SECTION 2. DESIGN STANDARDS

2.1. GENERAL.

The development of land shall conform with zoning regulations established by the Town. It shall also conform with all appropriate laws, rules, and regulations established by all governing bodies having or claiming jurisdiction over various phases of the development.

Where these Standards impose greater restrictions than are imposed by the provision of any law, ordinance, regulation or private agreement, these Standards shall control. Where greater restrictions are imposed by any law, ordinance, regulation, or private agreement than are imposed by these Standards, such greater restrictions shall apply.

2.2. REFERENCES TO OTHER SPECIFICATIONS.

References to other standards and specifications shall mean that the applicable portions thereof shall be followed as if the specifications were actually incorporated in these Standards. It shall be understood that such references shall be to the latest edition or revision thereof, including all addenda.

2.3. RESPONSIBILITY FOR DESIGN.

Developers are responsible for providing sound engineering design of all facilities, subject to review by the Town. The design shall be prepared by a New York State licensed professional engineer and/or land surveyor experienced in the design of such facilities. Design information, engineering reports, plans and specifications shall provide the information required by these Standards and additional information that may be required by the Planning Board.

Boundary surveys shall be performed and certified by a licensed land surveyor.

All revisions to the originally submitted Plans and Reports shall be noted and dated by the Developer's Engineer on the revised Plans and Reports before they are resubmitted for further review.

2.4. TOWN ROAD CROSSING.

Open cutting of Town roads for installation of underground utilities is not allowed unless an exception is granted by the Town Highway Superintendent.

2.5. WATER DISTRIBUTION SYSTEM

2.5.1. GENERAL.

Public water supply shall be provided wherever existing water mains are reasonably accessible in the opinion of the Planning Board.

Only those developments that cannot be served by extension of public water systems may be designed with individual wells. The Developer is responsible for obtaining approval for individual wells from the NYS Department of Health.

2.5.2. PUBLIC WATER SYSTEMS.

Design shall conform to the following standards supplemented and superseded by additional requirements as listed.

1. Recommended Standards for Water Works, by New York State Department of Health, Bulletin 42.

2. Fire Suppression Rating Schedule, by Insurance Services Office of New York.

3. Water systems shall be designed to provide fire flows required by ISO while satisfying average daily domestic demand and to maintain a minimum pressure of 20 psi at ground level under all flow conditions at all points in the distribution system. Normal operating pressure shall be not less than 35 psi. Hydrants shall be spaced not more than 500 feet apart.

4. Materials shall be in accordance with Section 3. Construction Standards, and construction shall conform to Section 4. Standard Details.

5. Minimum size of water mains shall be 8 inches except as otherwise permitted by these Standards.

6. On dead end streets, water mains not exceeding 500 feet in length may be 6-inch size if required flow and pressure can be provided.

7. Water mains providing only domestic supply to multiple dwelling units may be 4-inch size if required flow and pressure can be provided.

8. Larger than 8-inch size water mains may be required by the Planning Board where the water system is part of adjacent transmission or distribution network.

9. Water services shall be 3/4-inch minimum size and shall extend to the right-of-way line or easement line of all individual lots.

10. Meter pits shall be provided for individual services that are longer than 250 feet from the water main.

2.5.3. INDIVIDUAL WELLS.

Design shall conform to the following standards supplemented and superseded by additional requirements as listed.

1. Rural Water Supply, by New York State Department of Health.

2. Where wells are proposed on lots with individual subsurface sewage disposal systems, soils data for the full depth of proposed wells and detailed plans shall be submitted to indicate how pollution of the wells will be prevented.

3. Wells for residential lots shall be developed from a water-bearing formation at a depth greater than 20 feet below the ground surface, have sustained yield of not less than 5 gallons per minute, and provide a pressure of at least 20 psi at ground level at the entry point into the house.

4. A note shall be included on the plans requiring that the Water Well Completion Report form required by NYSDEC, be submitted to the Town before a building permit is issued.

5. A note shall be included on the plans requiring that wells be sampled for adequate quantity and required quality of potable water and that a laboratory report be submitted to the Town before a building permit is issued.

