

ORDINANCE NO. 142

SUB-DIVISION ORDINANCE OF THE TOWN OF BUFFALO, IOWA

AN ORDINANCE PRESCRIBING MINIMUM REQUIREMENTS FOR THE DESIGN AND DEVELOPEMENT OF NEW SUBDIVISIONS AND OF RESUBDIVISIONS; PROVIDING FOR PRELIMINARY AND FINAL APPROVAL OF ALL SUBDIVISIONS PLATS AND PROVIDING FOR THE ENFORCEMENT OF THESE REGULATIONS.

BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF BUFFALO, IOWA:

SECTION 1
PURPOSE

The purpose of the Subdivision Ordinance is to promote the adequacy and efficiency of the Street & Road system so as to avoid congestion and promote saftey; to secure the proper distribution of population and the necessary open spaces for light and air; to improve the health, saftey and general welfare of the citizens; to establish minimum standards for the developement and designs of all new subdivisions so that existing developments will be protected and so that new subdivisions will conform to the Town plan, facilitate the adequate provisions of the water, sewerage, schools, parks, and other public requirements; and improve the health, saftey and general welfare of the population; to insure sound, harmonious Subdivision developement and community growth, and to safegaurd the interests of the home owner, the subdivider, the investor and the Town; to provide permanent assets to the locality and to the Town; to prevent scattered development beyond existing public utilities and prevent excessive developement costs; to assure the developement of land for the highest possible use with all the necessary protection against deterioration and obsolescence; to provide common grounds of understanding and a sound working relationship between the Town and the developer.

SECTION 11
Short Title

This Ordinance may be known and cited as the Subdivision Ordinance.

SECTION 111

Application of Regulations

No person shall subdivide any tract of land which is located within the Town of Buffalo or in any unincorporated area which is located entirely or in part within one (1) mile of the nearest limits of the Town except in conformity with the provisions of this Ordinance.

The Subdivision plans and plats, proposed improvements to be installed, all procedures relating thereto, shall in all respects be in full compliance with the regulation herein.

SECTION 1V

General Provisions

A. Whenever any Subdivision of land shall hereafter be laid out within the incorporated limits of the Town of Buffalo or within contiguous territory not more than one (1) mile beyond the incorporated boundary of the Town of Buffalo, the subdivider thereof or his agent shall submit both a preliminary and a final Subdivision

plat to the Plan Commission for its approval. The Subdivision plats and all procedures relating thereto, shall in all respects be in full compliance with these regulations.

B. Until plats and plans for the Subdivision are approved:

1. No land shall be subdivided, nor any street laid out, nor any improvements made to the natural land.

2. No lot, tract or parcel of land within any subdivision shall be offered for sale nor shall any sale, contract for sale, or option be made or given.

3. No improvements--such as sidewalks, water supply, storm water drainage, sanitary sewerage facilities, gas service, electric service, lighting, grading, paving or resurfacing of streets--shall hereafter be made by any owner or owners of his or their agent, or by any public service corporation at the request of such owner or owners or his or their agent.

C. All offerings or dedications of land to the Town for use as streets, highways, alleys, schools, parks, playgrounds, or other public uses shall be referred to the Plan Commission for review and recommendation before being accepted by the Town Council or by any other governing authority of the Town of Buffalo, Iowa.

D. Where a tract of land proposed for subdivision is part of a larger, logical Subdivision unit in relation to the Town as a whole the Plan Commission may, before approval, cause to be prepared a plan for the entire area or neighborhood, such plan to be used by the Plan Commission as an aid in judging the proposed plat. The Town Engineer shall cooperate with the Plan Commission in the preparation of this plan and shall furnish such surveys and data as may be necessary.

E. Interpretation.

1. In their interpretation and application, the provisions of this Ordinance shall be held to be the minimum requirements.

2. Where the conditions imposed by any provision of this Ordinance upon the use of land are either more restrictive or less restrictive than comparable conditions imposed by any other provision of this Ordinance or of any other law, Ordinance, Resolution, rule or regulation of any kind, the regulations which are more restrictive or which are more restrictive or which impose higher standards or requirements shall govern.

3. The provisions of the Ordinance are not intended to abrogate any easement, covenant, or any other private agreement, provided that where the regulations are more restrictive or impose higher standards of requirements than such easements, covenants, or other private agreements, the requirements of the provisions of this Ordinance shall govern.

4. Any permissive action granted the Plan Commission herein, shall likewise be deemed granted the Council of the Town of Buffalo, when the preliminary plat and final plat are before the Council for action.

Section V Rules and Definitions

For the purpose of this Ordinance, the rules and definitions contained in this section shall be observed and applied, except where the context clearly indicates otherwise.

A. Rules

1. Words used in the present tense shall include the future; words used in the singular number shall include the plural number, and the plural the singular.

2. The word "shall" is mandatory and not discretionary.

3. The word "may" is permissive.

4. The word "lot" shall include the words, "plot", "piece" and "parcel".

5. The phrase "used for" shall include the phrases "arranged for", "designed for", "intended for", "maintained for" and "occupied for".

B. Definitions

Alley. A public right of way primarily for vehicular traffic along the side or in the rear of properties which affords only a secondary means of access to abutting properties.

Block. A tract of land bounded by streets, or by a combination of streets and public parks, cemeteries, railroad rights-of-way, bulk-head lines or shore lines of waterways, or corporate boundary lines.

Building. Any structure designed, built or intended for the shelter, enclosure, or protection of persons, animals, chattels, or moveable property of any kind.

Building Setback Line. A line within a lot or parcel of land, so designated on the plats of the proposed subdivision, between which line and the adjacent boundary of the street upon which the lot abuts the erection of a building is prohibited.

Cross Walk. A public right-of-way located across a block to provide pedestrian access to adjacent streets or areas.

Cul-de-sac. A minor street having one open end and being permanently terminated by a vehicle turn-around.

Easement. A grant by a property owner for the use of a strip of land by the general public, a corporation or a certain person or persons for a specified purpose or purposes.

Highway. A right-of-way for vehicular traffic which traverses a non-urban area, usually a State or Federal numbered route.

Lot. A portion of a subdivision or other parcel of land intended for transfer of ownership or for building development.

Metes. and Bounds. The method used to describe a tract or urban land intended to be used for dwelling or other purposes, so that it can be recorded in the County Recorder's Office, as contrasted with the description of a part of a properly approved and recorded Subdivision Plat by the Lot and Block number.

Plan Commission or Planning Commission. The words "Plan Commission" or "Planning Commission" when used in this Ordinance, refer to the Town Planning and Zoning Commission of the Town of Buffalo.

Plat. A plan, map, drawing, or chart on which the subdividers plan for the subdivision of land is presented and which he submits for approval and intends to record in final form.

Plat, Final. The drawings and documents presented for final approval and as described in Section IV Subsection C.

Plat, Preliminary. The drawings and documents presented for conditional approval and as described in Section VI, Subsection B.

Roadway. The surfaced area within a street rightofway intended for vehicular traffic, including all curb and gutter facilities.

Street. An area which primarily serves or is intended to serve as a vehicular and pedestrian access to abutting lands or to other streets. The word "street" refers to the right of way or easement and not to the roadway or paving or other improvement within the street right-of-way.

Street, approved. Any street, meeting standards and precise specifications of the Town of Buffalo, Iowa.

Street, Public. Any arterial or secondary street which is shown on the subdivision plat and or is to be dedicated for public use.

Subdivision. For the purpose of these regulations, a Subdivision of land is either (1) the division of land into three (3) or more lots, sites or parcels; (2) establishment or dedication of a road highway or street or alley through a tract of land regardless of area, or (3) Re-subdivisions of land heretofore divided or platted into lots, sites or parcels, provided, however, that the sale or exchange does not create additional lots, shall not be considered as a Subdivision of land.

Section VI Procedure For Approval

A. Pre-Application Procedure.

1. Conference Suggested. Each Subdivider of land should confer with the Town Engineer or Town Attorney or some member of the Plan Commission, in order to become thoroughly familiar with the proposed Town Plan or with any municipal regulations affecting the territory in which the proposed Subdivision lies.

2. Previous to the filing of an application for approval of the preliminary plat, the subdivider shall submit to the Plan Commission plans and data as specified in Section VII. This step does not require formal application fee, or filing of plat with the Planning Commission.

3. Within thirty (30) days, the Plan Commission shall inform the subdivider that the plans and data as submitted or as modified do or do not meet the objectives of these regulations. When the Plan Commission finds that the plans and data do not meet the objectives of these regulations, it shall express its reasons therefor.

4. Land subject to Flooding or Poor Drainage. No Plat will be approved for a subdivision which is subject to periodic flooding or which contains poor drainage facilities and which would make adequate drainage of the lots and streets impossible. However, if the subdivider agrees to make improvements which will, in the opinion of the Town Engineer, make the area completely safe for residential occupancy and provide adequate lot and street drainage, the preliminary plat of the Subdivision may be approved.

B. Procedure for Approval of Preliminary Plat.

1. Preparation Preliminary Plat. On reaching conclusions, informally, as recommended in "A" above, regarding his general program and objectives, the subdivider shall cause to be prepared a preliminary plat, together with improvement plans and other supplementary material as specified in Section VII.

