

ARTICLE VI

REQUIRED IMPROVEMENTS

6.1 MONUMENTS

Monuments shall be placed at all block corners, angle points, points of curvature in streets and points of tangency or horizontal curves, and at intermediate points shall be required by the ENGINEER; however, in no case shall there be less than four (4) permanent monuments per block. The monuments shall be of such material, size and length as may be approved by the ENGINEER.

6.2 UTILITY IMPROVEMENTS

6.21 Utility and street improvements shall be provided in each new subdivision in accordance with the following:

A. Water Supply and Fire Hydrants

1. Public or Central Water Supply Available - if public or approved central water supply is utilized, the system shall be designed with adequate main sizes and fire hydrant water supply to meet the Association of Fire Underwriters specifications for a protected area. Such system shall be approved by the public agency or authority, operating the central water system.

2. No Public Water

a. In General. A project water system with a central well, adequately planned and protected, is often less expensive to install than an individual well serving each lot. It is also easier to protect against contamination or if contamination does occur, it is simpler and more efficient to purify the water from a central well than from numerous individual wells.

b. Project System. If a project system is planned, it shall be approved by the Clinton County Health Department and the central well drilled, tested and approved prior to filing the application for the subdivision. All land within one hundred (100) feet of a project well shall be suitably protected and restricted from development. All lines shall be six (6) inch minimum in size unless smaller sizes are permitted by the Planning board and shall be according to the standards of the nearest central or public water supply system if one exists within two (2) miles of the development.

c. Individual Wells. If the water supply is to be from individual wells, the developer shall provide at least one (1) test well for each unit of ten (10) or less lots in the subdivision, location of such well to be approved by the Planning Board. Test wells shall be drilled, cased, and group sealed into bedrock, shall be not less than twenty five (25) feet deep, and shall have a production capacity of not less than five (5) gallons per minute of safe drinking water as certified by Clinton County Department of Health on the basis of bailer test.

B. Sanitary Sewer Facilities:

1. Public Sewer Available. No storm water shall be allowed to enter sanitary sewers. Proof shall be submitted showing that all plans of sewer extension have been approved by the Clinton County Department of Health. Where required by Town policy, offer to dedicate sewers shall be prepared in form suitable to the Town Attorney

- a. On-the lot sewage disposal systems are generally unsatisfactory even when carefully designed and constructed and given the best of maintenance. Poor design, inadequate construction, or poor maintenance can result in conditions dangerous to health and generally obnoxious to the senses. Where public sewers are not available, developers are urged to consider project sewer systems which can be far more satisfactory and are often less expensive.
- b. Project Systems. Project systems shall be designed by a licensed engineer, shall provide a six (6) inch minimum size connection to each lot, and shall have an adequate sewage disposal plant with suitable arrangements for the operation thereof. Plans shall be approved by the Clinton County Department of Health except for systems of capabilities in excess of thirty thousand (30,000) gallons a day which shall be approved by the New York State Department of Health.
- c. Sewage Disposal on the Lot. Where sewage disposal is to be on the lot, installation shall conform, at a minimum, to Clinton County Department of Health standards. Where water supply and sewage disposal are both to be on the lot, general location of each shall be shown on the plan and approved by the Clinton County Department of Health.

C. Storm Drainage

1. Capacity

- a. Storm drainage facilities shall provide a clear and protected channel fully adequate to handle runoff from a five (5) year storm. The developer should keep in mind that more severe storms occur at less frequent intervals and where feasible, so design subdivisions that especially heavy runoff exceeding the capacity of the required channels, can be handled with the least possible damage to improvements and structure.
- b. The rational method shall ordinarily be used in computing runoff, using the formula $Q = CIA$ wherein.

Q = water reaching channel, culverts, bridge or storm sewer in cfs.

I = rainfall in inches per hour

C = coefficient of runoff suggested is as follows:

- Areas primarily paved or in building (such as shopping centers) .85
- Primarily residential area with lots smaller than seventy-five hundred (7,500) sq. ft. or apartment areas .55
- Primarily residential area with lots seventy-five hundred (7,500) sq. ft. to one-half (1/2) acre .40
- Primarily residential areas with lots twenty thousand (20,000) sq. ft. or over .35
- Cemeteries, park land, and other permanent open areas .30
- A - Area in Acres

- c. Minimum pipe size shall be twelve (12) inches
- d. Bridges or culverts serving a drainage area of more than one (1) square mile shall be approved by the New York State Department of Public Works.
- e. In small drainage areas intended for residential development, the following rule of thumb may, if desired, be substituted where applicable.

For drainage areas less than one (1) acre in area 12" pipe

For drainage areas one (1) to two (2) acres in area 15" pipe

For drainage areas (2) or four (4) acres in area 18" pipe

2. General Design

- a. Preferred runoff pattern. Preferred design of streets and grading in relation to storm drainage shall be such that runoff from roofs, driveways, and other impervious surfaces will be collected in the ditches and/or gutters along the street in short runs three hundred (300) or four hundred (400) feet, and will then be diverted from the street surface into storm sewers or natural watercourses. Streets should be located away from watercourses unless storm sewers are to be installed.
- b. Downstream Disposal. Subdivision and development of an area increases and concentrates the runoff of storm water from the area. Subdividers are warned that such increase may cause floor or erosion damage to undeveloped properties lying downstream. Storm drainage channels opening on unimproved land shall empty into natural watercourses unless suitable agreement is reached with the owner of the downstream property for other method of handling. In any instance, the disposal of storm drainage downstream shall be satisfactory to the Planning Board as advised by the ENGINEER.