6. Sampling and analytical methods to determine compliance with Drinking Water Standards shall be in accordance with NYS Department of Health requirements.

7. Well casings shall be composed of all new materials. Installation of used casing and pipe materials shall be cause for denying a building permit.

2.6. SANITARY SEWER SYSTEMS

2.6.1. GENERAL.

Public sanitary sewers shall be provided wherever existing sanitary sewers are reasonably accessible in the opinion of the Planning Board.

Only those developments that cannot be served by extension of public sanitary sewers may be designed with individual sewage disposal systems. The Developer is responsible for obtaining approval for such systems from regulatory agencies.

2.6.2. PUBLIC SANITARY SEWER SYSTEMS.

Design shall conform to the following standards supplemented and superseded by additional requirements as listed:

1. Recommended Standards for Wastewater Facilities by Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. (Ten-State Standards).

2. Materials shall be in accordance with Section 3. Construction Standards, and construction shall conform to Section 4. Standard Details.

3. Manholes shall be spaced at intervals not greater than 300 feet.

4. Depths of sewers shall be sufficient to serve basements of all houses in the development.

5. The minimum inside diameter of manholes shall be 48-inches for 8" through 12" diameter sewers and 60-inches for sewers larger than 12 inches diameter.

6. A drop of 0.1 foot shall be provided through each manhole for all changes in horizontal alignment.

7. Building sewers shall be 4 inch diameter minimum, at a minimum slope of 1/4-inch per foot.

8. Cleanouts shall be provided for building sewers at all horizontal bends and at a maximum distance of 100 feet.

9. Vertical separation distance of two (2) feet shall be provided between parallel sanitary sewers, storm sewers and water mains to provide clearance for crossing of building sewers and drains.

10. Pumping stations and force mains shall be designed to conform to Ten-State Standards and to NYSDEC and Town of Gorham requirements.

2.6.3. INDIVIDUAL DISPOSAL SYSTEMS.

Design shall conform to the following standards supplemented and superseded by additional requirements as listed.

1. Standards for Waste Treatment Works Institutional and Commercial Sewage Facilities, by NYS Department of Environmental Conservation.

2. Part 75-A of NYS Sanitary Code, Wastewater Treatment Standards - Individual Household Systems.

3. Individual sewage disposal systems shall not be used in any development with more than 49 lots.

4. The Planning Board may require design and installation of house plumbing for future public sanitary sewer connection.

5. Two (2) percolation tests and a deep hole shall be provided for each proposed absorption field.

6. Soils which have any percolation test results faster than five (5) minutes per inch for any lots shall not be used for absorption fields and seepage pits. In such case, the Developer's Engineer should evaluate whether the soils can be modified to meet the requirements of the Design and Construction Standards.

7. Minimum distance between the bottom of the absorption system or seepage pit and seasonal high groundwater level, bedrock or impervious layer shall be not less than four (4) feet.

8. Seepage pits shall not be used if soil and site conditions are adequate for absorption trenches.

9. An additional 50% of the required absorption field area shall be available for future expansion and replacement. Such area shall be shown on the drawings.

10. Minimum total length of absorption trench shall be 200 feet.

11. Where percolation rates exceed 60 minutes per inch, subsurface disposal systems shall not be allowed. In extreme cases for a single lot development, where the lot size exceeds 5.0 acres and the lot dimensions allow all parts of the sewage disposal system to be located 100 feet or more from any lot line, the Developer may apply to the NYS Department of Health for approval to use an alternative system of special design.

2.7. STORM DRAINAGE SYSTEMS

2.7.1. GENERAL.

Storm drainage systems shall be provided to convey stormwater runoff from within the development and from the upland watershed area along natural direction of drainage.

Drainage facilities shall include the street drainage system, a system of back-lot-line drainage swales, main drainage channels through the development, and stormwater detention facilities.

Generally, preservation and improvement of natural streams, channels and swales within the development is preferable to the construction of new drainage channels, and whenever practicable, such watercourses shall be preserved.

The preservation and improvement of streams and channels downstream of the proposed development shall be required whenever such watercourses are subject to potential overflow, erosion or siltation as a result of runoff from the development.

