Planner shall have seven (7) days from the date of submission of an application to check the plans and documents to determine if on their face they are in proper form and contain all the information required by this Ordinance. If defective, the application will be returned to the applicant with a statement that the application is incomplete within the seven (7) day period; otherwise the application shall be deemed

accepted for filing as of the date of submission. Acceptance shall not, however, constitute a variance of any deficiencies or irregularities.

G. When connection to an existing sanitary sewer system is proposed, written notice from the authority providing sanitary sewer service indicating that sufficient capacity to service the proposed development is available shall be provided. Such notice shall:

(1) Be dated within six (6) months of the plan application

(2) Identify the term of reservation and

(3) Provide capacity for the entire development (partial capacity based on phases of development will not be acceptable).

H. When connection to an existing water supply system is proposed, written notice from the authority providing water service indicating that sufficient capacity to service the proposed development is available shall be provided. Such notice shall:

(4) Be dated within six (6) months of the plan application

(5) Identify the term of reservation and

(6) Provide capacity for the entire development (partial capacity based on phases of development will not be acceptable).

303.02. **Plan Requirements**. All Final Plats shall be prepared in conformance with the provisions of Section 403 of this Ordinance and any other applicable requirements of law.

303.03. **Distribution**. The Planning Commission shall distribute one (1) copy of the Final Plat to each of the following:

A. Cass County Engineer

B. Cass County Planning Commissioners.

C. Water Resource District.

D. Electric company.

E. Telephone company.

F. Gas Company.

G. Cass Rural Water Users.

H. North Dakota Department of Transportation (if the subject site abuts a State road).

I. County Sanitarian.

J. Adjoining municipality (if site is located within one (1) mile of a municipal or ET boundary).

K. Cities of Fargo and West Fargo.

L. The county will also notify the applicant or representing agent and all land owners within a minimum distance of one thousand (1000) feet of proposed Preliminary Plat.

M. Appropriate chairman of the board(s) of township supervisors.

(1) The County Planner shall, by registered mail, notify the appropriate chairman of the board(s) of township supervisors that an application for subdivision approval has been submitted to the County and that the board of township supervisors is requested to make a recommendation on the application. Prior to submission of a Final Plat for subdivision approval by the Board of Commissioners, the Township Board having jurisdiction shall have transmitted a registered letter to the County Planner certifying the proposed subdivision is consistent with all Township zoning regulations and providing additional comments when warranted. If the County Planner has not received, by registered mail, a recommendation by the board of township supervisors within sixty (60) days of notification, the planner shall forward his recommendations to the Board of County Commissioners for final action.

303.04. **Planning Commission Action.** The County Planner will schedule the Final Plat application for action at a regularly scheduled public meeting within ninety (90) days of the first public meeting of the Planning Commission after the date of filing.

In general, the County Planner will schedule the Final Plat application for

action at the first Planning Commission meeting which is at least twenty one (21) business days following filing. However, a municipality may request the Planning Commission to delay action on the application up to ninety (90) days from the date of filing to allow for the submission of its comments to the Planning Commission. Final Plat approval will be effective for ninety (90) days from the date of the Planning Commission's action on the Final Plat, unless the Planning Commission grants a variance by extending the effective time period of the approval. Within this time period the applicant must meet all conditions of approval, if any; certify plans as specified in this Ordinance; and record plans as specified in this Ordinance.

303.05. **Notification of Commission Action.** Within fifteen (15) consecutive days after the meeting at which the Final Plat is reviewed, the staff shall send written notice of the Planning Commission's action to the following:

A. Landowner or his agent.

B. Applicant.

C. Firm that prepared the plan.

D. Township Chairman.

If the application is disapproved, the staff will notify the above individuals, in writing, of the defects in the application and will identify the requirements which have not been met; citing the provisions of the statute or ordinance relied upon.

303.06. **Compliance with Planning Commission Action.** If the Planning Commission conditions its Final Plat approval upon receipt of additional information, changes and/or notifications, such data shall be submitted and/or alterations noted on two (2) copies of the Plan to be submitted to the county staff for approval.

SECTION 304 Final Plat Approval by Board of County Commissioners.

304.01. **Final Plat Approval.**

A. No plat shall be finally approved or disapproved by the Board of County Commissioners until the following has been met:

(1) Receipt of recommendation by the Planning Commission.

(2) Receipt of recommendation by the board of township

supervisors of the township in which the proposed subdivision is located. If the Planning Commission does not receive a recommendation by the board of township supervisors within sixty (60) days after notification, it may submit its recommendation to the Board of County Commissioners without receipt of recommendation from the board of township supervisors. The recommendations by either the Planning Commission or the board of township supervisors shall not be binding on the Board of County Commissioners.

(3) The receipt of an unconditional Final Plat and all necessary information and materials prepared in accordance with this Ordinance.

(4) In determining whether a plat shall be finally approved or disapproved, the Board of County Commissioners shall inquire into the public use and interest proposed to be served by the subdivision. It shall determine if appropriate provisions are made for the public health, safety, and general welfare, for open spaces, drainage ways, streets, alleys, other public ways, water supplies, sanitary wastes, parks, playgrounds, sites for schools and school grounds, but its determination is not limited to the foregoing. The Board of County Commissioners shall consider all other relevant facts and determine whether the public interest will be served by the subdivision. If it finds that the proposed plat makes appropriate provisions for the public health, safety, and general welfare and for such open spaces, drainage ways, streets, alleys, other public ways, water supplies, sanitary wastes, parks, playgrounds, sites for schools and school grounds, and that the public use and interest will be served by the platting of such subdivision, and that the proposed plat complies with this Ordinance, such plat shall be finally approved with such conditions as the Board of County Commissioners may deem necessary. If it finds that the proposed plat does not make appropriate provisions, or that the public use and interest will not be served, or that the proposed plat does not so comply with this Ordinance, then the Board of County Commissioners shall disapprove the proposed plat. Dedication of land to any public body may be required as a condition of subdivision approval and shall be clearly shown on the final plat.

B. The applicant must submit four (4) full size and ten (10) 11”x17” reduced paper prints of the unconditional Final Plat, including three copies of all necessary information and materials prepared in accordance with this Ordinance to the County Planner.

C. The County Planner will schedule the Final Plat application for action at a regularly scheduled Board of County Commissioners public meeting occurring at least fifteen (15) days after the County Planner has received the unconditional Final Plat and all necessary information and materials prepared in accordance with this Ordinance.

304.02. Approved Final Plat.

A. All Final Plat subdivision approved by the Board of County Commissions, where the developer intends to construct the improvements required by this Ordinance shall submit the appropriate executed Memorandum of Understanding (*see Appendix 19*).

B. Except as provided below, all Final Plat subdivisions approved by the Board of County Commissioners must complete all improvements required by this Ordinance and have installed all improvements in accordance with this Ordinance before recording the Final Plat in the office of the Cass County Recorder of Deeds.

(1) Final Plat subdivisions approved by the Board of County Commissioners and depositing a financial security pursuant to Article V of this Ordinance may record the Final Plat in accordance with this Ordinance.

C. All Final Plat subdivisions approved by the Board of County Commissioners which have completed all improvements required by this Ordinance and installed all improvements in accordance with this Ordinance or have deposited a financial security pursuant to Article V of this Ordinance shall provide the office of the Cass County Recorder of Deeds two (2) photographic mylars (one containing original signatures, the other a copy of the signed original), plus three (3) full size, three (3) 11" x 17" reduced paper prints copies of the signed original and the appropriate recording fee. All signatures on the plat shall be written with black ink, not ball point and all rubber stamps must be with black ink. The plat shall be twenty (20) inches by thirty (30) inches and shall have border lines ½ inch from the top, bottom and right sides and 1 ½ inches from the left side.

D. Certifications required

(1) Notarized certification by owner and by any mortgage holder of record, of the adoption of the plat and the dedication of streets, roads and other public areas.

(2) Notarized certification by a registered land surveyor to the effect that the plat represents a survey made by him and that monuments and markers shown therein exist as located and that all dimensional and geologic features are correct.

(3) Certification from County Auditor showing that all taxes and special assessments due on the property have been paid in full.

(4) Certificate of approval to be filled in by the signature of the Chairman of the Cass County Board of Commissioners.

(5) Certificate of recording by the Register of Deeds.

(6) Certificate of review by township, County Engineer and Planning Commission.

304.03. **Final Plat Recordation.** Upon approval and certification of a Final Plat by the Board of County Commissioners, the applicant shall record the Plan in the office of the Cass County Recorder of Deeds.

304.04. **Prior Sale of Lots Prohibited.** The Final Plat shall be filed with the Cass County Recorder of Deeds before proceeding with the sale of lots.

304.05. **Approval Signature Required.** No Final Plat for any subdivision may be recorded unless it bears the signature of an authorized representative of the Board of County Commissioners denoting approval of the plan by the Board of County Commissioners.

304.06. **Dedication by Recording the Final Plat.** After approval of the Final Plat by the Board of County Commissioners, the act of recording the Final Plat shall have the effect of an irrevocable offer to dedicate all streets and other areas designated for public use, unless reserved by the landowner as provided below. However, the approval of the Board of County Commissioners shall not impose any duty upon the County, Township, or municipalities concerning acceptance, maintenance, or improvement of any such dedicated areas or portion of same until proper authorities of the County, Township, or municipalities actually accept same by ordinance or resolution, or by entry, use, or improvement.

304.07. **Notice of Reservation from Public Dedication.** The landowner shall place a notation on the Final Plat when there is no offer of dedication to the public of certain designated areas, in which event the title to such areas shall remain with the owner and the County and local authorities shall assume no right to accept ownership or right-of-way.

SECTION 305 Procedure for Variance Consideration of This Ordinance.

305.01. **Application Requirements.** All requests for variances shall be made in accordance with the following procedure:

A. All requests for a variance shall be made in writing and shall accompany and be a part of the application for development. The request shall state in full the grounds and facts of unreasonableness or hardship on which the request is based, or the alternative standard proposed to provide equal or better results, the section or sections of this Ordinance which are requested to be waived and the minimum modification necessary. The request shall be accompanied by a plan prepared at least to the minimum standards of an area sketch plan (*see Section 401*).

B. Should a revision to a submitted plan require a variance which was not apparent at the time of initial plan submission, the request for a variance shall be submitted in accordance with subsection (A) above, at the time of submission of the revised plans.

C. Requests for variances shall be considered by the Planning Commission at a public meeting which is at least twenty-one (21) days after the submission of the variance request. However, a municipality may request the Planning Commission to delay action on the variance to allow time for the municipality to submit comments to the Planning Commission.

305.02. **Planning Commission Action.** At a scheduled public meeting, the Planning Commission shall review the request to determine if the literal compliance with any mandatory provision of this Ordinance is demonstrated by the applicant to exact undue hardship or to be unreasonable, or that an alternative standard has been demonstrated to provide equal or better results, provided that such modification will not be contrary to the public interest and that the purpose and intent of this Ordinance is observed. The applicant shall demonstrate that the alternative proposal represents the minimum modification necessary. If the Planning Commission determines that the applicant has met his burden, it may grant a variance from the literal compliance with the terms of this Ordinance.

305.03. **Notification of Commission Action.** After the meeting at which the variance was reviewed, the county planner shall send notice of the Planning Commission's action to the following individuals:

A. Landowner or his agent.

B. Applicant.

C. Township

If the Planning Commission denies the request, the county planner will notify the above individuals, in writing, of the justification for denial. If the Planning Commission grants the request, the Final Plat shall include a note which identifies the specific variance as granted.

SECTION 306 **Minor Subdivision Plans.**

On a subject tract for subdivision meetings the conditions for a minor subdivision which a proposed development does not exceed one (1) buildable lot per quarter-quarter section (40 acres) as outlined in Section 307 of this Ordinance or up to four (4) buildable lots using the transfer of development rights as outlined in Section 308 of this Ordinance and following the regulations outlined within Section 306 of this Ordinance will be allowed to be submitted as a Minor Subdivision Plan.

Subdivision of the subject tract exceeding four (4) buildable lots shall be processed as a major subdivision.

306.01. **Minor Subdivision Plan Criteria.** Minor Subdivision plans shall only be permitted when all of the following criteria are satisfied:

A. The creation of one (1) to four (4) buildable lots.

B. Development of the proposed lots respects the particular topographic and environmental features of the site and does not adversely impact any sensitive environmental features such as floodplain, wetlands, steep slopes, or sinkholes. It shall be the responsibility of the professional certifying the accuracy of the plan that such features are accurately identified and appropriately protected. However, if determined by the Planning Commission that the protection of such features has not been adequately demonstrated, the proposal shall be disapproved.

C. The proposed lots are designed in accordance with the provisions of the applicable zoning district.

D. All lots shall front on a public or private street and shall provide for vehicular access which does not interfere with the normal movement of traffic, while meeting the minimum spacing distance for access of the County and agency owning the road.

306.02. **Application Requirements.** The Planner shall have seven (7) days from the date of submission of an application to check the plans and documents to determine if, on their face, they are in proper form and contain all the information required by this Ordinance. If defective, the application will be returned to the applicant with a statement that the application is incomplete. Otherwise, the application shall be deemed accepted for filing as of the date of the submission. Acceptance shall not however, constitute a variance of any deficiencies or irregularities. The applicant may appeal a decision by the Director under this section to the Planning Commission in accordance with Section 905 of this Ordinance. All minor subdivision plans shall include the following information:

A. Eight (8) copies of the plan and twenty (20) 11 x 17" reduced copies of the plat plus one (1) additional copy if the site abuts a State road and one (1) additional copy if the plan is within one mile of a municipality (including an ET boundary). All plans shall be either black on white or blue on white paper prints. Two (2) copies of all applicable supplementary data.

B. One (1) correct and complete application form (obtain from County Planner).

C. A filing fee consisting of a check or money order drawn to the Cass County Highway Department (*see Appendix 20*). Note: A separate filing fee must be submitted for each application. If one check is issued for multiple plans, a detailed breakdown for the individual fee assessments must accompany the payment.

D. Where the subject tract contains an electric transmission line, a gas pipeline, a telecommunication line, or a petroleum or petroleum product transmission line located within the lots proposed to be developed, written notice from the entity with rights to such area as to the location of required setback and/or right-of-way lines and approval of any changes to the land located within such area shall be provided.

306.03. **Plan Requirements.** All minor subdivision plans shall be prepared in conformance with the provisions of Section 403 of this Ordinance and any other applicable requirements of law.

306.04. **Final Plat Approval.** All minor subdivision plans shall conform to the provisions of Section 303 and 304 of this Ordinance.

306.05. **Commission Approval and Recordation.** All minor subdivision plans shall conform to the provisions of Section 304 of this Ordinance to gain Final Plat approval by the Board of County Commissioners and record the plat.

SECTION 307 **Lot Density Restrictions.**

For the purpose of encouraging orderly and economically-feasible growth, preventing new developments from creating economic strains on county residents, protecting the county's valuable farmland and agricultural traditions, promoting development that will more easily convert to an urban environment and implementing the goals and objectives established by the Cass County Comprehensive Plan (2005) the following lot density restriction is established. This density restriction will promote small, truly rural developments that will mesh more easily with existing agricultural land and activities and will encourage larger urban style subdivisions to develop in the urban fringe and other areas with supportive infrastructure. Developments built beyond the density restriction will be constructed with full supportive urban infrastructure, ensuring developments that will more easily transition into an urban development upon annexation without extensive and costly infrastructure upgrades.

Except as noted in the exemptions below, no subdivision of land shall exceed one (1) buildable lot per quarter-quarter section (40 acres).

A. If the development has followed the transfer of development rights pursuant to Section 308 of this Ordinance and in accordance with all other required provisions of this Ordinance; or

B. If the subdivision will be built to full urban design standards and the strictest requirements outlined within Article VI of this Ordinance; including but not limited to paved roads with curb and gutter, a paved access road, municipal sewer system, public water supply system with functioning fire hydrants, storm water facilities, street lights, street trees, street signs, sidewalks, bike paths and park dedications.

SECTION 308 **Development Rights.**

Except as noted below, every quarter-quarter section or Government Lot as of the effective date of this Ordinance is granted one (1) Development Right to create a buildable lot. Development Rights can be used, held or transferred to contiguous properties under common ownership. Development Rights may not be transferred if the land has any one of the following characteristics:

A. Land that has an existing dwelling, either residential or agricultural. In these situations, the Development Right has been used.

B. Land that has an existing commercial use or other non-agricultural use.

C. Land that is not under complete and common ownership.

D. Land that does not have a suitable building site due to a covenant, easement, conservation easement or deed restriction, unless and until such time as said covenant, easement or restriction is dissolved or rescinded.

E. Land not having a suitable building site due to natural features, such as but not limited to wetlands, floodplains, high water and steep slopes.

F. Land that does not have a conforming building site without a variance issued by the applicable township.

G. Land deemed as unbuildable based on the applicable townships ordinances and/or regulations.

308.01. Using Transferred Development Rights.

A. Development Rights can be used to increase a permitted density on contiguous land that is under common ownership. The maximum number of development rights that can be transferred onto a quarter-quarter section or Government Lot is eleven (11), therefore limiting each quarter-quarter section or Government Lot to a maximum of twelve (12) buildable lots (*i.e.*, one permitted existing buildable lot per quarter-quarter section or Government Lot and up to eleven (11) additional transferred developable ⊳rights▶).

B. For each development right that is transferred, the said receiving property and subdivision is entitled to an increase of one (1) additional buildable lot.

C. All lots permitted through transferred development rights are subject to meet all applicable regulations of this Ordinance.

D. All lots permitted through transferred development rights shall be contiguous and preferably orientated in such a manner to allow for the maximum agricultural use of the surrounding land.

E. If a Development Right is being transferred, the owner of the property

must submit the following materials to the County Planner during the subdivision and platting process:

(1) A copy of the Deed Restriction, as outlined in Section 309 of this Ordinance, expressing that a development right has been transferred to the proposed building site from a contiguous quarter-quarter section or Government Lot under common ownership.

(2) A map showing the location of the proposed building site's quarter-quarter section or Government Lot (the receiving property) and the quarter-quarter section or Government Lot from which the development right was transferred from (the sending property) on a standard 8 ➢ by 11 inch sheet of paper.

SECTION 309 **Deed Restriction.**

The following section outlines the requirements, procedures and implications of the Deed Restriction as it relates to the transfer of development rights in Section 308 of this Ordinance.

309.01. The transfer of development rights as outlined in Section 308 of this Ordinance requires the sending property to be deed restricted, limiting future development on said property until said property is no longer under the jurisdiction of the county based on the following scenarios:

A. The Deed Restricted property is completely within the extraterritorial (ET) boundaries of an incorporated city of Cass County.

B. The Deed Restricted property is completely annexed by an incorporated city of Cass County.

At which point the Deed Restricted property is completely annexed or within the ET boundaries of an incorporated city of Cass County the restriction on the land will be retired and the property will follow the necessary procedures for development of the applicable incorporated city.

309.02. The Deed Restriction shall limit any further residences, divisions, or nonagricultural development on such property except for the following provisions:

A. At such time the Deed Restricted property is completely within the extraterritorial (ET) boundaries of an incorporated city of Cass County.

B. The property is completely annexed by an incorporated city of Cass County.

C. The subdivision will be built to full urban design standards and the strictest requirements outlined within Article VI of this Ordinance; including but not limited to paved roads with curb and gutter, a paved access road, municipal sewer system, public water supply system with function fire hydrants, storm water facilities, street lights, street trees, street signs, sidewalks, bike paths and park dedications.

309.03. The Deed Restriction as it related to the transfer of development rights as outlined in Section 308 of this Ordinance requires the following:

A. The restriction shall limit any further residences, divisions or nonagricultural development on the quarter-quarter section or Government Lot. The restriction shall be on a form provided by the County Planner (*see Appendix 14*) and shall include the following information:

(1) Record Fee Owner(s) legal name.

(2) Legal Description of Restricted Parcel.

(3) Agreement Description stating the following:

(a) The land meets the criteria established in Section 308 of this Ordinance.

(b) A legal description of the receiving property on the adjacent quarter-quarter section or Government Lot.

(c) The Deed Restriction shall limit any further residences, divisions or nonagricultural development on the quarter-quarter section or Government Lot in accordance with Section 309 of this Ordinance.

(d) Date and signature of Fee Owner(s).

(e) Date and signature of Notary Public.

(f) Date and signature of County Engineer.

ARTICLE IV

INFORMATION TO BE SHOWN ON OR SUBMITTED WITH SUBDIVISION PLANS

SECTION 401 **Sketch Plans.**

The scale and sheet size of Sketch Plans shall be as required for Preliminary Plats in Section 402.01(A) and (D) of this Ordinance. The Sketch Plan shall show or be accompanied by the following data, legible in every detail and drawn to scale, but not necessarily containing precise dimensions:

A. Name and address of the developer (if applicable) and landowner.

B. Name of the individual and/or the firm that prepared the Plan.

C. Location map with sufficient information to enable the Planning Commission to locate the property.

D. Adjoining land use zoning and significant natural and man-made features, within 1320' (0.25 mile) of boundary.

E. Where Flood Insurance Rate Maps (FIRM) exist, delineation of the Floodway, 100 year Flood Plain and major drainage patterns.

F. Date, North Arrow, and Scale.

G. Written and graphic scales.

H. Existing tract boundaries accurately labeled with the name(s) of adjacent landowner(s) and adjacent plan(s) of record.

I. Significant topographical and man-made features (e.g., bodies of water, quarries, floodplains, tree masses, structures).

J. Proposed street, parking, building and lot layout.

K. Proposed land use; if several land uses are proposed, the location of each land use shall be indicated.

L. Statement explaining the methods of water supply and sewage treatment to be used.

SECTION 402 **Preliminary Plats.**

Preliminary Plats shall be prepared by an engineer, a surveyor, or a

landscape architect. The Preliminary Plat shall show, be accompanied by, or be prepared in accordance with the following and shall provide sufficient design information to demonstrate conformance with the requirements of Article VI of this Ordinance:

402.01. Drafting Standards:

A. The Plan shall be clearly and legibly drawn at a scale of 10 feet, 20 feet, 30 feet, 40 feet, 50 feet, 60 feet, 80 feet, or 100 feet to the inch.

B. Dimensions shall be in feet and decimals; bearings shall be in degrees, minutes and seconds. Lot line descriptions shall read in a clockwise direction.

C. The survey shall not have an error of closure greater than one (1) foot in fifteen thousand (15,000) feet.

D. The sheet size shall be twenty (20) inches by thirty (30) inches and shall have border lines ½ inch from the top, bottom and right sides and 1 ½ inches from the left side. If the Plan is prepared in two (2) or more sections, a key map showing the location of the sections shall be placed on each sheet. If more than one (1) sheet is necessary, each sheet shall numbered to show the relationship to the total number of sheets in the Plan (*e.g*. Sheet 1 of 5).

E. Plans shall be legible in every detail.

402.02. Location and Identification:

A. Proposed name of subdivision shall not duplicate or too closely resemble names of existing subdivisions

B. The name and address of the owner of the tract (or an authorized agent), the developer/subdivider and the firm that prepared the plans.

C. A north arrow, a graphic scale and a written scale.

D. The entire existing tract boundary with bearings and distances. (If a landowner is to retain a single lot with a lot area in excess of ten (10) acres and consistent with the exemptions for a subdivision set forth in this Ordinance, the boundary of that lot may be identified as a deed plotting and may be drawn at any legible scale; if the remaining lot has a lot area of ten (10) or less acres, it must be described to the accuracy requirements of this Ordinance).

E. The total acreage of the entire existing tract.

F. The lot size and/or density requirements of the municipal zoning ordinance.

G. The location of existing lot line markers along the perimeter of the entire existing tract.

H. A location map, drawn to a scale of a minimum of one inch equal to two thousand feet (1" = 2,000') relating the subdivision to at least two (2) intersections of road center lines. The approximate distance to the intersection of the centerlines of the nearest improved street intersection shall be identified; minimum maintenance roads shall not constitute an improved street.

I. A note indicating the types of sewer or water facilities to be provided.

402.03. Existing Features:

A. Existing contours at a minimum vertical interval of two (2) feet for land with average natural slope of four (4) percent or less and at a minimum vertical interval of five (5) feet for more steeply sloping land. Contours shall be accompanied by the location of the bench mark and notation indicating the datum used. Contours plotted from the United States Geological Survey will not be accepted.

B. The names of all immediately adjacent landowners and the names and of all previously recorded plats for adjacent projects.

C. The following items when located within two hundred (200) feet of the subject tract:

(1) The location and name of existing rights-of-way for streets, access drives, driveways and service streets.

(2) The location of the following features and any related rights-of-way: sanitary sewer mains, water supply mains, fire hydrants, buildings and storm water management facilities.

(3) The location of existing rights-of-way for electric, gas and oil transmission lines and railroads.

(4) The size, capacity and condition of the existing storm water management system and any other facility that may be used

to convey storm flows from the subject tract.

D. The following items when located within the subject tract:

(1) The location, name and dimensions of existing rights-of-way and roadways for streets, access drives, driveways and service streets.

(2) The location and size of the following features and related rights-of-way: sanitary sewer mains, water supply mains, fire hydrants, buildings and storm water management facilities.

(3) The location of existing rights-of-way for electric, gas and oil transmission lines and railroads.

(4) The size, capacity and condition of the existing storm water management system and any other facility that may be used to convey storm flows.

E. The following items when located within two hundred (200) feet of the subject tract or upon the site proposed for development: significant environmental or topographic features including but not limited to flood plains, wetlands, quarry sites, solid waste disposal areas, historic features, cemetery or burial sites, archaeological sites, highly erosive soils, or wooded areas. Additionally, the Preliminary Plat shall indicate any proposed disturbance, encroachment, or alteration to such features when located upon the site proposed for development.

402.04. Plan Information:

A. The layout of streets, alleys and sidewalks, including right-of-way widths.

B. The layout of lots, with approximate dimensions.

C. Total number of lots, units of occupancy, density and proposed land use; (if a multiple land use is proposed, an indication of the location of each land use).

D. Easements.

E. Building setback lines, with distances from the street centerline or street right-of-way line, whichever requirement is applicable under the township zoning ordinance. This information may be provided on

separate sheets and is not subject to recording with the Final Plat.

F. Vegetation Buffer Zone and Watercourse Setbacks shall be shown on the plat as set forth in Section 609 and 610 of this Ordinance.

G. Identification of buildings and historic features proposed to be demolished.

H. Typical street cross section for each proposed street and typical cross section for any existing street which will be improved as part of the application. Each cross section shall include the entire right-of-way width.

I. Street centerline profile for each proposed street shown on the Preliminary Plat.

J. The preliminary design of the proposed sanitary sewer mains and water supply mains. The information shall include the approximate size, material and vertical and horizontal location, when applicable.

K. The preliminary storm water management data provided on a sheet with other data or on separate sheets. This data shall provide the Planning Commission the proposed drainage plan displaying the location of all existing storm water facilities, the location of any storm water facility easements or anticipated easements, the anticipated use of existing storm water management facilities, the anticipated changes to the existing storm water management facilities, the location of new storm water management facilities, the anticipated lot grading and the anticipated directions of water movement.

L. A statement on the Plan indicating any variances granted by the Planning Commission.

M. Proposed street names.

402.05. Certificates, Notifications and Reports:

A. Where the Preliminary Plat covers only a part of the entire landholding, a sketch of the future street system of the unsubmitted part shall be furnished. The street system of the submitted part will be considered in light of adjustments and connections with future streets in the part not submitted.

B. Where the land included in the subject application has an electric transmission line, telecommunications line, a gas pipeline, or a

petroleum or petroleum products transmission line located within the tract, the application shall be accompanied by a letter from the owner or lease of such right-of-way stating any conditions on the use of the land and the minimum building setback and/or right-of-way lines. This requirement may also be satisfied by submitting a copy of the recorded agreement.

C. Certificate, signature and seal of the surveyor to the effect that the survey is correct and certificate, signature and seal of the surveyor, engineer, or landscape architect that prepared the Plan that all other information shown on the plat is accurate. (*See Appendix 11*).

D. In the case of a Preliminary Plat calling for the phased installation of improvements, a schedule shall be filed delineating all proposed sections as well as deadlines within which applications for Final Plat approval of each section are intended to be filed. Each section in any residential subdivision, except for the last section, shall contain a minimum of twenty-five (25) percent of the total number of dwelling units as depicted on the Preliminary Plat unless the Planning Commission specifically approves a lesser percentage for one or more of the sections.

E. Where the land included in the subject application has an agricultural, woodland or other natural resource easement located within the tract, the application shall be accompanied by a letter from the party holding the easement stating any conditions on the use of the land. This requirement may be satisfied by submitting a copy of the recorded agreement.

402.06. **Filing Fee.** The Preliminary Plat shall be accompanied by a filing fee in the form of a check or money order drawn to the Cass County Highway Department. (*See Appendix 20*). Note: A separate filing fee must be submitted for each application. If one check is issued for multiple plans, a detailed breakdown of the individual fee assessments must accompany the payment.

SECTION 403 **Final Plats.**

Final Plats shall be prepared by an engineer, a surveyor, or a landscape architect. The Final Plat shall show, be accompanied by, or be prepared in accordance with the following and shall provide sufficient design information to demonstrate conformance with the requirements of Article VI of this Ordinance:

403.01. **Drafting Standards.** The same standards shall be required for a Final Plat as specified for a Preliminary Plat in Section 402.01 of this

Ordinance.

403.02. **Location and Identification.** The same standards shall be required for a Final Plat as specified for a Preliminary Plat in Section 402.02 of this Ordinance.

403.03. **Existing Features.**

A. Contour lines representing the topography of the site, if a Preliminary Plat was not required or the contours identified with the Preliminary Plat were altered. Such contours shall show elevations at a minimum vertical interval of two (2) feet for land with average natural slope of four (4) percent or less and at a minimum vertical interval of five (5) feet for more steeply sloping land. Contour information shall be accompanied by the location of the bench mark and a notation indicating the datum used. Contours plotted from the United States Geological Survey will not be accepted. This information may be provided on separate sheets and is not subject to recording with the Final Plat.

B. The names of all immediately adjacent landowners and the names of all previously recorded plans for adjacent projects.

C. Significant environmental and topographic features including but not limited to flood plains, wetlands, quarry sites and woodlands. When available, information regarding solid waste disposal areas, historic features, cemetery or burial sites, archeological sites, or areas with highly erosive soils. The Final Plat shall indicate any proposed disturbance, encroachment, or alteration to such features when located upon the site proposed for development.

D. The following items when located within two hundred (200) feet of the subject tract:

(1) The approximate location and name of existing rights-of-way for streets, access drives and service streets.

(2) The approximate location of the following features and any related rights-of-way: sanitary sewer mains, water supply mains, fire hydrants and storm water management facilities which affect the storm water runoff on the subject tract.

(3) The size, capacity and condition of the existing storm water management system and any other facility that may be used to convey storm flows from the subject tract.

E. The following items when located within the subject tract:

(1) The location and size of the following features and related rights-of-way: on-site sewage treatment facilities, on-site water supplies, sanitary sewer mains, water supply mains, fire hydrants, buildings and storm water management facilities. This information may be provided on separate sheets and need not be recorded with the Final Plat.

(2) The location of existing rights-of-way for electric, telecommunications, gas and oil transmission lines and railroads.

(3) The size, capacity and condition of the existing storm water management system and any other facility that may be used to convey storm flows.

403.04. Plan Information:

A. Complete description of the centerline and the right-of-way line for all new streets. This description shall include distances and bearings with curve segments comprised of radius, tangent, arc and chord.

B. Lot lines, with accurate bearings and distances and lot areas for all parcels. Curve segments shall be comprised of arc, chord, bearing and distance. Along existing street rights-of-way, the description may utilize the existing deed lines or road centerlines; along all proposed street rights-of-way, the description shall be prepared to the right-of-way lines.

C. The location and configuration of proposed buildings, parking compounds, streets, access drives, driveways, landscaping and all other significant facilities.

D. Total number of lots, units of occupancy, density and proposed land use; (if a multiple land use is proposed, an indication of the location of each land use).

E. Easements.

F. Building setback lines, with distances from the street centerline or street right-of-way line, whichever requirement is applicable under the township zoning ordinance. This information may be provided on separate sheets and is not subject to recording with the Final Plat.

G. Watercourse and Vegetation Buffer Zone Setbacks shall be shown on the plat as set forth in Section 609 and 610 of this Ordinance.

H. Identification of buildings and historic features proposed to be demolished.

I. Typical street cross section for each proposed street and a typical cross section for any existing street which will be improved as part of the application. Each cross section shall include the entire right-of-way width.

J. Final vertical and horizontal alignment for each proposed street, sanitary sewer and water distribution system. All street profiles shall show at least the existing (natural) profile along the centerline, proposed grade at the centerline and the length of all proposed vertical curves for streets. All water distribution and sanitary sewer systems shall provide manhole locations and size and type of material. This information may be provided on separate sheets and is not subject to recording with the Final Plat.

K. Final street names.

L. A Location and material of all permanent monuments and lot line markers, including a note that all monuments and lot line markers are set or indicating when they will be set.

M. The grading plan shall include finished land contours and grades, directions of water movement, type of soils, location of water bars or silt fences and ground floor elevations. This information may be provided on separate sheets and is not subject to recording with the Final Plat.

   The use of individual borrow pits on each lot for site/pad buildup is discouraged and the use of off-site fill or a centralized borrow pit is preferred. All borrow pits must conform to and designed in accordance with the construction of basins in Section 608.08 (G) of this Ordinance and individual borrow pits shall not be closer than twenty-five (25) feet from any property line.

N. Identification of any variances granted by the Planning Commission.

O. Identification of any lands to be dedicated or reserved for public, semi-public, or community use.

P. The following storm water management data shall be provided for all

proposed major subdivisions plans designed in accordance with Section 608 of this Ordinance. This information may be provided on a sheet with other data or on separate sheets and need not necessarily be recorded with the Final Plat. In the case of any dispute in the methodology used in the design of any storm water management plan and/or in the presentation of such information, the Planning Commission shall make the final determination on design criteria, methodology and form of presentation.

(1) All calculations, assumptions, criteria and references used in the design of the storm water management facilities, the establishment of existing facilities capacities and the pre and post development peak discharges.

(2) All plans and profiles of the proposed storm water management facilities, including the horizontal and vertical location, size and type of material. This information shall be to a detail required for the construction of the facilities.

(3) For all basins, a plotting or tabulation of the storage volumes and discharge curves with corresponding water surface elevations, inflow hydrography and outflow hydrography.

(4) For all basins which hold two (2) acre feet or more of water and have an embankment that is six (6) feet or more in height, soil structure and characteristics shall be provided. Plans and data shall be prepared by a registered professional engineer. These submissions shall provide design solutions for frost-heave potential, spring-swell potential, soil bearing strength, water infiltration, soil settling characteristics, fill and back-filling procedures and soil treatment techniques as required to protect the improvements for adjacent structures.

(5) All erosion and sedimentation control measures, temporary as well as permanent, including the staging of the earth moving activities, in sufficient detail to clearly indicate their function.

(6) The guidelines for lot grading within subdivisions. This information shall identify the direction of storm water runoff flow within each lot and the areas where storm water runoff flows will be concentrated. This information shall be provided by flow arrows or topographic data (*see*

Appendix 15 for examples). In areas where the Planning Commission feels additional lot grading information is needed to assure proper function of the storm water management facilities, specific grading information will be required as part of the Final Plat submittal.

403.05. Certificates, Notifications and Reports

A. Where the land included in the subject application has an electric transmission line, a gas pipeline, a telecommunication line, or a petroleum or petroleum product transmission line located within the tract, the application shall be accompanied by a letter from the owner or lease of such right-of-way stating any conditions on the use of the land and the minimum building setback and/or right-of-way lines. This requirement may also be satisfied by submitting a copy of the recorded agreement.

B. Certificate, signature and seal of the surveyor, to the effect that the survey is correct and certificate, signature and seal of the surveyor, engineer, or landscape architect that prepared the Plan that all other information shown on the plat is accurate. (*See Appendix 11*).

C. Where the subdivision proposal will generate one hundred (100) or more additional trips to or from the site during the development's anticipated peak hour or seven hundred and fifty (750) daily trips, a traffic impact study as required by this Ordinance shall be submitted with the Final Plat.

In addition, a traffic impact study shall be prepared whenever either one of the following conditions exist within the impact study area:

(1) Current traffic problems exist in the local area, such as a high-accident location, confusing intersection, or a congested intersection which directly affects access to the development.

(2) The ability of the existing, roadway system to handle increased traffic or the feasibility of improving the roadway system to handle increased traffic is limited.

