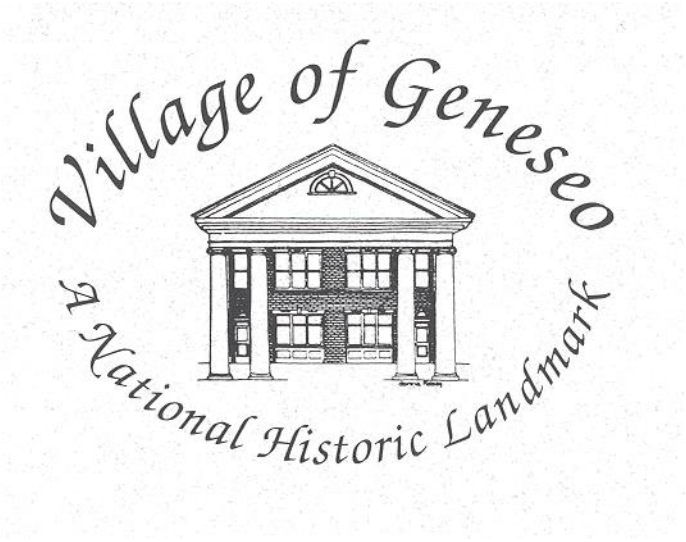

LAND DEVELOPMENT REGULATIONS AND PUBLIC WORKS REQUIREMENTS

As Adopted by the Village Board on:
February 12, 2018

Prepared by:

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PART I

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RULES AND REGULATIONS

ARTICLE I – GENERAL PROVISIONS

A-1 Citation of Rules and Regulations

These rules and regulations shall be known and may be cited as "The Village of Geneseo Land Development Regulations and Public Works Requirements", as adopted by the Village Board on February 12, 2018.

A-2 Authority and Requirement of Plat Approval

In accordance with New York Village Law, the Planning Board of the Village of Geneseo is created by the Village Board. The Planning Board of Geneseo is empowered by provisions of New York Village Law, Article 16, and by the Village Board, to grant final approval of any subdivision plat or site plan of lands with or without streets or highways within the corporate limits of the Village of Geneseo. Such approval, in accordance with the procedures and regulations set forth below, is intended to follow applicable sections of New York Village Law.

A-3 Purpose

To carry out the purpose of the Village Law and the Planning Board, these rules and regulations are adopted by the Village Board, to provide for the future growth and development of the Village and to afford adequate facilities for the housing, transportation, distribution, comfort, convenience, safety, health and welfare of its population. Consistent with such purposes, these rules and regulations will provide for the orderly development of land use areas, the coordination of existing streets and public utilities with new service, the provisions of open spaces for passive and active recreation and the location of future sites

for public buildings and commercial areas, all to the mutual benefit of the Village and its residents. However, should any conflicts arise during the development process between the present zoning laws and the development regulations, the present day zoning law shall supersede the development law. The Village Planning Board shall reserve the right to waive or modify these requirements for any project wherever necessary or justifiable.

A-4 Definitions

A. Words in the singular include the plural and words in the plural include the singular. The word "person" includes a corporation, unincorporated association and a partnership as well as an individual. The word "building" includes "structure" and shall be construed as if followed by the words "or part thereof". The word "street" includes "road", "highway" and "lane"; "watercourse" includes "drain", "ditch" and "stream". The words "shall" or "will" are mandatory, the word "may" is permissive.

B. Unless otherwise expressly stated, the following terms shall, for the purpose of these regulations, have the meaning indicated.

BUILDER – A person who obtains a building permit for construction of a structure on an approved site.

CONTRACTOR – A person acting for the Developer to construct the required improvements of the project. The Contractor is responsible to perform the work in conformance with the approved plans subject to a review by Village officials.

CROSSWALK – A right-of-way, municipally or privately owned, at least 10 feet in width, which traverses an area to furnish access for pedestrians.

DEVELOPER – A person holding title to a parcel of land to be developed or subdivided. Commitments and/or requirements for development are solely between the Village and the Developer.

DOUBLE FRONTAGE LOTS – A lot, having at least two sides fronting on separate streets which do not intersect while adjoining the lot.