2.7.2. DESIGN STANDARDS.

Design of drainage facilities shall conform to the following standards supplemented and superseded by additional requirements as listed:

1. ASCE Manual of Engineering Practice No. 37, Design and Construction of Sanitary and Storm Sewers by American Society of Civil Engineers.

2. Urban Hydrology for Small Watersheds, Technical Release No. 55 by Soil Conservation Service, U.S. Department of Agriculture.

3. New York Guidelines for Urban Erosion and Sediment Control by USDA -- Soil Conservation Service.

4. New York State Stormwater Management Design Manual by NYSDEC.

5. Materials shall be in accordance with Section 3. Construction Standards.

6. Manholes shall be spaced at intervals not greater than 300 feet.

7. Minimum size of storm sewers shall be 12-inch diameter pipe, except as otherwise permitted by these Standards.

8. Minimum velocity in storm sewers shall be 3 feet per second when flowing full.

9. Storm sewers shall be designed with uniform grade and straight alignment between manholes, outlets, and drop inlets.

10. Drop inlets shall be located at intervals not greater than 300 feet, at low points, and at street intersections.

11. Drop inlet connections may be 8-inch diameter pipe, and shall be connected to manholes.

12. Building drains shall be 4-inch diameter minimum, at a minimum slope of 1/4-inch per foot.

2.7.2. DESIGN STANDARDS. (continued)

13. The minimum inside diameter of manholes shall be 48-inches for 12" through 18" diameter sewers, 60-inches for 21" through 30" diameter sewers, and 72-inches for 33" through 42" diameter sewers.

14. All three-way manholes shall be 60-inch inside diameter or greater depending on size of storm sewers.

15. Swales and turf-lined channels shall be designed with slopes of not less than 1.0%.

16. Site grading shall be no steeper than 1 vertical to 3 horizontal.

2.7.3. HYDROLOGIC DESIGN.

Storm sewers and other drainage facilities for drainage areas up to 1,000 acres shall be based on a design flow with a minimum return interval of 10 years.

The design of drainage facilities for larger drainage areas and for natural watercourse channels shall be based on the drainage area according to the following:

Drainage Area	Return Interval
1,000 acres to 4 sq. miles	25 years
4 sq. miles to 20 sq. miles	50 years
20 sq. miles and above	100 years

2.7.4. STORM SEWERS AND CHANNELS.

Storm sewers and channels shall be designed to convey the anticipated runoff from within the development as well as all future development from the upstream or upland watershed area.

For drainage areas of 100 acres or less, runoff within the development shall be computed by the Rational Method, using the 10-year storm. Time of concentration to first inlet shall be taken as not more than 15 minutes.

For drainage areas larger than 100 acres and for major channels or piping systems conveying storm water through the development, the design shall be based on the Soil Conservation Service Method using the appropriate storm return interval.

2.7.5. OPEN CHANNELS.

Only natural drainage channels may be continued as open channels. Street drainage systems for major subdivisions shall be designed with storm sewers.

2.7.6. DETAILS OF HYDRAULIC STRUCTURES.

Complete and sufficient details of hydraulic structures shall be submitted as part of the plans. This includes, but is not limited to, cross-sections of drainage channels, erosion control facilities, special manholes, and all such other items as may be necessary to establish fully the methods and materials to be followed in construction.

2.7.7. SURCHARGING OF DRAINAGE FACILITIES.

Storm drainage systems shall be designed so that surcharging will not cause backup or flooding of basements. The effect of a 25-year storm shall be studied by calculating the high water elevation, and evaluating the operation of the storm drainage and detention facilities under such flows.

2.7.8. BUILDING AND LOT STORM DRAINAGE.

2.7.8.1. Finished Grade Adjacent to Buildings.

Finished grade adjacent to building walls shall be a minimum one (1) foot higher than the edge of pavement for standard subdivision development. In minor developments where front setbacks exceed 150 feet and/or where natural drainage characteristics would be better utilized by draining away from the street, this requirement may be waived. In any case, provisions shall be made for positive drainage of each lot by designing a minimum grade of 2.0% away from the building to side-lot and back-lot swales, natural drainage channels or drains.