D. A statement, duly acknowledged before an officer authorized to take acknowledgment of deeds and signed by the landowner, to the effect that the subdivision shown on the Plan is the act and the deed of the owner, that all those signing are all the owners of the property shown on the survey and Plan and that they desire the same to be recorded as

such (*see Appendix 13*). This statement must be dated following the last change or revision to said plan.

E. A certificate of dedication of streets and other public property. (*see Appendix 13*).

F. A note to be placed on the Plan indicating any area that is not to be offered for dedication, if applicable.

G. An appropriately executed Memorandum of Understanding which sets forth the responsibilities of all parties regarding the installation and inspection of the required improvements. (*see Appendix 19*).

H. Such written notices of approval as required by this Ordinance, including written notices approving the water supply systems, sanitary sewage systems and storm water runoff to adjacent properties. (*see Section 608 and 615 for specific requirements*).

I. The submission of a controlling agreement in accordance with Section 602.02 (E) of this Ordinance when an application proposes to establish a street which is not offered for dedication to public use.

J. In the case of a plan requiring access to a highway under the jurisdiction of the North Dakota Department of Transportation, the applicant must submit documentation from the North Dakota DOT demonstrating the approved access onto said highway.

K. Where the subdivision involves a site meeting any of the following criteria, a statement from the North Dakota Department of Health that an acceptable Erosion and Sedimentation Control Plan has been submitted to that agency and constructed using the North Dakota Department of Transportation (NDDOT) *Erosion and Sediment Control Handbook*, as it presently exists or may hereafter be amended.

(1) Site where earth disturbance greater than five (5) acres.

(2) Sites where earth disturbance is greater than one (1) acre and less then five (5) acres shall submit copies of the Small Construction Activity Permit application as required by the North Dakota Department of Health.

403.06. Filing Fee. The Final Plat shall be accompanied by a filing fee in the form of a check or money order drawn to the Cass County Highway Department. (*see Appendix 20*). Note: A separate filing fee must be submitted for each application. If one check is issued for multiple plans, a

detailed breakdown of the individual fee assessments must accompany the payment.

ARTICLE V

IMPROVEMENT CONSTRUCTION ASSURANCES

SECTION 501 **Improvement Required.**

No project shall be considered in compliance with this Ordinance until the streets, street signs, sidewalks and walkways, gutters and curbs within street rights-of-way, buffer planting, shade trees, storm drainage facilities, sanitary sewer facilities, water supply facilities, lot line markers, survey monuments, street trees, utilities and other improvements as may be required have been installed in accordance with this Ordinance.

During the course of these improvements and completion of the subdivision the applicant shall be responsible for removal of all equipment, material and general construction debris from the subdivision and from any lot, street, public way or property therein or adjacent thereto. Dumping of such debris into sewers or onto adjacent property is prohibited.

SECTION 502 **Plan Improvements.**

502.01. **Improvements Required.** Except as provided in Section 503 of this Ordinance, no plat shall be signed by the Board of County Commissioners for recording in the office of the Cass County Recorder of Deeds unless all improvements required by this Ordinance have been installed in accordance with this Ordinance.

502.02. **Improvement Construction.** Upon approval of the Final Plat by the Board of County Commissioners, the applicant may construct the required improvements shown on the plan. The developer shall indicate the intent to construct the required improvements by executing the applicable Memorandum of Understanding to be submitted at the time an application is made for approval of a Final Plat by the Board of County Commissioners.

502.03. **Inspection of Required Improvements.** As stipulated in the executed Memorandum of Understanding, the County Engineer, or designee, shall be responsible for inspection and approval of the required improvements. The engineer and developer shall agree upon a notification procedure and a schedule of inspections to be made during construction and upon completion of all improvements.

502.04. **Recording of Final Plat.** Upon completion of the required improvements and notification from the County Engineer that all improvements have been completed in accordance with this Ordinance, the developer may

proceed to record the Final Plat in the office of the Cass County Recorder of Deeds in accordance with this Ordinance. The Final Plat shall be recorded before the sale of any lots or the construction and occupancy of buildings shown on the plats.

SECTION 503 **Improvement Construction Guarantee.**

In lieu of the construction and completion of the improvements required by this Ordinance prior to recordation, the developer may deposit financial security in an amount sufficient to cover the costs of such improvements or common amenities. Said Improvement Construction Guarantee shall be prepared in accordance with this Ordinance and is subject to the acceptance by the County. The developer shall indicate the intent to provide an Improvement Construction Guarantee by executing the applicable Memorandum of Understanding to be submitted as stipulated at the time application is made for approval of a Final Plat by the Board of County Commissioners.

The administration of Improvement Construction Assurances shall comply with the provisions of this Article and other applicable laws of the state.

All guarantees shall be prepared by the developer in the form required by the County.

503.01. **Form of Financial Security.** The following are acceptable forms of guarantees. All other forms of guarantees must be individually approved by the County Commission.

A. **Surety Performance Bond.** A security bond from a surety bonding company authorized to do business in the North Dakota. The bond shall be payable to the County.

B. **Escrow Account.** A deposit of cash in escrow with a Federal or state chartered financial institution. The developer shall file, with the County, an agreement between the financial institution and himself guaranteeing the following:

(1) That the funds of said escrow account shall be held in trust until released by the County and may not be used or pledged by the developer as security in any other matter during that period.

(2) In the case of a failure on the part of the developer to complete said improvements, the institution shall immediately make the funds in said account available to the County for use in the completion of those improvements.

C. **Letter of Credit.** An irrevocable commercial letter provided by the developer from a Federal or state chartered financial institution or other reputable institution. This letter shall be deposited with the County and shall certify the following:

(1) The amount of credit.

(2) In case of failure on the part of the developer to complete the specified improvements within a time period specified in a written agreement between the County the creditor shall pay to the County immediately and without further action, upon presentation of a sight draft drawn on the issuing lending institution in an amount to which the County is entitled, or upon presentation of the original letter of credit, such funds as are necessary to finance the completion of those improvements, up to the limit of credit stated in the letter.

(3) The letter of credit is irrevocable and may not be withdrawn, or reduced in amount, until release or partially released by the County.

503.02. Amount of Guarantee.

A. The amount of financial security to be posted for the completion of the required improvements shall be equal to one hundred ten (110) percent of the cost of completion estimated as of ninety (90) days following the date scheduled for completion by the developer. Annually, the County may adjust the amount of the financial security by comparing the actual cost of the improvements which have been completed and the estimated cost for the completion of the remaining improvements as of the expiration of the ninetieth (90th) day after either the original date scheduled for completion or a rescheduled date of completion. Subsequent to said adjustment, the developer shall post additional security in order to assure that the financial security equals said one hundred ten (110) percent. Any additional security shall be posted by the developer in accordance with this subsection.

B. The amount of financial security required shall be based upon an estimate of the cost of completion of the required improvements, submitted by an applicant or developer and prepared by a registered engineer and certified by such engineer to be a fair and reasonable estimate of such cost. The County, upon the recommendation of the County Engineer, may refuse to accept such estimate for good cause

shown. If the applicant or developer and the County are unable to agree upon an estimate, then the estimate shall be recalculated and recertified by another registered engineer and chosen mutually by the County and the applicant or developer. The estimate certified by the third engineer shall be presumed fair and reasonable and shall be the final estimate. In the event that a third engineer is so chosen fees for the services of said engineer shall be paid equally by the applicant or developer and the County.

C. If the party posting the financial security requires more than one year from the date of posting of the financial security to complete the required improvements, the amount of financial security may be increased by an additional ten (10) percent for each one-year period beyond the first anniversary date from each posting of financial security or to an amount not exceeding one hundred ten (110) percent of the cost of completing the required improvements as reestablished on or about the expiration of the preceding one (1) year period by using the above bidding procedure.

503.03. **Protection of Final Phases.** In the case where development is projected over a period of years, the Planning Commission may authorize submission of Final Plats by section or stages of development subject to such requirements or guarantees as to improvements in future sections or stages of development as it finds essential for the protection of any finally approved section of the development.

503.04. **As Built Plan.** Upon completion of all required improvements, the developer shall submit an As Built Plan showing the location, dimension and elevation of all improvements. Such plan shall indicate that the required grading, drainage structures and/or drainage systems and erosion and sediment control practices have been installed in substantial conformance with the previously approved Final Plat. The As Built Plan shall specify all deviations from the previously approved drawings. Five (5) copies of the plan shall be submitted to the County.

503.05. **Partial Release of Funds**. As the work of installing the required improvements proceeds, the party posting the financial security may request the County to release or authorize the release, from time-to-time, such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing addressed to the Planning Commission and shall be accompanied by as built drawings. The County Commission shall have forty-five (45) days from receipt of such request within which to allow the County Engineer to certify, in writing, that such portion of the work upon the improvements has been completed in accordance with the approved

plat. Upon such certification the County shall authorize release by the bonding company or lending institution of an amount fairly representing the value of the improvements completed. If the County fails to act within said forty-five (45) day period, the governing body of the agency shall be deemed to have approved the release of funds as requested. Prior to final release at the time of completion and certification by the County Engineer, the County may require retention of ten (10) percent of the estimated cost of the aforesaid improvements.

503.06. Release from Improvement Bond

A. When the developer has completed all of the necessary and appropriate improvements, the developer shall notify the County, in writing, by certified or registered mail, of the completion of the aforesaid improvements and shall send a copy thereof to the County engineer. The County shall, within ten (10) days after receipt of such notice, direct and authorize its engineer or designee to inspect the improvements. A detailed report of the inspection shall be prepared and mailed to the County within thirty (30) days of such authorization. A copy of the report shall also be mailed by registered or certified mail to the developer. The report shall contain the engineer's recommendations of approval or rejection, either in whole or in part, of any improvements. If any improvement is not approved by the engineer, the engineer shall report to the County the conditions and reasons upon which the disapproval is based.

B. The County shall notify the developer within fifteen (15) days of receipt of the engineer's report, in writing by certified or registered mail, of the decision to accept or not accept the improvements.

C. If the county or engineer fails to comply with the time limitation provisions contained herein, all improvements will be deemed to have been approved and the developer shall be released from all liability, pursuant to its performance guaranty bond or other security agreement.

D. If any portion of the said improvements shall not be approved or shall be rejected, the developer shall proceed to complete the same and, upon completion, the same procedure of notification, as outlined herein, shall be followed.

E. Nothing herein, however shall be construed in limitation of the developer’s right to contest or question by legal proceedings or otherwise, any determination.

SECTION 504 Inspection During Construction.

504.01. Inspections Required. The County, which is to inspect the improvement, shall require inspections of the Plans for correctness and an inspection of the construction of the improvements. The applicant shall agree to pay the cost of any such inspections. Such reimbursement shall be based upon actual costs incurred. Such expense shall be reasonable and in accordance with the ordinary and customary fees charged by the County Engineer or consultant for work performed for similar services in the county, but in no event shall the fees exceed the rate or cost charged by the engineer or consultant to the County when fees are not reimbursed or otherwise imposed on applicants.

A. In the event the applicant disputes the amount of any such expense in connection with the inspection, the applicant shall within ten (10) working days of the date of billing, notify the County that such expenses are disputed as unreasonable or unnecessary. A subdivision application or any approval or permit related to development shall not be delayed or disapproved due to the applicant's request over disputed engineer expenses.

B. If, within twenty (20) days from the date of billing, the County and the applicant cannot agree on the amount of expenses which are reasonable and necessary, then the applicant and public agency shall jointly, by mutual agreement, appoint another professional engineer licensed as such in North Dakota to review the said expenses and make a determination as to the amount thereof which is reasonable and necessary.

C. The professional engineer so appointed shall hear such evidence and review such documentation as the professional engineer in his or her sole opinion deems necessary and render a decision within fifty (50) days of the billing date. The applicant shall pay the entire amount determined in the decision immediately.

D. The fee of the appointed professional engineer for determining the reasonable and necessary expenses shall be paid by the applicant if the amount of payment required in the decision is equal to or greater than the original bill. If the amount of payment required in the decision is less than the original bill by one thousand (1,000) dollars or more, the County shall pay the fee of the professional engineer, but otherwise each party shall pay one-half of the fee of the appointed professional engineer.

E. The developer shall provide at least twenty-four (24) hours notice prior

to the start of construction of any improvements that are subject to inspection.

SECTION 505 **Dedication of Improvements.**

All improvements shall be deemed to be private improvements and only for the benefit of the specific project until such time as the same have been offered for dedication and formally accepted by the municipality or authority by ordinance, resolution, deed, or other formal document. No responsibility of any kind with respect to improvements shown on the Final Plat shall be transferred until the improvements have been formally accepted. No improvement shall be accepted for dedication except upon submission of as-built drawings by the developer and inspection of the final construction.

SECTION 506 **Maintenance Guarantee.**

When a municipality and/or authority has accepted dedication of certain improvements, it may, at its discretion, require the applicant to submit financial security to secure structural integrity of said improvements as well as the functioning of said improvements in accordance with the design and specifications as depicted on the Final Plats. Such guarantee shall be posted or shown on the application for one (1) year after the construction thereof, or until acceptance of improvements has been consummated, a period not to exceed eighteen (18) months. Such financial security shall be of the same type as required to guarantee construction of improvements and shall not exceed fifteen (15) percent of the actual cost of installation of said improvements.

SECTION 507 **Final Lot Grading Assurance.**

To ensure compliance with the approved drainage and lot grading drawings, all developers of residential major subdivisions and any commercial or industrial developments shall deposit a financial security in an amount sufficient to cover the costs of grading each lot consistent with the approved drainage and lot grading drawings. The financial security shall be released only as such point when the primary structure has been constructed, final grading of the lot has occurred, the unimproved graded area has eighty (80) percent turf coverage and as built plans have been submitted and approved by the Cass County Engineer.

507.01. **Form of Financial Security**. The subdivision applicant/developer shall provide a form of financial guarantee as set forth in Section 503.01 of this Ordinance and shall submit a breakdown of the total number of lots and total amount of the lot grading guarantee (*see Appendix 21*).

507.02. **Amount of Guarantee.** Prior to plat recordation, all major subdivisions and any commercial or industrial developments shall deposit a financial

guarantee of two thousand (2000) dollars for each buildable lot. Subdivisions with complex lot grading plans or large lots may be required to provide a larger sum to sufficiently cover the costs of lot grading, the County Engineer shall determine those lots requiring a greater sum on a case-by-case basis and will establish the appropriate lot grading guarantee.

507.03. **Transfer of Lot Grading Guarantee**. Following the approved recordation of the subdivision plat, the applicant may transfer the lot grading guarantee following the sale and transfer of deed of a lot pursuant to the following:

A. The new owner shall provide two thousand (2000) dollars for each purchased lot. The owner shall deposit cash in escrow with a Federal or state chartered financial institution and shall document the subdivision, block and lot the escrow was prepared for. The owner shall file, with the County, an agreement between the financial institution and himself guaranteeing the following:

1. That the funds of said escrow account shall be held in trust until released by the County and may not be used or pledged by the owner as security in any other matter during that period.

2. In the case of a failure on the part of the owner to correctly complete the lot grading improvements as set forth in the subdivisions approved drainage and lot grading drawings, the institution shall immediately make the funds in said account available to the County for use in the completion or correction of the lot grading.

B. Upon submission of an approved agreement establishing the escrow and the terms and agreements with the county and the new owner the county shall authorize the release of the previously existing lot grading guarantee to previous owner of the lot.

507.04. **Release of Lot Grading Guarantee.** Upon completion of the construction of the lots primary structure, completion of final grading of the lot and eighty (80) percent turf coverage of the lot, a request for release of the lot grading guarantee may be submitted pursuant to the following:

A. The lot owner has obtained and submitted as built plans of the lots final grading to the County Engineer. The as built plans shall be prepared and surveyed by the engineering firm that developed the subdivisions approved drainage and lot grading drawings. The as built plans shall specify deviations from the previously approved drainage

and lot grading drawings.

B. A letter by the registered engineer who developed the subdivisions approved drainage and lot grading drawings that the grading of the lot conforms to the subdivisions approved drainage and lot grading drawings.

C. Upon approval of the as built plans by the County Engineer, the county shall notify the financial institution holding the escrow to release the lot grading guarantee to the owner of the lot.

ARTICLE VI

DESIGN STANDARDS

SECTION 601 **General.**
The standards and requirements contained in this Article shall apply as minimum design standards for subdivisions in the County's jurisdiction as prescribed in Section 102 of this Ordinance.

601.01. **Compliance with Ordinances Required.** All plans shall be designed in compliance with the appropriate township zoning ordinance, flood plain management and all other applicable ordinances and requirements.

601.02. **Township Approval Required Prior to Final Plat Approval by the County Commission.** The County Planner shall, by registered mail, notify the appropriate chairman of the board(s) of township supervisors that an application for subdivision approval has been submitted to the County and that the board of township supervisors is requested to make a recommendation on the application. Prior to submission of a Final Plat for subdivision approval by the Board of Commissioners, the Township Board having jurisdiction shall have transmitted a registered letter to the County Planner certifying the proposed subdivision is consistent with all township zoning regulations and providing additional comments when warranted. If the County Planner has not received, by registered mail, a recommendation by the board of township supervisors within sixty (60) days of notification, the planner shall forward his recommendations to the Board of County Commissioners for final action.

SECTION 602 **Streets, Access Drives and Driveways.**

602.01. **General Arrangement.** The following criteria shall be considered in the design of streets in all subdivision plans:

A. The arrangement shall provide for the appropriate extension of existing streets and shall conform as closely as possible to the original topography.

B. Residential local streets shall be arranged so as to minimize through traffic and discourage excessive speeds.

C. Streets shall be designed with drainage grates that are safe for crossing by bicycles, when such are employed or required.

D. Adequate vehicular and pedestrian access shall be provided to all lots.

E. Curvilinear streets and cul-de-sacs should be utilized only where their use will be consistent with adjoining development patterns, topography and natural features of the site. Cul-de-sacs and dead end streets shall not be used where it is possible to provide loop streets that provide better access for emergency vehicles, fewer restrictions for snow removal and improved pedestrian access. Curvilinear streets shall not be used immediately adjacent to an existing grid street system without providing a transition that continues and protects the historic grid. New project street systems, platted adjacent to an existing development, shall not be merely looped back on local access streets, but shall connect with or be designed to connect with, in the future, streets of a higher class (*see Appendix 2*). Consideration shall be given to the dispersal of traffic from commercial and employment centers and to the ultimate functioning of the street system.

F. Streets shall be laid out to provide convenient and safe access to the property. Where appropriate, the Planning Commission may require additional street improvements and/or right-of-way width along existing street frontages to accommodate the anticipated traffic increases and to facilitate vehicular turning movements to and from individual lots.

G. Where a development abuts an existing or proposed arterial street, the Planning Commission may require the use of marginal access streets, reverse frontage lots, or other such treatment that will provide protection for abutting properties, reduce the number of intersections with the arterial street and separate the local and through traffic.

H. No structure shall be constructed, erected, or moved such that it will be located within one hundred and twenty five (125) feet of any public dedicated road surface or street classified as a collector or arterial by the County Engineer, measured along the centerline of the road.

I. When a subdivision has a direct impact on a public road, the County Engineer shall make a recommendation about the plat.

602.02. Street Hierarchy.

A. Streets shall be classified in a street hierarchy system with design tailored to function and average daily traffic (ADT).

B. The street hierarchy system shall be defined by road function and ADT, calculated by trip generation rates prepared by the Institute of Transportation Engineers (ITE) as indicated in Appendix 1 or as listed in the latest edition of the ITE Trip Generation Manual. Trip

generation rates from other sources may be used if the applicant demonstrates that these sources better reflect local conditions.

C. Each street shall be classified and designed for its entire length to meet the standards for one of the street types defined in Appendix 2.

D. The applicant shall demonstrate to the Planning Commission's satisfaction that the distribution of traffic to the proposed street system will not exceed the ADT thresholds indicated in Appendix 2 for any proposed street type for a design period of ten (10) years from the proposed date of completion of the road.

E. Private streets and private driveway accesses, except those completely contained on one or two lots and providing access to only two (2) buildable lots or a proposed single lot subdivision sharing access currently used by only one (1) existing dwelling, are prohibited unless such streets meet the design standards of this Ordinance for local access streets. All subdivision streets shall be dedicated to the public unless design objectives of the development warrant private ownership. Approval of a subdivision involving a private street shall be solely at the discretion of the Planning Commission. Applications which propose a private street shall be accompanied by an agreement which shall be recorded with the Cass County Recorder of Deeds as part of the Final Plat. This agreement shall establish the conditions under which the street will be constructed and maintained, as well as conditions controlling an offer of dedication and shall stipulate:

(1) That the street shall be constructed and maintained to conform to the specifications of this Ordinance.

(2) The establishment of the owners of said road and their maintenance responsibly.

(3) The establishment that the owners of road are responsible for all associated maintenance of said road.

(4) The method of assessing maintenance and repair cost.

(5) The establishment of minimum road standards criteria controlling how and when maintenance of road will occur.

(6) The frequency for routine maintenance procedures which may include but are not limited to graveling, grading, patching, dust control, crack sealing, chip sealing, sweeping and snow removal.

(7) That an offer for dedication of the street shall be made only for the street as a whole.

F. When the proposed subdivision contains or is adjacent to the right-of-way of a State, County, Township, or Federal Highway which is classified as a collector or arterial by the County Engineer, provision shall be made for reverse frontage so that lots do not need direct access unto said roads, unless frontage roads will be utilized. For such cases, said lots shall be provided with screen planting contained in a non-access reservation along the rear property line in all major subdivisions, as set forth in Section 614.01 of this Ordinance. Lot depth for reverse frontage lots shall be determined with due consideration for the minimum distances required for approach connections to future grade separations. There shall be only one access per one-quarter (0.25) mile on section line roads or roads classified as arterials by the County Engineer, except where it may result in real practical difficulties, unnecessary hardship or injustice.

G. Dedication of half streets or roads will not be approved, except where it is essential to the reasonable development of the subdivision and in conformity with the other requirements of this Ordinance, where it is found that it will be practical to require the dedication of the other half when the adjoining property is subdivided, or where it becomes necessary to acquire the remaining half by condemnation so that it may be improved in the public interest.

602.03. Determination of Required Right-Of-Way and Roadway Width for Local and Collector Streets.

A. Right-of-way and roadway width for each local and collector street classification shall be determined by the proposed use, projected ADT and the intensity of development of each street. The local street requirements shall only pertain to streets or private streets and private driveway accesses, except those completely contained on one or two lots and providing access to only two (2) buildable lots or a proposed single lot subdivision sharing access currently used by only one (1) existing dwelling.

B. Parking and shoulder requirements shall also be based on intensity of development. Intensity of development shall be determined by lot frontage and ADT as follows:

INTENSITY OF DEVELOPMENT			
Lot Frontage	**Average Daily Traffic**		
	Less than 400	400 to 1000	1000+
Less than 149	Low	Medium	High
150+	Low	Low	Medium

C. Right-of-way and roadway widths for each street classification are as shown in Appendix 3. Each street shall be designed for its entire length, to meet the design requirements of the most intense use with all non-residential uses designed to commercial/industrial street standards. All plans shall be designed to provide for the entire required right-of-way and roadway.

D. The right-of-way shall be measured from lot line to lot line and shall be sufficiently wide to contain the roadway, curbs, shoulders, sidewalks, graded areas, utilities and shade trees.

E. The right-of-way width of a new street that is a continuation of an existing street shall in no case be continued at a width less than the existing street. Where the right-of-way width of the new street is greater than the existing street, a transition area shall be provided, the design of which is subject to Commission approval.

602.04. Shoulders.

A. The Planning Commission shall require construction of shoulders and drainage ditches where curbs and gutter are not required.

B. Shoulder requirements shall vary according to street hierarchy and intensity of development, or where non-motorized vehicle use is prevalent.

602.05. Curbs and Gutters.

A. Curbing may be required by the Planning Commission for:

(1) storm water management

(2) road stabilization

(3) to delineate parking areas

(4) ten (10) feet on each side of drainage inlets

(5) at intersections

(6) at corners

(7) at tight radii.

B. Curb and gutter shall be required by the Planning Commission for all major subdivisions.

C. Curb requirements shall vary according to street hierarchy and intensity of development in accordance with the requirements of Appendix 4.

D. Curbs shall be constructed according to the material and method specifications set forth in the most recent version of the City of Fargo's *Standard Specifications for Construction of Public Utilities*, as it presently exists or may hereafter be amended.

E. Curbing shall be designed to provide a ramp for bicycles and/or wheel chairs at each intersection, at the principal entrances to buildings which front on parking lots and at all crosswalks and shall conform to the American with Disabilities Act (ADA) for surface and coloring.

602.06. Sidewalks.

A. Sidewalks and/or graded areas shall be required depending on road classification and intensity of development in accordance with the requirements set forth in Appendix 4.

B. Where sidewalks are optional, they may be required by the Planning Commission when the project is close to pedestrian generators such as schools, to continue a walk on an existing street, to link areas, or as indicated in local comprehensive plans.

C. In conventional developments, sidewalks shall be placed parallel to the street within the right-of-way unless a variance has been granted to preserve topographical or natural features, or to provide visual interest, or unless the applicant shows that an alternative pedestrian system provides safe and convenient circulation.

D. The outside edge of the sidewalk shall be two (2) feet within the outside edge of the right-of-way line unless a variance has been granted to preserve topographical or natural features, or to provide visual interest, or unless the applicant shows that an alternative pedestrian system provides safe and convenient circulation.

E. A minimum ten (10) foot vegetation strip shall be placed between the edge of the curb and the nearest edge of the sidewalk.

F. In planned developments, sidewalks may be located away from the road system to link dwelling units with other dwelling units, the street and on-site activity centers such as parking areas and recreational areas. They may also be required parallel to the street for safety and other reasons.

G. Pedestrian way easements ten (10) feet wide may be required by the Planning Commission through the center of blocks more than six hundred (600) feet long to provide circulation or access to schools, playgrounds, shopping, or other community facilities.

H. Sidewalk width shall be a minimum of five (5) feet; wider widths may be necessary near pedestrian generators and employment centers, or where they serve as multiuse paths. Where cars overhang the sidewalk, widths shall be a minimum of seven (7) feet.

I. Sidewalks and graded areas shall be constructed according to the specifications set forth in Appendix 4 and 9.

J. The construction of sidewalks shall conform to the material and method specifications set forth in the most recent version of the City of Fargo's *Standard Specifications for Construction of Public Utilities*, as it presently exists or may hereafter be amended.

602.07. **Vertical Alignments.** Vertical street alignments shall be measured along the centerline. The minimum grade and maximum grade of all streets shall be as specified in Appendix 5 of this Ordinance.

A. Vertical curves shall be used in changes in grade exceeding one (1) percent. The minimum lengths (in feet) of vertical curves shall be fifteen (15) times the algebraic difference in grade. For example, if a three (3) percent upgrade is followed by a four (4) percent downgrade, the algebraic difference in grade is seven $[3-(-4)=7]$; the minimum length of the vertical curve would then be one hundred five (105) feet [the product of fifteen and seven equals one hundred five $(15 \bullet 7 = 105)$].

B. The grade within the diameter of a turnaround at the terminus of a permanent cul-de-sac shall be as specified in Appendix 5.

602.08. **Horizontal Alignments.** Horizontal street alignments shall be measured

along the centerline. Horizontal curves shall be used at all angle changes in excess of two (2) degrees. Single, long radius curves shall be used rather than a series of curves with varying radii and/or a series of short curves separated by short, straight segments. The minimum horizontal curve radius for streets shall be one hundred and fifty (150) feet.

A. **Perimeter Streets.** Plans with street locations along the perimeter of a property shall be required to show building setback lines and clear sight triangles within the adjacent properties. Permission shall be obtained from the adjacent landowner.

B. **Roadway Alignment.** The centerline of the street roadway shall correspond with the centerline of the street right-of-way.

602.09. Street Intersections.

A. Multiple intersections involving the junction of more than two streets are prohibited.

B. The distance between the centerline of streets intersecting at grade with a local street shall be no less than one hundred and fifty (150) feet measured along the centerline of the street being intersected based on the safe stopping distance of a road with a design speed of twenty-five (25) mph at a moderate grade.

C. The distance between the centerline of streets intersecting at grade with a collector street shall be no less than three hundred (300) feet measured along the centerline of the street being intersected based on the safe stopping distance of a road with a design speed of forty (40) mph at a moderate grade.

D. The distance between the centerline of streets intersecting at grade with an arterial street shall be no less than one thousand three hundred and twenty (1320) feet measured along the centerline of the street being intersected based on the safe stopping distance of a road with a design speed of fifty-five (55) mph at a moderate grade.

E. Right angle intersections shall be used whenever possible. No street shall intersect another at an angle of less than seventy-five (75) degrees.

F. The roadway edge at street intersections shall be rounded by a tangential arc with a minimum radius as specified in Appendix 5. The right-of-way radii at intersections shall be substantially concentric with the edge of the roadway.

G. Where appropriate, the Planning Commission may require additional traffic lanes to facilitate vehicular turning movements at existing or proposed street intersections within or bordering subdivision plans.

H. Clearly marked crosswalks shall be provided at all intersections when sidewalks or pedestrian easements are provided in a development. Crosswalks may also be required by the Planning Commission at other locations to promote the convenience and safety of pedestrian traffic. The design of crosswalks and the materials used shall be consistent with other crosswalks in the area.

602.10. Sight Distance at Intersections.

A. Proper sight distance shall be provided at all new street and all new access drive intersections in accordance with the latest edition of the American Association of State Highway and Transportation Officers (AASHTO) *A Policy on Geometric Design of Highways and Streets*. Sufficient design and plan information shall be submitted with the plan application proving that this minimum standard will be achieved and such design information shall be performed by a professional registered in North Dakota to perform such design work.

B. At all intersections where stop signs or other stop control devices are not proposed, sight triangle easements or dedicated right-of-way shall be required and shall include the area on each street corner that is bounded by the line which connects the sight or "connecting" points located on each of the right-of-way lines of the intersecting street. The planting of trees or other plantings or the location of structures exceeding thirty (30) inches in height that would obstruct the clear sight across the area of the easements or right-of-way shall be prohibited; and a public right-of-entry shall be reserved for the purpose of removing any object, material or otherwise, that obstructs the clear sight. The distances shown in Appendix 6 between the connecting points and the intersection of the right-of-way lines shall be required.

602.11. Lot Access.

A. The Planning Commission may disapprove any point of ingress or egress to any lot, tract, parcel, or development from any street or highway when the proposed ingress or egress would create unsafe conditions, reduce the capacity of the adjoining street or highway, result in substandard circulation and impaired vehicle movement, or if inconsistent with county, township, city, state or other entity's spacing requirements.

B. The Planning Commission may require the applicant to provide ingress and egress to a particular lot or tract through the remainder of his property or other properties over which he has control.

C. Lot access shall conform with the county's one-quarter (.25) mile minimum spacing requirements on all section line roads or roads classified as arterials by the County Engineer and three hundred (300) feet on roads classified as collectors.

D. In approving ingress or egress from any State road or highway, the Planning Commission can only approve those access points that are not in conflict with safety standards of the North Dakota Department of Transportation. In the case of a plan requiring access to a highway under the jurisdiction of the North Dakota Department of Transportation, the applicant shall submit documentation from the North Dakota DOT demonstrating the approved access onto such road.

602.12. **Non-motorized Vehicle Lanes.** All non-motorized vehicle lanes shall be designed according to one of the following standards:

A. Separate bicycle paths shall be required if such paths have been specified as part of an adopted comprehensive plan.

B. Bicycle lanes, where required, shall be placed in the outside lane of a roadway, adjacent to the curb or shoulder. When on-street parking is permitted, the bicycle lane shall be between the parking lane and the outer lane of moving vehicles. The lanes shall be delineated with markings, preferably striping. Raised reflectors or curbs shall not be used.

C. Movement within the non-motorized lanes shall flow in the same direction as the adjacent travel lane.

D. Non-motorized vehicle lanes shall be constructed according to the specifications set forth in Appendix 10.

602.13. **Street Provisions for Future Developments.** Where appropriate, areas shall be reserved for future street usage in conjunction with the development of adjacent tracts. Areas reserved for future street usage will not be required to be improved; however, these areas shall be reserved for street improvements to be provided by the developer of the adjacent tract.

Wherever there exists a dedicated or platted area reserved for future street usage along the boundary of a tract being developed, the adjacent street

shall be extended into the proposed project provided this use is not adverse to the man-made or natural features of the site.

602.14. **Extension of Existing Streets.** The extension of existing streets which are presently constructed with a roadway different from the standards of this Ordinance shall be provided with a transition area, the design of which is subject to Commission approval.

602.15. **Street Improvements.** Streets shall be constructed to the minimum standards established in the following specifications:

A. All subdivisions shall provide a minimum of one (1) road providing access into the subdivision built with an elevation at or above the base flood elevation (BFE). If the BFE has not been established the applicant may use the best available information to determine this elevation.

B. No subdivision shall use minimum maintenance roads for the sole access into the subdivision until such road has been graded to provide a four (4) percent crown, built with an elevation at or above the base flood elevation (BFE) and a road surface with a minimum of six (6) inches of compacted gravel meeting the North Dakota Department of Transportation *Standard Specifications for Road and Bridge Construction* manual for Class 13 gravel.

C. Private streets and private driveway accesses, except those completely contained on one or two lots and providing access to only two (2) buildable lots or a proposed single lot subdivision sharing access currently used by only one (1) existing dwelling, shall meet the following specifications:

(1) The topsoil shall be removed and a clay subgrade constructed with ninety-five (95) percent compaction rate when tested in accordance using a standard modified proctor method (ASTM D698).

(2) Six (6) inches of compacted gravel meeting the North Dakota Department of Transportation *Standard Specifications for Road and Bridge Construction* manual for Class 13 gravel.

(3) The road shall have a four (4) percent crown.

(4) Road elevation shall be built to a minimum of six (6) inches above the base flood elevation (BFE). If the BFE

has not been established the applicant may use the best available information to determine this elevation.

(5) Built to the width set forth in Appendix 3 of this Ordinance.

D. New and existing streets within major subdivisions shall provide asphalt or concrete roads within the subdivision. The construction of the roads shall conform to all applicable sections of this Ordinance, the construction of the roads shall conform to the material and method specifications set forth in the most recent version of the City of Fargo's *Standard Specifications for Construction of Public Utilities*, as it presently exists or may hereafter be amended and shall conform to the following:

(1) The base shall be built with six (6) inches of compacted gravel meeting the North Dakota Department of Transportation *Standard Specifications for Road and Bridge Construction* manual for Class 5 gravel.

(2) The road shall be built with six (6) inches of asphalt or six (6) inches of concrete.

(3) Asphalt roads shall initially be built with four (4) inches of asphalt with a two (2) inch asphalt wear course constructed following the completion of eighty (80) percent of the developments primary structures. All low spots and areas experiencing settling shall be filled to grade with asphalt prior to the final two (2) inch wear course.

(4) The road shall have a two (2) percent crown.

(5) Street grade shall be built to specifications in Appendix 5.

(6) Road elevation shall be built to a minimum of six (6) inches above the base flood elevation (BFE). If the BFE has not been established the applicant may use the best available information to determine this elevation.

(7) Built to the width set forth in Appendix 3 of this Ordinance.

E. Major subdivisions with thirteen (13) or more buildable lots shall have a minimum of one (1) paved county or township road providing access to a minimum of one (1) entrance of the subdivision or a private paved road meeting the requirements set forth in Appendix 3 of this Ordinance.

602.16. Cul-de-Sac Streets.

A. A cul-de-sac will not be permitted when a through street is feasible. The feasibility of a through street will be based on the physical features of the tract proposed for development, the potential for extension of the street to adjoining lands, restrictions imposed by other government regulations and the ability of the design to meet all other requirements of this Ordinance. When cul-de-sac streets, are proposed, the application shall be accompanied by a written analysis of the merits of the design and the reasons that a through street would not be feasible. Approval of cul-de-sac streets shall be at the sole discretion of the Planning Commission.

B. Except where they occur temporarily, cul-de-sacs shall not be allowed where there is a reasonable opportunity to provide for future connections to adjoining streets. If allowed, cul-de-sacs shall normally not be longer than six hundred (600) feet. A transition from the turn around shall be either a straight line or a curve tangent to the turn around and one hundred (100) feet minimum in length or radius.

C. The length of a cul-de-sac street shall be measured from the centerline intersection with the through street to the center point of the turnaround.

D. Permanent cul-de-sacs shall have a circular turnaround with a minimum radius of sixty (60) feet. The right of way for the turnaround shall maintain the same distance between the roadway edge and the right of way line as is maintained for the straight sections of the street.

E. Temporary cul-de-sacs shall be constructed completely within the right-of-way. Restoration of paved areas within the right of way shall be the responsibility of the developer connecting to the temporary cul-de-sac.