2. Four (4) copies of the preliminary plat and supplementary material specified shall be submitted to the Plan Commission with written application for approval at least three days prior to the meeting at which it is to be considered.

3. Following review of the preliminary plat and other data submitted in compliance with these regulations, and following negotiations with the subdivider on changes deemed advisable and the kind and extent of improvements to be made by him, the Plan Commission shall, within thirty (30) days, act on the plat and data as submitted or modified, and, if approved, the Plan Commission shall express its approval, if any, or, if disapproved, the Plan Commission shall express its disapproval and its reasons therefor.

4. If the commission does not act within thirty day, the preliminary plat shall be deemed to be approved, however, the subdivider may agree to an extension of the time for a period not to exceed sixty day. The Commission shall submit its recommendation to the Town Council for its action. If no action is taken by the Town Plan Commission within thirty days after submission or within the extended time period, the Town Council shall consider the same within the next thirty day period.

5. The approval of the preliminary plat by the Town Council does not constitute approval of the Subdivision, but is merely an authorization to proceed with the preparation of the final plat and with the installation of the necessary improvements therein in accordance with the requirements of Section IX, Subsection I of this Ordinance. In the event of disapproval, the Town Council shall give the reasons therefor and shall notify the owner what change must be made to obtain approval.

6. One copy of the approved preliminary plan, signed by the Mayor and Town Clerk, shall be retained in the Town Clerk's Office, and one copy in the Office of the Plan Commission, one copy for the use of Town Attorney and Town Engineer and one signed copy shall be given to the subdivider.

C. Procedures for Approval of Final Plat.

1. The final plat shall conform substantially to the preliminary plat as approved, and, if desired by the subdivider, it may constitute only that portion of the approved preliminary plat which he proposes to record and develop at the time; provided, however, that such portion conforms to all requirements of these regulations.

2. Application for approval of the final plat shall be submitted in writing to the Plan Commission at least three days prior to the meeting at which it is to be considered.

3. Five (5) copies of the final plat and other exhibits required for approval shall be prepared as specified in Section VII and shall be submitted to the Plan Commission within six months after approval of the preliminary plat; otherwise such approval shall become null and void unless application for an extension of time is made to and granted by the Plan Commission.

4. The final plat submitted to the Plan Commission for approval shall be accompanied by a notice from the Town Clerk of the Town of Buffalo stating that there has been filed with and approved by the Town Attorney and Town Council, one of the following:

a. A certificate by the Town Engineer that all improvements and installations to the Subdivision required for its approval have made or installed in accordance with the specifications; or

b. In lieu of final completion of improvements, notice that subdivider has agreed to furnish bond as set forth infra, in Section IX, Subsection I.

c. If no notice is so furnished, approval by the Plan Commission shall be conditioned upon completion of improvements or furnishing bond prior to the Town Council giving approval of the final plat.

5. Within thirty (30) days after application for approval of the final plat, the Plan Commission shall approve or disapprove it. If the Plan Commission approves, such approval and the date thereof shall be noted on the plat over the signature of its chairman. If it disapproves, it shall set forth its reasons in its own records and provide the applicant and Town Council with a copy.

6. Final Approval by the Town Council. After approval of the final plat of the Subdivision by the Town Plan Commission, the recommendation of approval and the final plan shall be submitted to the Town Council by the Chairman of the Commission for final approval and for acceptance of all streets, alleys, ways, easements, parks or other areas preserved for or dedicated to the public.

If the Town Plan Commission does not approve the final plan of the Subdivision, the Town Council may approve said plan and accept the public areas and easements, thereon only by a three-fourths vote of the entire membership of the Council.

7. Filing.

a. After approval of the final plat by the Plan Commission, and the fulfillment of the requirements of these regulations, one tracing of the final plat of the Subdivision, drawn in ink on tracing cloth or a pencil copy along with one copy of same reproduced on Mylar or similar material not to exceed thirty (30) inches by thirty-six (36) inches in size, shall be submitted to the Town Council for approval.

b. Action must be taken by the Town Council within thirty (30) days after the final plat has been submitted for approval.

c. Upon approval of the Town Council, the developer shall record the plat with the County Recorder of Scott County within four (4) months. If not recorded within this time, the approval shall be null and void. Before it is recorded in the Office of the County Recorder, the provisions of Chapter 409 of the Code of Iowa, 1966 and amendments thereto, shall be complied with. Immediately after recording, the duly certified copy shall be filed with the Town Clerk of the Town of Buffalo.

SECTION VIII
Plats and Data

A. Pre-Application Plans and Data

1. General Subdivision Data Shall describe or outline the existing conditions of the site and the proposed development as necessary to supplement the drawings required below. This may include information on existing covenants, land characteristics, and available community facilities and utilities and information describing the Subdivision proposal--such as number of residential lots; typical lot width and depth; public areas; proposed protective covenants; and proposed utilities and street improvements:

2. Sketch plan on topographic survey shall show in simple sketch form the proposed layout of streets, lots and other features in relation to existing conditions. The sketch plan may be a free-hand pencil sketch made directly on a print of the topographic survey. The sketch plan shall include the existing topographic data listed in B-1 below.

B. Data for Approval of Preliminary Plan

1. Topographic Data required as a basis for the preliminary plat, in B-2 below shall include existing conditions as follows, except when otherwise specified by the Plan Commission:

a. Boundary lines; Bearings and distances.

b. Easements: Location, width and purpose.

c. Streets on and adjacent to the tract; right-of-way width and location; type, width and elevation of surfacing; any legally established center line elevations, walks, curbs, gutters, culverts, etc.

d. Utilities on and adjacent to the tract: Location, size, and invert elevation of sanitary, storm, and combined sewers; location and size of water mains; location of gas lines, fire hydrants, electric and telephone poles and street lights; if water mains and sewers are not on or adjacent to the tract, indicate the direction and distance to, and the sizes of nearest ones, showing invert elevation of sewers.

e. Ground elevations on the tract; Based on the Buffalo datum plane. For land that slopes less than one-half (0.5) per cent show not less than one (1) foot contours; for land that slopes one-half (0.5) to two (2.0) per cent, show not less than two (2) foot contours; and for land that slopes more than two (2.0) per cent show not less than five (5) foot contours.

f. Subsurface conditions on the tract, if required by the Plan Commission: Location and results of tests made to ascertain subsurface soil, rock and ground water conditions; depth to ground water unless test pits are dry at a depth of five (5) feet; location and results of soil percolation tests if individual sewage disposal systems are proposed.

g. Other conditions on the tract: Water courses, marshes, rock outcrop, wooded areas, isolated preservable trees one (1) foot or more in diameter, houses, barns, shacks, and other significant features

h. Other conditions on adjacent land: Approximate direction and gradient of ground slope, including any embankments or retaining walls character and location of buildings, railroads, power lines, towers and other nearby non-residential land uses or adverse influences; and owners of adjacent unplatted land (for adjacent platted land refer to Subdivision plat by name, typical lot size, and dwelling type.

i. Zoning on and adjacent to the tract.

j. Name and legal description: Present tract designation according to official records in offices of the County Recorder; name under which proposed subdivision is to be recorded, with names and addresses of owners, notation stating acreage, scale, north arrow.

2. Preliminary Plat. The preliminary plat shall be at a scale of not more than one hundred (100) feet to one (1) inch. It shall show all existing conditions required in B-1, and shall show all proposals, including the following:

a. The location of present property, and Section lines and lines of Corporate Limits and other legally established districts, streets, buildings, water courses, tree masses, and other existing features within the area to be subdivided and similar facts regarding existing conditions on land immediately adjacent thereto.

b. The proposed location and width of streets alleys, lots, and buildings and set-back lines and easements, if any.

c. Existing sanitary and storm sewers, water mains, culverts and other underground structures within the tract or immediately adjacent thereto. The location and size of the nearest water main and sewer or outlet are to be indicated in a general way upon the Plat.

d. The title under which the proposed Subdivision is to be recorded and the name of the subdivider platting the tract.

e. The names and adjoining boundaries of all adjoining Subdivisions and the names of record owners of adjoining parcels of unsubdivided land.

f. Contours with intervals as set forth in Section VII, B 1-e

g. Grades and profiles of streets and plans and written and signed statements explaining how the subdivider proposes to provide and install improvements meeting the requirements of Section IX, subsection I of this Ordinance.

h. Sites, if any, to be reserved or dedicated for schools, parks, playgrounds or other public uses.

3. Other Preliminary Plans. When required by the Plan Commission, the preliminary plat shall be accompanied by profiles showing existing ground surface and proposed street grades, including extensions for a reasonable distance beyond the limits of the proposed Subdivision; typical cross sections of the proposed grading, roadway and sidewalks; and preliminary plan of proposed sanitary and storm water sewers with grades and sizes indicated. All elevations shall be based on the Buffalo datum plane.

4. Draft of Protective Covenants, whereby the subdivider proposes to regulate land use in the Subdivision and otherwise protect the proposed development.

Plats containing three (3) Lots or less may be exempted from the above requirements of the Preliminary Plan.

C. Data for Final Approval of Plan.

1. Final Plat shall be drawn in ink on tracing cloth or a pencil copy along with one copy of same reproduced on Mylar or similar material may be substituted on sheets not to exceed thirty (30) inches wide by thirty-six (36) inches long and shall be at a scale of one hundred (100) feet or less to one (1) inch.