Minimum 10' lawn around primary buildings with a 2% or greater slope providing positive drainage away from building, with spot elevations at foundation and at limit of 10' area.

2.7.8.2. Roof and Basement Drainage.

Provisions shall be made for disposing of roof and basement drainage into the street drainage system. Basement floors shall be at an elevation higher than the pavement to permit the street drainage system to be fully surcharged without causing backup or flooding of basements. In lieu of this, the developer may provide that basements shall be drained with sump pumps and appropriate check valves.

In special conditions, where topography permits, basement drainage may be conveyed to drainage swales if abutting or downstream properties will not be adversely affected. In such instances the basement floor shall be designed above the project design flood elevation to prevent backup or flooding of the basement.

2.7.8.3. Dry Wells.

Dry wells shall be used for disposing roof drainage where storm sewers are not available and soil conditions are suitable. Dry wells shall be sized using minimum 10-year storm.

2.7.8.4. Restrictions.

Laundry, sanitary or kitchen wastes shall not be discharged to storm drainage systems. Drain connections from garages shall not be discharged to drainage swales.

2.7.8.5. Grading.

Lots shall be graded to provide positive drainage. Runoff from uphill lots shall be conducted around and across downhill lots along side-lot and back-lot swales.

Grading shall be designed to prevent runoff from adjacent lots draining against buildings and flowing across individual sewage disposal systems.

2.7.9. STORM WATER DETENTION AND RETENTION.

Detention or retention ponds, sedimentation basins and related control measures shall be provided where in the judgement of the Town such facilities may be required for proper drainage control.

Detention or retention facilities shall be designed to control the runoff from the developed site to an amount not to exceed the runoff from the natural, undeveloped site for the design storm.

The Town reserves the right to establish more restrictive requirements if the proposed development site caused downstream flooding even in its natural, undeveloped condition. The Town may require an impoundment area, and storm sewers and culverts of sufficient size and type to correct the existing downstream flooding conditions.

2.7.10. DETENTION AND RETENTION POND REQUIREMENTS.

1. Ponds shall be designed to provide water quantity and quality control in accordance with the New York State Stormwater Design Manual.

2. Minimum freeboard above design high water level to the top of embankment shall be three (3) feet.

3. Controlled overflow structures shall be provided for flows in excess of the maximum design flow.

4. Temporary settling basins or sediment sinks shall be provided as specified under sediment control in these Standards, or as required in the Town of Gorham's Soil Erosion & Sedimentation Control Local Law.

5. The outlet structure shall be designed to discharge flow as a continuous function of head with maximum allowable flow occurring at maximum pond depth.

6. Trickle tube outlets shall include anti-vortex devices and trash racks.

7. Controlled overflows using emergency spillways shall be designed with spillway crest not less than two (2) feet below top of pond embankment and one (1) foot above design high water level.

8. Pond embankments shall be designed with minimum side slopes of 1 on 3. Seepage control collars shall be provided on piping passing through embankments.

9. Bottom of ponds shall be designed with a minimum longitudinal slope of 0.5% to drain completely between storms.

10. A concrete gutter shall be provided between the inlet and the outlet of the pond to carry dry weather flows.

2.7.11. STORMWATER GROUND RECHARGE.

In areas where positive surface stormwater disposal is not feasible, the Town may allow stormwater ground recharge.

The Developer shall retain a geotechnical engineer to provide a detailed report and plan documenting the ability of the aquifer to receive ground recharge. The report shall include soil permeability data, geologic features, and soil sampling and exploration data. Test pits and test borings shall be provided to define the limits of the aquifer where recharge is proposed.

The ground recharge facility shall include a retention facility to provide for settling of sediment and for storage. Discharge to the recharge area shall use a trickle tube or other discharge control. Additional information including details of infiltration piping and other facilities, useful life of system, and operation and maintenance costs shall be provided by the Developer.

2.8. EROSION AND SEDIMENT CONTROL

2.8.1. GENERAL.

To control siltation and erosion resulting from land development, the developer shall implement erosion and sediment control measures as required by the Town.