F. Any temporary cul-de-sac street designed for access to an adjoining property or for authorized phased development and which is greater than one (1) lot deep shall be provided with a temporary all-weather turnaround within the subdivision. The use of such turnaround shall be guaranteed to the public until such time as the street is extended.

G. Preferably, cul-de-sacs will be designed below street grade as a rain garden/bioretention system to treat and retain surface runoff (*see Appendix 27 for example*); reducing the total runoff and size of auxiliary retention/detention ponds. Bioretention systems shall be

designed using appropriate best management practices (BMP's) and/or the following:

(1) The bioretention systems shall not create swampy and/or unmaintainable conditions.

(2) Utilization of filter strips or other appropriate BMP's to filter and remove suspended soils to ensure proper functioning and reduced clogging of the bioretention system.

(3) Designed to pond six (6) to nine (9) inches above filter bed.

(4) Cul-de-sac infiltration bioretention systems (*see Appendix 27 for example*) shall be designed using applicable infiltration basin BMPs.

(5) Vegetated islands shall consist of a minimum of one tree as set forth in Section 603.02 (K) subsections 6-13 of this Ordinance.

602.17. **Future Access Strips.** Future access strips and street plugs are rights-of-way reserved for future street improvements. They shall be designed in conformance with the design requirements of a street and the contiguous parcels must contain proper setbacks and sight distance reservations.

602.18. **Driveways.** Proposed driveways shall conform to any municipal standards which may exist within the applicable zoning ordinance or other applicable ordinances or regulations. Additionally, all driveways shall, at a minimum, be designed in accordance with the following:

A. Driveway locations shall not interfere with the normal traffic movement nor be inconsistent with the design, maintenance and drainage of the street.

B. The Planning Commission will generally not allow direct access to arterial highways and may limit the number of driveways providing access to a single property or development from a collector street. Any access from such streets must be designed in conformance with the safe stopping distance and respective intersection separation distance requirements specified in this Ordinance.

C. All accesses along county roads and any road classified as an arterial by the County Engineer shall have a minimum access spacing of thirteen hundred and twenty (1320) feet.

D. Driveway access to a local street shall not be located less than fifty (50) feet from the edge of the roadway of any street intersection and shall provide adequate sight distance.

E. Driveway access to lots shall be provided to the street of lesser classification.

F. The Planning Commission may require the joint or shared use of driveways to provide ingress and egress when such design would increase traffic safety by decreasing the potential for vehicular conflicts. In such cases an ingress and egress easement shall be provided on the plat.

G. Every lot must be provided with at least one driveway location which meets the above criteria. Should a site contain more than one location which conforms to these requirements, the plan may delineate the range of available driveway locations. As an alternative, the plan may show locations where driveways are not permitted due to noncompliance with this or other applicable ordinance or regulation.

H. Shared driveway access is preferred for subdivisions utilizing open ditches along roads to limit the total number of culverts.

602.19. **Street Names.** Continuations of existing streets shall be known by the same name. Names for new streets shall not duplicate or closely resemble names of existing streets. All new street names are subject to the approval of the Planning Commission. Notice that the proposed new street names are acceptable shall be submitted prior to Final Plat approval. All street names shall conform, where applicable, to the local municipal plan for street names. Private streets shall be named in conformance with this section.

602.20. **Signs.**

A. Design and placement of traffic signs shall follow the requirements specified in the Manual on Uniform Traffic Control Devices for Streets and Highways, published by the U.S. Department of Transportation.

B. At least two (2) street name signs shall be placed at each four-way street intersection and one at each "T" intersection. Signs shall be installed under light standards, when applicable, and free of visual obstruction. The design of street name signs should be consistent, of a style appropriate to the municipality, of a uniform size and color and

erected in accordance with municipal standards.

C. Private streets shall be provided with street name signs in conformance with this section.

D. Parking regulation signs shall be placed along roadways within the right-of-way in areas that restrict parking.

E. Site information signs in planned residential developments shall follow a design theme related and complementary to other elements of the overall site design.

F. The applicant shall purchase and place all required street signs.

602.21. Utility and Shade Tree Areas.

A. Utilities and shade trees shall generally be located within the right-of-way on both sides of and parallel to the street.

602.22. Lighting.

A. Lighting for highway safety shall be provided at entryways to commercial land developments and in parking lots adjacent to public streets.

B. Street lights shall be provided in all residential subdivisions with thirteen (13) or more buildable lots.

C. Lighting in residential developments, starting at the entrance of the development and extending throughout, shall be architecturally integrated with the thematic design aspects of the development as well as building styles, materials and colors used within the development.

D. Wood utility light poles shall not be permitted.

E. Lighting shall be provided in conformance with the IES Lighting standards contained in Appendix 8.

F. Light standards shall be measured from the finished grade to the highest point on the light fixture.

G. The maximum height of standards shall not exceed the maximum building height permitted or twenty (20) feet in residential areas, whichever is less. The minimum height of standards shall not be less than fourteen (14) feet in height.

H. The maximum height of standards shall not exceed the maximum building height permitted or twenty-five (25) feet in commercial and industrial developments, whichever is less.

I. Open space light standards shall not exceed twelve (12) feet in height; recreational facilities such as basketball, volleyball, ice rinks, handball, horseshoes, lawn bowling, shuffleboard and bocce ball courts shall have light standards no greater than twenty five (25) feet; and athletic fields for baseball, football, soccer and nighttime practice golf ranges shall have light standards not exceeding eighty (80) feet.

J. Street light fixtures within residential developments and within commercial and industrial developments adjacent to existing residential dwellings or land zoned residential shall be fully shielded so light rays emitted by the fixture are projected below the horizontal plane passing through the lowest point on the fixture from which light is emitted.

K. Street light fixtures shall not exceed one hundred and fifty (150) watts along residential local access streets.

L. All lighting shall be served by underground electrical service.

M. Pole-mounted lighting fixtures shall be located so the centerline of each pole is not more than two (2) feet from the face of the curb.

N. The height and shielding of lighting standards shall provide proper lighting without hazard to drivers or nuisance to residents.

602.23. Underground Utility Lines.

A. All electric, telephone, television and other communication facilities, both main and service lines servicing new developments, shall be provided by underground wiring within easements or dedicated public rights-of-way, installed in accordance with the prevailing standards and practices of the utility or other companies providing such services.

B. Lots which abut existing easements or public rights-of-way where overhead electric or telephone distribution supply lines and service connections have heretofore been installed may be supplied with electric and telephone service from those overhead lines, but the service connections from the utilities' overhead lines shall be installed underground. In the case of existing overhead utilities, should a road widening, or an extension of service, or other such condition occur as a

result of the subdivision and necessitate the replacement or relocation of such utilities, such replacement or relocation shall be underground and installed in accordance with the prevailing standards and practices of the utility or other companies providing such services.

C. Where overhead lines are permitted as the exception, the placement and alignment of poles shall be designed to lessen the visual impact of overhead lines as follows: Alignments and pole locations shall be carefully routed to avoid locations along horizons; clearing swaths through treed areas shall be avoided by selective cutting and a staggered alignment; trees shall be planted in open areas and at key locations to minimize the view of the poles and the alignments; and alignments shall follow rear lot lines and other alignments.

SECTION 603 Vehicular Parking Facilities.

All vehicular parking facilities and internal drives within parking areas shall be designed to allow for the safe and efficient movement of vehicles within a development and on the adjacent street. Developments shall minimize parking as the dominant land use of a proposed development and preferably, parking will be provided on the side and rear of lots.

603.01. Variance and Exception.

A. It is the intent of these regulations that all new subdivisions shall be provided with a sufficient amount of off-street motor vehicle parking, while allowing for some flexibility of site design to accommodate the unique characteristics of individual properties.

B. Except for buildings or parts of buildings used or occupied for residential use, all or part of the off-street parking requirements may be waived by the Planning Commission when sufficient publicly owned parking spaces are within five hundred (500) feet of the proposed subdivision.

C. If the applicant believes the required parking amounts are in excess of what is needed for the proposed use, the applicant may submit a written request with justification to the Planning Commission for a reduction in parking space requirements.

D. The Planning Commission may approve parking lots with more spaces than the allowed maximum provided all of the spaces above the maximum number are composed of pervious surface. The Planning Commission may also approve parking lots with additional impervious parking spaces above the allowed maximum spaces where the use of pervious spaces would not be environmentally sound; in such case the

applicant shall provide written documentation supporting such claim and the decision to allow additional impervious surface shall ultimately be made by the Planning Commission.

(1) Examples of pervious materials include, but are not limited to, grid pavers, block pavers, and porous pavements and surfaces.

(2) Alternative pavers and semi-permeable surfaces are not recommended for high traffic volume areas and are not suitable for handicapped parking.

(3) Pervious areas shall generally include overflow parking areas.

(4) Snow disposal or storage areas shall generally be located in a pervious area, but the applicant shall demonstrate a design considering the issues relating to debris and salt and sand sediments in relation to containment, drainage and access.

E. For phased developments, the Planning Commission may provide that up to fifty (50) percent of the parking spaces required by this section will not be immediately constructed and may be kept in reserve. Such reserve parking areas shall be kept planted and maintained rather than surface parking until such time the additional parking space is necessary to serve the completed phases of the associated development. No above ground improvements shall be placed or constructed upon such reserve parking area. The area designated on the phased development site plan and the terms and conditions of phasing the parking area completion as determined by the Planning Commission, must be clearly set forth in notations on the approved plan.

603.02. **General Standards.** Off-street vehicular parking facilities shall be provided in accordance with the following standards:

A. Off-street parking shall be provided and maintained in connection with the use, substantial change in use, construction, conversion or increase in intensity of use of buildings or structures using the standards outlined in Appendix 7 of this Ordinance.

B. Off-street parking areas shall be oriented to and within a reasonable walking distance of the buildings they are designed to serve according to the following standards:

(1) For commercial and industrial developments, the farthest space in a lot shall be a maximum of one thousand (1,000) feet for employee parking; five hundred (500) to eight hundred (800) feet for customers.

(2) For single-family or two-family structures, off-street parking shall be provided behind the street right-of-way line and may be attached or separate garage(s), carport(s), or driveway(s).

(3) For multi-family structures of more than two units, off-street parking shall be located within two hundred (200) feet of the structure.

(4) Handicapped parking shall be provided for all non-residential developments and multi-family structures of more than two units. These spaces shall be located closest to the nearest accessible entrance. The number of spaces shall be provided according to the following chart:

Total Required Parking Spaces	Minimum Required Handicapped Spaces
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2% of total
1001+	20 + 1 for each 100

C. Parking facilities shall not be permitted within ten (10) feet of a side or rear property line unless formal arrangements, satisfactory to the Planning Commission, have been made for the establishment of a common parking facility.

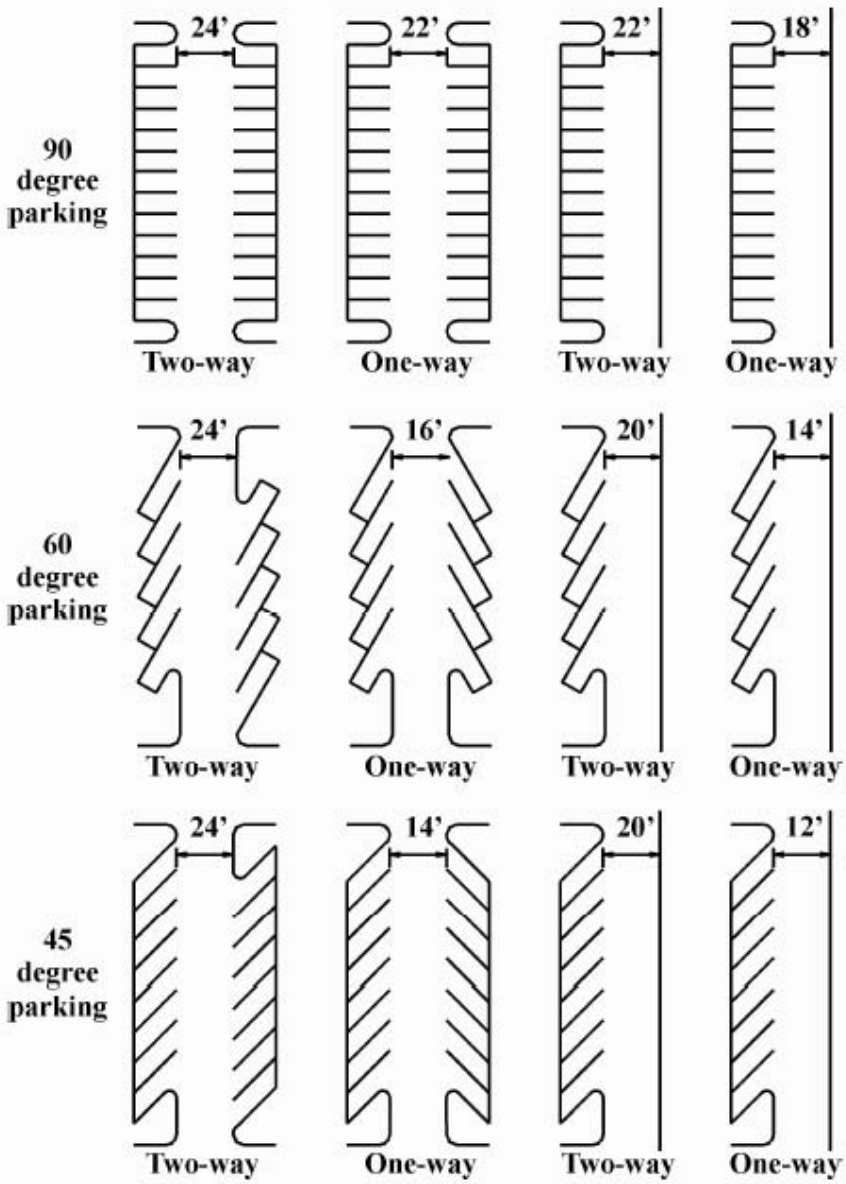
D. Each angled off-street parking space shall measure ten (10) feet in width by eighteen (18) feet in length, smaller compact parking space stalls may be considered. Parking spaces for the physically handicapped shall be fifteen (15) feet wide, including a three (3) foot wide painted cross hatch. Parallel parking spaces shall measure eight (8) feet wide and a minimum of twenty-three (23) feet long. Off-street

parking involving the use of semi-tractor trailer combinations or other vehicles in excess of twenty five (25) feet in length shall provide minimum parking space measuring twelve (12) feet by fifty four (54) feet.

E. Aisle widths and parking angles in minimum ration as shown as follows:

Parking Angle	Minimum Aisle Width	Direction of Flow
45°	12’3”	One way
50°	12’9”	One way
55°	13’3”	One way
60°	14’3”	One way
65°	15’2”	One way
70°	16’	One way
75°	24’	Two way
90°	24’	Two way

Alternative Parking Lot/Space Arrangements



Drives with no parking are 24' (two-way) and 12' (one-way) typical.
For drives serving thirty (30) or fewer vehicles and where parking is not provided on either side, the width for two-way drives can be reduced to twenty-two (22) feet.
For drives serving fifteen (15) or fewer vehicles and where parking is not provided on either side, the width for two-way drives can be reduced to twenty (20) feet.
Driveways serving Mini-Warehouse Facilities. One-way drives shall be a minimum of twenty-two (22) feet in width.

***Source*:** Northwester Connecticut Council of Governments and Litchfield Hills Council of Elected Officials. 2003. *Model Zoning Regulations for Parking in Northwestern Connecticut*. http://www.fhiplan.com/PDF/NW%20Parking%20Study/NW%20Connecticut%20Parking%20Study%20Phase%202.pdf

F. Where sidewalks occur in parking areas, parked vehicles shall not overhang or extend over the sidewalk unless an additional two (2) feet of width of the sidewalk is provided in order to accommodate such overhang.

G. Not less than a four (4) foot radius of curvature shall be permitted for horizontal curves in parking areas.

H. All dead end parking lots shall be designed to provide, when necessary, sufficient back-up area for all end stalls.

I. Painted lines, arrows and dividers shall be provided and maintained to control parking and when necessary to direct vehicular circulation.

J. The typical section of any paved parking lot shall be prepared to meet the following minimum standards and the construction of parking lots shall conform to the material and method specifications set forth in the most recent version of the City of Fargo's *Standard Specifications for Construction of Public Utilities*, as it presently exists or may hereafter be amended.

(1) Crushed aggregate based course with a minimum thickness of six (6) inches of compacted gravel meeting North Dakota Department of Transportation *Standard Specifications for Road and Bridge Construction* manual for Class 5 gravel.

(2) Pavement shall consist of a minimum of five (5) inches of asphalt meeting the North Dakota Department of Transportation *Standard Specifications for Road and Bridge Construction* manual for Class 31 and shall be placed in three (3) lifts.

K. Parking areas shall be suitably landscaped to provide shade, minimize noise, glare and other nuisance characteristics as well as to enhance the environment and ecology of the site and surrounding area. Large parking lots, containing more than fifty (50) spaces, shall be broken down into sections, not to exceed fifty (50) spaces, separated from other sections by landscaped dividing strips. The standards do not apply to areas used for storing vehicles or equipment in conjunction with a sales or rental establishment.

(1) Landscaped beds shall be provide on the perimeter of the parking lot and shall be a minimum of ten (10) feet wide and the minimum planting area per tree shall be one

hundred and forty four (144) square feet (*see Appendix 22*).

(2) Interior parking islands shall be a minimum of eighteen (18) feet wide and thirty-six (36) feet long and the minimum planting area per tree shall be one hundred and ninety two (192) square feet (*see Appendix 22*).

(3) Preferably, interior and exterior landscaping areas will be designed below parking lot grade as rain gardens/bioretention systems to treat and retain surface runoff (*see Appendix 25 and 26 for examples*); reducing the total runoff and size of auxiliary retention/detention ponds. Bioretention systems shall be designed using appropriate best management practices (BMP's) and/or the following:

(a) Such rains gardens shall not create swampy and/or unmaintainable conditions.

(b) Utilize filter strips or other appropriate BMP's to filter and remove suspended soils to ensure proper functioning and reduced clogging of the bioretention system.

(c) Designed to pond six (6) to nine (9) inches above filter bed.

(d) Parking lot under-drain bioretention systems (*see Appendix 25*) shall be designed using applicable infiltration trench BMPs.

(e) Parking lot infiltration bioretention systems (*see Appendix 26*) shall be designed using applicable infiltration basin BMPs.

(4) Trees shall be planted so that each parking space is no more than fifty (50) feet from a tree, measured on center.

(5) The perimeter of parking lot shall be landscaped with hedgerow (continuous shrubs) or six (6) shrubs per twenty five (25) linear feet and interior parking islands shall be landscaped with six (6) shrubs per twenty five (25) linear feet. All shrubs shall be a minimum of one (1) gallon.

(6) The placement of trees shall consider the mature size of the tree in relation to structures and overhead utility. Trees

shall not be placed within four (4) feet of a parking stop or curb.

(7) The trees shall be nursery grown in a climate similar to that of the locality of the project.

(8) All trees shall have a normal habit of growth and shall be sound, healthy and vigorous; they shall be free from disease, insects, insect eggs and larvae.

(9) The trunk diameter, measured at a height of six (6) inches above finish grade, shall be a minimum of two (2) inches.

(10) All planting shall be performed in conformance with good nursery and landscape practices. The planting areas shall be loosened to a depth of the root ball or rooting system and the width of three (3) times the root ball and preferably five (5) times the root ball when practical.

(11) Requirements for the measurements, branching, grading, quality, balling and the burlapping of trees shall follow the code of standards recommended by the American Association of Nurserymen, Inc., in the American Standard for Nursery Stock, ANSIZ60, current edition, as amended.

(12) Trees shall be located so as to maximize the growth potential of the plant material, minimize the potential for root interference with public infrastructure and enhance the quality of the development. Trees shall be one of the following species:

Prairie Spire Ash*	American Linden
Patmore Ash*	Redmond Linden
Northern Treasure Ash*	Boulevard Linden
Northern Gem Ash*	Greenspire Linden
Northern Blaze Ash*	Frontyard Linden
Mancana Ash*	Norlin Linden
Dakota Centennial Ash*	Harvest Gold Linden
Prairie Dome Ash*	Dropmore Linden
Bergeson Ash*	Glenleven Linden
Prairie Torch Ohio Buckey	Shamrock Linden
Homestead Ohio Buckey	Autumn Blaze Maple
Autumn Splendar Ohio Buckeye	Sienna Glen Maple
New Horizon Elm**	Firefall Maple
Jefferson Elm**	Fairview Maple
Discovery Japanese Elm**	Unity Maple
Cathedral Elm**	Jefcam Maple

Vangaurd Elm**	Fall Fiesta Maple
Washington Elm**	Green Mountain Sugar Maple
Valley Forge Elm**	Tatarian Maple
Accolade Elm**	Amur Maple
Common Hackberry	Emerald Lustre Maple
Northern Acclaim Honey-locust	Bur Oak
Perfection Honey-locust	Mongolian Oak
	Stately Manor - Kentucky Coffeetree

*Seedless varieties preferred
**Dutch Elm Disease (DED) resistant

Other tree species may be used, provided acceptable information is submitted to indicate that the species are hardy street trees with a maturing height of thirty-five (35) feet or greater; fast growing, short lived trees shall not be permitted. Smaller trees, approved by the Planning Commission, will be permitted in areas with existing overhead utilities. No one species shall comprise more than twenty-five (25) percent of the entire number of trees in a particular development.

(13) Trees shall be maintained and guaranteed for a minimum of two years. Planting of trees shall occur within the standard planting season (May through November). Acceptable stock will not have more than one-third (1/3) of the tree canopy damaged or dead without replacement. Replacement trees shall conform to all requirements of this section and shall be maintained and guaranteed for a minimum of two planting seasons.

603.03. **Parking Facilities for Mixed-Use Developments.** In Mixed-Use developments, or developments where parking is affected by cooperative agreements between different land uses, the applicant shall submit a parking demand analysis that demonstrates parking demand patterns. The parking demand analysis must be approved by the Planning Commission and will serve as the basis for determination of required parking at the mixed-use site.

603.04. **Shared Parking.** The Commission encourages parking lots for different structures or uses, or for mixed uses be shared. At the applicant's request, shared parking may be provided, subject to the following provisions:

A. A reciprocal written agreement has been executed by all the parties concerned that assures the perpetual joint use of such common parking, a copy of which has been submitted to and is acceptable to the Planning Commission and its legal counsel.

B. The Planning Commission may require the applicant to provide a parking study with all information deemed necessary to its decision-making on a shared parking arrangement. This information includes but is not limited to a) the type and hours of operation and parking demand, for each use, b) a site plan displaying shared use spaces in the lot and walking distance to the uses sharing the lot, c) a description of the character of land use and parking patterns of adjacent land uses, and d) an estimate of anticipated turnover in parking space use over the course of 12 (twelve) to 24 (twenty-four) hours at the site.

C. Parking spaces to be shared must not be reserved for individuals or groups on a twenty four (24) hour basis.

D. Uses sharing a parking facility do not need to be contained on the same lot, but each use shall be a maximum of five hundred (500) feet from the closest parking space in the lot providing the shared spaces. A variance of the maximum allowable distance between the use and associated shared parking may be approved by the Commission with written justification and supporting information provided by the applicant.

E. Uses sharing a parking facility shall provide for safe, convenient walking between uses and parking, including safe, well marked pedestrian crossings, signage, and adequate lighting.

603.05. **Reduction in Parking Space Requirements for Shared Parking.** Where shared parking is provided among a mix of land uses, the Commission may allow the following, at the applicant's request:

A. Up to thirty (30) percent of the parking spaces required for the predominant use on a site may be shared with other uses operating during the same time of day and days of the week. The predominant use is considered to be that which requires the most parking of those sharing the parking facilities.

B. Up to seventy five (75) percent of the parking spaces required for uses such as theaters, public auditoriums, bowling alleys, nightclubs, movie theaters, and similar predominantly evening uses may be shared with uses such as banks, offices, and similar predominantly daytime uses.

C. Up to seventy five (75) of the parking spaces required for uses such as churches and other uses exclusively in operation during the weekend may be shared with uses such as medical offices, banks, and other similar uses predominantly in operation on weekdays.

603.06. **Bicycle Parking Facilities.** Bicycle parking facilities for non-residential land uses shall be provided in accordance with the following regulations:

A. Five (5) percent of the first fifty (50) vehicular spaces shall be for bicycle use. If more than fifty (50) spaces are to be provided, at least three (3) percent of the number of spaces over fifty (50) shall be for bicycle use.

B. Each bicycle space shall be equipped with a device to which a bicycle frame and one (1) wheel can be attached using a chain or cable. There shall be adequate separation between adjacent devices to allow bicycles to be attached or removed without moving other bicycles. The devices shall also be suitable for use by bicycles not equipped with kickstands and the appearance of the device shall be generally consistent with nearby urban design and architectural features.

C. Bicycle parking spaces shall be convenient to the structure for which they are provided. They shall be visible from at least one (1) entrance to the structure and shall be provided with lighting.

D. Bicycle parking devices shall permit at least two (2) feet of free space between any bicycle attached to the device and the edge of the curb or sidewalk. For areas where motor vehicles are permitted to park overhanging the curb or sidewalk, the distance shall be increased to four (4) feet. For roads involving no curb or sidewalk, the minimum clearance shall be three (3) feet between any bicycle attached to a parking device and the outside edge of the roadway shoulder.

603.07. **Pedestrian Access Design Standards.** Provisions for safe and convenient pedestrian access shall be incorporated into landscaping plans for parking areas.

A. Potential conflict areas points between pedestrians, bicycles and motor vehicles shall be minimized.

B. Safe separated walkways with safe, well-articulated pedestrian crossings demarcated with pavement markings shall be provided and designed to accommodate individuals per Americans with Disabilities Act (ADA) requirements.

SECTION 604 Blocks and Lots.

604.01. **Lot Configuration.** The configuration of blocks and lots shall be based upon the minimum lot area requirements, the salient natural features, the existing improvements, the proposed improvements and the adjacent development pattern. Lot configurations should provide for flexibility in building locations, while providing safe vehicular and pedestrian circulation. Lots with areas that are two (2) or more times the typical urban lot may be required to be designed with configurations allowing for additional subdivision.

604.02. Residential Blocks.

A. In general, intersecting streets and roads, determining block lengths, shall be provided at such intervals as will serve cross traffic adequately and to meet existing streets and roads. Where no existing plats control, the blocks in subdivisions shall normally not exceed thirteen hundred and twenty (1,320) in length, except where topography or other conditions justify departure from this maximum.

B. The design of blocks longer than eight hundred (800) feet shall give special consideration to the requirements of fire protection, pedestrian access and utility service. The Planning Commission may require easements as necessary for these purposes.

604.03. Nonresidential Blocks. Blocks in nonresidential areas may vary from the requirement of Section 604.02 of this Ordinance when required by the nature of the use. Adequate provisions shall be made for off-street parking, loading areas and traffic circulation.

604.04. Specific Lot Configuration Requirements.

A. In order to avoid jurisdictional problems, lot lines shall, wherever feasible, follow municipal boundaries rather than cross them. Where a lot is divided by a municipal boundary, the minimum standards of both municipalities shall apply.

B. Generally, side lot lines shall be radial to street right-of-way lines. Exceptions may include cases where proposed lot lines follow existing lot lines, improvements, or natural features.

C. All lots shall front on a public street, unless a private street is approved for access pursuant to Section 602.02 (E) of this Ordinance. Principal vehicular access to lots shall be provided from the frontage along the approved street.

D. Lots resulting from a proposed subdivision that will be large enough to be further subdivided shall be configured to facilitate such future subdivision, when deemed necessary by the Planning Commission. Adequate street right-of-way shall be provided as necessary. The Planning Commission may require a sketch plan of such large lots that indicates the potential future subdivision generally in conformance with the design standards of this Ordinance. The Planning Commission may also require restrictive covenants be recorded with the plat restricting homes to a specified area within each parcel to allow for easier future subdividing of lots.

E. Subdivisions shall be designed to accommodate the current and future development of the tract being subdivided, the development potential

of adjacent lands, the development goals and policies of the applicable comprehensive plans and applicable standards of the zoning ordinance. Whenever possible, lots shall be designed with adequate access by providing the required lot width at the street right of way line.

F. Double frontage lots are prohibited except where provided as reverse frontage lots. Reverse frontage lots are only permitted when a reduction of driveway intersections along a street with a high volume of vehicular movements is desired. Additionally, reverse frontage lots may be permitted when rear alleys are proposed to provide vehicular access to lots. All reverse frontage lots shall include an identification of the frontage for use as a road access.

G. All residential reverse frontage lots in major subdivisions shall have within every rear yard that is adjacent to section line or arterial road a planted buffer consistent with Section 614.01 of this Ordinance.

SECTION 605 Easements.

Easements for sanitary sewer facilities, storm water drainage facilities, public or private utilities, or pedestrian access shall meet the following standards:

605.01. Location of Easements. To the fullest extent possible, easements shall be adjacent to property lines.

605.02. Easement Conflicts Prohibited. Nothing shall be placed, planted, set, or put within the area of an easement that would adversely affect the function of the easement or conflict with the easement agreement.

605.03. Width of Pedestrian Easements. Pedestrian easements shall have a minimum width of six (6) feet. Pedestrian easements located in the middle of the block pursuant to Section 602.06 (G) of this Ordinance shall have a minimum width of ten (10) feet and bike path and trail easements shall be a minimum of fifteen (15).

605.04. Width of Utility Easements. Public utility easements shall have a minimum width of twenty (20) feet and private utility easements shall have a minimum width of ten (10) feet and shall be required along lot frontage and may be required along the back of lots. All utility companies are encouraged to use common easements.

605.05. Stormwater Drainage Easements Required. The applicant shall reserve easements where storm water or surface water drainage facilities exist or proposed, whether located within or beyond the boundaries of the property, easements shall be required for all conveyance systems crossing private property. Easements shall have a minimum width of twenty (20) feet and shall be adequately designed to provide area for the collection and

discharge of water, the maintenance, repair and reconstruction of the drainage facilities and the passage of machinery for such work. The easements shall clearly identify who has the right-of-access and responsibility of maintenance.

605.06. **Variable Petroleum Easement Widths.** Where any petroleum or petroleum product transmission line traverse a subdivision, the applicant shall confer with the applicable transmission or distribution company to determine the minimum distance which shall be required between each structure and the centerline of such petroleum or petroleum product transmission line. Additionally, the Planning Commission will require, with the Final Plat application, a letter from the owner of the tract and the right-of-way, a copy of the recorded agreement which shall contain the above data.

SECTION 606 Survey Monuments and Markers.

606.01. **Location.** Developers shall place permanent reference monuments at block corners, control points and lot corners.

606.02. **Material Specifications**.

A. Block corner and control point monuments shall be iron pins set in concrete.

B. Lot corner monuments shall be iron pins set in the ground.

SECTION 607 Minor Subdivisions Storm Water Management.

607.01. **Minor Subdivisions.**

A. All developments with one (1) to four (4) buildable lots may construct and utilize open ditches for storm water conveyance pursuant to this Ordinance.

(1) Ditches within the proposed subdivision and along all roads providing access to three (3) or more buildable lots shall have a minimum ditch grade of not less then two and half tenths of one percent (0.25%) with inslope no steeper than five (5) horizontal to one (1) vertical (5:1) and backslope side slopes no steeper than four (4) horizontal to one (1) vertical (4:1) and a minimum ditch bottom of five (5) feet.

(2) Existing section line ditches within the proposed subdivision shall have a minimum ditch grade of not less

one tenth of one percent (0.1%) with inslope no steeper than five (5) horizontal to one (1) vertical (5:1) and backslope side slopes no steeper than four (4) horizontal to one (1) vertical (4:1) and a minimum ditch bottom of five (5) feet. This standard may extend to the section lines ditches outside of the proposed subdivision at the discretion of the County Engineer.

(3) Lot grading plans shall be submitted (*see Appendix 15 for examples).*

(4) All necessary drainage easements shall be provided on the plat.

(5) Proposed drainage shall demonstrate no adverse impact on surrounding land and drainage systems.

SECTION 608 Major Subdivisions Storm Water Management.

608.01. Major Subdivisions.

A. All developments with five (5) or more buildable lots shall construct an underground storm sewer piping system within the development consisting of street gutters, storm water inlets and manholes pursuant to this Ordinance. Storm Sewer systems shall be constructed according to the material and methods set forth in the most recent version of the City of Fargo's *Standard Specifications for Construction of Public Utilities*, as it presently exists or may hereafter be amended.

B. If storm water management information provided in accordance with Section 403.04 (P) of this Ordinance indicates that the existing storm water management system on the subject tract does not meet the requirements of this Section, then storm water management facilities must be designed and proposed to meet the requirements of this Ordinance.

C. When the proposed storm water management system will utilize or be integrated into an existing storm water collection or conveyance system, the existing facilities within the proposed subdivision shall be improved to the standards of this Ordinance. The applicant shall determine the impacts of any proposed improvements of the existing system to downstream properties. If, in the opinion of the Planning Commission, the improvements will cause adverse impacts on downstream properties, the applicant shall mitigate such impacts.

608.02. **Storm Water Management.** All major subdivision applications shall include storm water management data in a form acceptable to the Planning Commission. The storm water management data shall identify all proposed storm water management facilities and supportive information stated in Sections 403.04 (P) of this Ordinance. Storm water management data shall be prepared by individuals registered in the North Dakota to perform such duties and include the certificate found in Appendix 12 of the Ordinance. Developers and consultants are urged, but not required to discuss storm water management design approaches for specific projects with the Planning Commission staff prior to the submission of the Preliminary or Final Plat.

608.03. **General Design Data.**

A. In the interest of reducing the total area of impervious surface, preserving existing features which are critical to storm water management and reducing the concentration of storm water flow, the developer may consider the design flexibility provided by the variance process.

B. Maximum use shall be made of the existing on-site natural and man-made storm water management facilities.

C. Storm facilities not located within a public right-of-way shall be centered within an easement.

D. Innovative storm water management and recharge facilities may be proposed (e.g., rooftop storage, drywells, cisterns, diversion structures, aeration of lawns, holding tanks, infiltration systems, stream channel storage, in line storage in storm sewers and grading patterns), provided they are accompanied by detailed engineering plans and performance capabilities that are acceptable to the Planning Commission.

E. When Final Plat applications are submitted in sections and if temporary facilities are required for construction of a section, such facilities shall be included in the submitted plans. In the event temporary measures cannot adequately handle the storm water runoff, the main outfall line shall be included as part of the construction of the proposed section.

F. Specials provisions shall be required for outfalls to rivers, county drains, and lakes; including but not limited to tied joints, outfalls structure, and backup protection.

G. Flap gates, shear gates and pump stations shall be installed where appropriate to provide flood protection.

H. The following principles shall be applied to the design plan and construction schedule to minimize soil erosion and sedimentation using the North Dakota Department of Transportation (NDDOT) *Erosion and Sediment Control Handbook*, as it presently exists or may hereafter be amended:

(1) Stripping of vegetation, grading, or other soil disturbance shall be done in a manner which will minimize soil erosion.

(2) Whenever feasible, natural vegetation shall be retained and protected.

(3) The extent of the disturbed area and the duration of its exposure shall be kept to a minimum, within practical limits.

(4) Temporary seeding, mulching, or other suitable stabilization measures shall be used to protect exposed critical areas during construction.

(5) Drainage provisions shall accommodate the storm water runoff both during and after construction.

(6) Soil erosion and sedimentation facilities shall be installed prior to any on-site grading.

608.04. System Demand.

A. Peak rate of discharge calculations shall be used to determine the configurations and sizes of pipes, channels, and other routing or flow control structures. Runoff volume calculations shall be used to determine the necessity for, and sizing of, detention and retention facilities.

B. Storm water management facilities shall be provided so that the peak discharge of the calculated post development runoff to an adjacent property does not exceed the peak discharge of the calculated pre-development runoff.

Runoff calculations for the pre and post development comparison shall consider three (3) different storm frequencies: the two (2), ten (10) and one hundred (100) years storm events.

Storm Event	Inches of Rainfall
2 years	2.31
10 years	3.58
100 years	5.29

Source: NOAA. 1961. *Technical Paper 40, Rainfall Frequency Atlas of the United States for Durations from 30 minutes to 24 Hours and Return Periods from 1 to 100 Years*. Washington, D.C. (50-56).

For pre development computations, all runoff coefficients with the project shall be based on actual land use assuming summer or good land cover conditions (*see Appendix 16).* Off-site land use conditions used to determine storm flows for designing storm facilities shall be based on existing land uses assuming winter or poor land cover conditions (*see Appendix 16).*

C. The design of storm water management collection facilities that service drainage areas within the site shall be based upon a ten (10) year storm frequency event.