2. If the final plat conforms to the approved preliminary plat and if the necessary improvements are constructed in accordance with the approved plans therefor or a satisfactory surety and maintenance bond submitted assuring their construction in accordance with the approved plan, the final plat shall be approved.

3. The Final Plat shall show:

a. The boundary lines of the area being subdivided with accurate distances and bearings.

b. The lines of all proposed streets and alleys with their width and names.

c. The accurate outline of any property which is offered for dedication for public use.

d. The lines of all adjoining lands and the lines of adjacent streets and alleys with their width and names.

e. All lot lines and an identification system for all lots and blocks.

f. Building lines and easements for any rights-of-way provided for public use, services or utilities, with figures showing their dimensions.

g. All dimensions, both linear and angular, necessary for locating boundaries of Subdivisions, lots, streets, alleys, and of any other areas for public or private use; the linear dimensions are to be expressed in feet and decimals of a foot.

h. Radii, arcs and chords, points of tangency, central angles for all curvilinear streets, and radii for all rounded corners.

i. All survey monuments and bench marks together with their description.

j. Name of Subdivision and description of property subdivided, showing its location and extent, points of compass, scale of plan, and name of owner or owners or the subdivider.

k. Certification by either a Civil Engineer or a surveyor, licensed under the Laws of Iowa, to the effect that the plan represents a survey made by him and that all the necessary survey monuments are correctly shown thereon.

1. Private restrictions and trusteeships and their periods of existence, if any, should such restrictions and trusteeships be of such length as to make the lettering of same on plat impracticable and thus necessitate the preparation of a separate instrument, reference to such instrument shall be made on the plat. Plats shall contain proper acknowledgement of owners and the consent by the mortgagees to said plat and restrictions.

2. Cross Sections and Profiles of Streets showing grades approved by the Town Engineer. The profiles shall be drawn to Town standard scales and elevations and shall be based on the Buffalo datum plane.

3. A Notice from the Town Clerk of the Town of Buffalo stating that there has been filed with and approved by the Town Attorney and the Town Council, one of the following:

a. A certificate by the Town Engineer, that all improvements and installations to the Subdivision required for its approval have been made or installed in accordance with the Town specifications; and a maintenance bond guaranteeing the improvement for a period of two years against defective materials and workmanship.

b. A bond or certified check has been posted, which is available to the Town and in sufficient amount to assure completion and guaranteeing the improvement for a period of two years against defective materials and workmanship of all required improvements.

4. Protective Covenants in form for recording.

5. Other Data: Such other certificates, affidavits, endorsements, or dedications as may be required by the Plan Commission in the enforcement of these regulations.

Section VIII Certification of Plats

The Town Council, upon approval of the Town Attorney, shall with a majority vote approve the final plat and the Mayor and Town Clerk shall be authorized to sign the original tracing. The certificates on the final plat shall be in such form as to include the signatures of the Chairman of the Scott County Board of Supervisors and the County Auditor, where the plat covers land in the unincorporated area.

Section IX Minimum Standards of Design and of Development

No Subdivision plat shall be approved either by the Town Plan Commission or by the Town Council unless it conforms to the following minimum standards and requirements.

A. Acre Subdivision:

Whenever the area is divided into Lots containing one to three acres, inclusive, and there are indications that such Lots will eventually be resubdivided into small building Lots, consideration shall be given to the street and lot arrangement of the original Subdivision so that additional minor streets can be opened which will permit a logical arrangement of smaller Lots.

Easements provided for the future opening and extension of such streets, may, at the discretion of the Town Council, be made a requirement of the Plat.

B. Relation to Adjoining Street System:

The arrangement of streets in new Subdivisions shall make provisions for the continuation of the principal existing streets in adjoining Additions (or the proper projection where adjoining property is not subdivided) insofar as they may be necessary for public requirements. The width of such streets in new Subdivisions shall not be less than the minimum street widths established herein. The street and alley arrangements shall also be such as to cause no hardship to owners of adjoining property when they plat their own land and seek to provide for convenient access to it.

Whenever there exists a dedicated or platted half street or alley adjacent to the tract to be subdivided the other half of the street or alley shall be platted. If a half street is platted, an Easement for the remaining half must be obtained and recorded, and include in the Plat.

Whenever feasible, Streets and Avenues shall be numbered in accordance with the present numbering system, as provided in Ordinance No. _____. Streets that are obviously in alignment with others already existing and named shall bear the name of the existing street. Otherwise, names shall not duplicate existing street names, and names similar to existing street names shall not be permitted.

C. Street and Alley Width:

1. The minimum width for minor streets shall be fifty (50) feet, except that the Plan Commission may in certain cases because of topography or special conditions, require a street of greater or less width.

2. The width for arterial streets and projected arterial streets shall be determined by the Plan Commission, subject to approval of the Town Council, or by the Town Council.

3. Deadend streets (cul-de-sac) are to be avoided but if necessary in the opinion of the Plan Commission, they shall terminate in a circular right of way with a minimum diameter of one hundred (100) feet unless the Plan Commission approves an equally safe and convenient space.

4. Alleys in residential areas shall not be established where deemed necessary and recommended by the Plan Commission. Where permitted, the minimum width of an alley in a residential area shall be twenty (20) feet.

5. Alleys shall be required in the rear of all commercial and industrial districts and shall be at least twenty (20) feet wide; the Plan Commission may waive this requirement where other definite and assured provision is made for service access or where the uses proposed for the particular area do not require access by alley.

6. Where alleys are not provided, Easements of not less than ten (10) feet in width shall be provided on each side of all rear lot lines and side lines where necessary for poles, wires, conduits, storm and sanitary sewers, gas and water mains. Easements of greater width may be required along lines or across lots where necessary for the extension of main sewers and similar utilities.

D. Blocks:

1. No Block shall be longer than one thousand (1000) feet between street lines. An Easement near the center of the Block not less than ten (10) feet wide for a cross-walk may be required on Blocks that are over seven hundred fifty (750) feet in length.

2. The width of Blocks, except for special reasons shall not be less than two hundred twenty (220) feet and not more than three hundred fifty (350) feet.

3. Where it is desirable to subdivide a parcel of land, which because of its size or location, does not permit an allotment directly related to a normal street arrangement, there may be established a "Place". Such a "Place" may be in the form of a Court, a nonconnecting street or other arrangement; provided, however, that proper access shall be given to all lots from a dedicated place (Streets or Court) and the minimum size of each allotment of this sort shall be permanently established so as to insure a building arrangement commensurate with the foregoing requirements for the customary forms of Subdivision of land.

E. Lots:

1. All side lines of lots shall be as near as possible at right angles to straight street lines, or radial to curved street lines, unless a variation to this rule will give a better street and lot plan. Lots with double frontage shall be avoided.

2. The minimum area of Lots except in areas zoned for commercial and industrial uses, shall be five thousand (5000) square feet and the width of each Lot shall be not less than fifty (50) feet.

3. Corner lots shall have extra width sufficient to permit the maintenance of building lines on both front and side streets.

4. Lots at street intersections shall have a radius of not less than fifteen (15) feet at the street corner. On Commercial or industrial lots, a cutoff or chord may be substituted for the circular arc.

F. Building Lines:

Building lines shall be shown on all lots whenever the depth of such building lines are greater than those required by the Zoning Ordinance. The Council may require building lines in accordance with the needs of each Subdivision. Provision shall be made by Deed requiring all enclosed parts of buildings to be set back to such building lines.

G. Character of Development:

The Council shall have the right to agree with the Subdivider regarding the type and character of development that will be permitted in the Subdivision, and may require that certain minimum regulations regarding this matter be incorporated in the deed restrictions. Such regulations shall be intended to protect the character and value of the surrounding development in the property which is subdivided.

H. Responsibility Along Streams:

Whenever any stream or important surface water course is located in an area that is being subdivided, the subdivider shall at his own expense make adequate provision for straightening or widening the channel so that it will properly carry the surface water.

I. Improvements:

1. Installation of Improvements or Bond Required.

Before the final plat of any subdivided area shall be made and install the improvements described in this subsection. In lieu of final completion of the minimum improvements, before the plat is finally approved, the subdivider may follow either of the following alternate methods:

a. The subdivider may complete the improvements in units of not less than either one Block or of five hundred (500) feet in length and post a surety bond with the Town of Buffalo, which bond shall insure the Town that all of the remainder of the improvements will be completed by the subdivider within a certain period of time after the final approval of the plan. The form and type of bond shall be approved by the Town Attorney and the Town Council for the Town of Buffalo. If the improvements are not completed within the specified time, the Town Council may use the proceeds of the bond or any necessary portion thereof to complete same. Unless the Council grants a longer period of time, the bond shall state that improvements shall be completed within two years after

final approval of the Plan.

b. to petition the Town Council to provide the necessary improvements and to assess the cost thereof against the subdivided property in accordance with the local requirements regarding special assessments. Provided however, the subdivider shall be responsible for and shall post a bond as required in Paragraph A of this section for any differences between the cost of the improvements and the amount that can be legally assessed by the Town against the subdivided property and shall furnish the necessary waivers to permit the assessment of the entire cost of the improvement.