EASEMENT – The authorization by property owner for use by another, for a specified purpose, of any designated part of such property. A right granted to use certain land for a special purpose not inconsistent with the general property rights of the Owner.

FINAL SUBDIVISION PLAT – A drawing prepared by a registered professional which complies with prescribed regulations and statute for recording in the Livingston County Clerk's Office.

GRADING PLAN – A plan showing all present and proposed elevations for storm water drainage and disposal.

HALF OR PARTIAL STREET – A street generally parallel and adjacent to a property line, having a lesser right-of-way than normally required for satisfactory improvement and use of the street.

INSPECTOR/OBSERVER – An agent of the Village empowered to observe the construction progress of the project and its compliance with the approved plans.

IMPROVEMENTS – Those physical additions and changes to the land that may be necessary to produce usable and buildable land areas. This may include but is not limited to grading, water supply, sewage disposal, storm water disposal, lighting, landscaping, etc.

MASTER PLAN – A part of any Comprehensive Study prepared for the Village that addresses future land use considerations.

OPEN SPACE or OPEN AREA – An area or areas of a lot, including required yards, which are:

A. Open and unobstructed from ground to sky, except by facilities specifically designed, arranged and intended for use in conjunction with passive or active outdoor recreation or relaxation.

B. Landscaped, maintained or otherwise treated to create a setting appropriate to recreation or relaxation.

C. Accessible and usable by the general public, business patrons or residents of all dwellings or stores it is intended or required to serve.

STATE ENVIRONMENTAL QUALITY REVIEW (SEQR) - A formal review of a proposed action conducted pursuant to Part 617 of the New York Codes, Rules and Regulations, which seeks to ensure a productive and enjoyable harmony between man and his environment, and promotes efforts which will prevent, eliminate or mitigate damage to the environment and enhance human and natural resources.

SET BACK OR BUILDING LINE - The right angle distance within a property defining the required minimum distances between any structure and the street or the side or rear property lines of a parcel right-of-way.

SITE PLAN - A drawing prepared by a registered professional for review by the Planning Board for the development of an existing lot or parcel without any new subdivision of land.

SKETCH PLAN - An informal plan in accordance with these specifications indicating existing features of a parcel of land and its surroundings and the general layout of a proposed land improvement.

VILLAGE SUPERINTENDENT - The Village department head who is directly in charge of the operation and maintenance of public facilities upon dedication to the Village.

TOTAL HOLDINGS MAP - A map of the contiguous parcels, including the land to be developed, owned by a person applying for development approval.

VILLAGE ATTORNEY - A person or firm engaged by the Village to review and prepare necessary documentation as required for districts, easements, letters of credit, dedication, surety or other legal matters.

VILLAGE BOARD - The Board as elected by the residents of the Village who acts on behalf of the residents of the Village of Geneseo for the betterment, protection and welfare of the community.

VILLAGE ENGINEER - A person or firm engaged by the Village to review the project plans and to make recommendations to the Village so the best interests of the Village shall be preserved in conformance with the standards herein established.

Throughout these regulations one will find reference to publications of other agencies or testing methods such as:

AASHTO – American Association of State Highway and Transportation Officials.
ANSI – American National Standards Institute, Inc.
ASTM – American Society for Testing and Materials.
AWWA – American Water Works Association.
NSF – National Sanitation Foundation.
NYSDEC – New York State Department of Environmental Conservation.
NYSDOH – New York State Department of Health.
NYSDOT – New York State Department of Transportation.

Reference for these designations are widely accepted and readily available for the specifics and details that may be required for a design situation.

ARTICLE II – PROCEDURES

A-5 Installation of Improvements After Final Approval

Once the Planning Board has granted final approval and before the final signatures are placed on the plat, the Developer shall enter into an agreement with the Village Board for the subsequent completion of the platted improvements. The Developer shall submit with the tender of dedication and deeds to all streets, easements, and an irrevocable Letter of Credit so as to assure the proper and timely completion of the required improvements.

A-6 Offers of Cession

The subdivider shall tender offers of cession in a form certified as satisfactory by the Village Attorney of all land included in streets, highways or parks, not specifically reserved by him. Approval of a Plan by the Planning Board shall not constitute an acceptance by the Village Board of the dedication of any street, highway, utility, park or other public open space.