D. All developments must also include design provisions that allow for the overland conveyance of the post Q100 year storm flows through the site without damage to any private or public property.

E. Runoff calculations for on-site storm water management facilities shall be based upon the Rational method, where peak rate of discharge is termed Q_p and is expressed as cubic feet per second:

$$Q_p = CIA$$

where

Q_p = The peak runoff rate in cubic feet per second (CFS)

C = The runoff coefficient

I = The average rainfall intensity in inches per hour (in./hr.), occurring at the time of concentration t_c (min.)

A = The size of the drainage area

F. Criteria and assumptions to be used in the determination of storm water runoff and design of management facilities are as follows:

(1) Runoff coefficients shall be based on the land use

coefficients listed in Appendix 16 of this Ordinance.

(2) Times of concentration shall be based on the following design parameters:

(a) Overland Flow: The maximum length for each reach or overland flow before concentrated ditch and/or sheet flow develops is three hundred (300) feet. The Nomograph in the Appendix 18 shall be used for determination of the times of concentration.

(b) Concentrated flows: At points where overland flows concentrate in field depressions, ditches, gutters, curbs, or pipe collection systems, the time of concentration between these design points shall be based upon Manning's Equation and/or acceptable engineering design standards as determined by the Planning Commission.

(3) The Rainfall Intensity-Duration-Frequency Chart shown in Appendix 17 shall be used with the Rational Method to compute the rainfall intensities.

(4) Use of other criteria, assumptions, references, calculation methods and/or computer modeling may be utilized, provided detailed design information and programming with references are submitted and approved by the Planning Commission.

G. Consideration shall be given to the relationship of the subject property to the drainage pattern of the watershed.

H. A concentrated discharge of storm water to an adjacent property shall be within an existing watercourse, legal drain, public right-of-way or enclosed in an easement.

608.05. System Strategy.

A. Hydraulic Capacity shall be determined by the Manning Equation. The hydraulic capacity is termed *Q* and is expressed as discharge in cubic feet per second:

$$Q = \frac{1.486}{n} AR^{2/3} S^{1/2}$$

where:

Q = The hydraulic capacity

A = Cross-sectional area of flow in square feet

n = Manning's roughness coefficient

R = Hydraulic radius in feet ($R = A/P$, where P is equal to the Wetted Perimeter)

S = Slope of conduit in feet per foot

B. Minimum Slopes design grade for storm sewer systems shall be self-cleaning, based on three (3) feet per second using the Manning Equation. Minimum grades for the reinforced concrete pipe (RCP) shall be designed using the following:

Pipe Size	Percent Slope
12"	0.36%
15"	0.24%
18"	0.18%
21"	0.15%
24"	0.12%
27"	0.11%
30"	0.09%
33"	0.08%
36"	0.07%
42"	0.06%
48"	0.05%
54"	0.04%
60"	0.04%
66"	0.032%
72"	0.029%
84"	0.023%

C. Velocities in open channels shall not be greater than the velocity which cause the following:

(1) It neither aggrades nor degrades beyond tolerable limits.

(2) The channel banks do not erode to the extent that the channel cross section is changed appreciably.

(3) Sediment bars do not develop.

(4) Erosion does not occur around culverts and bridges or elsewhere.

(5) Gullies do not form or enlarge due to the entry of uncontrolled storm water runoff.

608.06. Pipe Capacity, Materials and Placement.

A. Pipe size shall be dictated by design runoff and hydraulic capacity.

B. In general, no pipe size in the storm drainage system shall be less than fifteen (15) inch diameter. A twelve (12) inch diameter pipe may be permitted as a cross-drain to a single inlet.

C. All discharge pipes shall terminate with a precast concrete or corrugated metal end section.

D. Storm sewers shall be constructed of reinforced concrete pipe (RCP) constructed according to the material and method specifications set forth in the most recent version of the City of Fargo's *Standard Specifications for Construction of Public Utilities*, as it presently exists or may hereafter be amended. Polyvinyl Chloride (PVC) may be for backyard runs and shall be constructed according to the material and method specifications set forth in the most recent version of the City of Fargo's *Standard Specifications for Construction of Public Utilities*, as it presently exists or may hereafter be amended.

E. The minimum depth of cover over concrete pipe shall be twelve (12) inches.

608.07. Inlets, Catch Basin and Manholes.

A. Inlets, catch basins and manholes shall be consistent with the material and method specifications set forth in the most recent version of the City of Fargo's *Standard Specifications for Construction of Public Utilities*, as it presently exists or may hereafter be amended.

B. Manholes shall be installed at the end of each sewer, at all changes in sewer size, grade, pipe material or alignment and at all junctions. The maximum permitted manhole spacing shall be based on the following:

Pipe Size	Manhole Spacing
15" or less	500'
18" - 36"	600'
42" - 60"	700'
60"+	700'+

C. Curves in pipes or box culverts without an inlet or manhole are prohibited. Tee joints, elbows and wyes are also prohibited.

D. If a proposed lot or development site is to be graded so as to redirect post development flow into a gutter or when an existing gutter or ditch is to be integrated into the proposed storm water conveyance system, a maximum depth of six (6) inches shall be permitted in the roadside gutter or ditch.

608.08. Retention and Detention Basins.

A. Retention basins and detention basins shall be designed to safely discharge the peak discharge of a post development one hundred (100) year frequency storm event through an emergency spillway in a manner which will not damage the integrity of the basin.

B. Retention basins and detention basins and water carrying facilities shall be stabilized in accordance with current engineering and Soil Conservation Service practices.

C. Retention basins and detention basins shall be designed and maintained to insure the design capacity after sedimentation has occurred.

D. Along rivers and other areas prone to bank instability, retention and detention ponds shall be located in areas that will decrease the probability of bank failures or accelerate existing bank failure problems resulting from the saturation of river bank soils.

E. Basins which are not designed to release all storm water shall be specifically identified as retention basins or permanent pond basins and shall provide aerators and/or fountains to prevent stagnant water. All other basins shall have provisions for de-watering, particularly the bottom and shall not create swampy and/or unmaintainable conditions. Low flow channels and tile fields may be used to de-water the bottom of the basin. Discharge structures shall be designed to eliminate the possibility of blockage during operation.

F. Retention basins and detention basins which are designed with earth fill dams shall incorporate the following minimum standards:

(1) The maximum water depth shall not exceed ten (10) feet, unless a variance is approved by the Planning Commission.

(2) The minimum top width of all dams shall be five (5) feet.

(3) Basins without restricted access shall have impoundment areas with side slopes no greater than six (6) horizontal to one (1) vertical. Basins with steeper side slopes shall be

protected by fencing that will discourage access. Fence material shall generally be consistent with nearby urban design features and the fencing material shall not be chain link.

(4) A cutoff trench of impervious material shall be provided under all dams.

(5) All pipes and culverts through dams shall have properly spaced concrete cutoff collars or factory welded anti-seep collars.

(6) A minimum one (1) foot freeboard above the maximum design water surface elevation of the emergency spillway shall be provided.

G. Retention basins and detention basins shall incorporate the following minimum standards:

(1) The maximum water depth shall not exceed ten (10) feet, unless a variance is approved by the Planning Commission.

(2) Basins without restricted access shall have impoundment areas with side slopes no greater than six (6) horizontal to one (1) vertical. Basins with steeper side slopes shall be protected by fencing that will discourage access. Fence material shall generally be consistent with nearby urban design features and the fencing material shall not be chain link.

608.09. Ownership, Administration and Maintenance of Storm Water Management Facilities. The Final Plat shall reflect and/or be accompanied by supporting documentation identifying the ownership and method of administering and maintaining all permanent storm water management facilities. With regard to the maintenance of these facilities, they must be either:

A. Dedicated to and accepted by a municipality.

B. Maintained by a private entity (*e.g.*, homeowners association or individuals that own the land) in accordance with the terms of an agreement, declaration of easements or other legally binding documentation approved in form by the Planning Commission. The agreement, declaration of easements or other legally binding documentation shall provide that the county or water resource district

shall have the right to:

(1) Inspect the facilities at any time.

(2) Require the private entity to take corrective measures and assign the private entity reasonable time periods for any necessary action.

(3) Authorize maintenance to be done and lien all cost of the work against the properties of the private entity responsible for maintenance.

The agreement, declaration of easements or other legally binding documentation shall be submitted to the Planning Commission which may require the agreement to contain provisions requiring the posting and/or periodic payment of escrow funds by the private entity to guarantee proper maintenance of the facility.

SECTION 609 Vegetative Buffer Zone

609.01. Vegetative Buffer Zone. A vegetative buffer zone is a strip of undisturbed native vegetation, either original or reestablished, that borders streams, rivers, ponds and lakes, wetlands and seeps. These vegetative buffer zones filter excess sediment, provide flood protection, reduce storm runoff velocities, protect channel bank areas from scour and erosion, stabilize river banks and provide shade to cool adjacent water.

A. A vegetative buffer zone shall be required along all blue line perennial watercourses and wetlands as identified on the most recent version of a 1:100,000 or 1:24,000 USGS quadrangle map based on the following requirements (EPA Aquatic Buffer Model Language).

(1) In areas where a floodway profile has been computed as part of an approved flood study, the buffer zone shall be the width of the floodway plus at least fifty (50) feet perpendicular from the edge of the floodway on each side of the waterway.

(2) In areas where a floodway profile has not been computed as part of an approved flood study, the buffer zone shall be at least fifty (50) feet perpendicular from the top of bank on each side of the waterway.

(3) When delineated wetland extend beyond the edge of the required buffer zone width, the buffer zone shall be

adjusted so that the buffer zone consists of the extent of the delineated wetland plus twenty five (25) feet extending perpendicular beyond the wetland edge.

B. The vegetative buffer zone width shall be adjusted to meet the following requirements (EPA Aquatic Buffer Model Language):

(1) All vegetative buffer zone width shall be adjusted if the following slopes are present within the vegetative buffer zone:

Percent Slope	Width of Buffer
15%-17%	add 10 feet
18%-20%	add 30 feet
21%-23%	add 50 feet
24%-25%	add 60 feet

Source: EPA. 2002. *Aquatic buffer model ordinance language.* US EPA. http://www.epa.gov/owow/nps/ordinance/mol1.htm.

(2) If the proposed or existing land use or activity involves the storage of hazardous substances or petroleum facilities, the buffer zone width shall also be adjusted to include an additional one hundred and fifty (150) feet plus any additional distance required based on Section 609.01 (B) Subsection 1.

(3) If the proposed or existing land use or activity involves animal feeding operations, the buffer zone width shall also be adjusted to include an additional two hundred and fifty (250) feet, plus any additional distance required based on Section 609.01 (B) Subsection 1.

(4) If the proposed or existing land use or activity involves solid waste landfills or junkyards, the buffer zone width shall also be adjusted to include an additional three hundred (300) feet, plus any additional distance required based on Section 609.01 (B) Subsection 1.

C. Management of the vegetative buffer zone includes specific limitations on alteration of the natural conditions pursuant to Sections 610.05 and 610.06 of this Ordinance.

D. Stream banks and other areas within the vegetative buffer zone must be left in a stabilized condition upon completion of the development activities. The vegetative condition of the entire streamside vegetative buffer zone must be monitored and landscaping or stabilization performed to repair erosion, damaged or removed vegetation, bare

ground, or other problems identified. Only native riparian vegetation may be used in conjunction with stabilization activities.

E. All vegetative buffer zones must be protected during development activities. Prior to the initiation of development activities, ensure adequate visibility of the water quality buffer zones by staking and flagging. Vegetative buffer zones, except vegetative buffer zones that are completely within the limited or minimal disturbance zone setback (*see Section 610*), shall be surveyed and iron pins set in the ground on side lots lines.

F. All Final Plats prepared for recording shall:

(1) Show the extent of any vegetative buffer zone on the subject property by metes and bounds and be labeled as "Vegetative Buffer Zone"

(2) Provide a note to reference any vegetative buffer zone stating, "There shall be no clearing, grading, construction or disturbance of soil and/or native vegetative except as permitted by Cass County"

(3) Provide a note to reference any protective covenants governing all vegetative buffer zones, "Any vegetative buffer zone shown hereon is subject to protective covenants which may be found in the land records and which restrict disturbance and use of these areas."

G. All vegetative buffer zones shall be maintained through a declaration of protective covenant, which is required to be submitted for approval by the Planning Commission. The covenant shall be recorded in the land records and shall run with the land and continue in perpetuity.

H. All lease agreements must contain a notation regarding the presence and location of protective covenants for water quality buffer zones and which shall contain information on the management and maintenance requirements for the water quality buffer zones for the new resident.

I. Where the standards and management requirements of this buffer are in conflict with other laws, regulations, ordinances and policies regarding streams, steep slopes, erodible soils, wetlands, floodplains, timber harvesting, land disturbance activities or other environmental protective measures, the more restrictive requirements shall apply.

SECTION 610 Watercourse Setbacks.

610.01. **Purpose.** All proposed subdivisions adjacent to blue line perennial watercourses, as identified on the most recent version of a 1:100,000 or 1:24,000 USGS quadrangle, and other steep slopes shall be designed to minimize the potential for slumping, bank failures and land slides and the associated damage to structures, property and aesthetics.

610.02. **Setbacks.** Applicants proposing subdivisions adjacent to blue line perennial watercourses, as identified on the most recent version of a 1:100,000 or 1:24,000 USGS quadrangle, shall delineate building control lines on the recorded plat limiting certain activities and land uses in these designated areas.

610.03. **Building Control Lines.** Except as provided in Section 610.04 of this Ordinance, all subdivisions shall provide the following building control lines, measured horizontally and perpendicular from the centerline of the watercourse towards the proposed development, regulating the use and activities within these building control lines in accordance with Sections 610.05 and 610.06 of this Ordinance:

A. Minimal Disturbance Zone Setback: three hundred and fifty (350) feet for the Red and Wild Rice rivers. All other blue line perennial watercourses Minimal Disturbance Zone Setback may be based on the three hundred and fifty (350) foot setback or be equal to vertical difference between the top of bank and the river bottom (plus any additional flood plain elevation requirements) multiplied by eight (8).

B. Limited Disturbance Zone Setback: beginning at the outer edge of the Minimal Disturbance Zone Setback and extending one hundred (100) feet.

610.04. **Alternate Method of establishing the Minimal Disturbance Zone Setback.** As an alternative to using the established Minimal Disturbance Zone Setback along the blue line perennial watercourses, an applicant may request to use a site specific Minimal Disturbance Zone Setback, determined as a result of a detailed geotechnical investigation. The investigation must be performed by a registered professional engineer and testing firm acceptable to the County Engineer. Sufficient number of soil borings must be performed and at appropriate locations to provide a representative sampling of the site. The soils report and determination shall use accepted engineering/ASTM evaluation methods including, but not limited to, triaxial shear test in a supersaturated condition. Borings must be of sufficient depth to allow evaluation of the soils within the Upper Brenna Formation. Report recommendations shall use a minimum

1.3 factor of safety. The County reserves the right for the County Engineer or Planning Commission to reject proposed alternate building control lines.

A. The alternate Minimal Disturbance Zone Setback shall meet the requirements set forth in Section 610.05 of this Ordinance.

B. The Limited Disturbance Zone Setback (*see Section 610.06*) shall be required for all subdivisions employing the alternate method of establishing the Minimal Disturbance Zone Setback.

610.05. **Minimal Disturbance Zone Setback.** All property within the minimal disturbance zone calculated in accordance with Section 610 of this Ordinance shall conform to the following regulations:

A. No permanent structures shall be allowed except the following:

(1) Stairways, Lifts and Landings - Stairways and lifts are the preferred alternative to major topographic alterations for achieving access up and down steep slopes to watercourses. Stairways and lifts must meet the following design requirements:

(a) Stairways and lifts shall not exceed four (4) feet in width on residential lots and eight (8) feet in width for commercial properties or public open-space recreational properties. Residential lots are permitted one stairway or lift and one facility to provide watercourse access for the physically challenged. The number of accesses for commercial or public open-space shall be determined on a case-by-case basis by the Planning Commission.

(b) Landings for stairways and lifts on residential lots shall not exceed thirty-six (36) square feet in area. Landings no larger than sixty-four (64) square feet shall be used for commercial properties, public open-space recreational properties.

(c) Canopies or roofs shall not be allowed on stairways, lifts, or landings.

(d) Preferably, stairways, lifts and landings would be constructed above the ground on posts or pilings.

Stairways, lifts and landing may be placed into the ground, provided they are designed and built in a manner that ensures control of soil erosion.

(e) Facilities such as ramps, lifts or mobility paths for the physically challenged to achieve watercourse access shall not exceed four (4) feet in width for residential lots and eight (8) feet in width for commercial properties or public open-space recreational properties.

(f) Stairways, lifts and landings shall not prevent or limit the use of public paths or public or private non-motorized vehicle lanes or any other easements.

(2) Roads, bridges, trails, storm drainage, stormwater management facilities and utilities are permitted within the minimal disturbance zone provided that an alternatives analysis has clearly demonstrated that no other feasible alternative exists and that minimal disturbance will take place. These structures shall be located, designed, constructed and maintained to provide maximum erosion protection, to have the least adverse effects on wildlife, aquatic life and their habitats and to maintain hydrologic processes and water quality. Following any disturbance, the impacted area shall be restored.

(3) Bike paths, walking trails, or other multi-use paths.

B. No additional fill shall be allowed, except fill required to plant new trees or vegetation pursuant to Section 610.05 (G) of this Ordinance

C. No grading shall be allowed, except grading for bank restoration in areas experiencing bank slumping.

D. No excavating shall be allowed, except excavating required to plant new trees or vegetation pursuant to Section 610.05 (G).

E. On-site septic systems and drain fields shall not be permitted.

F. Irrigation systems shall not be permitted.

G. Alterations of vegetation and topography shall prevent erosion into public waters, fix nutrients, preserve watercourse natural aesthetics,

preserve historic values, prevent bank slumping and protect fish and wildlife habitat. Removal or alterations of vegetation is allowed according to the following standards:

(1) Intensive vegetation clearing shall not be allowed.

(2) Vegetation previously disturbed or disturbed during the construction of the development or dwellings shall provide native riparian vegetation cover.

(3) Replacement of native riparian vegetation with non-native species shall not be allowed.

(4) Limited clearing of trees and shrubs and cutting, pruning and trimming of trees to accommodate the placement of stairways and landings, access paths and watercraft access areas, as well as providing a view to the watercourse from the principal dwelling unit or dwelling site, provided that:

(a) The removal of vegetation shall be limited to a width less than six (6) feet to provide the placement of a stairway or path access to watercourse for residential lots. The removal of vegetation shall be limited to a width less than ten (10) feet to provide the placement of a stairway or path to provide access to watercourse for commercial properties or public open-space recreational properties.

(b) The removal of vegetation shall be limited to a width less than six (6) feet for facilities such as ramps, lifts or mobility paths for physically challenged to achieve watercourse access on residential lots. The removal of vegetation shall be limited to a width less than ten (10) feet for facilities such as ramps, lifts or mobility paths for physically handicapped persons to achieve watercourse access for commercial properties or public open-space recreational properties.

(c) The removal of vegetation shall be limited to an area less than forty-nine (49) square feet for stairway and life landings on residential lots. The removal of vegetation shall be limited to eighty-one (81) square feet for landings used for commercial properties or public open-space recreational

properties.

(d) Limited pruning of trees limbs to afford a view of the watercourse from the principal dwelling unit or dwelling site shall be permitted and shall be performed in conformance with good nursery and landscape practices. The complete removal of trees or intensive vegetation clearing to afford a view of the watercourse shall not be permitted.

(e) The screening of structures, vehicles or other facilities as viewed from the watercourse, assuming summer leaf-on conditions, is not substantially reduced.

(f) Along rivers, existing shading of water surfaces is preserved.

(g) The above provisions are not applicable to the removal of trees, limbs or branches that are dead, diseased, or pose safety hazards.

610.06. Limited Disturbance Zone Setback. All property within the minimal disturbance zone calculated in accordance with Section 610 of this Ordinance shall conform to the following regulations:

A. No permanent structures shall be allowed except the following:

(1) Stairways, Lifts and Landings - Stairways and lifts are the preferred alternative to major topographic alterations for achieving access up and down steep slopes to watercourses. Stairways and lifts must meet the following design requirements:

(a) Stairways and lifts shall not exceed four (4) feet in width on residential lots and eight (8) feet in width for commercial properties or public open-space recreational properties. Residential lots are permitted one stairway or lift and one facility to provide watercourse access for the physically challenged. The number of accesses for commercial or public open-space shall be determined on a case-by-case basis by the Planning Commission.

(b) Landings for stairways and lifts on residential lots shall not exceed thirty-six (36) square feet in area. Landings no larger than sixty-four (64) square feet shall be used for commercial properties, public open-space recreational properties.

(c) Canopies or roofs are not allowed on stairways, lifts or landings.

(d) Preferably, stairways, lifts and landings would be constructed above the ground on posts or pilings. Stairways, lifts and landing may be placed into the ground, provided they are designed and built in a manner that ensures control of soil erosion.

(e) Facilities such as ramps, lifts or mobility paths for the physically challenged to achieve watercourse access shall not exceed four (4) feet in width for residential lots and eight (8) feet in width for commercial properties or public open-space recreational properties.

(f) Stairways, lifts and landings shall not prevent or limit the use of public paths or public or private non-motorized vehicle lanes or any other easements.

(2) Roads, bridges, trails, storm drainage, stormwater management facilities and utilities permitted within the provided that an alternatives analysis has clearly demonstrated that no other feasible alternative exists and that minimal disturbance will take place. These structures shall be located, designed, constructed and maintained to provide maximum erosion protection, to have the least adverse effects on wildlife, aquatic life and their habitats and to maintain hydrologic processes and water quality. Following any disturbance, the impacted area shall be restored.

(3) Bike paths, walking trails, or other multi-use paths.

(4) One accessory building not to exceed one hundred and twenty (120) square feet.

B. No additional fill shall be allowed.

C. No grading shall be allowed, except grading for bank restoration in areas experiencing bank slumping.

D. On-site septic systems and drain fields shall not be allowed.

E. Irrigation systems shall not be allowed.

F. Existing wooded areas shall conform to the regulations set forth in Section 614.02 of this Ordinance.

610.07. Delineation and Recordation of Watercourse Setbacks.

A. All Final Plats prepared for recording shall:

(1) Show the extent of any minimal or limited disturbance zone setbacks on the subject property by metes and bounds and be labeled as “Minimal Disturbance Zone Setback” or “Limited Disturbance Zone Setback”

(2) Provide a note to reference the minimal or limited disturbance zone setbacks stating, "There shall be no clearing, grading, construction or disturbance of soil and/or native vegetation except as permitted by the Cass County"

(3) Provide a note to reference any protective covenants governing all minimal or limited disturbance zone setbacks, "Any minimal or limited disturbance zone setbacks shown hereon is subject to protective covenants which may be found in the land records and which restrict disturbance and use of these areas."

B. All minimal or limited disturbance zone setbacks must be protected during development activities. Prior to the initiation of development activities, the minimal and limited disturbance zone setbacks shall be surveyed and iron pins set in the ground on side lots lines and adequate visibility of the minimal or limited disturbance zone setbacks shall be provided by staking and flagging.

C. Minimal or limited disturbance zone setbacks shall be maintained through a declaration of protective covenant, which is required to be submitted for approval by the Planning Commission. The covenant shall be recorded in the land records and shall run with the land and continue in perpetuity.

D. All lease agreements must contain a notation regarding the presence

and location of protective covenants for minimal or limited disturbance zone setbacks and which shall contain information on the management and maintenance requirements for the minimal or limited disturbance zone setbacks for the new resident.

610.08. **Conflict with Other Regulations.** Where the standards and management requirements of this setback are in conflict with other laws, regulations, ordinances and policies regarding streams, steep slopes, erodible soils, wetlands, floodplains, timber harvesting, land disturbance activities or other environmental protective measures, the more restrictive requirements shall apply.

SECTION 611 Erosion and Sedimentation.

611.01. **Erosion and Sedimentation.** All subdivision applications which involve grading or excavation disturbing one (1) or more acres of land shall conform to the following requirements and those requirements established by the North Dakota Department of Health.

A. No changes shall be made in the contour of the land; no grading, excavating, removal, or destruction of the topsoil, trees or other vegetative cover of the land shall be commenced within a proposed subdivision tract until such time that a plan for minimizing erosion and sedimentation control has been reviewed by the Planning Commission and County Engineer.

B. The following measures are effective in minimizing erosion and sedimentation and shall be included where applicable in the control plan using the North Dakota Department of Transportation (NDDOT) *Erosion and Sediment Control Handbook*, as it presently exists or may hereafter be amended.

(1) Stripping of vegetation and grading shall be kept to a minimum;

(2) Development plans shall preserve significant natural features, cut and fill operations shall be kept to a minimum and plans shall conform with the topography so as to create the least erosion potential and adequately handle the volume and velocity of surface water runoff.

(3) Whenever feasible, natural vegetation shall be retained, protected and supplemented.

(4) The disturbed area and the duration of exposure shall be

kept to a practical minimum.

(5) Disturbed soils shall be stabilized by permanent vegetation and/or by engineered erosion control and drainage measures as soon as practicable in the development process.

(6) Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development.

(7) Provisions shall be made to effectively accommodate the increased runoff caused by changed soil and surface conditions during and after development. Where necessary the rate of surface water runoff will be mechanically retarded.

(8) Sediment in the runoff water shall be trapped until the disturbed area is stabilized by the use of debris basins, sediment basins, silt traps, or similar measures.

(9) Basin and perimeter controls shall be established at the commencement of work on the site.

(10) Storage piles shall be protected and stabilized within thirty (30) days.

(11) Earth or paved interceptors and diversions shall be installed at the top of cut or fill slopes where there is a potential for erosive surface runoff.

C. In order to prevent pollution of any watercourse and to reduce erosion of soil, sediment control devices shall be installed prior to any grading, filling, or excavation. Such devices shall be designed to retain sediment on the site or flowing adjacent to the site.

D. Within thirty (30) days after completion of grading, all surfaces disturbed by vegetation removal, grading, haul roads, or other construction activity that alters natural vegetative cover, are to be revegetated to control erosion, unless covered with impervious or other improved surfaces authorized by approved plans. Erosion controls may include any combination of approved engineering or vegetative measures using the North Dakota Department of Transportation (NDDOT) *Erosion and Sediment Control Handbook*, as it presently exists or may hereafter be amended.

SECTION 612 Floodplain.

612.01. Floodplain. Floodplain areas shall be established and preserved as provided below:

A. The one hundred (100) year floodplain (base flood elevation) and/or floodway shall be shown when present within the proposed subdivision. This information may be provided on separate sheets and need not be recorded with the Final Plat. The following methods shall be used to delineate the BFE and floodway:

(1) A Flood Insurance Rate Map (FIRM) or best available information if a FEMA restudy is in process.

(2) A hydrologic report prepared by an individual registered in the North Dakota to perform such duties.

(3) A hydrologic report prepared by an agency of the County, State, or U.S. Government.

In case of any dispute concerning when, where and how the floodplain is to be established, the Planning Commission and/or Flood Plain Administrator will determine the ultimate design criteria and/or flood boundary limits.

B. All proposed developments, except those in townships with adopted flood plain management regulations, shall be built pursuant to the Cass County Flood Damage Ordinance #1998-2, as it presently exists or may hereafter be amended.

SECTION 613 Wetlands.

613.01. Wetlands. In addition to the above requirements no subdivision shall involve uses, activities or improvements which would entail encroachment into, the regrading of, or the placement of fill in wetlands in violation of state or federal regulations. Applicants must submit evidence to the Planning Commission that, if wetlands are present on the site, the North Dakota Fish and Wildlife Service, the U.S. Fish and Wildlife and/or U.S. Army Corps of Engineers have been contacted to determine the ability of state and federal wetland regulations. Any approval of the Planning Commission shall be contingent on full compliance with any requirements of any regulatory agency and no action by the Planning Commission shall be relied on in lieu of a permit issued by the appropriate agency.

SECTION 614 Landscaping.

614.01. Vegetative Buffer Planting.

A. Vegetative buffer planting shall be provided around the perimeter of commercial or industrial properties adjacent to residentially zoned property or existing residential development. Vegetative buffer planting shall also be provided in major subdivisions for all areas adjacent to land used for the production of crops (including CRP and idle land) or livestock, existing commercial or industrial developments without buffer plantings, or lots with frontage or reverse frontage along a section line road. The design of the buffer planting shall be consistent with the North Dakota NRCS *Design and Installation Guide: Windbreak/Shelterbelt Establishment-380* and the following requirements and shall be outlined in a site specific plan presented to the Planning Commission:

(1) Parking and buildings are prohibited within the buffer area.

(2) Buffer areas shall consist of a minimum of three (3) rows including one (1) row of medium to tall trees.

(3) The buffer shall be designed to the standards for a snow fence using the North Dakota NRCS *Design and Installation Guide: Windbreak/Shelterbelt Establishment-380*.

(4) Trees and shrubs are to be maintained and guaranteed for a minimum of two years. Planting of trees shall occur within the standard planting season (May through November) and shall not be planted prior to the construction of drainage improvements or other improvements within the vicinity of the buffer. Acceptable stock will not have more than one-third (1/3) of the tree canopy damaged or dead without replacement. Replacement trees shall conform to all requirements of this section and shall be maintained and guaranteed for a minimum of two planting seasons.

(5) Setback distances shall be designed on a site specific basis.

(6) No trees shall be placed within utility easement areas.

(7) Vegetation and plant material existing on site prior to development may be used to satisfy the landscaping standards of this section, provided that it meets all size, variety and locational requirements of this section.

(8) Landscaping provided to meet the buffer planting

requirements of this section shall not be counted towards meeting a subdivisions open space or park dedication requirements of this Ordinance.

B. Service loading and trash disposal areas such as dumpster or compactor sites shall be effectively screened so as not to be visible from parking areas, roadways, or adjacent properties. Such areas shall be screened with a combination of architectural masonry (or fencing) and landscaping with a height of at least six (6) feet.

614.02. **Existing Wooded Areas.** Existing wooded areas shall be protected to prevent unnecessary destruction. It is recommended, at least twenty-five (25) percent of the number of trees (minimum trunk caliper of five (5) inches at six (6) inches above ground) that exist at the time of Plan submission shall be maintained or replaced immediately following construction.

614.03. **Street Trees.** Street trees shall be provided in all residential major subdivisions and all commercial and industrial subdivisions utilizing curb and gutter streets. Street trees may be required by the Planning Commission in other developments upon request of the municipality. All street trees shall be provided by the applicant in accordance with the following standards:

A. The trees shall be nursery grown in a climate similar to that of the locality of the project.

B. All trees shall have a normal habit of growth and shall be sound, healthy and vigorous; they shall be free from disease, insects, insect eggs and larvae.

C. The trunk diameter, measured at a height of six (6) inches above finish grade, shall be a minimum of two (2) inches.

D. Trees shall be planted within the street right-of-way. The trees' growth shall not interfere with the street roadway, sidewalk, or utility lines. Street tree branching shall not interfere with clear sight triangles. Typical branching shall not be within ten (10) feet of ground level after ten (10) years of growth.

E. All planting shall be performed in conformance with good nursery and landscape practices and shall not be planted within four (4) feet of a curb or parking stop. The planting areas shall be loosened to a depth of the root ball or rooting system and the width of three (3) times the root ball and preferably five (5) times the root ball when practical.

F. Requirements for the measurements, branching, grading, quality, balling and the burlapping of trees shall follow the code of standards recommended by the American Association of Nurserymen, Inc., in the American Standard for Nursery Stock, ANSIZ60, current edition, as amended.

G. A minimum of one (1) canopy street trees shall be provided for every thirty five (35) linear feet of street frontage, street trees need not be placed exactly at thirty five (35) foot intervals, but shall be placed fairly evenly along the street frontage. Organic mulch (wood chips) shall be installed to a minimum coverage of two (2) inches around street tree plantings within a radius of three (3) feet of the trunk base. Street trees shall be located so as to maximize the growth potential of the plant material, minimize the potential for root interference with public infrastructure and enhance the quality of the development. Street trees shall be one of the following species:

Prairie Spire Ash*	American Linden
Patmore Ash*	Redmond Linden
Northern Treasure Ash*	Boulevard Linden
Northern Gem Ash*	Greenspire Linden
Northern Blaze Ash*	Frontyard Linden
Mancana Ash*	Norlin Linden
Dakota Centennial Ash*	Harvest Gold Linden
Prairie Dome Ash*	Dropmore Linden
Bergeson Ash*	Glenleven Linden
Prairie Torch Ohio Buckey	Shamrock Linden
Homestead Ohio Buckey	Autumn Blaze Maple
Autumn Splendar Ohio Buckeye	Sienna Glen Maple
New Horizon Elm**	Firefall Maple
Jefferson Elm**	Fairview Maple
Discovery Japanese Elm**	Unity Maple
Cathedral Elm**	Jefcam Maple
Vangaurd Elm**	Fall Fiesta Maple
Washington Elm**	Green Mountain Sugar Maple
Valley Forge Elm**	Tatarian Maple
Accolade Elm**	Amur Maple
Common Hackberry	Emerald Lustre Maple
Northern Acclaim Honey-locust	Bur Oak
Perfection Honey-locust	Mongolian Oak
	Stately Manor - Kentucky Coffeetree

*Seedless varieties preferred
**Dutch Elm Disease (DED) resistant

Other tree species may be used, provided acceptable information is submitted to indicate that the species are hardy street trees with a maturing height of thirty-five (35) feet or greater; fast growing, short lived trees shall not be permitted. Smaller trees, approved by the Planning Commission, will be permitted in areas with existing overhead utilities. No one species shall comprise more than

twenty-five (25) percent of the entire number of street trees in a particular development.

H. Street trees are to be maintained and guaranteed for a minimum of two years. Planting of trees shall occur within the standard planting season (May through November) and shall not be planted prior to the construction of the streets, curbs, sidewalks and drainage improvements. Acceptable stock will not have more than one-third (1/3) of the tree canopy damaged or dead without replacement. Replacement trees shall conform to all requirements of this section and shall be maintained and guaranteed for a minimum of two planting seasons.

614.04. **Ground cover.** Ground cover shall be provided on all areas of the project to prevent soil erosion. All areas which are not covered by paving, stone, or other solid material shall be protected with a suitable ground cover, consisting of turf grass. Areas within the watercourse and vegetation zone setbacks shall have ground cover consistent with the requirements set for in Section 609 and 610 of this Ordinance.

614.05. **Top Soil Preservation.** Top soil moved during construction shall be redistributed on all regarded unimproved surfaces so as to provide at least four (4) inches of even cover to all disturbed areas of the development and the amount of top soil moved shall be minimized.

614.06. **Removal of debris.** All stumps and other tree parts, litter, brush, weeds, excess or scrap building materials or other debris shall be removed from the site and disposed of in accordance with the law. No tree stumps, or portions of tree stumps or limbs shall be buried anywhere in the development. All dead or dying trees, standing or fallen, shall be removed from the site. If trees are reduced to chips, they may be used as mulch in landscaped areas.

SECTION 615 Sanitary Wastewater Treatment and Water Supply.

615.01. **Sanitary Wastewater Treatment.** The applicant shall provide the highest type of sanitary wastewater treatment facility consistent with existing physical, geographical, geological and economic conditions. The following types of sanitary sewage wastewater treatment facilities are listed in order of desirability:

A. Publicly owned sanitary wastewater treatment system.

B. Privately owned sanitary wastewater treatment system used by one unit of occupancy with subsurface absorption.

C. Privately owned sanitary wastewater treatment system used by two (2) or more units of occupancy with treatment other than subsurface absorption or holding tank which is owned by a single individual.

D. Privately owned subsurface absorption or drainage fields used by two (2) or more units of occupancy.

E. A municipal sewage facility having sufficient capacity for the proposed development shall be considered accessible and shall require connection if the closest property line of the proposed subdivision is within the following distances, at the discretion of the Planning Commission these distance may be increased:

Buildable Lots	Distance
1-2	400 feet
3-4	800 feet
5-12	2,640 feet

Subdivisions with thirteen (13) or more buildable lots shall connect to a municipal sanitary sewer system. Subdivisions with proposed commercial or industrial developments shall connect to a municipal sanitary sewer system, unless the applicant can demonstrate the commercial or industrial development is a minimum water usage site and obtains a nontransferable permit to utilize a holding tank system from the Environmental Health Office of the Community Health Department of the City of Fargo, North Dakota.

F. Those developments not required to connect to a municipal system based on Section 615.01 (E) of this Ordinance may provide individual subsurface treatment systems subject to applicable regulations of Fargo-Cass Public Health, all applicable state regulations and this Ordinance.