2. Monuments. Monuments shall be placed at all corners and angle points of the external boundaries of a Subdivision, but no further than one quarter ($1/4$) mile apart. Unless otherwise specified by the Town Engineer, the monuments shall be iron rods or pipes at least thirty (30) inches long and two (2) inches in diameter. Solid round or square iron bars of equal or greater length may be used in lieu of pipes wherever pipes are specified in this section. These monuments shall be placed not more than one-quarter ($1/4$) mile apart in any straight line and at corners, at each end of all curves, at the point where a curve changes its radius, and at all angle points in any line where such corners or points are one hundred (100) feet or more apart.

3. Street Improvements.

All streets shall be filled or excavated to the grade established by the Town Council, depending upon the location of the Sub-division, and the roadway improved by surfacing. The minimum standards for surfacing shall not be less than the following requirements:

a. The minimum width of surfacing of streets shall be thirty (30) feet.

b. The subdivider shall be required to install only one-half the width of surfacing herein required, when a street along the outer edge of his subdivision borders adjacent property that cannot bear its share of the cost of surfacing.

c. Curbs and drainage structures and necessary connecting drains shall be required along each side of the surfacing whenever a storm sewer outlet is reasonably accessible to the area proposed for Subdivision. In order to prevent serious erosion because of the grade of the street, the Town Plan Commission may require curb and drainage structures and necessary connecting drains to be constructed regardless of whether a storm sewer outlet is reasonably accessible or not.

d. When curb and drainage structures are required, the minimum width of surfacing shall be thirty-one (31) feet for streets. Curbs and drainage structures shall be in accordance with Town specifications as established by the Town Council.

e. Where streets are so located and used as to come under the definition of collector streets, primary thoroughfares and secondary thoroughfares, in the opinion of the Plan Commission and Town Council, the width of surfacing and type of surfacing shall be as established by the Plan Commission, subject to approval of the Town Council, or by the Town Council.

f. Unless otherwise designated by the Town Engineer, streets shall be graded no flatter than a minimum grade of 0.5% and no steeper than a maximum grade of 6%.

4. Water Lines.

a. Where an approved public water supply is reasonably accessible or procurable, the Town shall install, or order installed the necessary water mains, fire hydrants, and laterals to lot line when so ordered by the Town Council in accordance with the terms set forth herein.

The contracts for installing the water lines shall be let by the Town Council only after bids have been received from at least three contractors. The subdivider, if qualified, may bid for the contract.

Where an 8" main is ordered installed by the Town Council, the Town shall pay the difference between the material cost of the 6" pipe and 8" pipe.

The entire cost of installation of the lines, except for the difference in cost between 6" and 8" pipe, as herein above mentioned, shall be paid by the subdivider.

This is established as a guide to residential developments or subdivisions. However, each extension of water service will be assessed on its own individual merits and/or conditions.

5. Sewers.

a. Where a public sanitary sewer is reasonably accessible, the subdivider shall connect or provide for the connection with such sanitary sewer, and shall provide within the subdivision the sanitary sewer system required to make the sewer accessible to each Lot in his Subdivision. Sewer systems shall be in accordance with the State Department of Health Regulations and be built under the supervision of the Town Engineer.

b. Adequate provision shall be made for the disposal of storm water, subject to the approval of the Town Plan Commission and the Town Council.

6. Sidewalks and Sidewalk areas.

a. When curb and drainage structures and necessary connecting drains are installed by the subdivider, pursuant to this Ordinance, sidewalks shall be constructed to a minimum width of four (4) feet and shall be placed a minimum distance from the back of the curb of three and one-half ($3\frac{1}{2}$) feet. The grade and location of all permanent walks shall be constructed to the Town standards as to location, construction and materials.

7. Parks, Playgrounds and School Sites.

a. In subdividing property, due consideration shall be given to the dedication of suitable sites for schools, parks and playgrounds, so as to conform as nearly as possible to the recommendations of the Town Council in its Master Plan of the Town and adjacent areas.

b. Such provision should be indicated on the preliminary plan in order that it may be determined when and in what manner such areas will be dedicated to the Town.

8. Earth Subgrades.

a. General. Earth subgrades for paving, curb and gutter, driveways, sidewalks, shoulders, and other graded areas, and subgrades for structures shall be prepared in accord with the following specifications and requirements. The preliminary clearing, excavating, filling and rough grading necessary in connection therewith shall have been previously done as specified in the grading section of these specifications.

b. Subgrade for Pavement, Surfacing or Base.

Following the rough grading thereof, that portion of the road bed upon which the subgrade is to be prepared shall, where the nature of the soil permits, be loosened by plowing, scarifying, or other appropriate means to a depth of at least six (6) inches below the specified elevation of the finished subgrade and then worked with suitable equipment until the material is as finely divided as is possible or practical under the circumstances. Roots or similar material that cannot be readily scarified shall be removed and backfilled.

Following the above described operations the subgrade shall be shaped to a true cross section sufficiently higher than the specified subgrade to allow for subsequent compaction and shall then be thoroughly rolled as hereinafter provided until no further compaction can be obtained by the methods and means specified. During these operations, any high spots or depressions that develop or appear in the subgrade shall be scarified, cut down or filled in as is applicable and again rolled as above specified. Any portion of the subgrade that cannot be properly and satisfactorily rolled because of shape or location shall be thoroughly tamped or otherwise suitably compacted.

Upon completion, the subgrade shall be firm, hard, and unyielding with a true, even, and uniform surface conforming to the grade and cross section specified therefor, and compacted to not less than 90% of maximum density at optimum moisture.

c. Subgrade for Curb, Walk, Gutter and Driveway.

Following the necessary rough grading, the subgrade shall be shaped to an elevation sufficiently above the specified grade to allow for subsequent compaction, after which it shall be rolled or tamped as hereinafter prescribed until firmly and solidly compacted to the proper grade and cross section. Where it is obviously impossible or impractical to roll the subgrade, compaction shall be obtained by tamping. Tamping will suffice in the case of a subgrade for a walk. Rolling or tamping as herein provided shall be continued in all cases until no further compaction can be obtained with the methods and means specified under the circumstances involved.

d. Roadways and Shoulders. Earth shoulders and graded unsurfaced roadways shall be prepared in accordance with the same provisions and requirements as those hereinbefore provided for pavement subgrade construction.

e. Rolling.

(a) Pavement, surfacing or base. Except as otherwise herein provided all surface rolling shall be done with a standard three-wheel self propelled roller providing a compression under the rear wheels of not less than 250 pounds per inch width of the tire, and the width of the tire of the rear wheels shall not be less than 12 inches. Should it develop or appear that proper and satisfactory results cannot be obtained with such a roller, a tandem roller, self propelled and weighing not less than eight (8) tons may be substituted for the three-wheel roller, if the Engineer permits. The use of tamping rollers will also be permitted for initial compaction in connection with subgrade construction. If the Contractor elects to use the tamping roller, the final or surface rolling must be done with a three-wheel power roller or a tandem roller, as provided above. Tamping rollers, if used, shall comply with the requirements of the Engineer.

f. Subgrades for curb and gutter shall be compacted in the same manner as specified for pavement subgrade.

Rolling shall be commenced along the sides or edges of the area to be rolled, lapping slightly thereover if possible. Rolling along the sides and edges shall be continued until the material so rolled is firmly compacted and consolidated, after which the roller shall be gradually advanced toward the center with each pass of the roller lapping the preceding wheel track not more than one-half of its width. Both sides shall be rolled in like manner and under no circumstances shall the center portion be rolled first. The roller shall be operated along lines parallel with the center line of the improvement being constructed, and no material deviation therefrom will be permitted. Rolling equipment must at all times be maintained in good mechanical condition and none but those which can be properly operated shall be used.

g. Tamping. Hand tamping will be permitted only in such areas which because of their location and shape are not accessible to the power rollers. Tamping that is permitted hereunder shall be accomplished with such implements and in such manner as to uniformly, firmly, solidly and thoroughly compact the material so tamped throughout the entire area and depth thereof. The tamping surface of any implement so used shall not be greater in area than twenty (20) square inches.

h. Removal of Unsuitable Material. Should any unstable or other wise unsuitable material be encountered within the subgrade area, it shall be excavated to such a depth as the Engineer may direct and the excavated space then backfilled with suitable material.

Portland Cement Concrete
Plain and Reinforced

a. Description. Portland cement concrete shall be composed of Portland cement, fine aggregate, coarse aggregate and water, and shall be used where indicated on the Plans, in the special provisions, or elsewhere in these specifications, and shall meet the requirements as hereinafter provided.

b. Portland cement. Portland cement shall be of American manufacture, conforming to the Standard Specifications for Portland Cement of the American Society for Testing Materials (Serial Designation: C 150-44) and subsequent revisions thereof. Unless otherwise provided by the special provisions, Type I Portland cement shall be used.

c. Fine aggregate. Fine aggregate shall consist of natural sand having hard, clean, strong, durable, uncoated particles and shall conform to the requirements of these specifications and those of the A.A.S.H.O. designation M6-48 and subsequent revisions thereof.

The amount of deleterious substances shall not exceed the following limits:

	Maximum Permissible Limit % by Weight
Clay Lumps.....	1.0%
Coal and Lignite.....	0.5%
Material finer than # 200 sieve.....	2.5%
Shale and coal particles, alkali, mica, coated grains, soft and flaky particles.....	1.5%

When fine aggregate is subjected to five (5) alternations of the sodium sulphate test, the weighted percentage of loss shall be not more than 6% by weight.