It is the developer's responsibility to certify that the design and construction specifications for the erosion control measures are adequate and meet all requirements.

These Standards are meant to compliment those required in the Town of Gorham's Soil Erosion & Sedimentation Control Local Law and the requirements of the NYSDEC Stormwater Management Program. Wherever in conflict, the most restrictive requirement shall apply.

2.8.2. EROSION CONTROL PLAN.

Pursuant to the Soil Erosion & Sedimentation Control Law of the Town of Gorham and the requirements of the NYSDEC Stormwater Management Program, the developer shall submit an erosion control plan as part of the review process. The erosion control plan shall consist of maps and other information showing the existing features, the existing and proposed contours, and applicable erosion control methods including the following:

1. Fitting the development plan to the topography and type of soils to minimize the erosion potential.

2. Exposing the smallest practical area of land at any one time during development.

3. Providing for temporary vegetation, mulching or other soil stabilization to protect critical areas during construction.

4. Returning and protecting natural vegetation wherever possible.

5. Installing permanent final vegetation and structures as soon as practicable.

6. Providing protective measures for slopes in excess of 10% and minimizing such steep grading. Terracing of steep slopes should be considered to minimize erosion potential.

7. Providing rip-rap and stone fill at points of discharge of storm sewers into open channels, ponds and swales.

8. Completing phases of construction as quickly as possible and stabilizing disturbed areas.

9. Providing a landscaping plan and planting schedule. Ground cover shall be selected to minimize future maintenance and provide plant hardiness.

2.8.3. SEDIMENT CONTROL.

All siltation and sedimentation caused by erosion due to clearing, grading and removal of vegetation or other ground cover shall be retained on-site. Use interceptor swales at the base of disturbed areas, draining to temporary settling basins with sediment sinks. The storm sewer systems shall also temporarily drain to settling basins until sufficient turf has been established on graded areas to prevent erosion.

The following guidelines shall apply in the design of settling basins and sediment sinks.

1. The estimated quantity of silt caused by erosion and the silt storage volume below the settling basin flow line shall be determined using the Soil Conservation Service Methods. However, in no instance shall the sediment sink storage volume below the flow line be less than 0.5 acre-inch per acre of disturbed area of the site.

2. The design of the settling basin shall prevent short circuiting. Generally, the length of the pond shall be at least twice the width, with the inlet and the outlet at opposite ends. Entrance swales and pipes shall be designed to discharge at the bottom of the pond to prevent erosion at the entrance point.

3. The settling basin shall be designed with a minimum two foot deep sediment sink below flow line, together with 0.5 acre-inch of storage per acre of disturbed development site. These two dimensions together with the 2:1 length to width ratio shall determine pond geometry. These are minimum values and shall be increased if required by soil type or duration of project.

2.8.4. STEEP SLOPES.

Portions of the Town of Gorham are characterized by areas of steep slopes. Development in steep slope areas is subject to the guidelines established in the Zoning Ordinance and Local Laws of the Town of Gorham, including but not limited to areas with slopes of greater than 15% which are designated as Limited Development Overlay Districts. Development in steep slope areas are also subject to the following:

Positive drainage away from buildings must be provided as specified in 1.8.1.20. on page 1-6 herein.

2.8.4.1. Required Information.

Development proposals shall be of sufficient detail to show site grading, building site locations, drainage facilities, erosion and sedimentation control measures, stream channel improvements and location of roads.

2.8.4.2. Grading of Building Sites.

Padding to provide level building sites may be designed only when sufficient information is developed to clearly demonstrate that the overall design of the site will not have an adverse environmental effect or negative appearance.

2.8.4. STEEP SLOPES. (continued)

2.8.4.3. Design Principles.

Design in steep slope areas shall include, but not be limited to the following principles:

1. Landscaping of areas around structures to make them compatible with the natural terrain.

2. Shaping, grouping and placement of structures to complement the natural landscape.

3. Shaping of essential grading to complement existing land forms.

4. Retaining outstanding natural features such as the highest crest of the hill, natural rock outcroppings, particularly desirable trees and vegetation, and other unique features.