(1) Where on-site sanitary wastewater treatment facilities are utilized, each lot served shall be of a size and shape to accommodate the necessary subsurface wastewater treatment system at a safe distance from the water supply in accordance with Fargo-Cass Public Health regulations and all other state or federal regulations. The sewage treatment system shall be adequate to prevent serious health risks. This system shall be detailed in a sewage treatment plan that is approved in accordance with the rules, regulations and standards of the Environmental Health Office of the Community Health Department of the City of Fargo, North Dakota and all other applicable health regulations,

including Cass County on-site sewage regulations adopted March 4, 1993 and all subsequent amendments to said regulations.

(2) The lot shall provide a minimum area not less than forty thousand (40,000) square feet. All applicable setbacks and floodway areas within the lot shall not be included in the computation of the forty thousands (40,000) square foot minimum.

(3) On-site sanitary wastewater treatment facilities shall be located on the highest feasible area of undisturbed soils on all lots located within the one hundred (100) year flood plain.

(4) No on-site sanitary wastewater treatment facilities shall be located within the floodway.

(5) On-site sanitary wastewater treatment facilities shall only be constructed in areas of undisturbed soils.

(6) On-site sanitary wastewater treatment facilities located within the one hundred (100) year flood plain shall include a valve system located between the storage tank and drainfield used to close the drainfield during times of high or excessive water inundating the drainfield.

(7) On-site sanitary wastewater treatment systems shall not be less than one hundred (100) horizontal feet from any water supply well less than fifty (50) feet in depth. On-site sanitary wastewater treatment systems shall not be less than fifty (50) horizontal feet from any water supply well greater than fifty (50) feet in depth.

(8) On-site sanitary wastewater treatment facilities shall not be less than one hundred (100) feet from any private or on-site water supply system serving three (3) or more residences.

G. When connection to an existing sanitary sewer system is proposed:

(1) The Preliminary Plat application shall include a statement from the authority or organization providing such service that sufficient capacity to service the proposed development is available. Such notice shall:

a. Be dated within six (6) months of the plan application

b. Identify the term of the reservation

c. Provide capacity for the entire development (partial capacity, based on phases of development, will not be acceptable).

(2) The Final Plat application shall include a statement from the authority or organization providing such service indicating approval of the plans for design, installation and financial guarantees as well as indicating the reservation of sufficient capacity to accommodate the project.

615.02. **Water Supply.** All proposed subdivisions shall supply a potable water source adequate to the completed developments demands. Whenever an existing or approved water system is accessible and has sufficient capacity, the proposed project shall connect to said distribution system.

A. Applicants shall submit to the Planning Commission documentation if the project is located in an area served by a municipal water supply system or other public water supply system. A municipal or public water supply system, shall be considered accessible to a project and shall be connected to the project, if service is available within the following distances, at the discretion of the Planning Commission these distance may be increased:

Buildable Lots	Distance
1-2	400 feet
3-4	800 feet
5-12	2,640 feet

Subdivisions with thirteen (13) or more buildable lots shall connect to a municipal or public water supply system.

B. Major subdivisions required to connect to public water supply system based on Section 615.02 (A) of this Ordinance shall design a water supply system pursuant to the following:

(1) The water supply system shall be adequate to handle the necessary flow based on the complete development.

(2) The demand rates for all uses shall be considered in computing the total system demand.

(3) Average daily residential demand shall be computed in accordance with the housing unit type and size data (*see Appendix 23*). Daily residential demand rates from other sources may be used if the applicant demonstrates that these sources better reflect local conditions.

(4) Nonresidential demand shall be computed in accordance with the data shown in Appendix 24. Nonresidential demand rates from other sources may be used if the applicant demonstrates that these sources better reflect local conditions.

(5) For the safety and protection of residents, rural subdivisions are encouraged to install water systems capable of providing fire flow capacity to include the following:

(a) Installation of volume water supply or reservoir facilities.

(b) Installation of fire hydrants

C. Major subdivisions required to connect a municipal water supply system based on Section 615.02 (A) of this Ordinance shall design a water supply system pursuant to the following or to the standards and specifications of municipality supplying the water:

(1) The water supply system shall be adequate to handle the necessary flow based on complete development.

(2) The demand rates for all uses shall be considered in computing the total system demand.

(3) Average daily residential demand shall be computed in accordance with the housing unit type and size data (*see Appendix 23*). Daily residential demand rates from other sources may be used if the applicant demonstrates that these sources better reflect local conditions.

(4) Nonresidential demand shall be computed in accordance with the data shown in Appendix 24. Nonresidential demand rates from other sources may be used if the applicant demonstrates that these sources better reflect local conditions.

(5) The minimum size of lines within the subdivision plat boundaries shall be eight (8) inch diameter. Branches less two hundred and fifty (250) feet in cul-de-sacs may be six (6) inch diameter for domestic feed only.

(6) If the municipal water supply system is capable of providing fire flow capacity the applicant shall install fire hydrants at a maximum spacing of four hundred (400) feet. No residential structure shall be more than two hundred and fifty (250) from the nearest fire hydrant. A hydrant shall be located at all low points and at all high points with adequate means of drainage provided. Hydrant installation shall occur when sufficient water volume is available for fire protection requirements.

(7) The distribution system within the subdivisions shall be designed to provide a minimum flow of one thousand (1,000) gallons per minute with twenty (20) pounds per square inch (PSI) residual pressure.

(8) The distribution system within the subdivision shall be constructed in accordance with the City of Fargo's *Standard Specifications for Construction of Public Utilities*, as it presently exists or may hereafter be amended, for water mains and fire hydrants. The requirements for service lines made of copper shall not apply.

D. Subdivisions with thirteen (13) or greater buildable lots shall connect a public water supply system, shall provide functioning fire hydrants and shall design a water supply system pursuant to the following:

(1) The water supply system shall be adequate to handle the necessary flow based on complete development.

(2) The demand rates for all uses shall be considered in computing the total system demand. The system shall be capable of providing the required fire demand plus the required domestic demand.

(3) Average daily residential demand shall be computed in accordance with the housing unit type and size data (*see Appendix 23*). Daily residential demand rates from other sources may be used if the applicant demonstrates that these sources better reflect local conditions.

(4) Nonresidential demand shall be computed in accordance with the data shown in Appendix 24. Nonresidential demand rates from other sources may be used if the applicant demonstrates that these sources better reflect local conditions.

(5) The minimum size of lines within the subdivision plat boundaries shall be eight (8) inch diameter. Branches less two hundred and fifty (250) feet in cul-de-sacs may be six (6) inch diameter for domestic feed only.

(6) The installation of fire hydrants shall be provided at a maximum spacing of four hundred (400) feet. No residential structure shall be more than two hundred and fifty (250) from the nearest fire hydrant. A hydrant shall be located at all low points and at all high points with adequate means of drainage provided.

(7) The water supply system shall be designed to meet the following minimum fire flows based on recommendations by the American Insurance Association and the National Board of Fire Underwriters:

Population	Flow (gpm)*	Duration of flow (hours)
Under 100	500	4
1,000	1,000	4
1,500	1,250	5
2,000	1,500	6
3,000	1,750	7
4,000	2,000	8
5,000	2,250	9
6,000	2,500	10
10,000	3,000	10

* gpm = gallons per minute

(8) The distribution system within the subdivisions shall be designed to provide a minimum flow of one thousand (1,000) gallons per minute with twenty (20) pounds per square inch (PSI) residual pressure.

(9) The distribution system within the subdivision shall be constructed in accordance with the City of Fargo's *Standard Specifications for Construction of Public Utilities*, as it presently exists or may hereafter be amended, for water mains and fire hydrants.

E. When connection to an existing municipal or public water supply system is proposed:

(1) The Preliminary Plat application shall include a statement from the authority or organization providing such service that sufficient capacity to service the proposed development is available. Such notice shall:

(a) Be dated within six (6) months of the plan application

(b) Identify the term of the reservation.

(a) Provide capacity for the entire development (partial capacity, based on phases of development, will not be acceptable).

(2) The Final Plat application shall include a statement from the authority or organization providing such service indicating approval of the plans for design, installation and financial guarantees as well as indicating the reservation of sufficient capacity to accommodate the project.

F. Those developments not required to connect to a municipal or public water supply system based on Section 615.02 (A) of this Ordinance may provide individual or private water supply systems in accordance with this Ordinance and all applicable state and federal regulations.

(1) A private or on-site water supply system well less than fifty (50) feet in depth shall not be less than one hundred (100) horizontal feet from any on-site sanitary wastewater treatment system. A private or on-site water supply system well greater than fifty (50) feet in depth shall not be less than fifty (50) horizontal feet from any on-site sanitary wastewater treatment system.

(2) Any private or on-site water supply system serving three (3) or more residential structures shall not be less than one hundred (100) feet from any sewage drain field.

G. Those developments proposing the use of shared private wells shall submit a well agreement establishing the respective rights and obligations of each user pertaining to the well and water distribution system. All shared well agreements shall be signed, notarized and recorded with the Final Plat and shall typically include the following

elements and when warranted additional language to protect the interest of each party:

(1) Description of the parcels or properties the well will serve and identify which property the well is located and the wells location relative to property lines.

(2) Establish that well has undergone a water quality analysis from a certified lab or agency and found to supply safe and potable water.

(3) Designate future owners/heirs of said properties shall have access to the well and associated water works.

(4) Designate ownership of the well and associated water works.

(5) Define under what conditions the water service can be stopped to users.

(6) Define payment for power costs.

(7) Define the type of water use allowed by users.

(8) Define conservation measures expected of users in the event of a water shortage.

(9) Establish access to user's properties to correct an emergency situation in the absence of one of the users.

(10) Define emergency situation.

(11) Define payment responsibility of emergency repair costs.

(12) Define payment responsibility of third party damage to the well or associated water works.

(13) Require consent by each user prior to maintenance, operation, replacement, improvements, or other activities deemed as non-routine, defining routine and non-routine activities. Establish means to resolve disagreement in the event users cannot agree regarding the said expenditures.

(14) Define payment responsibility for maintenance, operation, replacement, or improvement costs.

(15) Establish time frame for payment of maintenance, operation, replacement, or improvement costs.

(16) Establish action available to users in the event of a default payment or other obligation by one of the users.

(17) Identify those responsible for maintaining, repairing, or replacing well, pump house, common water works or individual pipelines.

(18) In the event each residence has their own pump and associated water works, establish responsibility for maintenance, repair and replacement.

(19) Establish the location of easements surrounding the well site and pump house for access, maintenance, replacement and repairs.

(20) Identify those parties allowed access to pump house for access, maintenance, replacement and repairs.

(21) Establish the water line easements, including location, width and purpose and include location on the Final Plat.

(22) Establish standards for landscaping and improvements within easements.

(23) If common boundary fencing or walls exist, establish the parties permitted to remove and replace fencing or walls and the conditions said parties are allowed to do so.

(24) Establish when and how the shared well agreement shall cease and terminate for all parties and individual parties.

615.03. **On-site Water Supply Testing.** Proposed water supply systems served by individual or shared wells in major subdivisions shall provide sufficient evidence that a viable water supply with sufficient quantity is available using existing data or new data collected and calculated by a hydrologist or registered engineer with hydrological experience.

A. The applicant shall obtain a water quality test, conducted by a certified laboratory for all wells utilized to supply potable drinking water. The quality of the water tested shall meet the minimum public health drinking water standards as set forth in the National Primary Drinking Water Regulations of the Environmental Protection Agency as it

presently exists or may hereafter be amended, or be capable of treatment to attain said standard of quality. No person shall divide and sell land, in major subdivisions unless the water to be supplied by the proposed on-site water supply system meets the minimum standards set forth herein. All buyers of lots shall be provided copies of the water quality tests.

B. The well system shall be designed and wells located to prevent any adverse impact on surrounding wells pumping rates, including other wells within the same development.

C. The well(s) shall be placed in such a location, constructed to such a depth, have such an efficiency and pumped at such a rate that will not unreasonably restrict further development of the aquifer system.

SECTION 616 Parks and Open Space Uses.

616.01. Dedication. All plans for residential subdivision of land shall provide for the dedication of land for park and open space uses and/or, upon agreement by the applicant, the construction of recreation facilities, the payment of fees in lieu thereof, the private reservation of land, or any combination thereof.

Any such dedications shall be determined to be acceptable by the municipal governing body and approved by the Cass County Planning Commission. The developer shall provide for the construction, at no cost to the county, school district, or public, all roads adjacent to publicly dedicated sites, extensions of all utilities to the site and other public infrastructure as required by the Planning Commission.

616.02. Amount of Land to be Dedicated. The amount of park and open space land to be dedicated shall utilize the following criteria:

A. The amount of park and open space land to be dedicated shall equal seven hundred (700) square feet for each single family unit and four hundred and seventy (470) square feet for each multifamily unit. The developer shall provide the Planning Commission with information concerning the density based upon the number and type of dwelling units proposed. In the event of a dispute as to the estimated population of the proposed residential subdivision, the determination of the Planning Commission staff shall control.

B. For the purposes of calculating the required dedication, existing dwelling units within a proposed subdivision shall be excluded from the calculation of the park requirement if they have previously been

included in the calculation of park dedication or fee-in-lieu through the subdivision process. If the existing dwelling units have not previously been included in the calculation for park land dedication or fee-in-lieu of land, then they will be included in the calculation.

C. Residential minor subdivisions shall be exempt from the park land dedication requirements of this Ordinance.

D. Development of parks, open space and/or trails shall be the responsibility of the developer. Maintenance of parks, open space and/or trails shall be the responsibility of the developer, homeowners association, or a local governing entity.

E. Residential subdivisions of land where more than twenty (20) percent of the units are to be reserved for the housing of low-income households or where the housing is financed by public monies, may be exempted from these requirements if adequate parks and open space is provided by other means.

(1) The applicant shall enter into an agreement with the Planning Commission to provide low-income housing and shall demonstrate that such housing is affordable to low-income households within the county. A low-income household is defined as a household earning less than fifty (50) percent of the median family income of Cass County.

(2) After development, it shall be the responsibility of the developer to present evidence to the Planning Commission, that the housing, as constructed, is affordable to low-income households. Failure to provide low-income housing when dedication of park and open space land has been exempted because of the pledge to provide such housing shall constitute a violation of this Ordinance and shall require that the applicant pay a fee in lieu of the dedication in accordance with Section 616.03 of this Ordinance.

616.03. **Fee in lieu of Dedication.** Fee-in-lieu of land dedication shall be used in cases in which the cash value of park land dedication is deemed, by the Planning Commission, to be more appropriate in satisfying the needs of the proposed development than land within the proposed development. Such cases include, but are not limited to, small developments, development adjacent to existing facilities that could be expanded.

A. The amount of any fee to be paid in lieu of dedication of land shall be equivalent to the full market value of the acreage required for park

land dedication. Value shall be based on anticipated market value after completion of platting. The applicant shall submit a proposal for the fee-in-lieu of dedication and supply the information necessary for the Planning Commission to evaluate the adequacy of the proposal. This information shall include at least one appraisal of the property by a qualified appraiser.

B. The formula to be used in computing the fee based upon full market value shall be:

$$Fee = N\,(FMV)$$

where:

N	=	The number of acres required to be dedicated for park and open space purposed, calculated in accordance with Section 616.02 of this Ordinance
FMV	=	Average full market value of one acre

Such fee shall be payable Cass County prior to the recording of each final phase of the plan and shall be in an amount equal to the percentage of the total number of dwelling units in the phase.

616.04. **Parkland Acquisition Fund.** All fees paid by the developer in lieu of dedication of park and open space land shall be paid to Cass County and upon its receipt shall be deposited in a separate interest-bearing fund.

A. The Fee-in-lieu shall be held by the county until such time as a local governing entity is in place and submits in writing, a request for the fee-in-lieu along with a park plan and development schedule.

B. It is preferred that the fee-in-lieu be used by such governing entity to construct a trail system not to exceed one-quarter (0.25) mile from the subdivision the fee-in-lieu originated or for the construction of a neighborhood or community park. If the construction of a neighborhood or community park or local trail system is not reasonably achievable, then the fee-in-lieu may be used for the construction of a regional park or used for improvements on existing regional parks.

616.05. **General Design Criteria.** Except as provided in Sections 616.07 and 616.08 below, the type of areas to be dedicated for park and open space land within a subdivision shall principally involve pocket, neighborhood, community, or regional parks.

The land set aside for park and open space uses shall meet the following

design criteria:

A. The park and open space land shall be reasonably located so as to serve all of the residents of the subdivision.

B. The park and open space land shall be accessible from a public street or shall adjoin and become a part of an already existing public park or open space area which is accessible from a public street. Where access to the park is by public road, the width of the frontage shall be a minimum length deemed necessary for access, visibility of the site and public safety.

C. No more than twenty-five (25) percent of the park and open space land shall contain detention or retention basins or other storm water management facilities, or be located within a floodplain or wetland unless such area is part of a linear trail or green way along an existing watercourse. No percentage of park or open space land shall contain retention or detention ponds if the total park or open space requirement is less than two and half (2.5) acres.

D. The park and open space land shall be compact and contiguous and shall meet lot configuration requirements for lots within a residential subdivision unless the land shall be used as a continuation of an existing trail as set forth in Section 616.07 of this Ordinance, as a trail or linear park as set forth in Section 616.08 herein, or the land is located adjacent to and combined with existing park and open space land, or specific topographic features require a different configuration. An example of such topographic features would be the provision of public open space along a scenic creek.

E. When the park and open space land required to be dedicated is less than five (5) acres in size (unless development will utilize a pocket park), the park and open space land shall be located at a suitable place on the periphery of the subdivision so a more usable tract will result when additional park and open space land is obtained upon development of the adjacent land.

F. When public park and open space land exists adjacent to the tract to be subdivided or developed, the park and open space land shall be located to adjoin and enlarge the presently existing park and open space land.

G. At least fifty (50) percent of the finished grade of the site shall have a slope of three (3) percent or less unless the land shall be used as a continuation of an existing trail as set forth in Section 616.07 of this Ordinance, as a trail or linear park as set forth in Section 616.08

herein, or the preservation of specific, valuable topographic features results in a greater slope (e.g. provision of public space along a scenic watercourse).

H. The park and open space land shall be accessible to utilities such as sewer, water and power that are provided within the subdivision and if so requested by the Planning Commission or the municipality that will accept dedication of the land, the developer shall extend such utilities to the park and open space land.

I. If the developer is planning to construct facilities for recreation on the dedicated property as an amenity for the development, such facilities shall be constructed in accordance with current standards established by the National Recreation and Park Association. Where applicable, facilities constructed shall also comply with the accessibility guidelines of the Americans with Disabilities Act of 1990, as it presently exists or may hereafter be amended. Playground equipment constructed or placed on parkland shall be in compliance with guidelines from the Consumer Products Safety Commission.

J. All park elements shall generally be consistent with nearby urban design and architectural features.

K. Landscaping provided to meet the buffer planting requirements (*see Section 614.01*) standards of this Ordinance shall not be counted towards meeting a subdivisions open space or park dedication requirements.

616.06. Specific Design Criteria. The following criteria shall be used in the design of parks, open space and trails.

A. Pocket parks are specialized facilities serving individual neighborhoods and usually owned and maintained by a homeowners association. This type of park should be considered as an alternative where providing a typical neighborhood park is impractical, infeasible, or utilized with small developments. The site should be residential in character and afford a quiet setting for park use, typically not serving an area greater than one-quarter (.25) of a mile and typically no larger than two and one half (2.5) acres. Development should have a strong emphasis on passive uses such as picnic areas, informal gathering areas and landscaping.

(1) The site shall be centrally located within the surrounding neighborhood and homes preferable facing the park site to provide a secure environment.

(2) Strong pedestrian and bicycle linkages shall be provided to and within the park.

(3) The facility development should reflect the needs of the surrounding neighborhood. Typical facilities include turf grass areas, picnic tables and benches. Support facilities such as bike racks, pursuant to Section 603.06 (B-D) of this Ordinance and trash receptacles should also be provided. Optional facilities may include gazebos or similar shade structures; special horticultural plantings or gardens to be maintained by residents; and public art. The design and materials of structures shall be generally consistent with nearby urban design features.

(4) Seating and picnic areas shall be provided within the park.

(5) Pocket parks shall have a minimum of five (5) canopy trees per tenth (0.10) of an acre pursuant to the specifications in Section 616.06 (E) Subsection 8 of this Ordinance.

B. Neighborhood parks are intended to provide for a mix of non-programmed active and passive recreational activities that serve the needs of individual neighborhoods. Neighborhood parks shall be accessible within walking or bicycling distance, typically not serving an area greater than one-half (0.5) of a mile radius and typically have a minimum area of five (5) acres.

(1) The site shall provide appropriate bicycle facilities and on or off street multiuse paths to support such access. Limited on or off street parking may be provided as feasible.

(2) The site is preferable adjacent to an elementary or middle school or the center of residential development with good neighborhood pedestrian and bicycle access and served on one or two sides by local streets.

(3) Neighborhood parks should not have a standard design, but instead should vary in size, topography and vegetation and should utilize unique site conditions.

(4) A mixture of facilities should be provided which are suited to the site and the social/recreation preferences of surrounding residents.

(5) Multiuse active areas, playgrounds, multiuse hard court will typically meet the active needs of the park, while gathering areas and walking paths will typically meet the passive needs of the park.

(6) Picnic facilities, seating areas, trash receptacles and bike racks, pursuant to Section 603.06 (B-D) of this Ordinance, shall be provided.

(7) Shade shall be provided with a combination of landscaping or structures.

(8) Parking and portable restrooms provided responsive to size and level of use.

C. Community parks are large in size and serve a broader purpose than neighborhood parks. Their focus is on meeting the recreational needs of several neighborhoods or large sections of the community. These parks are developed for both passive and active recreation activities. These parks serve an area approximately four (4) or five (5) square miles and one (1) to (2) miles for smaller community parks, covering an area typically ranging from twenty (20) to eighty (80) acres.

(1) The site may include recreational facilities such as programmed athletic facilities, swimming pools and recreation centers. Between twenty five (25) and fifty (50) percent should be planned as undeveloped green space for informal play and natural aesthetics.

(2) The sites adaptability for recreational development should play a major role in its selection, with an emphasis on sites located in close proximity to residents while minimizing impacts on adjacent neighborhoods.

(3) If located on the site, natural features such as large trees and drainage ways should be preserved.

(4) The site should be serviced by arterial and collector streets and accessible via interconnecting trails.

(5) Off street parking should be provided commensurate with anticipated level of use and size of site.

(6) Visually screened restroom facilities should also be provided and when appropriate the utilization of portable

restrooms.

(7) Trash receptacles, seating areas, picnic facilities, bike racks, pursuant to Section 603.06 (B-D) of this Ordinance, shading provided from vegetation or structures and shelters or gazebos shall be provided.

(8) Lighting for playing fields and tennis courts may be provided, when warranted and if there is sufficient buffer from surrounding residential neighborhoods.

(9) Active use facilities typically include a medium to large playground, regulation softball, baseball, or soccer fields, basketball court, open play area, tennis courts, multiuse hard court, swimming pool.

(10) Passive uses typically include individual and group picnic areas and walking trails.

D. Regional parks are community signature parks by virtue of their size, location, unique nature resources or settings, or facilities. These parks typically provide active and passive recreational facilities and typically range in size from eighty (80) to one hundred and fifty (150) acres and serve as a regional attraction.

(1) The sites adaptability for recreational development should play a major role in its selection with an emphasis on sites with close proximity to residents while minimizing impacts on adjacent neighborhoods. Natural features such as large trees and drainage ways should be preserved.

(2) Site should be serviced by arterial and collector streets and easily accessible via interconnecting trails.

(3) These parks are typically developed for both active and passive uses and accommodate cultural, educational, or interpretative facilities and may provide “one of a kind” facilities for the area.

(4) Off street parking commensurate with site size and level of use and distributed among one or more parking lots serviced by internal roads.

(5) Permanent plumbed restrooms shall be provided commensurate with the size of park and level of use.

(6) Active use facilities typically include a medium to large playground, regulation softball, baseball, or soccer fields, basketball court, open play area, tennis courts, multiuse hard court, swimming pool, multi use pavilion and recreation center.

(7) Passive uses typically include individual and group picnic areas and walking trails.

(8) Trash receptacles, seating areas, picnic facilities, bike racks, pursuant to Section 603.06 (B-D) of this Ordinance, shading provided from vegetation or structures and shelters or gazebos shall be provided.

E. Open space areas are used to preserve open land, sensitive natural areas and rural community character that would be lost under conventional development. This would preferably allow smaller compact neighborhood residential development utilizing a shared open space setting. Open space typically preserves open land, including those areas containing unique and sensitive natural features such as woodlands, steep slopes, streams, floodplains and wetlands, by setting them aside from development and are typically owned and maintained by a homeowners association. Landscaping provided to meet the street tree or parking lot landscaping standards of this Ordinance shall not be counted towards meeting a subdivisions open space landscaping requirements.

(1) Open space may preserves scenic views.

(2) Open space may provide direct visual access to open land with amenities in the form of neighborhood open space and with a strong neighborhood identity.

(3) Open space may create new woodlands and vegetation areas through reforestation and replanting of natural species to encourage the preservation and improvement of habitat for various forms of wildlife as well as provide a visually aesthetic area.

(4) Pedestrian and bicycle path connections to and within the open space may be required.

(5) Ground cover shall be provided on all areas of the project to prevent soil erosion. All areas which are not covered by

paving, stone, or other solid material shall be protected with a suitable ground cover, consisting of turf grasses or native grasses.

(6) Common and noxious weeds shall be removed pursuant to all applicable laws and regulations and the area landscaped in such a manner to prevent the return of common and noxious weeds.

(7) The area should consist of large scale tree cover from deciduous hardwood and/or evergreens.

(8) Open space lacking the presence of large scale tree cover shall plant trees using the following criteria:

(a) The trees shall be nursery grown in a climate similar to that of the locality of the project.

(b) All trees shall have a normal habit of growth and shall be sound, healthy and vigorous; they shall be free from disease, insects, insect eggs and larvae.

(c) The trunk diameter, measured at a height of six (6) inches above finish grade, shall be a minimum of two (2) inches.

(d) All planting shall be performed in conformance with good nursery and landscape practices. The planting areas shall be loosened to a depth of the root ball or rooting system and the width of three (3) times the root ball and preferably five (5) times the root ball when practical.

(e) Requirements for the measurements, branching, grading, quality, balling and the burlapping of trees shall follow the code of standards recommended by the American Association of Nurserymen, Inc., in the American Standard for Nursery Stock, ANSIZ60, current edition, as amended.

(f) A minimum of five (5) canopy trees shall be provided for every tenth (0.10) of an acre of open space. The trees shall be located so as to maximize the growth potential of the plant material, minimize the potential for root interference with public

infrastructure and maximize the useful of the area. Trees shall be one of the following species:

Prairie Spire Ash*	American Linden
Patmore Ash*	Redmond Linden
Northern Treasure Ash*	Boulevard Linden
Northern Gem Ash*	Greenspire Linden
Northern Blaze Ash*	Frontyard Linden
Mancana Ash*	Norlin Linden
Dakota Centennial Ash*	Harvest Gold Linden
Prairie Dome Ash*	Dropmore Linden
Bergeson Ash*	Glenleven Linden
Prairie Torch Ohio Buckey	Shamrock Linden
Homestead Ohio Buckey	Autumn Blaze Maple
Autumn Splendar Ohio Buckeye	Sienna Glen Maple
New Horizon Elm**	Firefall Maple
Jefferson Elm**	Fairview Maple
Discovery Japanese Elm**	Unity Maple
Cathedral Elm**	Jefcam Maple
Vangaurd Elm**	Fall Fiesta Maple
Washington Elm**	Green Mountain Sugar Maple
Valley Forge Elm**	Tatarian Maple
Accolade Elm**	Amur Maple
Common Hackberry	Emerald Lustre Maple
Northern Acclaim Honey-locust	Bur Oak
Perfection Honey-locust	Mongolian Oak
	Stately Manor - Kentucky Coffeetree

*Seedless varieties preferred
**Dutch Elm Disease (DED) resistant

Other tree species may be used, provided acceptable information is submitted to indicate that the species are hardy trees with a maturing height of thirty-five (35) feet or greater; fast growing, short lived trees shall not be permitted. Smaller trees, approved by the Planning Commission, will be permitted in areas with existing overhead utilities. No one species shall comprise more than twenty-five (25) percent of the entire number of planted trees in a particular development.

(g) Trees are to be maintained and guaranteed for a minimum of two years. Planting of trees shall occur within the standard planting season (May through November). Acceptable stock will not have more than one-third (1/3) of the tree canopy damaged or dead without replacement. Replacement trees shall conform to all requirements of this section and shall be maintained and guaranteed for a minimum of two planting seasons.

616.07. **Existing Trails.** When a subdivision is traversed by or abuts an existing public trail, customarily used by pedestrians and/or equestrians, the applicant shall make provision for the continued recreational use of the trail subject to alterations of the course of the trail within the boundaries of the development under the following conditions:

A. The points at which the trail enters and exits the tract shall remain unchanged.

B. The proposed alteration exhibits quality trail design according to the generally accepted principles of landscape architecture.

C. The proposed alteration does not run coincidentally with the paved road intended for use by motorized vehicles.

D. The land set aside for the continuation of such existing trail may be included within the amount of park and open space land required by Section 616.02 herein.

616.08. **Trails and Linear Parks.** The Planning Commission may require, as a condition of Final Plat approval the dedication and improvement of trails and linear parks, proposed subdivisions along the Red and Wild Rice rivers will generally be required to provide a constructed trail on an easement or dedicated land along the river. The dedication and improvement of trails and linear parks may be credited toward the park and open space land requirement described in Section 616.02 of this Ordinance, provided such trails and linear parks meet the following standards:

A. Actual dedications of land of linear parks shall be a minimum width of seventy five (75) feet.

B. The minimum right-of-way width of an easement containing a trail which crosses private land shall be fifteen (15) feet. In all cases, however, such easements must provide for public use at reasonable times.

C. Trails shall have a vertical clearance of no less than ten (10) feet.

D. Width of the trail surface may vary depending upon type of use to be accommodated, but in no case shall such width be less than ten (10) feet.

E. Trails shall be shall be constructed according to the specifications set forth in Appendix 10.

F. Developer shall constructs trail within one (1) year of the recording of

the plat.

G. Trail meets applicable requirements set forth in Section 616.08 of this Ordinance.

H. Location and length of trail approved by the Planning Commission.

616.09. **Municipal Fund Reimbursement.** A municipality may from time-to-time decide to purchase land for parks in or near the area of actual or potential development. If a municipality does purchase park and open space land for a neighborhood, community, or regional park, using the definition provided in this Ordinance, subsequent park and open space land dedications within that area may, upon agreement with the applicant, be in cash only and shall be calculated on a percentage basis to reimburse the municipality's actual cost of acquisition and/or cost of development of such land for park and open space purposes. The cash amount provided to the municipality which purchased the land shall be calculated in accordance to Section 616.03 of this Ordinance. Once the municipality has been reimbursed entirely for all such park and open space land, this subsection shall cease to apply and the other subsections of this section shall again be applicable. The reimbursed value shall be based on the purchase price of the land plus all other actual costs for streets, on-site utilities and other improvements (or an estimate of such actual costs provided by the municipal engineer).

616.10. **Additional Recreation Reservations.** The provisions of this section are minimum standards and shall not be construed as prohibiting a developer from dedicating or reserving other land for recreation purposes in addition to the requirements of this Ordinance.

616.11. **Private Reservation of Land.** Notwithstanding anything contained in the above sections, the applicant may, with the consent and approval of the Planning Commission, elect to fulfill the open space requirements through the private reservation of a recreation area.

A. Those developments proposing a private park, open space, or trail or if the park, open space and/or trail not accepted for dedication by a local governing entity shall be accompanied by an agreement establishing the respective rights and obligations of each lot owner. All park agreements shall be signed, notarized and recorded with the Final Plat and shall include the following elements and when warranted additional language to protect the interest of each party:

(1) That maintenance of the designated open space is the responsibility of the applicant, a home owners' association, a condominium unit owners' association, or other recognized conservation organization.

(2) The availability of such private open space to non-residents of the development.

(3) The method by which the private reservation may be offered for public dedication.

(4) Restrictions limiting the land for only open space purposes.

(5) Define payment responsibility for maintenance, operation, replacement, or improvement costs to the park, open space, or trail and how such payment shall be collected.

(6) Establish time frame for payment of maintenance, operation, replacement, or improvement costs.

(7) Establish action available to owners in the event of a default payment or other obligation by one of the owners.

(8) That the land cannot be sold or disposed of by the association except to another organization formed to own and maintain said open space and without first offering to dedicate the land and improvements to a local governing entity.

616.12. **Construction of Recreation Facilities.** Notwithstanding anything contained in the above sections, the applicant may, with the consent and approval of the Planning Commission and municipal governing body, elect to fulfill the open space requirements through the construction of recreational facilities.

A. Facilities will be maintained, owned and operated by a local municipality or government entity or other entity approved by the Planning Commission.

B. Facilities shall be available to general public.

C. Facilities shall meet a demonstrated public need.

D. Facilities shall replace or supplement existing facilities that would generally be provided by a local municipality or government entity.

E. All approved recreation facilities constructed in lieu of land dedication shall be completed and dedicated to the municipality before fifty (50) percent occupancy has been reached in any applicable subdivision .

SECTION 617 Historic and Cultural Resources.

617.01. **Archaeological Investigations.** No project shall be developed on a site identified by the State Historical Society of North Dakota or other state or federal entity as containing features of archaeological significance until:

A. A complete level 1 and level 2 archaeological survey of the site is completed.

B. The State Historical Society of North Dakota determines the project will not disturb the cultural significance or artifacts on the site.

617.02. **Method of Survey.** If a complete archaeological survey is required, it shall be conducted under the supervision of a professional archeologist in compliance with standards prescribed by the State Historical Society of North Dakota. Even if a complete survey is not required, the Planning Commission may, upon advice of the State Historical Society of North Dakota, require the developer to retain the services of and have present at the site during any excavations or trenching, an archeologist with authority to investigate and document any cultural material that might be unearthed.

617.03. **Report Required.** A complete copy of the report of the archeologist, including a copy of the field notes shall be submitted to the Planning Commission and the State Historical Society of North Dakota. Arrangements shall be made by the developer for transfer of any significant artifacts to a depository where such items can be conserved and made available for future study.

617.04. **Preservation of Historic Features.** Subdivisions shall be designed to preserve, adaptively reuse, or otherwise provide for the historic features of Cass County. Modifications or exterior alterations to historic features or sites or new construction adjacent to historic features shall be consistent with the Secretary of the Interior's Standards for Rehabilitation of Historic Properties as published by the National Park Service. Subdivisions shall also be designed so that new structures do not block historic views, or obstruct the view of historic properties and new construction should be visually complementary to historic structures, consistent with the Secretary of the Interior's Guidelines. If because of size, scale, construction material, or type of use a proposed subdivision would jeopardize the historic value of a site or structure, such new construction shall be screened or otherwise visually buffered.

617.05. **Demolition Restricted.** No historic feature as defined in this Ordinance shall be demolished or moved from its original foundations without approval of the Planning Commission. The applicant shall submit to the Planning Commission a letter from the State Historical Society of North

Dakota identifying the significance of the property, potential effects of the project that would be adverse and possible mitigation measures that could be employed. In evaluating any request for demolition of a historic feature the Planning Commission shall take into account the significance of the property, the condition of the feature the potential for repair, restoration, stabilization and reuse, the impact of the feature in relation to the total project and the hardship, if any, on the applicant.

ARTICLE VII

TRAFFIC IMPACT STUDIES

SECTION 701 **Purpose.**

Whenever a proposed project will generate one hundred (100) new vehicle trips in the peak direction (inbound or outbound) during the site peak traffic hour or seven hundred and fifty (750) daily trips, the applicant shall perform a traffic impact study. Based on this study, certain improvements may be identified to provide safe and efficient access to the development.

In addition, a traffic impact study shall be prepared if the following conditions exist within the impact study area:

A. Current traffic problems exist in the local area, such as a high-accident location, confusing intersection, or a congested intersection which directly affects access to the development.

B. The ability of the existing, roadway system to handle increased traffic or the feasibility of improving the roadway system to handle increased traffic is limited.

C. The development includes the following:

(1) Truck stop

(2) Hospital

(3) High schools

(4) Elementary or middle schools of over 600 students

(5) Major recreation and entertainment facilities, indoor or outdoor

(6) Medical office building of one hundred thousand (100,000) square feet or greater at build-out of all phases

(7) General or corporate office building of one hundred thousand (100,000) square feet or greater at build-out of all phases

(8) Retail building or shopping center of one hundred thousand (100,000) square feet or greater at build-out of all phases.