When tested by means of laboratory sieves, the sand shall conform to the following requirements:

Passing 3/8" sieve.....	100%
Passing No. 4 sieve.....	95 to 100%
Passing No. 16 sieve.....	45 to 80 %
Passing No. 50 sieve.....	10 to 30 %
Passing No. 100 sieve.....	2 to 10 %

Course aggregate. Course aggregate shall consist of crushed stone, gravel or other approved inert material of similar characteristics, or combination thereof, having clean, hard, durable, uncoated particles free from injurious amounts of deleterious mater, and shall comply with the requirements of these specifications and those of the A.A.S.H.O. Designation M80-49 and subsequent revision thereof.

The amount of deleterious substances shall not exceed the following limits:

Maximum Permissible Limit
% by Weight

Soft fragments.....	2.00
Coal and lignite.....	0.25
Clay lumps	0.25
Material passing the # 200 sieve.....	1.00
Thin elongated pieces having a length greater than five (5) times the average thickness.....	12.00
Total of shale, unsound chert and other kinds of materials whose disintegration is accompanied by an increase in volume which may cause a spalling of the concrete in which they are contained.....	2.00
Sticks (wet weight).....	0.10
Organic matter other than coal and sticks.....	0.00

In the course aggregate, the combined total of the objectionable particles listed above, plus any unsound particles not listed above, plus particles having more than one-fourth ($\frac{1}{4}$) of their surface coated with a covering of shale or clay which is not dissolved when the aggregate is immersed in water for two (2) minutes shall not exceed five (5) per cent by weight.

When the coarse aggregate is subjected to five (5) alternations of the sodium sulphate soundness test, the weighted loss shall be not more than 12%.

Coarse aggregate shall be well graded between the limits specified and shall range in size from fine to coarse within the following percentages by weight: Use $1\frac{1}{2}$ " to # 4 coarse aggregate.

Designated size	$2\frac{1}{2}$ " to #4	$1\frac{1}{2}$ " to #4	$3/4$ " to #4
Passing $2\frac{1}{2}$ " screen	100%		
Passing 2" screen	85 to 90%	100%	
Passing $1\frac{1}{2}$ " screen		95 to 100%	
Passing 1" screen	35 to 70%		100%
Passing $3/4$ " screen		35 to 70%	90 to 100%
Passing $1/2$ " screen	10 to 30%		
Passing $3/8$ " screen		10 to 30%	20 to 55%
Passing No. 4 screen	0 to 5%	0 to 5%	0 to 10%

Bank or pit run aggregate in its original state will nor ordinarily be approved for use in concrete under these specifications.

d. Mixing Water. Mixing water shall be free from oil, acid, injurious amounts of vegetable matter, alkalies or other salts.

e. Metal Reinforcement. Metal reinforcement shall be intermediate grade conforming to the requirements of the "Standard Specifications for Billet Steel Concrete Reinforcing Bars of the American Society for Testing Materials" (Serial Designation: A 15-39).

Welded wire fabric or cold drawn wire concrete reinforcement shall conform with the requirements of the "Standard Specifications for Cold Drawn Wire for Concrete Reinforcement" of the American Society for Testing Materials (Serial Designation: A 82-34) and "Standard Specifications for Welded Steel Wire Fabric for Concrete Reinforcement" of the American Society for Testing Materials (Serial Designation: A 185-37) and subsequent revisions of either of these specifications. Mesh reinforcement shall be shipped and stored in flat sheets, unless otherwise provided in the special provisions.

Welding of the reinforcing steel will not be permitted unless specifically authorized by the Engineer in individual instances.

f. Water-Cement Ratio. The water content per sack of cement shall not exceed the quantities in the following table for each of the grades of concrete. Class III concrete to be used.

Assumed Strength of Concrete
Mixtures

Class	Water-Content U.S. Gallons Per 94 lb. Sack of Cement*	Assumed Compression Strength at 28 day Lb. per Sq. In.
I	7 $\frac{1}{2}$	2500
II	6 $\frac{1}{2}$	3000
III	6 $\frac{1}{2}$	3750

*Water in the aggregate must be included in the quantity of water specified and subtracted from the amount of water added to the mixture.

g. Workability. The mixture of aggregates, cement and water shall produce concrete that can be readily worked into all parts of the forms and around reinforcing without the separation or segregation of materials, and in no case shall the amount of fine aggregate in the mix exceed the amount of coarse aggregate, nor shall the amount of coarse be such as to produce harshness in placing or honeycombing in the structure.

h. Proportions and Slump. The proportions of the fine and coarse aggregate to the cement and the slump of the mixed concrete shall be between 3" - 4", air containment 4% - 6%.

i. Mixing. When approved by the Engineer, ready-mix concrete may be used provided the mixing and handling is in accordance with the requirements set forth in the "tentative Specifications for Ready-Mix Concrete" of the American Society for Testing Materials (Serial Designation: C 94-48).

j. Placing Reinforcement. Metal reinforcement shall be accurately placed as indicated on the plans, and shall be firmly secured in proper position by means of suitable clips, seats and wires. The reinforcing system shall be wired together at intersections and blocked by means of metal chairs, in such a manner and to such extent as to be

adequately secured and supported against displacement or bending as a consequence of the placing of the concrete or any other work or operation in connection therewith. The use of rocks, bricks, wood blocks, or concrete fragments to support the reinforcing will not be permitted. The minimum clear distance between any bar and the nearest concrete face shall not be less than two (2) inches unless otherwise shown on the plans.

Wire mesh reinforcement shall be lapped not less than $\frac{1}{2}$ a space between the wires parallel to the splice or not less than six (6) inches, whichever requires the greater lap. When so directed by the Engineer, adjoining sheets of wire mesh shall be securely wired together.

Whenever it is necessary to splice reinforcement otherwise than as shown on the plans, the character of the splice shall be approved by the Engineer on the basis of safe bond stress and the stress in the reinforcement at the splice. In no event shall the splice be less than fifty (50) times the diameter of the reinforcing bar. In slabs, beams, girders and other elements of a structure subject to direct bending stress, splices shall not be made at points of maximum stress.

k: Placing Concrete. No concrete shall be poured until the subgrade has been prepared, the forms in which it is to be placed have been completely erected and thoroughly braced, the reinforcing steel has been properly placed and secured as hereinbefore provided, nor before the Engineer has inspected and approved the subgrade, forms and reinforcing steel. Forms which have not been oiled shall be thoroughly wetted before placing of the concrete (except in freezing weather). The reinforcement shall be free of dirt, oil, grease, scale and excessive rust.

The manner and means of conveying and depositing the concrete shall be such as to provide that no segregation of the ingredients will result as a consequence thereof nor shall the concrete be permitted to fall through any considerable distance. If chutes are used, they must be of such inclination as to permit the ready flow of concrete of the required consistency. The use of additional mixing water to promote free flow of the concrete will not be permitted. Chutes shall be provided with baffle plates or with a reverse section at the outlet, if necessary, to prevent the segregation of the concrete ingredients. If wood chutes are used, they shall be metal lined. Columns, thin walls and the like more than six (6) feet in height shall be poured through pipe, tubing or similar device of adjustable length having a cross sectional area of not less than thirty (30) square inches.

The pouring operation shall be so arranged that after leaving the mixer the concrete is placed in its final position in one operation without additional rehandling.

Retempering of concrete which has reached its initial set or partially hardened, that is, remixing with or without additional cement, aggregates, and water will not be permitted.

The equipment for mixing and transporting the concrete shall be clean and all debris and ice shall be removed from the places to be occupied by the concrete before any is placed. Masonry units that will be in contact with the concrete being placed shall be well drenched (except in freezing weather). Steel reinforcement shall be clear of ice or other coatings. Water shall be removed from the place of deposit before the placing of concrete is started and excavation and forms shall be kept free of water during the placing operation. Concrete that has been contaminated by foreign matter shall not be deposited.

When concreting is once started it shall be carried on as a continuous operation until the placing of the unit is completed. The concrete shall be placed in fairly uniform layers and shall be deposited so as to maintain a plastic surface approximately horizontal during the

placing operation. Concrete shall be placed in such a manner that will avoid accumulation of hardened concrete on the forms or reinforcement. All concrete shall be thoroughly worked around reinforcing, fixtures and into all parts of the forms. The rate of progress shall be such that the concrete is plastic at all times. Under no circumstances shall concrete that has partially hardened or taken its initial set be deposited in the work.

Before depositing new concrete on or against old concrete surfaces, or against concrete that has attained its final set, forms shall be retightened, the surface of the hardened concrete roughened as required, thoroughly cleaned of foreign matter and laitance, and thoroughly moistened with water. Horizontal construction joints are to be covered with not to exceed two (2) inches of mortar containing the same proportion of cement to sand as used in the concrete, before additional concrete is placed.

l. Curing. As soon as forms have been removed, or exposed surfaces of concrete have been finished and have hardened sufficiently to prevent marring. The finished surface shall be sprayed with a membrane curing compound.

m. Depositing and Protecting in Freezing Weather. No concrete shall be placed without the specific permission of the Engineer when the temperature is at or below 40°F. In no case shall any frozen material be used in the concrete, nor shall it be deposited against frozen forms, earth, or rock, or against either concrete having a temperature below 40°F. In addition to adequate provision for protecting the concrete against chilling or freezing, the Contractor shall heat the water and aggregates so that, when deposited in the forms, the concrete will have a temperature of not less than 60°F. nor more than 100°F.