5. Land within the hill area in excess of 30% slope should not be developed as individual residential lots.

2.8.5. FLOOD HAZARD CONTROL.

Inundation and excessive ground water seepage shall be controlled by site grading and by the establishment of adequate elevations of buildings, building openings and roadways above the project design high water levels.

Particular care shall be used in the design of developments in the vicinity of designated flood plain areas as defined by the National Flood Insurance Program or known high groundwater problem areas. The effect of such development on upstream and downstream areas and adjacent properties shall be considered, and adequate protective measures shall be included in the design.

Proposed developments within the special Flood Hazard Area as defined by the National Flood Insurance Program shall comply with the regulations required by the Flood Insurance Program.

Development within or adjacent to flood plains shall also comply with current Town requirements and NYS Department of Environmental Conservation regulations.

2.9. ROADS AND STREETS

2.9.1. GENERAL.

Roads and streets shall be provided for convenient traffic flow and circulation, and for fire safety, emergency and maintenance access. Roads, streets and drives shall comply with the following designations:

2.9.1.1. Primary Road.

Dedicated major road used to carry through traffic from developed neighborhoods and municipal boundaries, including all streets serving commercial and industrial developments.

2.9.1.2. Collector Road.

Dedicated main road or street used to carry traffic from local streets to primary or major thoroughfares, including the principal entrance streets of a development.

2.9.1.3. Access Road.

Local street which connects to a Primary Road, or Collector Road and which provides access to abutting properties and protection from through traffic.

2.9.1.4. Cul-de-Sac.

Dedicated or private Access Road open only at one end for access with a turnaround at the other end.

2.9.1.5. Private Road.

Undedicated road on private right-of-way used as ingress and egress to five or more properties not fronting on a dedicated road or street.

2.9.1.6. Private Drive.

Undedicated drive or right-of-way used as ingress and egress to three or four properties not fronting on a dedicated road or street.

2.9.1.7. Driveway.

Undedicated access used for ingress and egress to no more than two properties.

2.9.2. DESIGN STANDARDS.

Design of roads, streets and drives shall conform to the following standards supplemented and superseded by additional requirements listed in these Town Standards.

1. Policy on Geometric Design of Highways and Streets, by American Association of State Highway and Transportation Officials (AASHTO).

2. Geometric Design Guide for Local Roads and Streets, by American Association of State Highway Officials (AASHO).

3. Residential Streets, Objectives, Principles and Design Considerations, published jointly by the Urban Land Institute, the American Society of Civil Engineers, and the National Association of Home Builders.

4. Materials shall be in accordance with Section 3. Construction Standards.

5. Minimum right-of-way widths, pavement widths, road sections and other details shall conform to Typical Right-of-Way Sections and Private Road Details in Section 4. Standard Details.

2.9.3. HORIZONTAL DESIGN REQUIREMENTS.

Roads and streets shall be designed to conform to the following horizontal alignment requirements:

1. Minimum radius along the centerline of horizontal curves:

Primary or Major Thoroughfares	500 feet
Collector Roads or Streets	300 feet
Local Streets	150 feet

2. Minimum tangent along the centerline of road between horizontal curves shall be not less than 100 feet.

3. Stopping sight distance for each type of road shall be based on the speed limit, conform to the Policy on Geometric Design by AASHTO, and be not less than:

Primary or Major Thoroughfares	450 feet
Collector Roads or Streets	225 feet
Local Streets	150 feet

4. Cul-de-Sacs shall not exceed 500 feet in length and shall have a turnaround with right-of-way radius of at least 100 feet, and outer pavement radius of at least 75 feet.

5. Layout of street systems in the development shall provide for access of adjacent future developments.

6. Temporary dead-end streets shall be provided with temporary turnarounds conforming to the dimensions in Section 4. Standard Details.