SECTION 702 Traffic Impact Study.

702.01. **Area of Traffic Impact Study.** The traffic impact study area shall be based on the characteristics of the surrounding area. The intersections to be included in the study shall be adjacent to the site or have direct impact upon the access to the site. The intersections shall be mutually agreed upon by the Cass County Engineer and the traffic engineer preparing the study. The Planning Commission shall be called upon to resolve any disputes between the county and the traffic engineer.

702.02. **Preparation by Transportation Engineer Required.** Traffic impact studies shall be prepared under the supervision of qualified and experienced transportation engineers with specific training in traffic and transportation engineering and at least 2 years of experience related to preparing traffic studies for existing or proposed developments.

702.03. **Horizon Year.** The traffic forecasts shall be prepared for the anticipated opening year of the development, assuming full buildout and occupancy. This year shall be referred to as the horizon year in the remainder of this Ordinance.

702.04. **Non-Site Traffic Estimates.** Estimates of non-site traffic shall be made and will consist of through traffic and traffic generated by all other developments within the study area for which Final Plats have been approved.

A. Non-site traffic may be estimated using any one of the following three methods: "Build-up" technique, area transportation plan data or modeled volumes and trends or growth rates.

702.05. **Trip Generation Rates Required.** The traffic impact study report shall include a table showing the categories and quantities of land uses, with the corresponding trip generation rates or equations (with justification for selection of one or the other) and resulting number of trips. The trip generation rates used must be either from the latest edition of Trip Generation by ITE, or from a local study of corresponding land uses and quantities. All sources must be referenced in the study.

702.06. **Consideration of Pass-By Trips.** If pass-by trips or shared trips are a major consideration for the land use in question, studies and interviews at similar land uses must be conducted or referenced.

702.07. **Rate Sums.** Any significant difference between the sums of single-use rates and proposed mixed-use estimates must be justified in the study report.

702.08. **Explanations Required.** The reasoning and data used in developing a trip generation rate for special/unusual generators must be justified and explained in the report.

702.09. **Definition of Influence Area.** Prior to trip distribution of site-generated trips, an influence area must be defined which contains eighty (80) percent or more of the trip ends that will be attracted to the development. A market study can be used to establish the limits of an influence area, if available. If no market study is available, an influence area should be estimated based on a reasonable documented estimate. The influence area can also be based on a reasonable maximum convenient travel time to the site, or delineating area boundaries based on locations of competing developments.

Other methods such as using trip data from an existing development with similar characteristics or using an existing origin-destination survey of trips within the area can be used in place of the influence area to delineate the boundaries of the impact.

702.10. **Estimates of Trip Distribution Required.** Trip distribution can be estimated using any one of the following three methods:

A. Analogy

B. Trip distribution model

C. Surrogate data

Whichever method is used, trip distribution must be estimated and analyzed for the horizon year. A multi-use development may require more than one distribution and coinciding assignment for each phase (for example, residential and retail phases on the same site). Consideration must also be given to whether inbound and outbound trips will have similar distributions.

702.11. **Trip Assignments.** Assignments must be made considering logical routings, available roadway capacities, left turns at critical intersections and projected (and perceived) minimum travel times. In addition, multiple paths should often be assigned between origins and destinations to achieve realistic estimates rather than assigning all of the trips to the route with the shortest travel time. The assignments must be carried through the external site access points and in large projects (those producing five hundred (500) or more additional peak direction trips to or from the site during the development's peak hour) through the internal roadways. When the site has more than one access driveway, logical routing and possibly multiple paths should be used to obtain realistic driveway volumes. The assignment should reflect conditions at the time of the analysis. Assignments can be accomplished either manually or with applicable computer models.

If a thorough analysis is required to account for pass-by trips, the following procedure should be used:

A. Determine the percentage of pass-by trips in the total trips generated.

B. Estimate a trip distribution for the pass-by trips.

C. Perform two separate trip assignments, based on the new and pass-by trip distributions.

D. Combine the pass-by and new trip assignment.

Upon completion of the initial site traffic assignment, the results should be reviewed to see if the volumes appear logical given characteristics of the road system and trip distribution. Adjustments should be made if the initial results do not appear to be logical or reasonable.

702.12. **Total Traffic Impacts.** Traffic estimates for any site with current traffic activity must reflect not only new traffic associated with the site's redevelopment, but also the trips subtracted from the traffic stream because of the removal of a land use. The traffic impact report should clearly depict the total traffic estimate and its components.

702.13. **Capacity Analysis.** Capacity analysis must be performed at each of the major street and project site access intersection locations (signalized and unsignalized) within the study area. In addition, analyses must be completed for roadway segments, deemed sensitive to site traffic within the study area. These may include such segments as weaving sections, ramps, internal site roadways, parking facility access points and reservoirs for vehicles queuing off site and on site. Other locations may be deemed appropriate depending on the situation.

The recommended level-of-service analysis procedures detailed in the most recent edition of the Highway Capacity Manual must be followed. The Planning Commission considers the overall level-of-service ratings A, B and C to be acceptable for signalized intersections (Levels B or better are considered desirable); level-of-service D, E or F is considered to be unacceptable.

The operational analyses in the Highway Capacity Manual should be used for analyzing existing conditions, traffic impacts, access requirements, or other future conditions for which traffic, geometric and control parameters can be established.

702.14. **Required Levels of Service.** The recommendations of the traffic impact

study shall provide safe and efficient movement of traffic to and from and within and past the proposed development, while minimizing the impact to non-site trips. The current levels of service must be maintained if they are C or D, not allowed to deteriorate to worse than C if they are currently A or B and improved to D if they are E or F.

702.15. **Documentation Required.** A traffic impact study report shall be prepared to document the purpose, procedures, findings, conclusions and recommendations of the study.

A. The documentation for a traffic impact study shall include, at a minimum:

(1) Study purpose and objectives.

(2) Description of the site and study area.

(3) Existing conditions in the area of the development.

(4) Recorded or approved nearby development.

(5) Trip generation, trip distribution and modal split.

(6) Projected future traffic volumes.

(7) An assessment of the change in roadway operating conditions resulting from the development traffic.

(8) Recommendations for site access and transportation improvements needed to maintain traffic flow to, from, within and past the site at an acceptable and safe level of service.

B. The analysis shall be presented in a straight forward and logical sequence. It shall lead the reader step-by-step through the various stages of the process and resulting conclusions and recommendations.

C. The recommendations shall specify the time period within which the improvements should be made (particularly if the improvements are associated with various phases of the development construction) and any monitoring of operating conditions and improvements that may be required.

D. Data shall be presented in tables, graphs, maps and diagrams wherever possible for clarity and ease of review.

E. To facilitate examination by the Planning Commission, an executive summary of one or two pages shall be provided, concisely summarizing the purpose, conclusions and recommendations.

F. The report documentation outlined above provides a framework for site traffic access/impact study reports. Some studies will be easily documented using this outline. However, the specific issues to be addressed, local study requirements and the study results may warrant additional sections.

SECTION 703 Improvements.

703.01. Responsibility for Improvements. The applicant shall be responsible for the improvements required to provide safe and convenient ingress and egress to the development site.

ARTICLE VIII

MANUFACTURED HOUSING

SECTION 801 **General.**

Subdivisions of land for the purpose of mobile home parks and sites for the placement of manufactured housing are governed as subdivisions, subject to the procedures and standards specified by this Ordinance.

ARTICLE IX

ADMINISTRATION

SECTION 901 **General.**

This section outlines the procedures for enforcement and amendment of this Ordinance, as well as procedures for challenges and appeals of decisions rendered under this Ordinance.

SECTION 902 **Amendment.**

902.01. **Procedures for Amendment.** Amendments to this Ordinance shall become effective only after following the Adoption of Ordinances and Resolution procedures outlined in the Cass County Home Rule Charter. This will include two (2) public readings of the ordinance amendment and a publication of a summary of the enactment in the official newspaper of the county at least 20 (twenty) days before the second reading.

902.02. In the case of an amendment other than that prepared by the Planning Commission, the Board of Commissioners of Cass County shall submit each amendment to the Planning Commission for recommendations at least thirty (30) days prior to the date of the first public hearing and/or public reading on such proposed amendment.

SECTION 903 **Acceptance of Conditions of Plan Approval.**

When a plan, whether preliminary or final has been approved subject to conditions and when the applicant rejects the conditions, the applicant shall so notify the Planning Commission in writing within thirty (30) days of the date of the Planning Commission's action. Such notification of rejection of the conditions of approval shall serve to automatically rescind the approval of the plan.

Failure by the applicant to notify the Planning Commission of acceptance or rejection of the conditions of approval within the time so specified shall serve to automatically rescind approval of the plan.

SECTION 904 **Variance.**

904.01. The provisions of this Ordinance are intended as a minimum standard for the protection of the public health, safety and welfare. If the literal compliance with any mandatory provision of this Ordinance is shown by the applicant, to the satisfaction of a majority of the members of the Planning Commission present at a public meeting, to result in great practical difficulties, unnecessary hardship, or injustice because of peculiar conditions pertaining to the particular property and if the applicant shows that an alternative proposal will allow for equal or better results, the

Planning Commission may grant a variance from such mandatory provision, so that substantial justice may be done and the public interest secured while permitting the reasonable utilization of the property. However, the granting of a variance shall not have the effect of making null and void the intent and/or purpose of this Ordinance.

904.02. In granting variances, the Planning Commission may impose such conditions as will, in its judgment, secure substantially the objectives of the standards and requirements of this Ordinance.

904.03. All requests for variances shall be processed in accordance with the requirements of this Ordinance.

SECTION 905 Challenges and Appeals.

905.01. If an applicant wishes to obtain a reversal from a decision regarding a subdivision application by the County Planner, they may do so by filing the appropriate request for appeal with the Planning Commission. If an applicant wishes to obtain a reversal from a decision regarding a subdivision application by the Planning Commission, they may do so by filing the appropriate request for appeal with the County Commission. In both cases, the appeal made pursuant to the procedures of this article and must be filed within ten (10) days of the date of the decision.

905.02. The date of the decision shall be the date on which the decision-making body voted to take action on the matter.

905.03. The Board of County Commissioners shall be authorized to hear and decide appeals where it is alleged there is an error in any order, requirement, decision or determination made by an administrative official of the county and/or the County Planning Commission in the administration or enforcement of this Subdivision Ordinance.

905.04. Appeals of Administrative Decisions may be filed by any person aggrieved or by any officer, department, board or agency affected by any decision of the administrative officer.

905.05. Applications for Appeals of Administrative Decisions shall be submitted to the County Planner in a form established by the Planning Commission. No application shall be processed until the application is complete.

905.06. Upon filing of the completed application the appeal will be placed as a regular agenda item on the next Board of County Commissioners regularly scheduled meeting complying with their agenda deadline.

905.07. The filing of a complete application for appeal stays all proceedings in furtherance of the action appealed, unless the official whose decision is

being appealed certifies to the Board of County Commissioners, after the appeal is filed, that, because of facts stated in the certification, a stay would cause immediate peril to life or property. In such case, proceedings shall not be stayed other than by a restraining order which may be granted by the Board of County Commissioners, or by a court of record.

905.08. The County Planner or the official whose decision is being appealed shall transmit to the Board of County Commissioners all papers constituting the record upon which the action appealed is taken.

905.09. Appeals of Administrative Decisions shall be taken to the Board of County Commissioners. The Board of County Commissioners shall grant to the administrative official's decision a presumption of correctness, placing the burden of persuasion of error on the appellant. In exercising the appeal power, the Board of County Commissioners shall have all the powers of the official from whom the appeal is taken and the Board of County Commissioners may reverse or affirm wholly or partly or may modify the decision being appealed. If the Board of County Commissioners determines it is necessary to obtain additional evidence in order to resolve the matter, it shall remand the appeal to the official from whom the appeal is taken, with directions to obtain such evidence and to reconsider the decision in light of such evidence. A majority vote of the members of the Board of County Commissioners shall be necessary to reverse any order, requirement, decision, or determination of an administrative official.

905.10. An appeal shall be sustained only if the Board of County Commissioners finds that the administrative official erred. Every decision of the Board of County Commissioners shall be accompanied by written findings of fact specifying the reason for the decision. These findings shall be filed in the office of the Board of County Commissioners within 15 days after the date of the final action.

905.11. As an alternative to an adjudicatory appeal proceeding, a party entitled to appeal a decision of the Planning Commission may request the utilization of mediation as an aid in resolving the dispute. Participation in mediation shall be wholly voluntary by the parties.

905.12. Any person, or persons, jointly or severally, aggrieved by a decision of the Board of County Commissioners under this Ordinance, or any amendments adopted hereunder, may appeal to the district court in the manner provided in Section 28-24-01 of the North Dakota Century Code

SECTION 906 **Penalties and Violations.**

Any person, partnership, corporation, or limited liability company who or which, being the owner or agent of the owner of any lot, tract, or parcel of land, shall lay out, construct, open, or dedicate any street, sanitary sewer,

storm sewer, water main, or other improvements for public use, travel, or other purposes or for the common use of occupants of buildings abutting thereon, or who or which sells, transfers, or agrees or enters into an agreement to sell or transfer any land in a subdivision or engages in the subdivision of land or erects any buildings thereon, in violation of any provision of this Ordinance shall be guilty of a Class B Misdemeanor, with a maximum penalty of thirty (30) days imprisonment, a fine of one thousand 1,000) dollars, or both.

Each lot, tract, or parcel created or transferred and each building erected in a subdivision in violation of this Ordinance shall constitute a separate offense.

The description by metes and bounds in the instrument of transfer or other document used in the process of selling or transferring shall not exempt the seller or transferor from such penalties or from the remedies therein provided.

A county auditor's plat made pursuant to North Dakota Century Code 57-02-39 is for taxation purposes for convenience of tax officials in describing property on tax rolls and does not confer rights in or transfer title to land. Therefore, this "platting" of Auditor's Lots is not "platting" pursuant to this Ordinance. Thus, an Auditor's Lot is not approved by the County for sale or development.

906.01. In addition to the penalties imposed in the event of violations, the Planning Commission may also institute and maintain appropriate legal proceedings in law or in equity before any Court of competent jurisdiction to restrain, correct or abate violations including but not limited to, requiring compliance with all applicable provisions of this Ordinance, including the requirement of submitting the plans in compliance with the provisions of this Ordinance to prevent unlawful construction, to recover damages and to prevent illegal occupancy of a building, structure or premises.

906.02. If any lot, tract, or parcel of land is subdivided, the proper county authorities or any affected citizen or property owner, may also institute any appropriate action or proceedings in addition to other remedies to:

A. Prevent such unlawful subdivision and related erection, construction, reconstruction, alteration, repair, conversion, maintenance, or use

B. Restrain, correct, or abate such violations

C. Prevent the occupancy or use of the building, structure, or land which has been unlawfully subdivided

D. Prevent any illegal act, conduct, business, or use in or about such premises

E. To vacate and nullify any recorded plat of such unlawful subdivision.

906.03. No deeds shall be executed or recorded for lots, nor shall the construction of any structure be initiated, before the Board of County Commissioners has approved the Final Plat and such Plan is filed with the Cass County Recorder of Deeds.

906.04. Upon discovery of an alleged violation, the Planning Commission shall notify the township in which the affected property is located of the unlawful action and may request that the municipality refuse to issue any permit or grant any approval necessary to further improve or develop any real property held in violation of the requirements of this Ordinance.

906.05. No approval shall be granted to any subsequent phases of a development until all outstanding violations are abated and the project is in full compliance with the standards and conditions of this Ordinance.

SECTION 907 **Planning Commission Records.**

The Planning Commission shall keep an accurate, public record of its findings, decisions and recommendations relevant to all applications filed with it for review or approval.

SECTION 908 **Validity.**

Should any section, subsection or provision of this Ordinance be declared by a Court of competent jurisdiction to be invalid, such decisions shall not affect the validity of this Ordinance as a whole, or of any other part thereof.

SECTION 909 **Conflict.**

Whenever there is a difference between the minimum applicable standard specified herein and those included in any other lawfully adopted rules, regulations, or ordinances of the Federal Government, State of North Dakota, or Cass County, or the townships in Cass County, the most restrictive or that which imposes the higher standards shall govern.

APPENDIX 1

ITE TRIP GENERATION RATES BY MAJOR LAND USE CATEGORIES		
Land Use Type	**Average Weekday Trip Generation Rates**	
Residential		**Trips Per Indicated Measure: Dwelling Unit**
Single-Family Detached		10.0
Condominium/Townhouse		6.6
Low-rise Apartment		4.0
High-rise Apartment		5.2
Mobile Home		4.8
Retirement Community		3.3
Recreation Home (owner)		3.2
Office Building	**Trips Per Indicated Measure:**	
	Employee	**1,000 Gross Ft.² of Building Area**
General Office, Under 100,000 gross ft.²	3.7	17.7
General Office, 100,000-199,999 gross ft.²	3.8	14.3
General Office, over 200,000 gross ft.²	2.9	10.9
Medical Office Building	NA	54.6
Office Park	3.3	20.7
Research Center	2.4	5.3
Industrial	**Trips Per Indicated Measure:**	
	Employee	**1,000 Gross Ft.² of Building Area**
Light Industrial	3.2	5.5
Heavy Industrial	2.1	1.5
Industrial Park	3.6	7.0
Manufacturing	2.1	3.9
Warehousing	3.9	4.9
Mini Warehousing	NA	2.8
Lodging	**Trips Per Indicated Measure:**	
	Employee	**Room**
Hotel	11.3	10.5
Motel	12.8	10.1
Retail	**Trips Per Indicated Measure:**	
	Employee	**1000 Gross Ft.² of Leasable area**
Specialty Retail	NA	40.1
Discount Store	NA	70.1
Shopping Center	NA	
Under 50,000 ft.² leasable area	NA	117.9
50,000-99,999 ft.² leasable area	NA	82.0
Retail	**Trips Per Indicated Measure:**	
	Employee	**1000 Gross Ft.² of Leasable area**
100,000-199,999 ft.² leasable area	NA	66.7
200,000-299,999 ft.² leasable area	NA	50.6
300,000-399,999 ft.² leasable area	NA	41.9
400,000-499,999 ft.² leasable area	NA	39.7
500,000-999,999 ft.² leasable area	NA	37.2
1,000,000-1,249,999 ft.² leasable area	NA	37.1
Over 1,250,000 ft.². leasable area	NA	34.1

Institutional	Trips Per Indicated Measure:	
	Employee	**Student**
Elementary School	13.1	1.0
High School	16.3	1.4
Junior/Community College	NA	1.6
University**	NA	2.4
Library**	51.0	41.8 (per 1,000 gross ft.^{2})

Notes:
***** For definitions, see below
****** More detailed data needed to develop satisfactory trip generation rates.
NA Information not available from ITE

ITE DEFINITIONS OF LAND USES
Single-Family Detached. A single-family detached home on an individual lot.
Low-Rise Apartment. Apartments in buildings that are only one or two levels (floor)
High-Rise Apartment. Apartments in buildings three or more levels high.
Condominium/Townhouse. Single-family ownership units that have at least one other single-family owned unit within the same building structure. Both condominiums and townhouses are included in this category.
Mobile Home. Trailers shipped, sited and installed on a permanent foundation.
Retirement Community. Residential units similar to apartments or condominiums usually located in self-contained villages.
Recreational Homes. Homes usually contained in a resort together with local services and complete recreation facilities.
General Office Building. Houses one or more tenants and is the location where the affairs of a business, commercial, or industrial organization, professional person, or firm are conducted.
Medical Office Building. A facility that provides diagnoses and outpatient care on a routine basis but which is unable to provide prolonged in-house medical/surgical care.
Office Park. Subdivisions or planned unit developments containing general office buildings and support services such as banks, savings and loan institutions, restaurants and service stations arranged in a park or campus-like atmosphere.
Research Center. Facilities or groups of facilities devoted nearly exclusively to research and development activities.
Light Industrial. Usually employ less than 500 persons with an emphasis on other than manufacturing.
Heavy Industrial. Encompasses the manufacturing of large items.
Industrial Park. Areas containing a number of industrial or related facilities. They are characterized by a mix of manufacturing, service and warehouse facilities with a wide variation in the proportion of each type of use from on location to another.
Manufacturing. Places where the primary activity is the conversion of raw materials or parts into finished products.
Warehousing. Facilities that are all or largely devoted to storage of materials.
Mini-Warehouse. A building in which a storage unit or vault is rented for the storage of goods.
Hotel. A place of lodging providing sleeping accommodations, restaurants, cocktail lounges, meeting and banquet rooms or convention facilities and other retail and service shops.
Motel. A place of lodging offering only sleeping accommodations and possibly a restaurant.
Specialty Retail Center. Small shopping centers which contain shops specializing in quality apparel or hard goods.
Discount Stores. Freestanding stores with off-street parking.
Elementary School. School serving students between kindergarten and high school levels.
High School. School serving students between the elementary and junior college or university levels.
Junior/Community College. Includes all two-and four-year educational institutions that call themselves a junior college, community college, or college.
University. Includes institutions grouped solely on the basis of their being called universities.
Library. Includes those at universities and other public and private facilities.

***Source*:** Institute of Transportation Engineers, Trip Generation (Washington, D.C.: ITE) fourth edition. The ITE trip generation data should be used as a general guideline. Trip generation rates from other sources may be used if the applicant demonstrates that these sources better reflect local conditions.

APPENDIX 2

RESIDENTIAL STREET HIERARCHY: DEFINITION		
Guideline Street Type	**Function**	**Maximum ADT**
1) Principal Arterial	An interregional road in the street hierarchy system: carries vehicle traffic to and from the region as well as any through traffic. This street may be a controlled access street.	3000+
2) Minor Arterial	The Minor arterial street system should interconnect with the principal arterial system. It provides connections between boroughs, larger villages, major resort areas and other traffic generators which develop substantial volumes of traffic.	3000+
3) Collector	This classification includes streets that provide connections with local access roads and arterial. They may serve a traffic corridor connecting villages, small boroughs, shopping points, mining and agricultural areas on an intra-county or municipal basis.	3000
4) Local Access	This classification provides direct access to adjacent land and includes connections to farms, individual residences and commercial properties and to higher classes of highway systems.	800
5) Special Purpose Streets		
a) Alley (Service Street)	A service road that provides secondary means of through access to lots. Alleys function as special purpose streets and are used in cases of narrow lot frontages. No parking shall be permitted within the right-of-way and alleys should be designed to discourage through traffic. ADT level shall not exceed that of a local access street. Alleys shall be designed as one or two lane streets.	
b) Cul-de-sac*	A street with a single means of ingress and egress and having a turnaround. Design of turnaround may vary. Cul-de-sacs shall be classified and designed according to anticipated ADT level: Residential street will use the design standards of a local access street; non-residential will the design standards for Commercial/Industrial streets.	Residential 250 Non Residential 500
c) Marginal Access street	A service street that runs parallel to a higher-order street and provides access to abutting properties and separation from through traffic. Shall be designed as local access street or collector according to anticipated daily traffic.	Local Access Total 500 Collector Total 1,000
d) Divided Street	Municipalities may require streets to be divided in order to provide alternate emergency access, to protect environmental features, or to avoid grade changes. Design standards should be applied to the combined dimensions of the two-street segments as required by the street class.	Local Access Total 800 Collector Total 3,000
e) Stub Street	A portion of a street which has been approved in its entirety. Permitted as part of phased development; may be required if part of overall adopted master plan of the municipality.	Local Access Total 800 Collector Total 3,000
g) Driveway*	A private drive providing access between a public or private street or drive and a parking area for a single unit of occupancy.	Residential Access 10

*Can be privately owned

APPENDIX 3

ROADWAY/RIGHT-OF-WAY WIDTH		
Street Type	**Right-of-Way (ROW)**	**Roadway Surface**
Arterial		
Principal	200 feet*	varies
Minor	200 feet*	varies
Collector	150 feet	36 feet
Local		
Rural Section**	120 feet	32 feet****
Urban Section***	70 feet	30 feet
Alleys	20 feet	20 feet

SPECIAL PURPOSE STREETS

All special purpose streets (lanes, alleys, cul-de-sacs, marginal access, divided streets and stub streets) shall conform to either local access or collector streets as dictated by ADT and intensity.

* ROW may be reduced to one hundred and fifty (150) feet upon the recommendation of the County Engineer, but in no case shall the ROW be less than one hundred and fifty (150) feet.
**Roads with ditches along side of road
*** Roads with curb and gutter and storm sewers
****Road surface widths narrower may be considered subject to the approval of the County Engineer and the construction of a subgrade permitting easy future widening of the road surface.

APPENDIX 4

CURB AND SIDEWALK REQUIREMENTS

The following standards shall be used in determining curb and sidewalk requirements. The graded area is an area graded the same as a sidewalk but left in grass. This area can be used later for sidewalks if the intensity of development increases. Intensity of Development based on Section 602.03

CURB AND SIDEWALK REQUIREMENTS		
Street Type	**Curb**	**Sidewalk or Graded Area**
Industrial/Commercial		
Local Access		
Low Intensity	Not Required	Not Required
Medium-High Intensity	Curb	Not Required
Collector		
Low Intensity	Not Required	Not Required
Medium-High Intensity		
On-street Parking	Curb	Not Required
Off-street Parking	Not Required	Not Required
Residential		
Local Access		
2-4 buildable lots	Not Required	Not Required
5+ buildable lots	Curb	Sidewalk (1 each side)
Collector		
2-4 buildable lots	Not Required	Graded Area (1 each side)
5+ buildable lots	Curb	Sidewalk (1 each side)

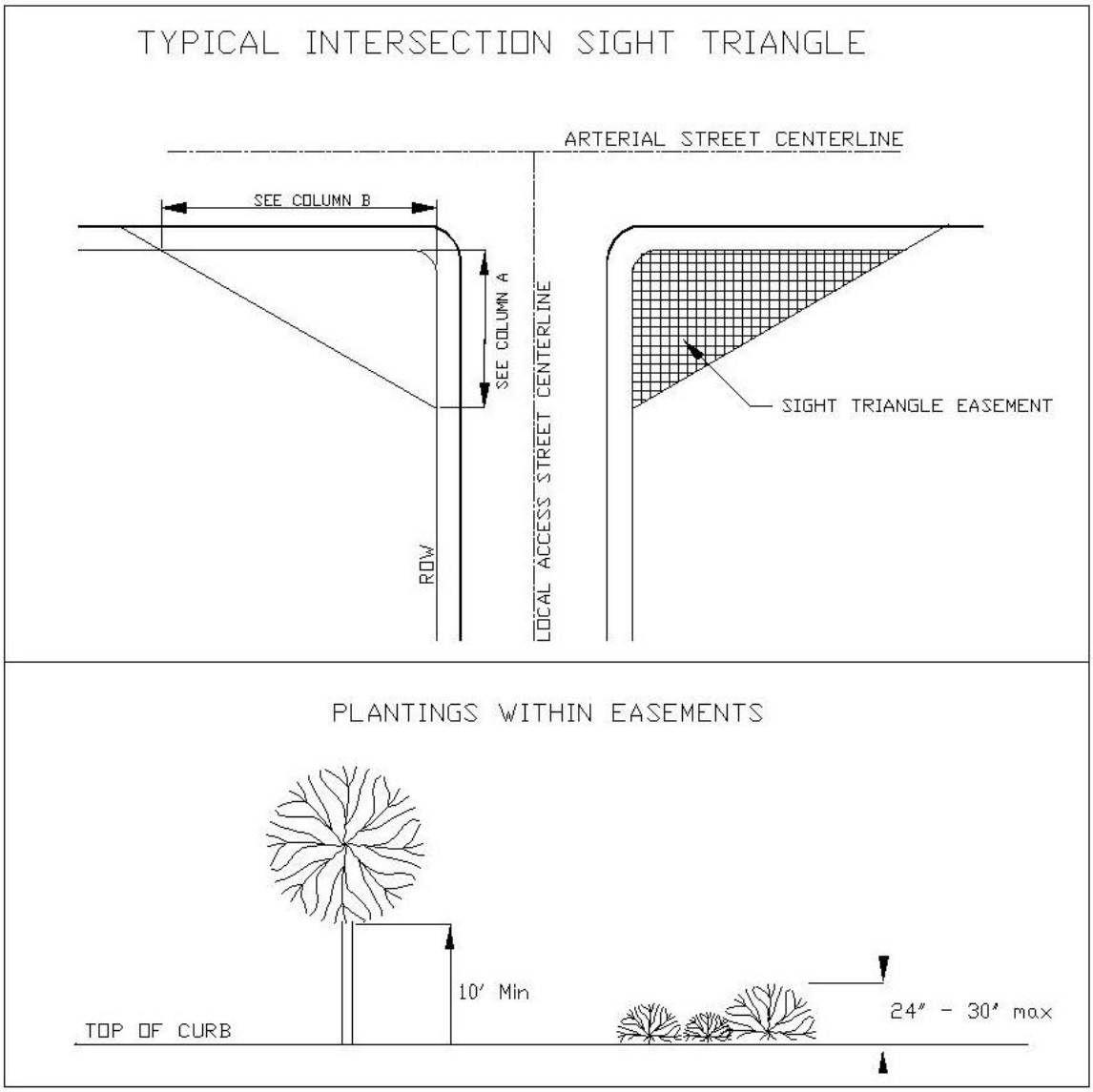
SPECIAL PURPOSE STREETS
All special purpose streets **(lanes, alleys, cul-de-sacs, marginal access, divided streets and stub streets)** shall conform to either local access or collector streets as dictated by ADT and Intensity of Development.

APPENDIX 5

STREET GRADE AND INTERSECTION STANDARDS				
	Special Purpose			
	Alley Lane	Cul-de-sac Access Drive	Local Access Street	Collector
INTERSECTION STANDARDS				
Minimum Grade	0.5%	0.5%	0.5%	0.5%
Maximum Grade	5%	5%	5%	5%
Maximum Grade Within 75' of Intersection of Centerlines	2%	2%	2%	2%
Minimum Centerline Radius	50'	50'	100'	150'
Minimum Tangent Length Between Reverse Curves	0'	50'	50'	150'
Roadway Radii	10'	15'	25'	35'

APPENDIX 6

SIGHT TRIANGLES



	COLUMN A	COLUMN B		
		Local Access	Residential Collector	Arterial
Local Access	30’	30’	120’	130-150’
Residential Collector	120’	30’	120’	130-150’
Arterial	130-150’	30’	120’	130-150’

APPENDIX 7

VEHICULAR PARKING FACILITIES

Each single family residential dwelling unit shall be provided with at least two (2) parking spaces. For uses not listed in this section, the required spaces shall be comparable to the closest other similar land use as determined by the Planning Commission.

VEHICULAR PARKING FACILITIES		
Land Use	**Maximum**	**Minimum**
Bank	3 per 1000 ft.² GFA	2 per 1000 ft.² GFA
Big Box Retail	3 per 1000 ft.² GFA	2 per 1000 ft.² GFA
Drive-Thru Restaurant	9 per 1000 ft.² GFA	2 per 1000 ft.² GFA
Free Standing Retail	3 per 1000 ft.² GFA	1 per 1000 ft.² GFA
General Office Building	5 per 1000 ft.² GFA	2 per 1000 ft.² GFA
Industrial Plant	2 per 1000 ft.² GFA	1 per 1000 ft.² GFA
Medical Office Building	9 per 1000 ft.² GFA	2 per 1000 ft.² GFA
Nursing Home	3 per 1000 ft.² GFA	2 per 1000 ft.² GFA
Restaurants	11 per 1000 ft.² GFA	6 per 1000 ft.² GFA
Small Shopping Centers	6 per 1000 ft.² GFA	3 per 1000 ft.² GFA
Bed and Breakfast	1.2 spaces per guest room or suite	1 spaces per guest room or suite
Personal Services	3 per 1000 ft.² GFA	2 per 1000 ft.² GFA
Day Care Centers	1 space per 4 children at max. capacity	1 space per 8 children at max. capacity
Churches and Places of Worship	1 space per 3 seats in portion of building uses for services	1 space per 5 seats in portion of building uses for services
Museums and Libraries	2 per 1000 ft.² GFA	1 per 1000 ft.² GFA
Social, Fraternal Clubs and Organizations	4 per 1000 ft.² GFA	3 per 1000 ft.² GFA
Elementary, Middle and High Schools	1 space per 3 seats in the auditorium	1 space per 5 seats in the auditorium
Hotels and Motels	1.2 space per guest room or suite	1 space per guest room or suite
Warehouse	1 space per 10 compartments	1 space per 20 compartments
Self Service Warehouse	4 per dwelling unit plus 1.5 per non-resident employee	2 per dwelling unit plus 1.5 per non-resident employee
Home Occupation	2.5 per dwelling unit	1 per dwelling unit
Multi-Family Residences	3 per 1000 ft.² GFA	1 per 1000 ft.² GFA
Commercial Kennel	3 per 1000 ft.² GFA	2 per 1000 ft.² GFA
Automotive Sales and/or Rental	4 per 1000 ft.² GFA	2 per 1000 ft.² GFA
Gymnasiums, Physical Fitness Centers, Health Spas, Martial Arts Centers and Dance Studios	4 per 1000 ft.² GFA	2 per 1000 ft.² GFA
Indoor Recreational Facilities	5 per 1000 ft.² GFA	5 per 1000 ft.² GFA
Outdoor Recreational Facilities	Determined by parking demand study	Determined by parking demand study

GFA = Gross Floor Area

***Source*:** Northwester Connecticut Council of Governments and Litchfield Hills Council of Elected Officials. 2003. *Model Zoning Regulations for Parking in Northwestern Connecticut*. http://www.fhiplan.com/PDF/NW%20Parking%20Study/NW%20Connecticut%20Parking%20Study%20Phase%202.pdf

APPENDIX 8

ILLUMINATION GUIDELINES FOR STREET, PARKING, AND PEDESTRIAN AREAS

A. STREET ILLUMINATION						
	Commercial		Intermediate		Residential	
Street Hierarchy	Lux	Footcandles	Lux	Footcandles	Lux	Footcandles
Collector	13	1.2	10	0.9	6	0.6
Minor-Residential	10	0.9	6	0.6	4	0.4
Subcollector Local	6	0.6	4	0.4	4	0.4

B. PARKING ILLUMINATION						
	Vehicular Traffic		Pedestrian Safety		Pedestrian Security	
Level of Activity	Lux	Footcandles	Lux	Footcandles	Lux	Footcandles
Low activity	5	0.5	2	0.2	9	0.8
Medium activity	11	1	6	0.6	22	2
High activity	22	2	10	0.9	43	4

C. PEDESTRIAN WAY ILLUMINATION						
	Minimum Average Level		Average Levels for Special Pedestrian Security			
Walkways & Bikeway Classification	**Lux**	**Footcandles**	**Lux**	**Footcandles**	**Lux**	**Footcandles**
			Mounting Heights 3 to 5 meters (9 to 15 feet)		Mounting Heights 5 to 10 meters (15 to 30 feet)	
Sidewalks (Roadside) and Type A Bikeways:						
Commercial Areas	10	0.9	22	2.0	43	4.0
Intermediate	6	0.6	11	1.0	22	2.0
Residential Areas	2	0.2	4	0.4	9	0.8
Walkways Distant From Roadways and Type B Bikeways:						
Park Walkways and Bikeways	5	0.5	6	0.6	11	1.0
Pedestrian Tunnels	43	4.0	54	5.0	--	---
Pedestrian Overpasses	3	0.3	4	0.4	--	---
Pedestrian Stairways	6	0.6	9	0.8	--	---

ILLUMINATION GUIDELINES FOR STREET, PARKING, AND PEDESTRIAN AREAS
IES Lighting Handbook definitions:

I. Area classification:

1. Commercial: That portion of a municipality in a business development where ordinarily there are large numbers of pedestrians during business hours.

2. Intermediate: That portion of a municipality often characterized by a moderately heavy nighttime pedestrian activity such as in blocks having libraries, community recreation centers, large

apartment buildings or neighborhood retail stores.

3. Residential: A residential development, or a mixture of residential and commercial establishments, characterized by a few pedestrians at night. This definition includes areas with single family homes, townhouses and/or small apartment buildings.

II. Activity level:

1. High activity: Major league athletic events, major cultural or civic events and major regional shopping centers.

2. Medium activity: Fast food facilities, area shopping centers, hospital parking areas, transportation parking (airports, etc.), cultural, civic or recreational events and residential complex parking.

3. Low activity: Local merchant parking, industrial employee parking and educational facility parking.

III. Bikeway classification

1. Type A bikeway: a strip within or adjacent to a public roadway or shoulder, used for bicycle travel.

2. Type B bikeway: an improved strip identified for public bicycle travel and located away from a roadway or its adjacent sidewalk system.