Aggregates shall be so heated and handled as to avoid injury by overheating, and to insure uniform moisture content of aggregates entering the mix.

Before concrete is placed at temperatures below 40°F. the Contractor shall have provided protection and heating facilities adequate to maintain the temperature hereinafter set forth. The concrete and the air surrounding it shall be maintained at a temperature between 50°F. and 100°F. for the first seventy-two (72) hours after the concrete has been placed, and a temperature between 40°F. and 100°F. for the next forty-eight (48) hour period. Thereafter the temperature of the air surrounding the concrete shall be gradually reduced to the outside air temperature at a rate of not faster than 5°F. in any one hour nor more than 20°F. in twenty-four (24) hours. At the Contractor's option high early strength Portland Cement may be used. When this type of cement is used, the temperature of the concrete during the first seventy-two (72) hours after placing shall be maintained at not less than 60°F. and the protection may then be removed as above.

Salts, chemicals or other foreign materials shall not be used as an admixture to prevent freezing.

n. Patching. After removing forms and before the concrete is thoroughly dry, and pour joints, voids, stone pockets, or other defective areas and all tie holes shall be patched. Defective areas shall be chipped away to a depth of not less than one (1) inch, with the edges perpendicular to the surface. The area to be patched and a space at least six (6) inches wide entirely surrounding it shall be wetted to prevent absorption of water from the patching mortar. The patch shall be made of the same material and proportions as used for the concrete except that the coarse aggregate shall be omitted.

o. Construction Joints. The placing of concrete shall be carried on continuously between construction joints shown on the drawings. Construction joints in columns shall generally be restricted to the tops and bottoms thereof. If for any reason it shall become necessary to stop the placing of concrete at places other than those shown on the drawings, such construction joints shall have the approval of the Engineer.

Construction joints shall be mechanically bonded by means of keys cast into the contact surfaces or by dowels as shown on the plans. The cross sectional area of keys shall be sufficient to transfer all shears at the section, but in no case shall the keys be less than twenty five (25%) per cent of the cross sectional area of the joint. These keys shall be formed by bevelled strips placed at right angles to the direction of the shear and shall be at least one and one-half ($1\frac{1}{2}$) inches in depth.

If the placing of concrete in horizontal slabs such as paving, floors, and the like is to be stopped for a period of more than forty (40) minutes, the concrete being placed shall not be tapered or sloped off, but shall be constructed full thickness to a secure header or bulk head perpendicular to the section being poured.

Forms for Paving, Curb, and Gutter,
Driveways, Sidewalks, etc.

a. General. Forms for paving, curb, and gutter, driveways, sidewalks and similar construction shall be provided in accord with the following specifications and requirements. Unless otherwise provided in the special provisions, proposal or contract no payment will be made for providing forms in accord with these specifications as the cost thereof is considered as being included in the price bid for the items to which forms are incidental or appurtenant.

b. Material for Forms. Form material shall be of steel or wood as hereinafter specified. Except where an integral curb is involved, side forms shall be of a height at least equal to the thickness of the concrete at the edge. In all cases the forms must be of sufficient strength and rigidity to resist springing or deflection as a consequence of the placing, tamping and finishing of the concrete. The forms shall be straight and free from defects that would in any way impair the quality or general appearance of the finished work.

Paving forms shall be of steel. When the form is tested as a simple beam having a span of 9'6" under a center load of 1700 pounds, the maximum deflection shall not exceed $\frac{1}{4}$ " in 10". Where an integral curb is required, the addition form height may be obtained by securely attaching an extension to the paving form. Such extensions shall extend the plane of the paving form without variations of more than $\frac{1}{8}$ ".

Curb and gutter forms shall be of steel and of a gauge and design that will provide the required strength and rigidity. Face forms for the curb shall be of steel true to the shape and contour of the curb, and shall be so designed as to be adequately supported and secured to the side forms.

Sidewalk and driveway forms may be of either wood or steel. If wood forms are used they shall have a net thickness of not less than one and five-eighths ($1\frac{5}{8}$) inches, except in case of work on curves where the use of a lighter form is obviously necessary. Steel forms must have strength and rigidity equivalent to the wood forms specified.

c. Setting Forms. No forms shall be set until the subgrade has been completed and compacted in accord with Section XI of the specifications. In no case shall the forms be set on loose uncompact

soil. The top of the forms shall be accurately set to the elevation and alignment of the edge of the finished work, and shall be supported and held securely by stakes and bracing adequate to hold the forms in the required position. After the forms are set and locked, a tamper of suitable design and weight shall be used on both sides of each form throughout its entire length, to force suitable material into intimate contact with the base of the form. Should the earth supporting the forms become softened by rain or standing water so that the forms are not adequately supported, the forms shall be reset on suitable compacted material before the concrete is placed. After the forms have been set the joints shall be checked with a straight edge at least ten (10) feet long, and corrected to proper grade and alignment.

Forms shall be cleaned and oiled before any concrete is deposited against them.

d. Removing Forms. Side forms shall be left in place not less than fifteen (15) hours after the concrete is placed. Face forms of curbs shall be removed as soon as the concrete has taken its initial set and is hard enough to permit proper finishing. In removing forms, care must be exercised to prevent spalling, cracking or other damage to the concrete.

Portland Cement Concrete Paving

a. Description. Concrete paving shall consist of a single course of Portland cement concrete of the full depth of the payment. The width and vertical dimensions shall not be less than those shown on the plans. The mixing, placing and curing of the concrete shall conform with Section XIII of this specification and the requirements hereinafter set forth.

b. Subgrade. The subgrade shall have been previously shaped and compacted in accord with Section XI of this specification.

After the subgrade has been checked and approved by the Engineer, it shall be covered with a single layer of bituminous treated paper before the concrete is placed, or other approved (by the Engineer) material.

c. Placing Concrete. The plans show the width or widths of strips in which the contemplated pavement is to be laid. The concrete shall be deposited upon the subgrade in a manner which will minimize the disturbance of the steel reinforcement and shall not be deposited to a depth greater than 8 inches above the designed elevation of the surface of the pavement. Except when welded wire fabric reinforcement is to be used, the concrete shall be deposited to the full depth of the pavement in a single operation.

The concrete shall be consolidated by means of vibrating tampers for the full depth and full width of paving being struck off with the screed. During the vibration, the tubes or arms shall be set into the concrete sufficiently to obtain the desired consolidation. The rate of vibration shall be not less than 3,500 vibrations per minute and the amplitude of the vibration shall be sufficient to be perceptible on the surface of the concrete more than 12 inches from the nearest vibrating unit. Care must be exercised in vibrating the concrete to avoid segregation of the ingredients.

The strip of pavement being constructed shall be struck off by an approved finishing machine which shall have a mechanically operated screed resting upon the concrete and sawed upon it in such a manner as to leave the top of the slab smooth, with the desired crown and at the proper elevation.

On the initial passage of the finishing machine, the roll of concrete ahead of the front screed shall be kept reasonably uniform in size and not over 6 inches above the proposed finished surface.

There shall be a second screeding of the pavement surface which shall be a continuous operation for a distance of approximately 80 feet or $\frac{1}{2}$ hour's mixer run, whichever is the lesser, without reversal and at a forward speed not greater than 10 feet per minute. The Engineer may, at his discretion, modify the length of travel for the second screeding to meet unforeseeable or uncontrollable conditions except that this provision shall not be construed to permit the acceleration of the finishing operations at the end of a normal day.

The concrete of all irregular sections, uniform slabs upon which a continuous line of forms less than 600 feet in length may be set or alley paving may be constructed by hand methods without a finishing machine, but this exception shall not apply when a paving project consists of two or more sections of street paving having a total length of more than 600 feet even though the length of a single section may be less than 600 feet.

The following methods shall be used where hand finishing is permitted. Before being struck off the concrete shall be deposited and distributed from form to form so that the forms are slightly over filled. The concrete in the entire area so filled shall be consolidated by the use of vibrating units operating in the concrete. The rate of vibrations shall be not less than 3,500 vibrations per minute and the amplitude of the vibration shall be sufficient to be perceptible on the surface of the concrete more than 12" from the nearest turbe or arm. The vibrating shall be done that the ingredients of the concrete will not be segregated. Unless the vibrating apparatus is such that the full width of concrete is consolidated in a single passage, a definite system or pattern shall be used in the operation of the vibrator so that the full width of the concrete in each lineal foot of lane will receive adequate and uniform consolidation. The system and methods of vibrating shall be subject to the approval of the Engineer. The vibrating equipment shall under no circumstances be used as a tool for moving concrete laterally on the grade. After the concrete has been consolidated by vibration, the surface shall be struck off to the true section with a hand operated screed. This screed shall be mechanically vibrated at a rate not less than 3,500 vibrations per minute. The screed may be adjustable or a separate screed shall be furnished for each variation in crown section. The screed shall be operated forward with a combined longitudinal and transverse motion, and shall be so manipulated that neither end will be raised off the side forms. Not less than two screedings of the surface shall be made.