2.9.4. VERTICAL DESIGN REQUIREMENTS.

Roads and streets shall be designed to conform to the following vertical alignment requirements:

1. Minimum grade 0.50%.

2. Maximum grade for:

Primary or Major Thoroughfare	6.0%
Collector Road or Street	6.0%
Local Street	8.0%
Local Street not exceeding 1,000 feet	10.0%
Private Road, Private Drive & Driveway	10.0%

3. Vertical curves shall be provided for all changes in grade exceeding 1.0%.

4. Minimum length of vertical curves shall be determined based on the sight distance required for each type of road.

2.9.5. INTERSECTION DESIGN REQUIREMENTS.

Intersections shall be designed to conform to the following requirements:

1. Within 50 feet of intersections, streets shall be approximately at right angles and in no case shall the intersecting centerlines have an angle less than 75 .

2. Minimum pavement radius at intersections shall be not less than 30 feet.

3. Intersections of Primary or Major Thoroughfares shall be spaced not less than 1,000 feet between centerlines.

4. Intersections of Collector Streets by other streets shall be spaced not less than 800 feet between centerlines.

5. Minimum distance between centerlines of offset streets shall be not less than 150 feet. Such offsets shall be avoided whenever possible.

6. Acceleration and deceleration lanes may be required by the Town along Primary or Major Thoroughfares at principal entrance streets of developments.

7. Leveling areas shall be provided on all sides of intersections for a minimum distance of 100 feet where the grade shall not exceed 4.0%.

8. Maximum pavement grade within intersections shall not exceed 1.0% in any direction.

9. Visibility for traffic safety shall be provided within triangular areas formed by the intersecting right-of-way lines and a sight line between points 75 feet from their intersection. There shall be no plantings or structures in these triangular areas.

2.9.6. GRADING AND ROADSIDE SWALES.

Areas within street rights-of-way shall be graded to eliminate slopes steeper than one vertical in three horizontal. Roadside swales steeper than 6.0%, or where swales steeper than 6.0%, or where soil conditions require, shall incorporate special design to control erosion.

2.9.7. SIDEWALKS.

Sidewalks shall be provided on both sides of the street where required by the Town for safety or convenience. Generally, sidewalks will be required along Primary or Major Thoroughfares and along other streets where pedestrian traffic is anticipated. The minimum width of sidewalks shall be four (4) feet.

2.9.8. TREES WITHIN THE RIGHT-OF-WAY.

Generally, the right-of-way shall be cleared of trees and brush. Only occasional existing desirable trees should be preserved within the right-of-way if approved by the Town.

2.9.9. STREET NAMES AND HOUSE NUMBERS.

All streets shall be named, and the names shall be subject to the approval of the Town and by the Ontario County Planning Department (for acceptability pursuant to the County's 9-1-1 System.) Names shall be sufficiently different in sound and spelling from other street names in the Town and municipalities contiguous to the Town so as not to cause confusion.

Proposed street names, including both proposed public and private roads and streets, shall be submitted to the Ontario County Planning Department for review on forms obtained from the Town Addressing Official. The form shall be accompanied by a copy of the proposed subdivision layout. If street names are approved by the Ontario County Planning Department, a copy of the form stamped approved shall be returned to the applicant and one to the Town, and the County shall assign a house number range to each road. A copy of the subdivision map shall be returned to the Town Addressing Official and shall specify the house number for each lot. The Town Addressing Official shall issue an official address notification form for each lot with either the issuance of a Building Permit or a Certificate of Occupancy.

The Addressing Official for the Town of Gorham is the Building Inspector.

A street which is a continuation of an existing street shall bear the same name. Relating street names to features of local historical, topographical, or other natural interest is encouraged.

Names of private roads shall contain the suffix: "Drive."

2.9.10. MONUMENTS.

Permanent monuments shall be provided for major subdivisions at the following locations and shall be shown on the final subdivision plat:

1. All boundary corners and angle points along street rights-of-way of the parcel being subdivided.

2. In street right-of-way boundaries at all street intersections.

3. In street right-of-way boundaries at PC and PT of horizontal curves.

Monuments are required on one side of the street only, and at only one corner of intersecting streets. Adjacent monuments shall be intervisible.

Monuments shall be tied into the NYS Coordinate System where practical in the opinion of the Town Highway Superintendent or Engineer for the Town.