***Source*:** Illuminating Engineering Society of North America, IES Lighting Handbook (New York, NY: IES, 1981)

APPENDIX 9

SIDEWALK IMPROVEMENTS

Construction Method.

Sidewalks within residential developments shall have a minimum clear-travel width of five (5) feet.

Sidewalks within commercial and industrial developments shall have a minimum clear-travel width of six (6) feet.

Sidewalks shall be constructed so as to discharge drainage.

A minimum ten (10) foot vegetative strip shall separate the edge of the curb from the closest edge of the sidewalk.

APPENDIX 10

NON-MOTORIZED LANES

Non-motorized vehicle lanes shall be constructed to one of the following specifications:

1. Bicycle Paths - A two-way off-street bike path should have a minimum paved width of ten (10) feet and a maximum width of twelve (12) feet.

A. The bicycle path shall consist of one of the following surface types and construction methods:
   a. Aggregate Surface: The topsoil shall be removed, clay subgrade compacted, six (6) inches of compacted gravel meeting the North Dakota Department of Transportation *Standard Specifications for Road and Bridge Construction* manual for Class 13 and constructed with a with a minimum two (2) percent slope.
   b. Bituminous Surface: The topsoil shall be removed, clay subgrade compacted, six (6) inches of compacted gravel meeting the North Dakota Department of Transportation *Standard Specifications for Road and Bridge Construction* manual for Class 13, a minimum of four (4) inches of asphalt meeting North Dakota Department of Transportation *Standard Specifications for Road and Bridge Construction* manual for Class 31 and constructed with a with a minimum two (2) percent slope.
   c. Concrete Surface: Concrete used for bicycle paths shall be constructed to the same specifications as sidewalks as set forth in Section 602.06 (J) of this Ordinance.

B. Gradients of bicycle paths should generally not exceed a grade of five (5) percent, except for short distances where the grade shall not exceed fifteen (15) percent.

C. The radius of curvature shall be based on the grade of the path entering the curve. The following table shall be used to determine the radius:

PERCENT GRADE	MINIMUM RADIUS
0 - 5%	70 ft
5% - 15%	125 ft

D. Design consideration shall consider the intersection of a bicycle path and a street to provide maximum safety.

E. Bicycle paths shall be constructed so as to discharge drainage.

2. Bicycle Lanes - Bicycle lanes shall be designed to one of the following standards:

A. A one-way bicycle lane on a curbed street shall have a minimum width of six (6) feet excluding the curb and gutter. The paving material and construction shall be the same as the adjacent street.

B. A one-way bicycle lane next to a parking lane shall be located between the parking lane and the travel lane and have a minimum width of six (6) feet. The paving material and construction shall be the same as the adjacent parking lane.

C. A one-way bicycle lane on a street without a curb or gutter shall be a minimum of six (6) feet. The shoulder can and should be used when possible. The shoulder shall be kept clear of any obstructions and clean to remove any excess gravel or other debris. The paving material and construction shall be the same as the shoulder. If the lane is being constructed on an existing road that has no shoulder or if the shoulder is in poor condition the lane shall be constructed to the standards set forth in Section 602.12 (B-C).

APPENDIX 11

CERTIFICATION OF ACCURACY

I hereby certify that, to the best of my knowledge, the survey and plan shown and described hereon is true and correct to the accuracy required by the Cass County Subdivision Ordinance.

_____, 20___ *_____

**

---

* Signature of the registered engineer or registered surveyor responsible for the preparation of the plan.

** Seal of the engineer or surveyor.

APPENDIX 12

STORM DRAINAGE PLAN CERTIFICATION

I hereby certify that, to the best of my knowledge, the storm drainage facilities shown and described hereon are designed in conformance with the Cass County Subdivision Ordinance.

_____, 20___ *_____

**

---

* Signature of the registered engineer or registered surveyor responsible for the preparation of the plan.

** Seal of the engineer or surveyor.

APPENDIX 13

CERTIFICATE OF OWNERSHIP, ACKNOWLEDGMENT OF PLAN, AND OFFER DEDICATION

INDIVIDUAL

STATE OF NORTH DAKOTA
COUNTY OF CASS

On this, the _____ day of _____,20___, before me, the undersigned officer, personally appeared _____ who being duly sworn according to law, deposes and says that he is the *_____ of the property shown on this plan, that he acknowledges the same to be his act and plan, that he desires the same to be recorded and that all streets and other property identified as proposed public property (excepting those areas labeled "NOT FOR DEDICATION") are hereby dedicated to the public use.

**_____

***_____

My Commission Expires _____,20_____

* Identity Ownership or Equitable Ownership

** Signature of the Individual

*** Signature and Seal of Notary Public

CERTIFICATE OF OWNERSHIP, ACKNOWLEDGMENT OF PLAN, AND OFFER OF DEDICATION

CO-PARTNERSHIP

STATE OF NORTH DAKOTA
COUNTY OF CASS

On this, the _____ day of _____, 20___, before me, the undersigned officer, personally appeared _____, being one of the firm of _____, who being duly sworn according to law, deposes and says that the co-partnership is the *_____ of the property shown on this plan, that the plan thereof was made at its direction, that it acknowledges the same to be its act and plan and desires the same to be recorded and that all street and other property identified as proposed public property (excepting those areas labeled "NOT FOR DEDICATION') are hereby dedicated to the public use.

**_____

***_____

My Commission Expires _____,20_____

* Identify Ownership or Equitable Ownership

** Signature of the Individual

*** Signature and Seal of Notary Public

CERTIFICATE OF OWNERSHIP, ACKNOWLEDGMENT OF PLAN AND OFFER OF DEDICATION

CORPORATE

STATE OF NORTH DAKOTA
COUNTY OF CASS

On this, the _____ day of _____, 20___, before me, the undersigned officer, personally appeared _____, being *_____ of **_____, who being duly sworn according to law, deposes and says that the corporation is the ***_____ of the property shown on this plan, that he is authorized to execute said plan on behalf of the corporation, that the plan is the act and deed of the corporation, that the corporation desires the same to be recorded and on behalf of the corporation further acknowledges, that all streets and other property identified as proposed public property are hereby dedicated to the public use - (excepting those area labeled "NOT FOR DEDICATION").

****_____

*****

******_____

My Commission Expires _____,20_____

* Individual's Title

** Name of Corporation

*** Identify Ownership or Equitable Ownership

**** Signature of Individual

***** Corporate Seal

****** Signature and Seal of Notary Public

APPENDIX 14

DEED RESTRICTION

Pursuant to Section 309 of the Cass County Subdivision Ordinance, THIS AGREEMENT is entered into this _____ day of _____, _____, by:

Owner(s): _____
_____
_____

1. PURPOSE

The owner recognizes the following agreement is set forth to encourage orderly and economically-feasible growth, prevent new developments from creating economic strains on county residents, protect the county's valuable farmland and agricultural traditions and promote development that will more easily convert to an urban environment and implement the goals and objectives established by the Cass County Comprehensive Plan (2005). The following agreement will promote small, truly rural developments that will mesh more easily with existing agricultural land and activities, and will encourage larger urban style subdivisions to develop in the urban fringe and other areas with supportive infrastructure. Developments built beyond the density restriction will be constructed with full supportive urban infrastructure, ensuring developments that will more easily transition into an urban development upon annexation without extensive and costly infrastructure upgrades.

2. AGREEMENT

WHEREAS, for the granting of the division described herein pursuant to Section 309 of the Cass County Subdivision Ordinance, acknowledged herein as good and valuable consideration, the Owner(s) consent and agree to the filing of this **DEED RESTRICTION**, and understand that its effect will be to limit any further divisions or new residences, divisions, or nonagricultural development on the restricted parcel described herein, except as may be permitted by Section 309.02 of the Cass County Subdivision Ordinance and any amendment thereto:

A. This deed restriction shall terminate at such time the deed restricted parcel is completely within the extraterritorial (ET) boundaries of an incorporated city of Cass County;

B. This deed restriction shall terminate at such time the restricted parcel is completely annexed by an incorporated city of Cass County; or

C. Any further subdivision of the restricted parcel will conform to full urban design standards and the strictest requirements outlined within Article VI of the Cass County Subdivision Ordinance, including, but not limited: paved roads with curb and gutter, a paved access road, municipal sewer system, public water supply system with functioning fire hydrants, storm water facilities, street lights, street trees, street signs, sidewalks, bike paths, and park dedications.

WHEREAS, this restriction shall run with the land in perpetuity and be binding on all owners, successors, heirs, assigns, lessees, users, or parties having or acquiring any right, title, or interest in the restricted parcel herein described or any part thereof.

WHEREAS, the restricted parcel described herein meets the criteria established in Section 308 of the Cass County Subdivision Ordinance.

WHEREAS, this **DEED RESTRICTION** shall expire at such time any of the exceptions under Section 309.02 of the Cass County Subdivision Ordinance, and any amendment thereto, apply to the restricted parcel described herein. Upon the written request of any interested party, the Cass County Engineer is authorized to record an instrument with the Cass County Recorder, which declares such an exception applies to the restricted parcel described herein and the **DEED RESTRICTION** is expired.

3. VIOLATION OF DEED RESTRICTION

In the event of a violation of this **DEED RESTRICTION**, the penalties and remedies provided under Section 906 (Penalties and Violations) of the Cass County Subdivision Ordinance and North Dakota law shall apply.

4. LEGAL DESCRIPTION OF THE RESTRICTED PARCEL: _____

THE LEGAL DESCRIPTION HEREIN WAS PREPARED BY:
_____(NAME), _____(ADDRESS),
OR OBTAINED FROM A PREVIOUSLY RECORDED INSTRUMENT.

RESTRICTED TAX PARCEL NUMBER: _____

IN WITNESS of the restrictions, the Owner(s) have caused this Deed Restriction to be executed effective as of:

_____ _____
OWNER(S)' SIGNATURE **DATE**

_____ _____
COUNTY ENGINEER SIGNATURE **DATE**

DEED RESTRICTION

STATUTORY SHORT FORMS OF ACKNOWLEDGMENT
UNDER SECTION 47-19-14.6 OF THE NORTH DAKOTA CENTURY CODE

For an individual acting in that individual's own right:

STATE OF _____)
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____(date) by _____(name of person acknowledging).

_____
(Signature of person taking acknowledgment)

_____
(Title or rank, Serial number, if any)

DEED RESTRICTION

STATUTORY SHORT FORMS OF ACKNOWLEDGMENT
UNDER SECTION 47-19-14.6 OF THE NORTH DAKOTA CENTURY CODE

For a corporation:

STATE OF _____)
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____(date) by _____(name of officer or agent and title of officer or agent) of _____(name of corporation acknowledging), a _____(State or place of incorporation), corporation, on behalf of the corporation.

_____
(Signature of person taking acknowledgment)

_____
(Title or rank, Serial number, if any)

DEED RESTRICTION

STATUTORY SHORT FORMS OF ACKNOWLEDGMENT
UNDER SECTION 47-19-14.6 OF THE NORTH DAKOTA CENTURY CODE

For a limited liability company:

STATE OF _____)
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____(date) by _____ (name of manager or agent and title of manager or agent) of _____(name of limited liability company acknowledging), a _____(State or place of organization), limited liability company, on behalf of the limited liability corporation.

_____
(Signature of person taking acknowledgment)

_____
(Title or rank, Serial number, if any)

DEED RESTRICTION

STATUTORY SHORT FORMS OF ACKNOWLEDGMENT
UNDER SECTION 47-19-14.6 OF THE NORTH DAKOTA CENTURY CODE

For a partnership:

STATE OF _____)
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____(date) by _____(name of acknowledging partner or agent), a partner (or agent), on behalf of _____(name of partnership), a partnership.

_____
(Signature of person taking acknowledgment)

_____
(Title or rank, Serial number, if any)

DEED RESTRICTION

STATUTORY SHORT FORMS OF ACKNOWLEDGMENT
UNDER SECTION 47-19-14.6 OF THE NORTH DAKOTA CENTURY CODE

For an individual acting as attorney in fact for a principal:

STATE OF _____)
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____(date) by _____(name of attorney in fact) as attorney in fact on behalf of _____(name of principal).

_____
(Signature of person taking acknowledgment)

_____
(Title or rank, Serial number, if any)

DEED RESTRICTION

STATUTORY SHORT FORMS OF ACKNOWLEDGMENT
UNDER SECTION 47-19-14.6 OF THE NORTH DAKOTA CENTURY CODE

For a public officer, trustee, guardian, personal representative, or other representative:

STATE OF _____)
COUNTY OF_____)

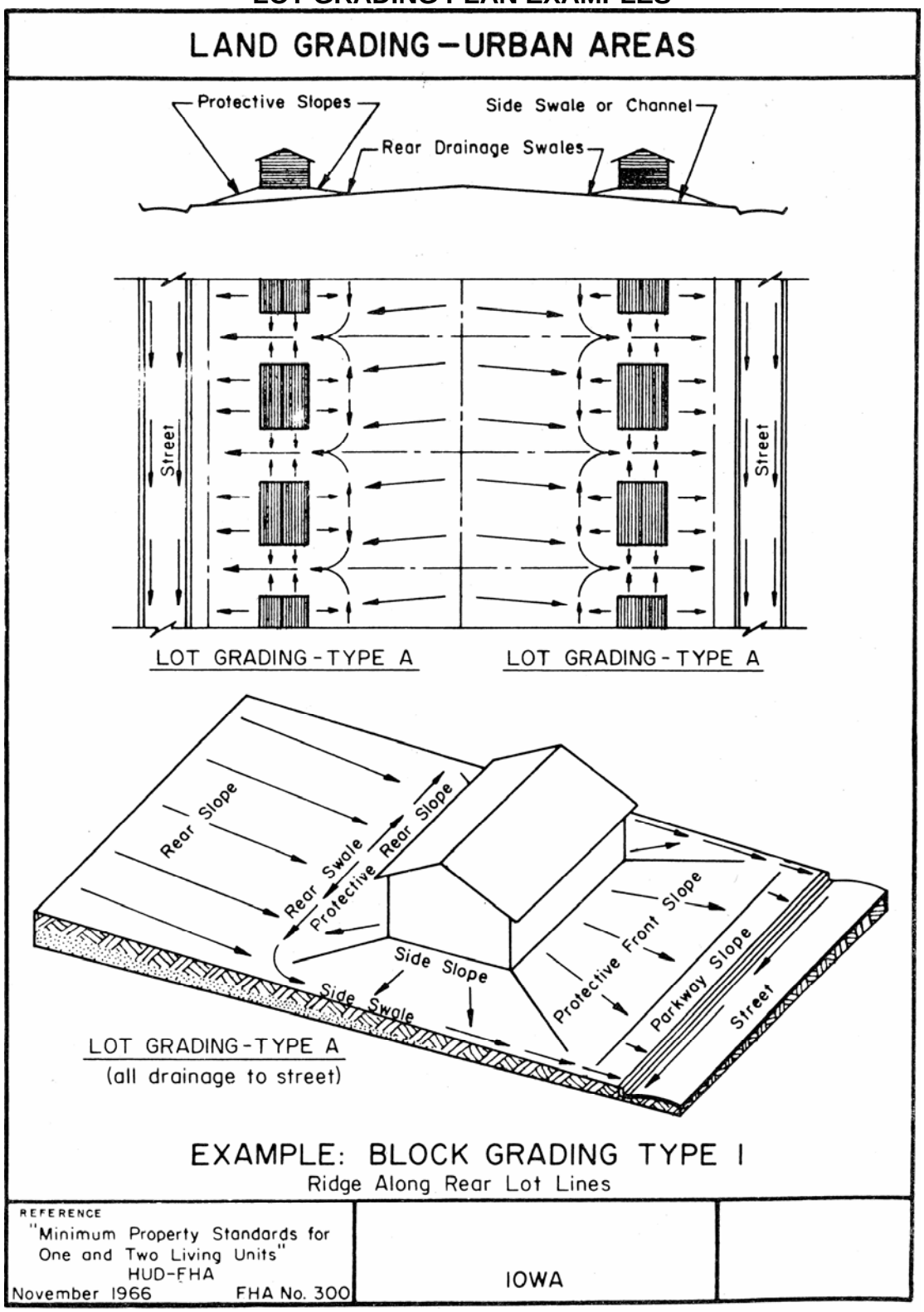
The foregoing instrument was acknowledged before me this _____(date) by _____(name and title of position).

_____
(Signature of person taking acknowledgment)

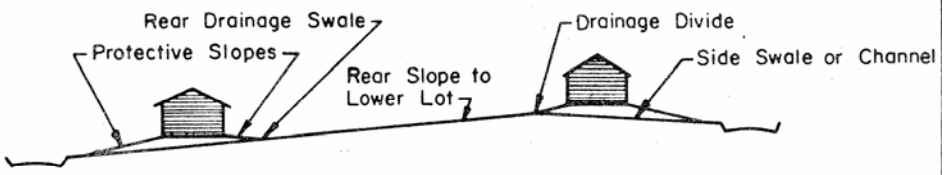
_____
(Title or rank, Serial number, if any)

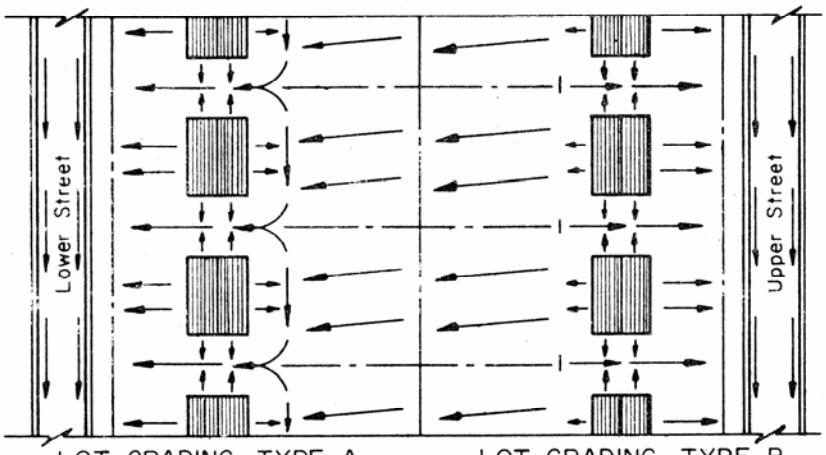
APPENDIX 15

LOT GRADING PLAN EXAMPLES



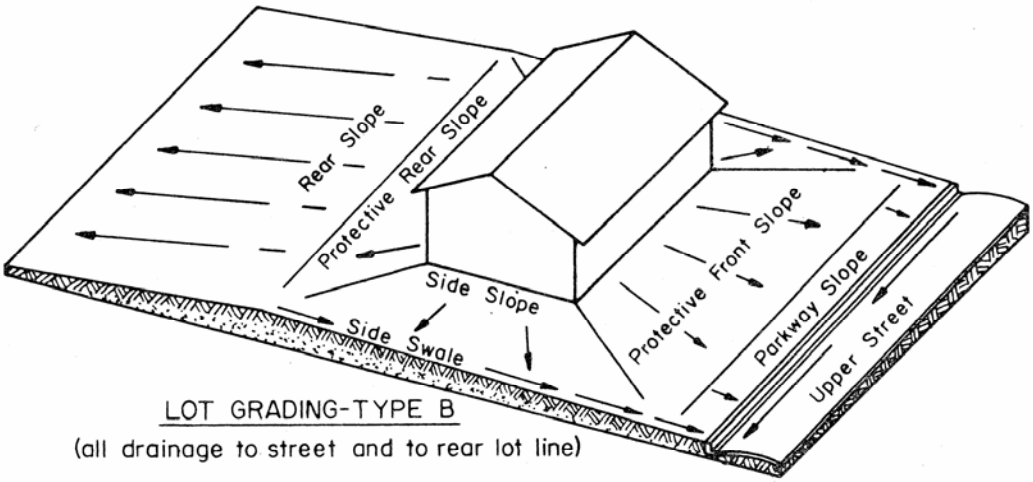
LAND GRADING - URBAN AREAS





LOT GRADING - TYPE A

LOT GRADING - TYPE B



LOT GRADING-TYPE B

(all drainage to street and to rear lot line)

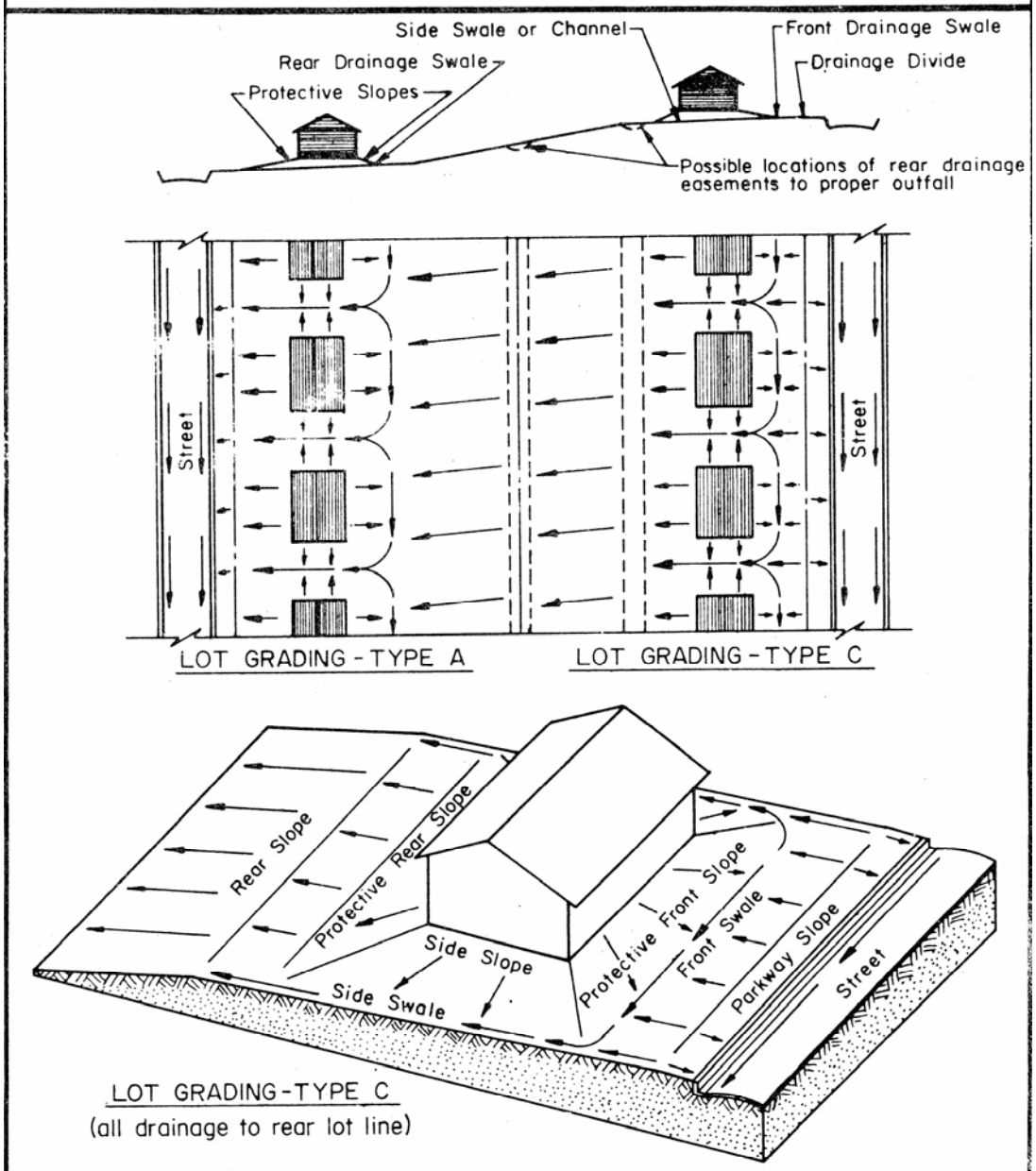
EXAMPLE: BLOCK GRADING TYPE 2

Gentle Cross Slope

REFERENCE
"Minimum Property Standards for One and Two Living Units"
HUD-FHA
November 1966 FHA No. 300

IOWA

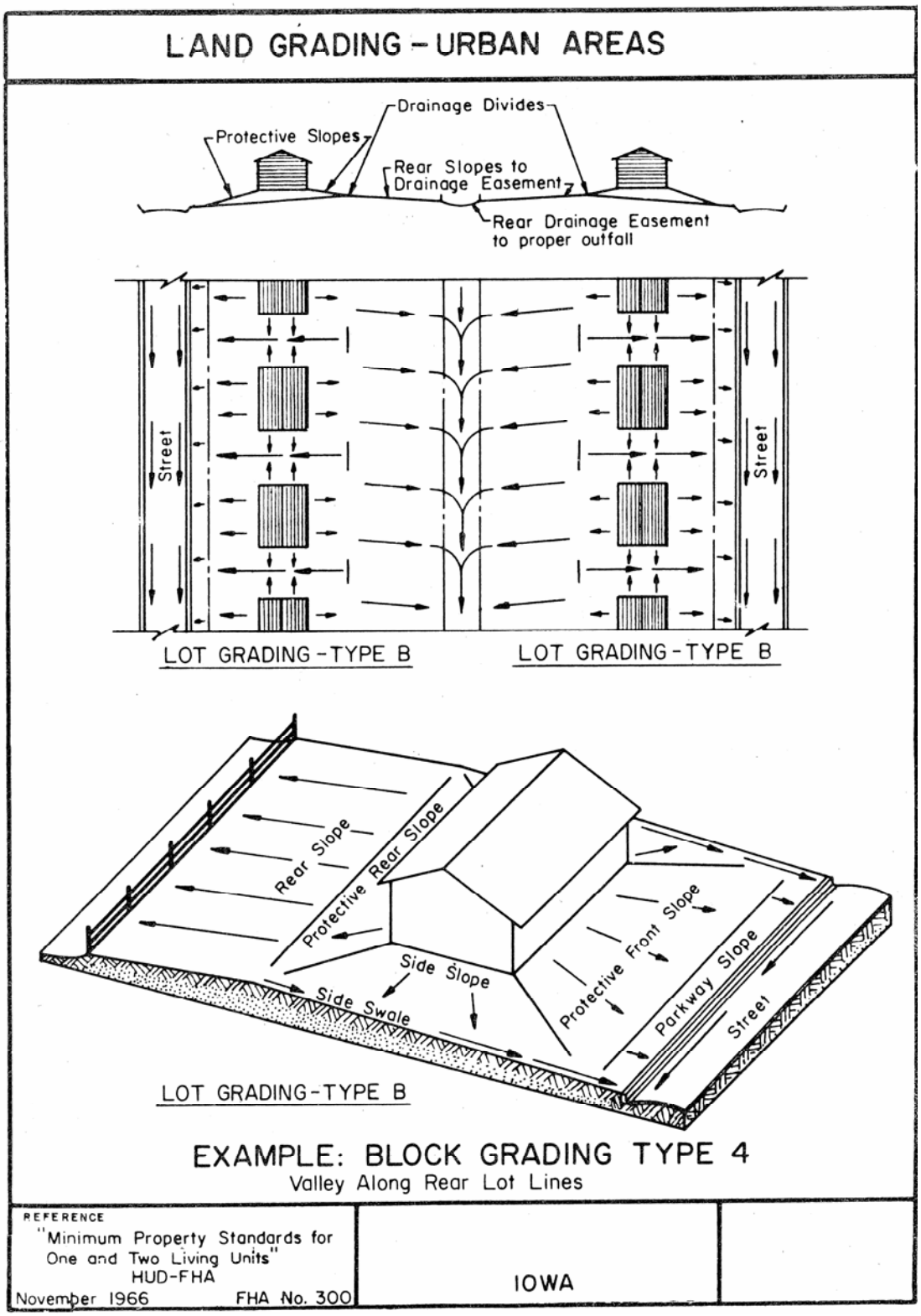
LAND GRADING – URBAN AREAS



EXAMPLE: BLOCK GRADING TYPE 3

Steep Cross-Slope

REFERENCE "Minimum Property Standards for One and Two Living Units" HUD-FHA November 1966 FHA No. 300	IOWA	



***Source*:** Iowa Department of Soil Conservation, *Guidelines for Soil and Water Conservation in Urbanizing Areas*

APPENDIX 16

RUNOFF COEFFICIENTS "C" FOR RATIONAL FORMULA												
SOIL GROUP	**A**			**B**			**C**			**D**		
Slope	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
Land Use												
Cultivated Land												
winter conditions	.14	.23	.34	.21	.32	.41	.27	.37	.48	.34	.45	.56
summer conditions	.10	.16	.22	.14	.20	.28	.19	.26	.33	.23	.29	.38
Fallowed Fields												
poor conditions	.12	.19	.29	.17	.25	.34	.23	.33	.40	.27	.35	.45
good conditions	.08	.13	.16	.11	.15	.21	.14	.19	.26	.18	.23	.31
Forest/Woodland	.08	.11	.14	.10	.14	.18	.12	.16	.20	.15	.20	.25
Grass Areas												
good conditions	.10	.16	.20	.14	.19	.26	.18	.22	.30	.21	.25	.35
average conditions	.12	.18	.22	.16	.21	.28	.20	.25	.34	.24	.29	.41
poor conditions	.14	.21	.30	.18	.28	.37	.25	.35	.44	.30	.40	.50
Impervious Areas	.90	.91	.92	.91	.92	.93	.92	.93	.94	.93	.94	.95
Weighted Residential												
Lot size 1/8 acre	.29	.33	.36	.31	.35	.40	.34	.38	.44	.36	.41	.48
Lot size 1/4 acre	.26	.30	.34	.29	.33	.38	.32	.36	.42	.34	.38	.46
Lot size 1/3 acre	.24	.28	.31	.26	.32	.35	.29	.35	.40	.32	.36	.45
Lot size 1/2 acre	.21	.25	.28	.24	.27	.32	.27	.31	.37	.30	.34	.43
Lot size 1 acre	.18	.23	.26	.21	.24	.30	.24	.29	.36	.28	.32	.41

Group A: Soils having a low runoff potential due to high infiltration rates. These soils consist primarily of deep, well-drained sands and gravels.

Group B: Soils having a moderately low runoff potential due to moderate infiltration rates. These soils consist primarily of moderately deep to deep, moderately well to well-drained soils with moderately fine to moderately coarse textures.

Group C: Soils having a moderately high runoff potential due to slow infiltration rates. These soils consist primarily of soils in which a layer exists near the surface that impedes the downward movement of water or soils with moderately fine to fine texture.

Group D: Soils having a high runoff potential due to very slow infiltration rates. These soils consist primarily of clays with high swelling potential, soils with permanently high water tables, soils with a claypan or clay layer at or near the surface and shallow soils over nearly impervious parent material.

Dual hydrologic groups: A/D, B/D and C/D, are given for certain wet soils that can be adequately drained. The first letter applies to the drained condition, the second to the undrained. Only soils that are rated D in their natural condition are assigned to dual classes. Soils may be assigned to dual groups if drainage is feasible and practical.

N/A: Soils not classified

MUID	MUSYM	Soil Name	Hydrologic
6021	1	Fargo-Enloe Silty Clays	D
6022	2	Tonka Silt Loam	C/D
6023	3	Parnell Silty Clay Loam	D
6024	4	Perella Silty Clay Loam	C/D
6025	5	Dovray Silty Clay	D
6026	6	Parnell Silty Clay Loam, Ponded	D
6029C	9C	Nutley-Fargo Silty Clays, 1 To 9% Slopes	D
60210	10	Fargo-Ryan Silty Clays	D
60211	11	Nahon Silt Loam, 0 To 2% Slopes	D
60212	12	Hegne-Enloe Silty Clays	D
60214B	14B	Barnes-Buse Loams, 3 To 6% Slopes	B
60214C	14C	Barnes-Buse Loams, 6 To 9% Slopes	B
60214D	14D	Barnes-Buse Loams, 9 To 15% Slopes	B
60215	15	Emrick-Heimdal Loams, 1 To 3% Slopes	B
60215B	15B	Heimdal-Emrick Loams, 3 To 6% Slopes	B
60215C	15C	Heimdal-Esmond Loams, 6 To 9% Slopes	B
60215D	15D	Esmond-Heimdal Loams, 9 To 15% Slopes	B
60216B	16B	Barnes-Sioux Loams, 3 To 6% Slopes	B
60216C	16C	Barnes-Sioux Loams, 6 To 9% Slopes	B
60216D	16D	Barnes-Sioux Loams, 9 To 15% Slopes	B
60217B	17B	Barnes-Svea Loams, 2 To 5% Slopes	B
60218	18	Bearden Silty Clay Loam	C
60219	19	Colvin Silty Clay Loam, Saline	C/D
60220	20	Bearden Silty Clay Loam, Saline	C
60222	22	Bearden-Perella Silty Clay Loams	C
60223F	23F	Buse-Barnes Loams, 15 To 35% Slopes	B
60225	25	Cashel Silty Clay, Channeled	D
60226	26	Colvin Silty Clay Loam	C/D
60227	27	Divide Loam	C
60229	29	Fargo Silty Clay, Saline	D
60231B	31B	Embden Fine Sandy Loam, Gravelly Substratum, 1 To 6% Slopes	B
60232	32	Fargo Silty Clay, 1 To 3% Slopes	D
60235	35	Fairdale Silt Loam, 1 To 3% Slopes	B
60236	36	Fargo Silty Clay	D
60237	37	Fargo Silty Clay, Depressional	D
60238	38	Fargo Silty Clay Loam	D
60239	39	Galchutt Silt Loam	C
60240	40	Fargo-Hegne Silty Clays	D
60241	41	Hegne-Fargo Silty Clay Loams	D
60243	43	Gardena Silt Loam	B
60246	46	Gardena-Glyndon Silt Loams, 0 To 3% Slopes	B
60247	47	Fargo Silty Clay, Smooth Surface	D
60248	48	Glyndon Silt Loam, 0 To 3% Slopes	C
60249	49	Glyndon Silt Loam, Saline, 0 To 3% Slopes	C
60250	50	Hamerly-Tonka Loams, 0 To 3% Slopes	C
60250B	50B	Hamerly Loam, 3 To 6% Slopes	N/A
60254	54	Lamoure Silty Clay Loam	B/D
60255	55	Ladelle Silty Clay Loam	B
60257	57	Fairdale Silt Loam, Channeled	D
60258B	58B	Maddock Fine Sandy Loam, 1 To 6% Slopes	A
60259B	59B	Overly Silty Clay Loam, 3 To 6% Slopes	B

MUID	MUSYM	Soil Name	Hydrologic
60262	62	Overly-Bearden Silt Loams, 0 To 3% Slopes	B
60263B	63B	Renshaw-Sioux Loams, 1 To 6% Slopes	B
60263C	63C	Sioux Gravelly Sandy Loam, 3 To 9% Slopes	A
60264	64	Pits,Gravel	A
60265	65	Svea-Barnes Loams, 0 To 2% Slopes	B
60266	66	Wyard-Hamerly Loams, 1 To 3% Slopes	B
60267	67	Galchutt Fine Sandy Loam	C
60271	71	Vallers Loam	C/D
60272	72	Wahpeton Silty Clay	D
60273	73	Rauville Silty Clay Loam	D
60276B	76B	Wyndmere Silt Loam, Undulating	B
60276	76	Wyndmere Silt Loam, 0 To 3% Slopes	B
60277	77	Vallers Loam, Saline	C/D
60278B	78B	Svea-Buse Loams, 3 To 6% Slopes	B
60280	80	Wyndmere-Tiffany Loams, 0 To 3% Slopes	B
60282	82	Glyndon-Tiffany Silt Loams, 0 To 3% Slopes	C
60283	83	Galchutt-Fargo Silty Clay Loams	C
60284	84	Bearden-Lindaas Silty Clay Loams	C
60285	85	Fairdale Variant Silt Loam	B
60286	86	Dumps And Pits	B
352024	Ad	Aberdeen Silt Loam	C
352025	Ak	Alluvial Land	D
352026	An	Arveson Fine Sandy Loam	B/D
352027	Ar	Arveson Fine Sandy Loam, Moderately Shallow	B/D
352028	Aw	Arveson Loam	B/D
352029	BaB	Barnes Loam, Undulating	B
352030	BbC	Barnes-Buse Loams, Rolling	B
352031	BbD	Barnes-Buse Loams, Strongly Rolling	B
352032	BdB	Barnes-Svea Loams, Undulating	B
352033	Be	Bearden Silt Loam	C
352034	Bf	Bearden Silty Clay Loam	C
352035	Bg	Bearden Soils, Saline	C
352036	Bh	Bearden-Overly Silt Loams	C
352037	Bo	Borup Silt Loam	B/D
352038	Bp	Borup Silt Loam, Very Wet	B/D
352039	BuD	Buse Loam, Hilly	B
352040	Dc	Dimmick Clay	D
352041	Dv	Divide Loam	C
352042	EcA	Eckman Loam, Nearly Level	B
352043	EcB	Eckman Loam, Undulating	B
352044	EcC	Eckman Loam, Rolling	B
352045	EgB	Eckman Loam, Till Substratum, Undulating	B
352046	EnA	Egeland Fine Sandy Loam, Nearly Level	B
352047	EnB	Egeland Fine Sandy Loam, Undulating	B
352048	Eo	Embden Fine Sandy Loam	B
352049	Ep	Embden-Gardena Complex	B
352050	Es	Embden-Glyndon Fine Sandy Loams	B
352051	Et	Embden And Hecla Fine Sandy Loams	B
352052	Ex	Exline Complex	D
352053	Fa	Fairdale Silt Loam, Levee	B
352054	Fc	Fargo Clay	D
352055	Fg	Fargo Silt Loam	D
352056	Fh	Fargo Silty Clay Loam	D
352057	Fk	Fargo Silty Clay Loam, Saline	D
352058	Fn	Fargo-Exline Silty Clay Loams	D
352059	Fw	Southam Soils	D