A-7 Financial Responsibility - Irrevocable Letter of Credit

A. A Letter of Credit furnished for the installation of the required improvements shall be in the amount as determined by the design professional and reviewed by the Village Engineer and shall be approved by the Village Board as to form, sufficiency and manner of execution. The Letter of Credit shall be issued in favor of the Village of Geneseo and shall assure the complete installation of the required improvements within such period, not longer than three years, as shall be fixed by the Village Board. The Letter of Credit shall be issued to the Village for an initial minimum period of one year.

B. The following guarantees will be required for development in the Village:

1. Letter of Credit

An irrevocable Letter of Credit shall be submitted by the Developer to insure the installation of improvements in an amount estimated by the Developer's Design Professional and approved by the Village Board.

The amount shall include but not be limited to the following items:

a. Total estimated construction cost of all utilities, laterals, water services, roads, gutters, earthwork, etc.
b. Minimum 10 percent contingency factor.
c. Engineering and construction observation charges will be a minimum of 5 percent based on the project complexity and construction schedule.
d. Street signs and surveyor's monuments.
e. Maps.
f. Record drawings of installed facilities.

2. Maintenance Bond

Upon completion of the construction and as a condition of dedication to the Village, a Maintenance Bond shall be provided by the Developer guaranteeing the total value of the project against faulty workmanship or materials for a period of two years following the acceptance date by the Village. Individual portions of the project, i.e., sanitary system, water system, can be bonded with their individual acceptances by the Village.

A Maintenance Bond for the pavement, gutters and/or sidewalks will not be accepted until the entire project is ready for dedication.

A-8 Formation of Districts

Between the interval of preliminary and final approvals of the subdivision plat, the Developer shall petition the Village Board for the creation of districts or extensions as necessary for a given development. Districts or extensions may be necessary for sanitary sewers, watermains, stormwater disposal, sidewalks, lighting, or any particular creation for a specific development.

In order to preserve the continuity and format of the application of the districts to the various governing authorities, the Village Attorney and Village Engineer shall review the necessary documents and maps and the Village Clerk will be responsible for publication and filing requirements. All costs for the formation of these districts shall be paid for by the Developer to the Village within 30 calendar days of its receipt of a bill therefore.

Required improvement districts must be extended or created by the Village Board before the signature of the Planning Board may be affixed to the approved subdivision plan.

A-9 Easement Procedure

If easements are required on a project, the following procedure will be followed:

1. The developer will have his engineer and/or surveyor prepare maps and descriptions of all of the easements associated with the development.

2. The easements and descriptions are referred to the Village Engineer for technical review of bearings, distances, etc.

3. After technical review by the Village Engineer, the easement maps and descriptions are sent to the Village Attorney to assure that the appropriate legal language is incorporated into the documents.

4. The Village Attorney will then contact the developer's attorney to work out any concerns associated with the easement descriptions.

5. If any revisions are needed they are made to the easements. They are then offered to the Village Board for acceptance.

6. Either the Village Attorney or the Village Clerk will duly file the final easements and the charge of such will be borne by the developer.

A-10 Construction Observation

Before any construction begins on a subdivision or facilities to be dedicated to the Village, a preconstruction meeting must be held to address the Plans and intended improvements. The installation of improvements and development of any land shall be subject to construction observation at all stages by representatives of the Village. For such purposes free access shall be accorded and requested information shall be promptly submitted. All costs of construction observation, including testing of materials, shall be paid for solely by the Developer. A sufficient sum shall be provided by the Developer in either the Letter of Credit or cash for the project observation costs.

A-11 Methods of Release of Financing Security

A. Letters of Credit

The procedure required for the release of funds is as follows:

1. Submission of periodic construction estimates by the Contractor to the Developer and the Design Engineer.

2. The site shall be reviewed by the Village's and Developer's agents to review the comparison of the work completed to the monetary value of the requested release of funds.

3. The Developer's Engineer, Developer, and Village Engineer shall approve in writing all requests for release of funds up to 90 percent of the total amount of an item. (See Appendix FF for typical example of release form.)