2.9.11. PROPERTY CORNER MARKERS.

Permanent markers shall be provided for all property corners of each lot of major and minor subdivisions, and shall be in place upon completion of final grading of the lot.

2.9.12. ROAD DEDICATION REQUIREMENTS.

2.9.12.1. Policy.

All primary roads and collector roads serving a development shall be constructed to the appropriate Town design standards and dedicated to the Town. Internal Access Roads may be privately owned and maintained. These roads shall be constructed to the appropriate design standards of the Town.

2.9.12.2. Dedication Requirements.

All roads offered for dedication shall set through one winter season and be monumented before dedication will be considered. Prior to any road being accepted for dedication, it must be completed in accordance with the approved plans to the satisfaction of the Town Highway Superintendent and the Engineer for the Town.

2.9.12.3. Surety.

Appropriate surety shall be required for all dedicated roads and commonly owned private access ways.

2.9.13. DRIVEWAY DESIGN REQUIREMENTS.

Design and location of driveways shall be in accordance with applicable requirements of NYSDOT Policy and Standards for Entrances to State Highways. These standards shall apply also to driveways entering on County and Town roads.

2.9.13.1. Vertical Alignment.

Driveways shall slope away from the edge of road pavement at the same slope as the road shoulder, and the slope shall extend at least the full width of the shoulder so as not to create a bump or depression in the shoulder area.

2.9.13.2. Horizontal Alignment.

Driveways shall conform to the horizontal alignment requirements of Driveway Details in Section 4. Standard Details.

2.9.13.3. Application Requirements.

Written application including a plan and a profile of the driveway may be required by the Highway Superintendent for approval.

2.9.14. STREET AND TRAFFIC SIGNS.

2.9.14.1. Street Signs.

Street signs shall be provided at all street intersections, shall be of the type approved by the Town Highway Superintendent, and shall conform to the requirements of NYS Manual of Uniform Traffic Control Devices.

2.9.14.2. Traffic Signs.

Traffic signs shall be provided at intersections designated by the Town Highway Superintendent and shall conform to the requirements of NYS Manual of Uniform Traffic Control Devices.

2.9.15. STREET LIGHTING.

Street lighting shall be provided along all streets of major subdivisions and generally shall conform to the following:

2.9.15.1. Major subdivisions shall create a lighting district.

2.9.15.2. Street lighting facilities shall be installed, owned and maintained by New York State Electric & Gas Corporation.

2.9.15.3. Lighting fixtures shall be Colonial Type designated by New York State Electric & Gas Corporation.

2.9.15.4. Lighting fixtures shall be spaced approximately 150 feet apart.

2.10. EXTERIOR SITE LIGHTING

2.10.1. GENERAL.

Exterior site lighting shall be designed to control spillover of light and glare from parking lots and other site lighting on operators of motor vehicles, pedestrians and land uses in the proximity of the light source.

2.10.2. DESIGN STANDARDS.

Design of lighting for parking lots and other site lighting shall conform to the following standards supplemented and superseded by additional requirements as follows:

1. IES Lighting Handbook by Illuminating Engineering Society of North America.

2. National Electrical Code, ANSI/NFPA No. 70.

3. Catalog information on luminaries and isofootcandle curves for horizontal footcandles at grade shall be submitted for review.

2.10.3. RESIDENTIAL ZONES.

In residential areas maximum illumination shall not exceed 0.2 footcandles at grade at the property line. Maximum height of luminaire shall not exceed 10 feet.

2.10.4. COMMERCIAL AND INDUSTRIAL ZONES.

For commercial and industrial sites, maximum illumination at grade at the property line and maximum height of the luminaire shall not exceed the following:

1. Luminaire without cutoff:
   Illumination: 0.2 footcandles.
   Luminaire mounting height not more than 10 feet.

2. Luminaire with 90 degrees or greater total cutoff:
   Illumination: 0.75 footcandles.
   Luminaire mounting height not more than 25 feet.

3. Luminaire with 90 degrees or less total cutoff and with light source completely shielded from view five (5) feet above grade at a point at which the cutoff angle intersects the grade:
   Illumination: 2.0 footcandles.
   Luminaire mounting height not more than 25 feet.