MUID	MUSYM	Soil Name	Hydrologic
352060	GbA	Gardena Loam, Very Deep, Nearly Level	B
352061	GbB	Gardena Loam, Very Deep, Undulating	B
352062	GcA	Gardena Loam, Deep, Nearly Level	B
352063	GdA	Gardena Loam, Moderately Shallow, Nearly Level	B
352064	GdB	Gardena Loam, Moderately Shallow, Undulating	B
352065	GeA	Gardena Loam, Till Substratum, Nearly Level	B
352066	GfA	Gardena-Eckman Loams, Till Substratum, Nearly Level	B
352067	GgA	Gardena-Glyndon Loams, Nearly Level	B
352068	GkA	Gardena-Glyndon Loams, Till Substratum, Nearly Level	B
352069	GmA	Glyndon Loam, Very Deep, Nearly Level	C
352070	GmB	Glyndon Loam, Very Deep, Undulating	C
352071	GnA	Glyndon Loam, Deep, Nearly Level	C
352072	GsA	Glyndon-Borup Loams, Strongly Saline, Nearly Level	B/D
352073	GtA	Glyndon And Gardena Loams, Nearly Level	C
352074	GuA	Glyndon And Hamerly Loams, Saline, Nearly Level	C
352075	Gv	Gravel Pits	A
352076	Ha	Hamar Fine Sandy Loam	B
352077	Hb	Hamar-Ulen Fine Sandy Loams	B/D
352078	HdB	Hamerly Complex, Undulating	C
352079	HeA	Hamerly Loam, Nearly Level	C
352080	HgB	Hamerly-Barnes Loams, Undulating	C
352081	HkAx	Hecla Fine Sand, Nearly Level	A
352082	HlAx	Hecla Fine Sandy Loam, Nearly Level	A
352083	HmA	Hecla Fine Sandy Loam, Moderately Shallow, Nearly Level	A
352084	HoAx	Hecla Loamy Fine Sand, Loamy Substratum, Nearly Level	A
352085	HpAx	Hecla Loamy Fine Sand, Moderately Shallow, Nearly Level	A
352086	HrA	Hecla Sandy Loam, Loamy Substratum, Nearly Level	A
352087	HsAx	Hecla Soils, Nearly Level	A
352088	HtAx	Hecla And Embden Fine Sandy Loams, Nearly Level	A
352089	HuB2	Hecla-Hamar Complex, Hummocky, Eroded	A
352090	HvAx	Hecla And Hamar Loamy Fine Sands, Nearly Level	A
352091	HxAx	Hecla-Ulen Fine Sandy Loams, Nearly Level	A
352092	HyAx	Hecla-Ulen Fine Sandy Loams, Loamy Substratum, Nearly L Evel	A
352093	La	Lamoure Silty Clay Loam	B/D
352094	Lf	La Prairie And Fairdale Soils	B
352095	Lp	La Prairie Silt Loam	B
352096	MaAx	Maddock Fine Sandy Loam, Nearly Level	A

MUID	MUSYM	Soil Name	Hydrologic
352097	MaBx	Maddock Fine Sandy Loam, Undulating	A
352098	MaCx	Maddock Fine Sandy Loam, Rolling	A
352099	MdAx	Maddock Loamy Fine Sand, Nearly Level	A
352100	MdBx	Maddock Loamy Fine Sand, Undulating	A
352101	MhD	Maddock Soils, Hilly	A
352102	MkAx	Maddock Loamy Fine Sand, Moderately Shallow, Nearly Lev El	A
352103	Mx3	Maddock-Hamar Complex, Severely Eroded	A
352104	OaA	Overly Silt Loam, Nearly Level	B
352105	ObA	Overly Silt Loam, Saline, Nearly Level	B
352106	OcA	Overly Silty Clay Loam, Nearly Level	B
352107	OxA	Overly-Exline Complex, Nearly Level	B
352108	OyA	Overly-Gardena Loams, Nearly Level	B
352109	Pa	Parnell Soils	D
352110	Pe	Perella Silt Loam	C/D
352111	Pr	Perella Silty Clay Loam	C/D
352112	Ra	Rauville Soils	D
352113	RnA	Renshaw And Sioux Loams, Nearly Level	B
352114	RnB	Renshaw And Sioux Loams, Undulating	B
352115	RsA	Renshaw And Sioux Sandy Loams, Nearly Level	B
352116	RsC	Renshaw And Sioux Sandy Loams, Rolling	B
352117	Sa	Sioux Gravelly Loam	A
352118	SbC	Sioux And Renshaw Loams, Rolling	B
352119	ScA	Spottswood Loam, Loamy Substratum, Nearly Level	B
352120	SdA	Spottswood Sandy Loam, Loamy Substratum, Nearly Level	B
352121	SmA	Spottswood-Embden Sandy Loams, Nearly Level	B
352122	SoA	Spottswood-Gardena Loams, Nearly Level	B
352123	St	Stirum-Glyndon Complex	D
352124	Sx	Svea-Barnes Loams	B
352125	Sy	Svea-Hamerly Loams	B
352126	Tf	Tiffany Fine Sandy Loam	B/D
352127	Tk	Tetonka Silt Loam	C/D
352128	Uc	Ulen Complex, Saline	B
352129	Uf	Ulen Fine Sandy Loam	B
352130	Um	Ulen Fine Sandy Loam, Loamy Substratum	B
352131	Un	Ulen Fine Sandy Loam, Moderately Shallow	B
352132	Us	Ulen-Gardena Fine Sandy Loams	B
352133	Vr	Vallers Loam	C/D
352135	WeA	Fordville Loam, Nearly Level	B
352136	WeB	Fordville Loam, Undulating	B
352137	WsA	Fordville Sandy Loam, Nearly Level	B
352138	WsB	Fordville Sandy Loam, Undulating	B
352139	ZfB	Zell Fine Sandy Loam, Undulating	B
352140	ZmB	Zell Loam, Undulating	B
352141	ZmD	Zell Loam, Strongly Rolling	B

APPENDIX 17

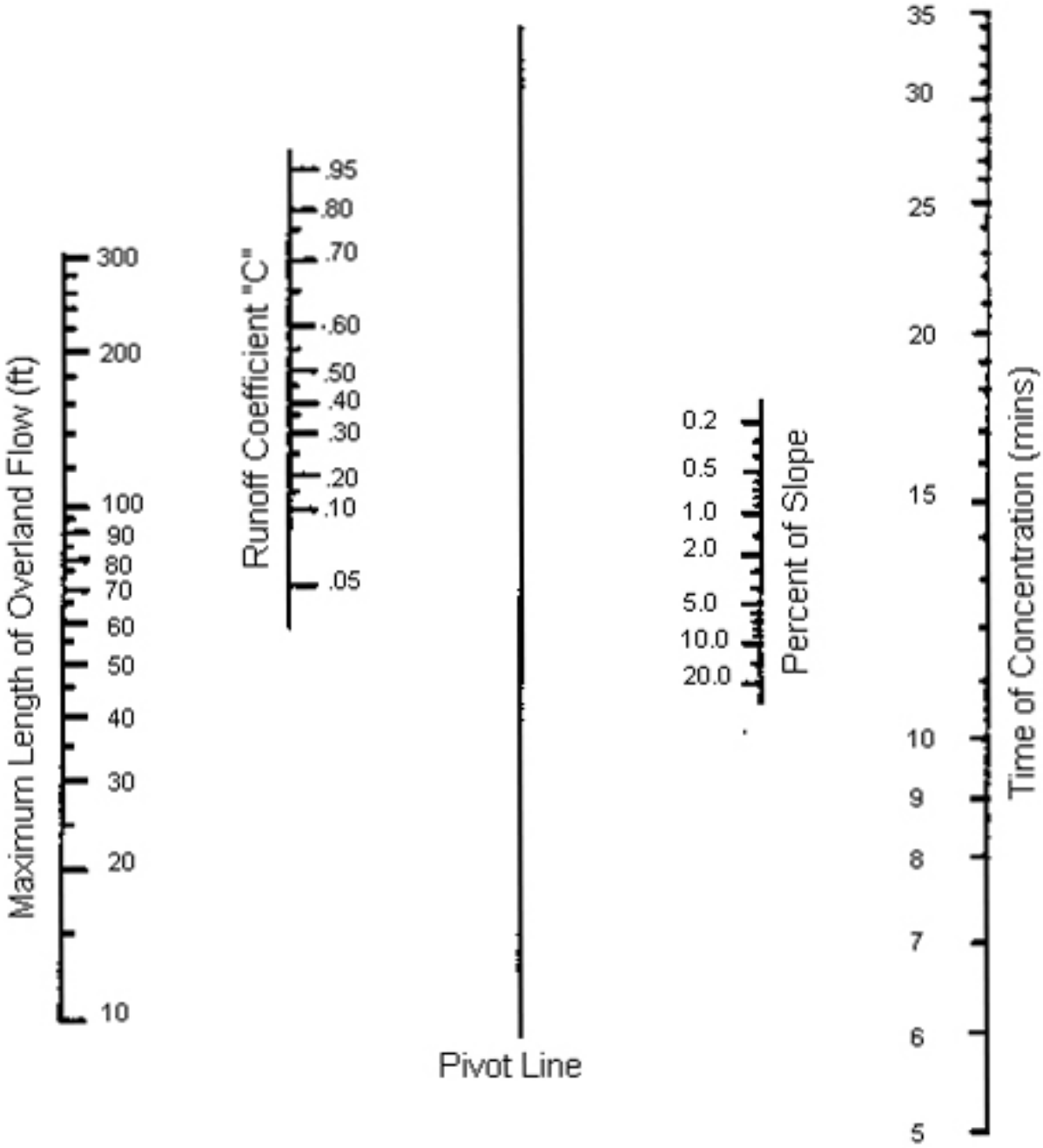
RAINFALL INTENSITY-DURATION FREQUENCY CHART

RAINFALL INTENSITY-DURATION FREQUENCY CHART							
Storm Event	**1 yr.**	**2 yrs.**	**5 yrs.**	**10 yrs.**	**25 yrs.**	**50 yrs.**	**100 yrs.**
Time of Concentration (Minutes)	**Rainfall Intensity** (Inches/Hour)						
5	4.21	5	6	7	8.1	9.1	10
10	3.33	3.8	4.8	5.6	6.6	7.3	8
15	2.76	3.2	4	4.8	5.5	6.2	6.8
20	2.35	2.7	3.5	4.05	4.85	5.4	6
25	2.05	2.4	3.1	3.7	4.2	4.85	5.3
30	1.82	2.15	2.8	3.2	3.85	4.3	4.85
35	1.63	1.95	2.5	2.95	3.6	3.95	4.2
40	1.48	1.75	2.35	2.65	3.2	3.7	4.05
45	1.36	1.62	2.1	2.48	3	3.45	3.8
50	1.25	1.5	2	2.35	2.85	3.25	3.6
55	1.16	1.4	1.9	2.1	2.7	3.05	3.35
60	1.08	1.3	1.7	2.05	2.5	2.9	3.15
65	1.01	1.25	1.65	1.95	2.4	2.7	3
70	0.95	1.2	1.55	1.8	2.2	2.5	2.85
75	0.90	1.15	1.45	1.7	2.05	2.38	2.7
80	0.85	1.05	1.35	1.6	1.9	2.25	2.5
85	0.81	1	1.28	1.5	1.75	2.1	2.4

Source: City of Moorhead, Minnesota. *Rainfall Intensity-Durations Charts*, developed by Houston Engineering, 1985.

APPENDIX 18

TIME OF CONCENTRATION NOMOGRAPH



APPENDIX 19

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding is entered into by and between the following parties:

Cass County Commission hereinafter called "Commission".

and

_____

hereinafter called "Developer."

RECITALS

WHEREAS, Developer has submitted to the Cass County Commission, a plan and application for a Subdivision or Land Development Plan located in _____(Township) known and designated as _____; and,

WHEREAS, Commission has required and Developer has agreed that as a condition precedent to recordation of the Developer's Subdivision, all improvements shall be completed by the Developer and approved, or, in lieu of the completion of the improvements required, the Developer shall provide a bond or other security as required by Section 502, 503 and 504 of the Cass County Subdivision Ordinance; and,

WHEREAS, Commission and Developer desire to set forth their understanding concerning the Developer's agreement and responsibility to pay the costs involved in inspecting and approving Developer's Subdivision.

NOW, THEREFORE, intending to be legally bound hereby, Commission and Developer agree as follows:

1. The Developer, at his own cost and expense, shall proceed to perform and complete all improvements required by the developer's Subdivision or Land Development, subject to the review and approval of the plans and specifications by the Commission.

2. In lieu of the completion of the improvements required as a condition for the recordation of the of the Developer's Subdivision Plat, the Developer SHALL PROVIDE for deposit with the Commission, financial security **(consistent with Section 503 of the Cass County Subdivision Ordinance)** in an amount sufficient to cover the costs of any improvements including, but not limited to, roads, storm water facilities, utilities and other related facilities. Such bond, or other security SHALL PROVIDE for and secure to the public, the completion of the improvements within one (1) year of the date fixed in the subdivision or development plat for the completion of such improvements. THE AMOUNT of financial security shall be equal to one hundred ten percent (110%) of the cost of the required improvements for which financial security is to be posted.

THE COST of the improvements shall be established by submission to the Commission of an estimate prepared by the Developer's Engineer, subject to review, comment and approval by the Commission or its designees.

3. The Commission or its designee and the Developer shall agree upon a notification procedure and a schedule of field inspections to be made during construction and upon completion of all improvements.

4. Upon completion of the improvements, the Developer shall give notice to the Commission and its designee, in writing to inspect the improvements. The Commission or its designee shall inspect the improvements within ten (10) days and shall approve same if they are completed in accordance with the Subdivision Plan and acceptable engineering practices. If the Commission or its designee disapproves, they shall notify the Developer promptly. If the Commission or its designee does not approve or disapproves the improvements within thirty (30) days after written notification of completion by the Developer, then in such event, the improvements shall be deemed approved.

5. Developer agrees to reimburse the Commission or its designee for actual costs of Engineering services necessitated by the review and inspection of all required improvements and all associated itemized expenses. It is agreed that the Engineering services shall be payable by the Developer within ten (10) days after date of invoice and prior to recordation of Developer's Subdivision Plan or release of financial security.

6. Where applicable, Developer agrees to reimburse the Commission Solicitor services necessitated by the review and approval of the Developer's plan and necessitated by the review of all required bonds or security, etc. It is agreed the Solicitor's services shall be payable within ten (10) days after date of invoice and prior to final approval of Developer's Subdivision Plan or release of financial security.

IN WITNESS, WHEREOF, the parties hence caused this Memorandum of Understanding to be executed, DATED this _____day of _____, A. D., 20__.

CASS COUNTY COMMISSION

By:_____

_____

_____

Developer:

_____

(Notary Seal)

APPENDIX 20

SUBDIVISION FEE SCHEDULE

MINOR SUBDIVISION FEE SCHEDULE		
Lots/Units	**Base Fee**	**Minor Subdivision**
1 to 4	$50.00	$35.00 each lot/unit

MAJOR SUBDIVISION FEE SCHEDULE	
Lots/Units	**Major Subdivision**
5 to 12	$450.00
13+	$600.00

APPENDIX 21

IMPROVEMENT AGREEMENT

Subdivision Name: _____

Subdivision Location: _____

The undersigned developer hereby agrees to provide throughout his development, as shown on the plan of _____dated_____the following improvements:

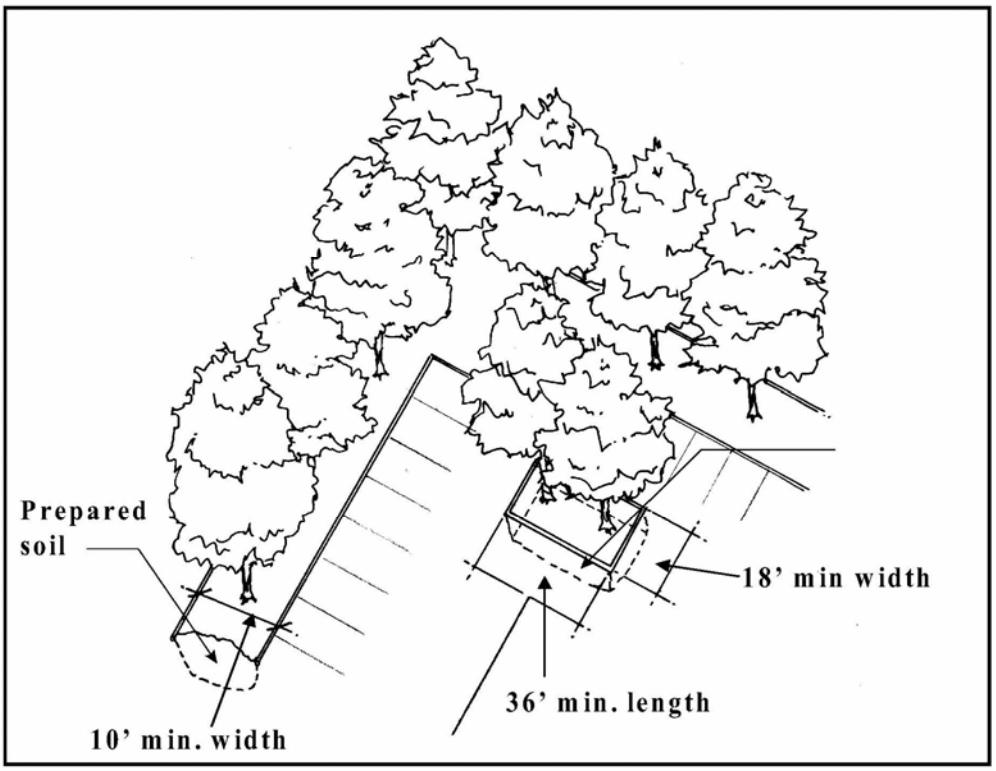
IMPROVEMENTS	UNITS ESTIMATED	CONSTRUCTION COST
Street Grading		
Street Base		
Street Paving - Base Course		
Street Paving - Wear Course		
Curbs		
Sidewalks		
Drainage Improvements		
Storm Sewer Facilities		
Water Supply Facilities		
Fire Hydrants		
Survey Monuments		
Buffer Planting		
Final Lot Grading Guarantee		
Street Signs		
Street Trees		
Bike Paths		
Park Improvements		
Other (Specify)		

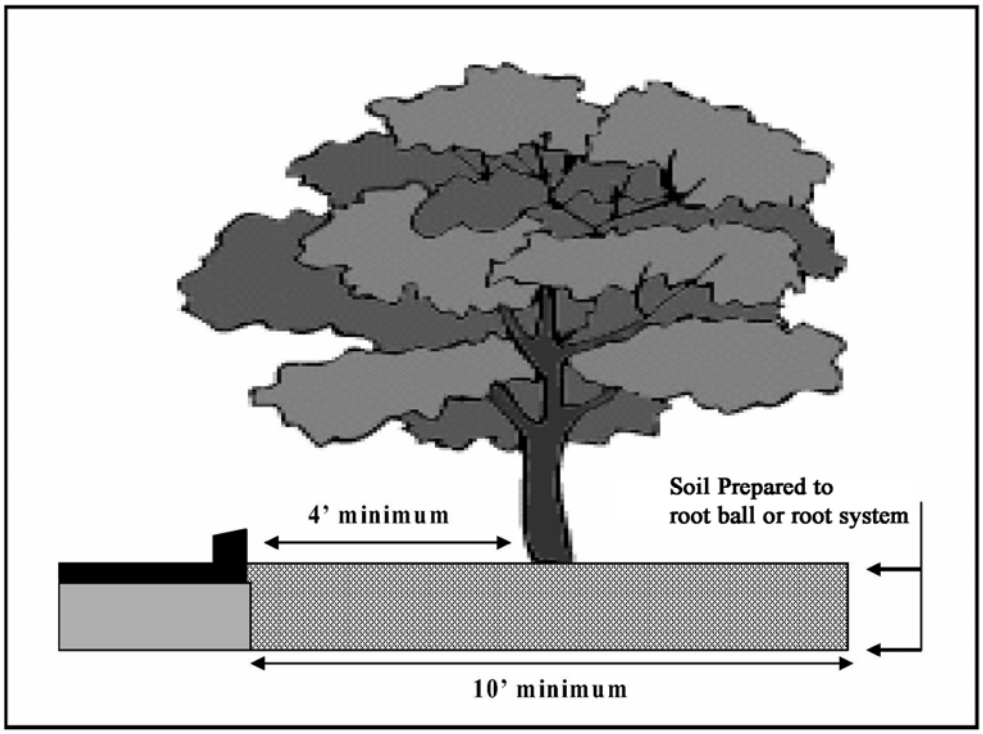
Total Estimated Cost: $_____

_____
Signature of Developer

APPENDIX 22

OFF STREET PARKING TREE PLACEMENT





Source: Georgia Forestry Commission. 2002. *Community tree planting and establishment guidelines.* Macon, Georgia.

APPENDIX 23

WATER DEMAND BASED ON TYPE AND SIZE OF HOUSING UNIT

HOUSING TYPE & SIZE	NUMBER OF RESIDENTS	RESIDENTIAL* WATER DEMAND
Single-Family Detached		
2 Bedroom	2.13	215
3 Bedroom	3.21	320
4 Bedroom	3.93	395
5 Bedroom	4.73	475
Garden Apartment		
1 Bedroom	1.57	120
2 Bedroom	2.33	175
3 Bedroom	3.56	270
Townhouse		
1 Bedroom	1.69	125
2 Bedroom	2.02	150
3 Bedroom	2.83	210
4 Bedroom	3.67	275
High-Rise		
Studio	1.07	80
1 Bedroom	1.34	100
2 Bedroom	2.14	160
Mobile Home		
1 Bedroom	1.73	130
2 Bedroom	2.01	150
3 Bedroom	3.47	260

* Based on one hundred (100) gallons per day (GPD) per person for single-family detached units and seventy five (75) GPD for other housing types (rounded).

Source: U.S. Census, Public Use File - New Jersey (unit built 1975-1980 and monitored by the 1980 Census).

APPENDIX 24

WATER DEMAND BASED ON TYPE AND SIZE OF NONRESIDENTIAL FACILITY

NONRESIDENTIAL USES	EXPECTED WATER CONSUMPTION		
Commercial-Institutional[1]	**Parameter**	**Mean Annual Gallons/Day Per Unit of Parameter**	**Peak Hour**
Office Building	square foot	0.093	0.521
Medical Office	square foot	0.618	4.970
Retail	square foot	0.106	0.271
Hotel	square foot	0.256	0.433
Motel	square foot	0.224	1.550
Restaurant	seat	24.200	167.000
Drive-in restraint	car stall	100.000	547.000
School, elementary	student	3.830	37.400
School, high	student	8.020	79.900
Service station	inside square footage	0.251	4.890
Theater	seat	3.530	3.330
Industrial[2]	**Parameter**	**Gallons Per Day Per Employee**	**Peak Hour**
Bakery	employee	220	NA
Textile-finishing	employee	810	NA
Home furniture	employee	122	NA
Basic chemicals	employee	2,744	NA
Pharmaceutical	employee	457	NA
Agriculture chemicals	employee	449	NA
Petroleum refining	employee	3,141	NA
Plastic products	employee	527	NA
Cement	employee	353	NA
Engines	employee	197	NA
Metalwork	employee	196	NA
Electronic components	employee	203	NA
Motor Vehicles	employee	318	NA
Scientific instruments	employee	181	NA
Medical instruments	employee	506	NA

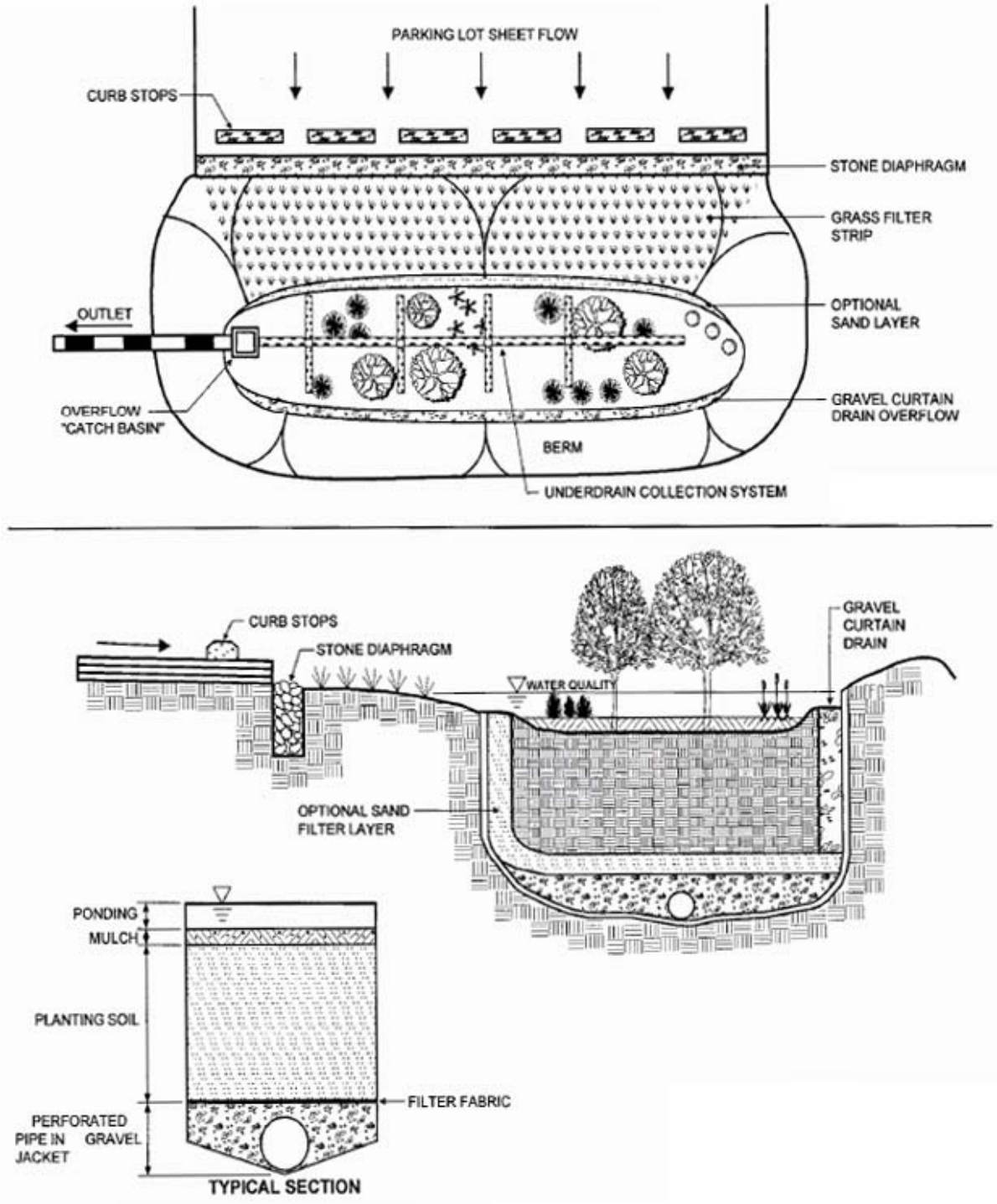
NA = Information not available

Source[1]: U.S. Greenberg, M., G. Belnay, W. Cesanek, N. Neuman and G. Shepherd. 1979. *A primer on industrial environmental impact*. Center for Urban Policy Research. New Brunswick, NJ: 116.

Source[2]: Hittman Associates, Inc. 1969. *Forecasting municipal water requirements.* Columbia, MD.

APPENDIX 25

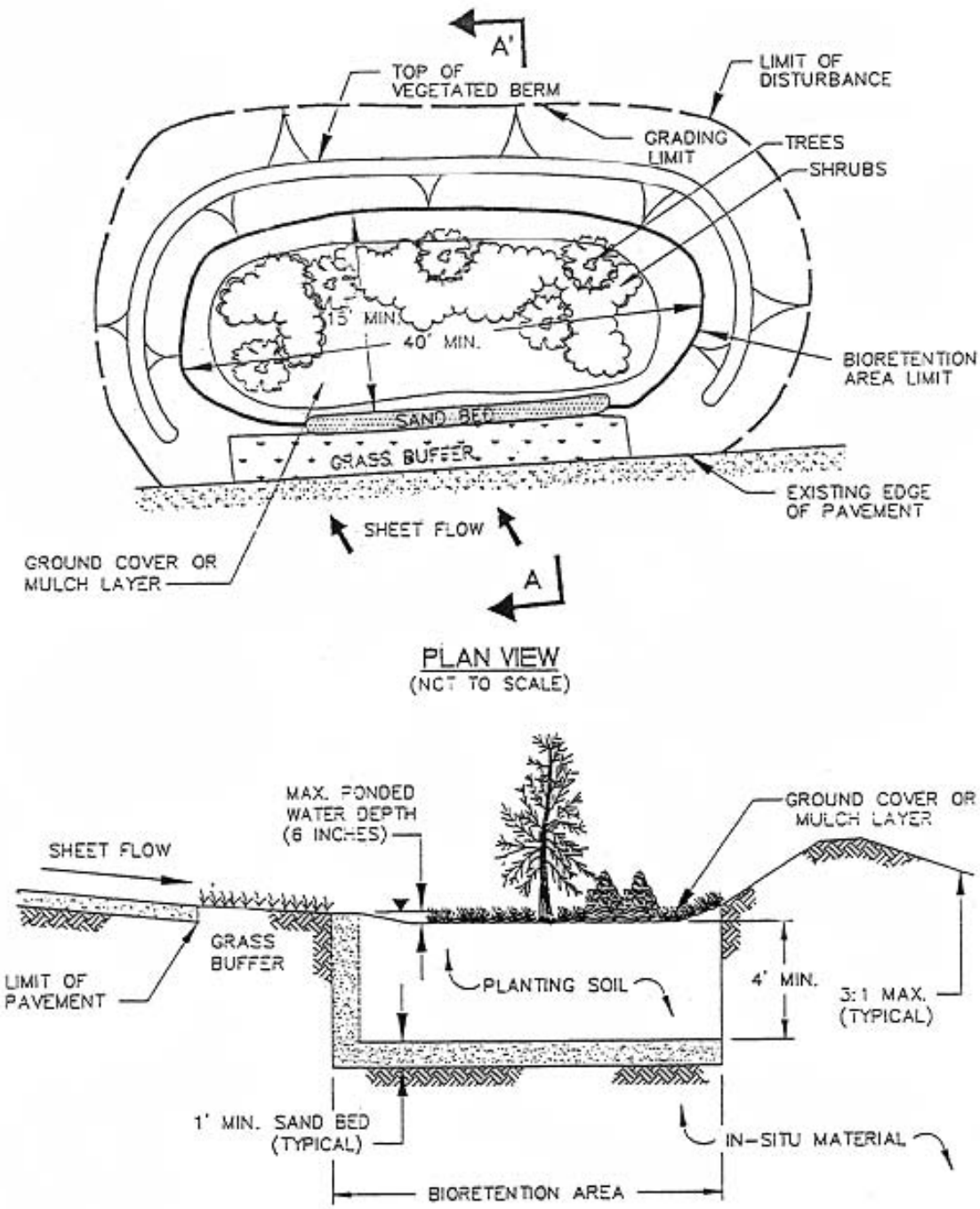
PARKING LOT BIORETENTION SYSTEM DESIGN (WITH UNDER-DRAIN)



Source: South Florida Water Management District. 2002. *Best Management Practices for South Florida Urban Stormwater Management Systems*.

APPENDIX 26

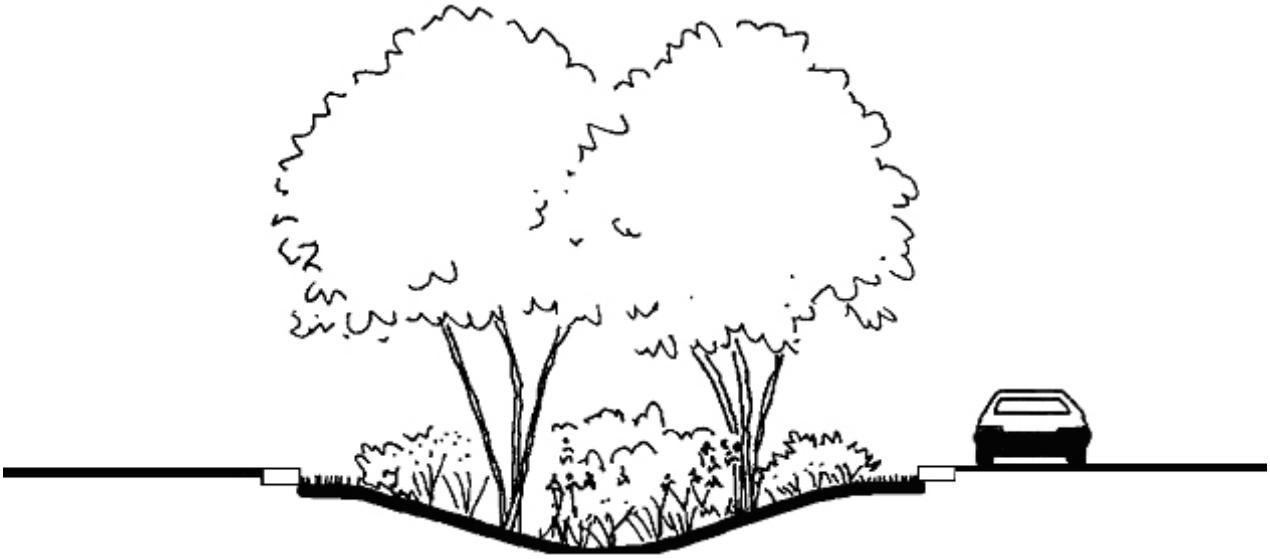
PARKING LOT BIORETENTION SYSTEM DESIGN



Source: Metropolitan Council. 2001. *Minnesota urban small site BMP manual: storm water best management practices for cold climates*. St. Paul, Minnesota: Metropolitan Council Environmental Services. http://www.metrocouncil.org/environment/Watershed/BMP/CH3_STFiltBioretention.pdf

APPENDIX 27

CUL-DE-SAC BIORETENTION SYSTEM DESIGN



Cul-de-sac infiltration island accepts stormwater from the surrounding pavement. Note flat curb.

Source: Metropolitan Council. 2001. *Minnesota urban small site BMP manual: storm water best management practices for cold climates*. St. Paul, Minnesota: Metropolitan Council Environmental Services. http://www.metrocouncil.org/environment/Watershed/BMP/CH3_RPPImpCuldeSac.pdf

APPENDIX 28

DECLARATION OF EXPIRATION OF DEED RESTRICTION BY CASS COUNTY ENGINEER

The Cass County Engineer hereby declares the **DEED RESTRICTION** executed on the _____ day of _____, _____, pursuant to Section 309 of the Cass County Subdivision Ordinance, is expired because:

- The deed restricted property is completely within the extraterritorial (ET) boundaries of an incorporated city of Cass County; or
- The deed restricted property is completely annexed by an incorporated city of Cass County; or
- Any further subdivision of the restricted property conforms to full urban design standards and the strictest requirements outlined within Article VI of the Cass County Subdivision Ordinance, including, but not limited: paved roads with curb and gutter, a paved access road, municipal sewer system, public water supply system with functioning fire hydrants, storm water facilities, street lights, street trees, street signs, sidewalks, bike paths, and park dedications.

_____ _____

CASS COUNTY ENGINEER **DATE**

STATE OF _____)
COUNTY OF_____)

The foregoing instrument was acknowledged before me this _____(date) by _____(name and title of position).

_____

(Signature of person taking acknowledgment)

_____

(Title or rank, Serial number, if any)