If mesh reinforcing is specified in the Plans, the foregoing procedure shall be modified to provide for placing the concrete in two layers. The first layer shall be placed and screeded to provide a surface on which the reinforcing mesh sheets shall be placed at the depth shown on the Plans. After the mesh is in place, the second layer of concrete shall be deposited and the placing of the concrete shall then proceed as hereinbefore specified. In placing the mesh reinforcing, the second layer of concrete shall be placed before the first layer starts to set in order to avoid a cleavage plane between the two layers of concrete.

d. Finishing Tools. Before placing any concrete the Contractor shall provide necessary floats, edgers, belts, and other equipment and shall have them on the job before any concrete is placed.

e. Finishing. After the concrete has been placed, consolidated and struck off as hereinbefore prescribed, the pavement shall be finished in the following manner:

A. A float shall be operated longitudinal over the entire surface of the pavement with a combined longitudinal and transverse motion, passing slowly from one side of the pavement to the other a sufficient number of times (at least twice) to smooth all ridges and fill all depressions, until the float on its last passage shall show contact with the concrete throughout its entire length and width. The float shall rest flat on the surface of the concrete throughout this operation except that if a ridge be encountered which cannot be eliminated by floating the float may be tilted so that its edge will operate as a screed to remove the excess concrete, after which the surface shall be refloated with the float in the flat position. Depressions appearing after the initial passage of the float shall be filled with additional concrete before the final passage. The float shall be operated by men working on bridges that span the full width of pavement. In moving forward with the float each successive position shall overlap the preceding position by one half of the length of the float.

B. Immediately after completion of the longitudinal floating described under "A" of this paragraph, the surface of the concrete shall be struck off and smoothed with the heavy 10-foot straight-edges set parallel to the centerline, supplemented by such floating as is necessary to eliminate all depressions and irregularities. High areas shall be removed and depressions shall be filled with additional concrete. The entire area of surface that has been disturbed in making the corrections shall be immediately refinished by hand to a smooth and even surface. This striking off and correcting of the surface shall be started as soon as the condition of the concrete will permit, and the Contractor shall detail to this work a sufficient number of skilled finishers to complete the correction before the initial set has taken place.

C. The surface of the slab shall then be given a preliminary transverse belting with a belt not less than 6 inches wide using a combined crosswise and longitudinal motion. This operation shall remove all marks of previous finishing operations and provide a surface equal in smoothness and finish to that obtained at the final belting.

D. After this preliminary belting the entire surface shall be checked with light straight-edges set parallel to the center-line of the roadway. Successive positions of the straight-edges in the direction of progress of the work shall lap one half the length of the straightedge. All depressions and irregularities on the surface shall be corrected.

E. After the greater part of the water glaze has disappeared from the surface, the concrete shall be given a final belting to remove tool marks and to produce a uniform surface of a gritty texture. In order to secure the desired surface, the Engineer may require that the length of stroke and the rate of advance be varied according to the aggregate used, the amount of water present and the rate of hardening of the concrete.

Immediately after the final belting the concrete shall be given a final finish by means of a wet burlap or carpet drag drawn over the surface in a longitudinal direction. For lanes 16 feet or more in width the drag shall be mounted on a bridge which travels on the forms. The dimensions of the drag shall be such that a strip of burlap or carpet at least 3 feet wide is in contact with the full width of pavement surface while the drag is being operated. If a burlap drag is

used the drag shall consist of not less than two layers of burlap with the bottom layer approximately 6 inches wider than the upper layer. The drag shall be maintained in such condition that the resultant surface is of uniform appearance and reasonable free from grooves over 1/16 in depth.

Drags shall be rinsed or washed as often as is necessary to remove sticks or hardened particles which would otherwise scar the surface.

F. After the final belting the edges of the pavement along the side forms shall be rounded in a workmanlike manner by means of a suitable edging tool and the top of side forms shall be cleaned of accumulations of concrete. After the burlap or carpet drag has moved over the pavement surface any edging disturbed by the drag shall be corrected by retooling.

G. After the concrete has set sufficiently hard to bear a man's weight without injury to the surface and before the application of the final curing process, the entire surface and before the application of the final curing process, the entire surface of the pavement will be checked by the inspector with a surface testing straightedge of special design which will be furnished by the contracting authority. In this checking process successive positions of the straightedge will overlap the preceding positions by one half the length of the straightedge. High spots in excess of 1.8 inch under a 10-foot straightedge shall be smoothed to bring the surface within this 1/8 inch tolerance. This smoothing shall be accomplished by rubbing with a carborundum brick or by other methods which will produce equivalent results. The Contractor shall furnish the necessary men to remove and replace the burlap covers and remove all high spots encountered before the final curing process is applied.

H. The belt and drag finish described under C and E of this paragraph do not apply to alley paving and the following shall be substituted in lieu thereof for finishing alley paving. After the surface has been prepared in accord with A and B of this paragraph, and after the water glaze has disappeared from the surface, the surface of the concrete shall be broomed. The brooms shall be drawn across the surface with not more than 1 stroke per width of broom slightly overlapping adjacent strokes. When completed, broom marks shall not be more than 1/8" deep and the brooming shall be completely across the pavement slab.

f. Integral curb. At such time in the finishing process as to precede the initial set in the concrete of the main paving slab, any integral curb required shall be constructed.

Unless otherwise provided by the detailed plans, steel curb forms will be required to form the back of all curbs except where street returns of small radius or other special sections make the use of steel forms impractical.

Steel face forms shall be used for curbs having a height greater than 3 inches, but approved hand methods may be used to supplement the forms in shaping the face in returns and other special sections.

Before concrete for the curb is placed, any free water laitance, dust, leaves or other foreign matter which may have collected on the edge of the slab shall be removed. Concrete for the curb shall be freshly mixed and in a plastic, workable condition. Concrete which has dried or partially hardened or requires retempering shall not be used.

In placing curb concrete sufficient puddling shall be done to secure adequate bond with the paving slab and eliminate rock pockets in the curb, but care shall be used to avoid disturbing the forms or causing the concrete to heave in the line of finished gutter.

The final finish on the curb may be secured with the curb mule or it may be supplemented by the use of hand floats, damp brushes, etc. The resulting surfaces of both curb and gutter shall be checked by the use of the 10-foot straightedge and corrected, if necessary. The final finish on curbs will be secured by hand methods including the 6-foot straightedge after the removal of the face forms. In removing face forms, care shall be used to avoid slumps or the disturbance of partially set concrete. The work of constructing integral curb shall proceed as rapidly as the finishing operations on the paving slab will permit and in all cases shall be completed in the same working day that the slab is placed, except for the length of section required at the end of the day's run to accommodate the finishing machine but not more than 20 feet. In the section left for subsequent placement of curb the surface of the paving slab along the line of the inside slope of the curb shall be depressed so that the new concrete placed for curb shall not be less than $1\frac{1}{2}$ inches thick. This section of curb shall be doweled to the slab by hooked steel bars $\frac{3}{8}$ inch in diameter spaced at 1-foot intervals. The surface of the slab back of the key notch shall be roughened and a depression created around each dowel so that it will project at least 2 inches into the curb concrete.

When curb is built on slabs traversed by expansion joints, contraction joints or headers the joint shall extend through the curb.

All curbs shall be edged, protected and cured the same as other parts of the paving slab.

g. End of Run. Whenever 30 minutes or more have elapsed since the delivery of the last concrete to the subgrade or if such a delay is anticipated, a header shall be installed. The header shall be shaped to fit the cross section of the pavement and so placed that its upper edge will conform to the crown of the pavement. It shall be installed on the subgrade perpendicular to the surface of the pavement and at right angles to the center-line of the pavement. Concrete collected by the finishing machine during its first passage may be used adjacent to the header board. The diameter of the holes shall be $\frac{1}{2}$ inch greater than the diameter of the dowels. It shall be provided with such supports as may be necessary to insure that it will remain true to line and grade during the placing and finishing of the concrete. The concrete shall be well spaded against the header and finished with an edging tool. Care shall be taken in removing the header to avoid disturbing the dowels or the concrete. The exposed ends of the dowels shall be greased with a material not less viscous than heavy transmission grease. Dowels in the header shall be smooth round bars and a diameter shown on the plan.

When the delivery of concrete is resumed it shall be placed against the exposed face of the previously placed concrete, thoroughly vibrated and finished with an edging tool. Unusual care shall be taken to insure that the concrete at the beginning and end of a run is of the proper composition and consistency.

h. Time for opening pavement for use. The time for opening pavement for use will be based on the strength of the concrete as determined from specimens made during the progress of the work, but not before the concrete has attained a minimum age of 7 days.

The Contractor shall be responsible for providing and maintaining adequate barricades and lights until such time as the Engineer advises the Contractor in writing that the work is completed, or that the paving may be opened, whichever occurs last.

i. Transverse Joints. Transverse joints shall be installed as shown on the plans. They shall be installed perpendicular to the surface of the pavement and at right angles to its centerline unless otherwise shown on the plans. They shall be of the type and material shown on the plans. The ends of dowel bars through expansion joints shall be fitted with metal expansion tubes.