3. Open Watercourses

The use of open watercourses for drainage may involve problems relating to safety, erosion control, stagnant water, protection of capacity, and appearance, all of which shall be given adequate attention by the developer as follows:

- a. Safety. Broad, shallow courses shall be created wherever necessary to increase capacity or eliminate steep banks. Ditches shall, wherever feasible, be in the shape of a wide top V with rounded or squared invert.
- b. Erosion Control. Adequate measures shall be taken to prevent erosion. The Planning Board shall require seeding, sodding, planting, riprap, or such other measures as may be necessary to prevent scouring.
- c. Drainage. The developer shall guard against the creation or continuation of swampy areas or stagnant pools. The Planning Board shall require fill and/or channel improvements in order to forestall such problems.

- d. Protection of Capacity. The developer shall provide adequate measures for the protection of open drainage channels by establishing drainage easements sufficiently wide (generally twenty (20) ft.) to enable the working of the channel by motorized equipment or alternately, where authorized by the Planning Board, a center block park of a minimum width of fifty (50) feet. All easements shall prohibit the erection of structures, the dumping of fill, or the alteration or obstruction of the watercourses without the written permission of the Town Board. Property lines shall be so designed as to allow drainage easement, except that drainage easement may be allowed to cross lots larger than one (1) acre.
- e. Appearance. The developer should keep in mind that natural watercourses can be an attractive asset to the subdivision as well as to the community and, where possible, should improve and beautify the watercourses to this end.

4. Design of Storm Sewers

- a. Size and Grade. Storm sewers shall have a minimum diameter of fifteen (15) inches and a minimum grade of 0.5 per cent.
- b. Manholes. Manholes shall not be more than three hundred (300) feet apart where pipe sizes of twenty-four (24) inches or less are used, and not more than five hundred forty (540) feet apart where larger sizes are installed.
- c. Change in Direction. Special sections of ten (10) to fifteen (15) feet radii shall be installed where abrupt changes are made in alignment.

5. Design of Ditches and Gutters

- a. Length of Flow. Subdivisions should be so designed that length of flow or water in gutter of roadside ditch does not exceed four hundred (400) feet, except that in exceptional cases, runs up to eight hundred (800) feet in length may be permitted by the Planning Board. Runs exceeding the maximum shall be put in storm sewers or diverted to natural drainageways.
- b. Minimum Grade. All enclosed drainage courses shall be designed with sufficient grade to create a cleansing velocity of three (3) feet per second. A lesser grade may be permitted by the Planning Board where a greater grade cannot be achieved.
- c. Street Crossing. Water in gutters and ditches shall not be allowed to flow over intersecting streets but shall be placed in adequate culverts.
- d. Depth and Shape of Ditches.
 - (1) Where roadside ditches are permitted for runs of more than three hundred (300) feet or where subgrade drainage is necessary, the bottom of such ditch should be below the subgrade, and at a minimum, should be approximately (18) inches below the crown of the road.
 - (2) Ditches shall be V shaped with sides sloping at approximately one (1) inch vertical to three (3) inches horizontal except where other cross-section plan is authorized.
- e. Erosion Control. Suitable headwalls, endwalls, ditch seeding or sodding,

and other procedures or devices to prevent erosion shall be used.

6.3 STREET AND OTHER IMPROVEMENTS

- 6.31 **Arterial Streets:** Cross sections in accordance with the Official Map and Master Plan as determined by the engineer and Planning Board, or by State or County road authorities.
- 6.32 **Collector Streets:** two (2) five (5) foot sidewalks each one (1) foot from property line.
- 6.33 **Minor Streets and Cul-de-sacs:** two (2) five (5) foot sidewalks each one (1) foot from property line
- 6.34 **Marginal Access Streets:** approximately ten (10) feet to be used as part of the separation strip between marginal road and adjacent arterial or collector.
- 6.35 **Streets along development boundaries, and streets connecting the development with existing improved street system;** cross sections as determined by ENGINEER and Planning Board.
- 6.36 **Grading and centerline gradient:** Per plans and profiles approved by ENGINEER.
- 6.37 **Street lighting:** Per plans and specifications approved by ENGINEER.
- 6.38 **Street name signs** at all intersections, the design of which must be approved by the Planning Board.
- 6.39 **Residential construction standards** shall meet the specifications set forth on the drawings in this section. These specifications are established for natural conditions of satisfactory subgrades, slope and drainage. Where these natural conditions are other than favorable the Planning Board, after consultation with the Town Highway Superintendent, may require reasonably higher standards for gravel base and pavement: and may specify special treatment of the subgrade.
- 6.40 **For commercial,** industrial and other non-residential subdivision construction standards for required improvements shall be specified by the Planning Board.
- 6.41 **The developer** shall furnish a performance bond or cause a deposit sufficient to cover the full costs of the construction of such utility and street utility and street improvements as may be required by the Planning Board in accordance with Section 277 of the Town Law. Developer may install such utility and street improvements at his own expense or, in the alternative may secure the formation of a special district to install such utility and street improvements pursuant to laws of the state.