The portion of the expansion joint which extends through the curb shall be twice the thickness of the joint in the pavement slab. When curb is constructed over a contraction joint or header the curb shall be cut. Care should be taken to insure the joint in the curb is centered directly over the joint in the pavement slab.

Before any earth or sand is placed on the surface of the pavement in the curing operation, in the process of building shoulders or by traffic, expansion joints shall be sealed with the material specified in Par. XII - 15.

Care shall be taken to fill the joints flush with the top of the pavement without spilling sealing material on the pavement surface.

The sealing material shall be heated in a heater of such size and design that it will not subject the concrete to abrasion, excessive loads or excessive heat.

j. Longitudinal joints. Longitudinal joints shall be constructed as shown on the plans. Such joints shall be true to line. They shall be constructed by installing a metal parting strip or by the employment of some method or device which will result in the creation of a definite plane of weakness extending into the slab not less than the dimension shown on the plans. Any method or device for creating a plane of weakness shall be of a mechanical nature to insure a straight, workmanlike installation and shall be subject to the approval of the Engineer before being used. Any method or device using premolded bituminous parting strip shall be capable of continuous operation. The strip installed shall be continuous between transverse joints and shall conform to the dimension shown on the plans. When the plane of weakness is made by installing a metal form to be removed after the concrete has set, the sections of metal form shall be provided with interlocking ends and shall be sufficiently rigid to hold themselves in position. The sections shall be removed from the set concrete the following day and the opening filled with bitumen.

If a machine is used for installing parting strip this machine and the groove cutting and installing mechanism shall be maintained in first-class condition. Parting strip shipped in rolls shall be stored in a manner that will retain their circular shape. Rolls of parting strip that have been allowed to become elliptical in shape or otherwise damaged to the extent that the deformation causes kinks in the longitudinal strip when installed shall not be used unless heated and straightened.

Sawed Joints. Joints shall be sawed when so shown on the Plans. The Contractor may substitute sawed joints for those indicated on the Plans if the Engineer so approves in writing. But a sawed joint cannot be substituted for an expansion joint nor for such joints as are specifically required to be constructed otherwise by the Plans.

Sawed joints are to be made with a machine especially made for sawing concrete. The saw cuts are to have a depth of not less than $\frac{1}{4}$ of the thickness of the paving slab. If a diamond blade is used the width of the cut shall be $\frac{1}{8}$ ". If a carborundum blade is used the cut shall be $\frac{1}{4}$ " wide. Such cutting shall be done as soon as possible after the concrete has reached its final set but under no circumstances shall the time of such cutting be more than 48 hours after the placing of the concrete. Prior to the sawing procedure, the burlap shall be removed in the immediately following the sawing the burlap shall be replaced.

The Contractor may if he so wishes use two blades to form a shelved joint. In this operation two diamond blades shall be used simultaneously, one blade being 2 inches smaller in diameter than the other, to form a joint that has a depth of $\frac{1}{4}$ the thickness of the pavement but with the bottom one inch of the joint being $\frac{1}{8}$ " wide and the remaining portion of the joint being $\frac{1}{4}$ " wide.

Sealing Joints. The top of expansion joints, all sawed joints, and open joints such as those made with a steel form pressed into the fresh concrete shall be sealed.

Joints shall be cleaned to their full depth of all foreign material by compressed air and other methods that may be necessary just prior to being sealed, and shall be completely dry before the sealing compound is applied. After the Engineer has approved the joints, they shall be sealed with a hot poured asphaltic material such as "Para-Plastic" sealing Compound or any material equal and similar thereto that has the written approval of the Engineer.

The sealing compound shall be heated in special vessels and care must be exercised to avoid over heating. The method of heating and the temperatures to which the material is heated shall be in accord with the manufacturer's recommendations.

The filling of the joints should be done with equipment that will introduce the filler into the joint and will not spill filler on the pavement. In the case of filling sawed joints, a pressure gun should be used. The joints shall be filled flush with the surface and any excess filler or filler spilled on the surface of the concrete shall be removed immediately.

k. Curing. The concrete shall be cured by applying an impervious membrane coating as soon after the concrete has set sufficiently. That the spraying will not mar the finished surface.

Liquid compounds for curing concrete may be either dark colored compounds of asphalt, emulsified or cut back with volatile solvent. The compounds shall be shipped in containers packed by the manufacturer, and shall be used without dilution or alteration on the work.

The light colored compounds shall comply with the requirements of the A.A.S.H.O. designation M. 148-49 and the dark with Section 4147, Iowa Highway Commission 1952 Specifications.

l. Concrete Headers. Concrete headers shall be constructed of the same class of concrete as that specified for the pavement. Concrete headers shall be constructed as ordered by the Engineer and in conformance with the standard plan.

m. Fixtures in Pavement Surface. All manholes, catch basins, valve box or other fixtures encountered within the area to be paved shall be adjusted to conform to the finished surface of the pavement to be built. In adjusting manhole rings the masonry next below the

ring shall be full and complete prior to the opening of the pavement to traffic. Prior to the placement of the concrete the outside of the fixtures shall be cleaned of loose, foreign material for the depth of the concrete. When the specified on the plans certain fixtures shall have premolded expansion joint material placed around them.

Fixtures, except intakes, that fall in the form line where finishing machines are required, may be boxed out. If boxed out, the form constituting the box shall be fitted with keyway and dowel bars. The forms of the boxed out area shall not be closer than 2 feet from the fixture. When the concrete is poured around the fixture not less than one $\frac{1}{2}$ -inch round reinforcing bar shall circumscribe the fixture and at about 1 foot distant. The boxed out concrete shall not be cut or divided on the original form line.

J. Typical Grading and Sidewalk Plan.

1. Where driveway crosses sidewalk the thickness of the sidewalk should be $5\frac{1}{2}$ inches. The approaches from the street should be 6 inches thick. An expansion joint $\frac{1}{2}$ inch thick should be placed both at the sidewalk and at the curb.

2. The elevation of the sidewalk from the curb should be $\frac{3}{4}$ inches per foot of Boulevard. The total elevation should not exceed 6 inches from the elevation of the curb.

3. The driveway approach should have a two (2) foot swing per forty two (42) inch Boulevard on each side.

4. The dummy joints should be cut every five (5) feet and $\frac{1}{2}$ inch expansion joint every twenty five (25) feet plus one at each property line.

5. Where the sidewalk crosses the sewer or water line, the sidewalk should be re-enforced with 6 X 6 #10 re-enforcing wire for a length of five (5) feet on each side of the sewer or water line.

6. Six (6) inch rolled curb and gutter are recommended.

K. Inspection of Improvements:

1. All Plans and Specifications for Improvements set forth above, shall be prepared and certified by an Iowa Registered Professional Engineer.

2. The cost of engineering and inspection of improvements determined on the period of time devoted to the project shall be charged to the subdivider.

3. When such facilities have been installed, they shall become the property of the Town and under the exclusive jurisdiction and control of the Town.

L. Failure to Complete Improvements in Accordance with Bond:

In the event a subdivider has filed a performance bond in compliance with Section IX, subsection I, a, and he has not provided for the facilities required under this section by the time the bond expires, then the subdivider or his bondsman shall forthwith cause such facilities to be installed without further delay, or the subdivider or his bondsman may, with the Town Council's approval, cause such portion of the plat as has not been improved to be vacated, or the Town Council may use the bond or any necessary portion thereof to complete the improvements.

Section X
Variations and Exceptions

Whenever the tract to be subdivided is of such unusual size or shape or is surrounded by such development or unusual conditions that the strict application of the requirements contained in these Regulations would result in real difficulties and substantial hardships or injustice, the Plan Commission may permit specific variations or modifications so that the subdivider is allowed to develop his property in a reasonable manner, but so at the same time, the public welfare and interests of the Town and surrounding area are protected and the general intent and spirit of these Regulations are preserved.

Section XI
Enforcement

1. No Plat of any Subdivision shall be entitled to record in the County Recorder's Office or have any validity until it shall have been approved in the manner prescribed herein.

2. The Zoning Enforcement Officer shall not issue building or repair permits for any structure located on a lot in any Subdivision within the Town Limits of Buffalo, the Plat of which has been prepared after the adoption of this Ordinance but which has not been approved in accordance with the provisions contained herein.

3. The Town Council shall not permit any public improvements over which it has any control to be made or any money expended for improvements in any area that has been subdivided or upon any street that has been platted after the date of the adoption of this Ordinance, unless such Subdivision or street has been approved in accordance with the provisions contained herein.

Section XII
Saving Clause

If any Section, provision or part of this Ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the Ordinance as a whole or any Section, provision, or part thereof not adjudged invalid or unconstitutional.

Section XIII

Repealer

All Ordinances or parts of Ordinances in conflict herewith, are hereby repealed, except any Ordinance or parts of Ordinances that imposes more restrictive regulations than are imposed herein.

Section XIV
When Effective

This Ordinance shall be in effect after its final passage, approval and publication as provided by law.

Passed by the Council of the Town of Buffalo, Iowa this 5th day of January, 1970

Approved by the Mayor of the Town of Buffalo, Iowa, this 5th day of January, 1970.

Signed Jack Stalder
Mayor, Town of Buffalo, Iowa

Attest: Lewis M. Adams Jr.
Lewis M. Adams Jr. Clerk
Town of Buffalo, Iowa