4. The Village Engineer shall then submit the proposed estimate to the Village's Fiscal Officer for the final authorization of release of funds from the Letter of Credit. Approval by the Village officials for authorized periodic payments is not to be construed as acceptance of the work completed to date.

5. Partial release from the Letter of Credit may be granted by the Village Board as individual components of the subdivision development are completed. This shall not be construed as final acceptance of the work by the Village.

If the required improvements are not completely installed within the period fixed or extended by the Planning Board, the Village Board may declare the Letter of Credit in default and collect the amount payable thereunder. Upon receipt of such amount, the Village shall cause to install such improvements as were covered by the Letter and as commensurate with the extent of building development that has taken place in the subdivision, not exceeding in cost, however, the amount collected upon the Letter of Credit.

B. Release of Retainage

Retainage release shall be considered by the Village Board after the systems have been tested and found acceptable by the Village's representatives.

C. Release of Maintenance Bond

Release of Maintenance Bond shall be authorized in writing by the Village's Fiscal Officer upon final review of the project site by Village authorities. This review will be completed at least one month before the expiration of the Bond.

A-12 Applicability of Regulations

The regulations contained in these specifications, for the Design and Construction of land development, shall apply to all public works improvements within the Village of Geneseo.

ARTICLE III – DEVELOPMENT REQUIREMENTS

A-13 General

Land shall be suited for the purpose for which it is to be developed and the developer's Design Professional shall certify to such on the plans submitted for approval.

The Planning Board shall review proposed developments on their individual merit and their contribution to the Village.

The subdivider shall strive to comply with standards of good planning and adhere to the specification codes and ordinances of the Village as well as those rules of agencies having jurisdiction over any particular phase of a development.

A-14 Flood Land, DEC Wetland and Federal Wetlands

Land subject to flooding or land deemed by the Planning Board to be uninhabitable shall not be platted for residential occupancy nor for such other uses as may increase danger to health, life or property or aggravate the flood hazard, but such land within the plat shall be set aside for such uses as shall not be endangered by periodic or occasional inundation or improved in a manner satisfactory to the Planning Board to remedy the hazardous conditions. The Planning Board may require lot sizes in excess of the zoning requirement if it determines that suitable development sites do not exist on the lot that is proposed.

A-15 Street Layout

A. Development plans shall conform to any Master Plans for the Village as shall have been prepared and adopted by the Planning Board or Village Board.

B. Streets in a new development shall be so designed to discourage through traffic; however, provisions for the extension and/or continuation of streets into and from adjoining areas

shall be made unless the Planning Board deems such an extension undesirable for specific planning reasons.

C. Streets in a new development shall be laid out so as to extend or simulate the existing street grid system wherever possible and practicable.

D. If a portion of the tract is not subdivided suitable access and street openings for such an eventuality shall be provided.

E. Streets shall be logically related to the topography and acceptable planning/engineering criteria to produce usable lots and reasonable grades.

F. Minor streets shall be laid out to discourage through traffic, but provision for street connections into and from adjacent areas will generally be required.

G. Where a subdivision abuts or contains an existing or proposed major traffic street, the Planning Board may require marginal access streets, rear service alleys, reverse-frontage lots or such other treatments as will provide protection for abutting properties, reduction in the number of intersections with the major street and separation of local and through traffic.

H. New half or partial streets will not be permitted except where essential for reasonable subdivision of a tract in conformance with the other requirements and standards contained herein, and where, in addition, satisfactory assurance for dedication of the remaining part of the street can be secured.

I. Wherever a tract to be subdivided borders on an existing half or partial street, the other part of the street shall be plotted within such tract.

J. Dead-end streets shall be prohibited, except as stubs to permit future street extension into adjoining tracts or when designed as a cul-de-sac.

K. Reserve strips which control access to right-of-way or utility easements are prohibited.

L. Street names shall be submitted for approval to the County Planning Department, Postal Service and others designated by the Village Board to avoid duplications or use of similarly sounding or spelled names. House numbers shall follow the practice established by the Village. A street, which is a continuation of an existing one, shall retain the same name.

A-16 Street Intersections

A. Streets shall be laid out to intersect as nearly as possible at right angles. No street shall intersect another at an angle of less than 75 degrees.

B. Multiple intersections involving a junction of more than two streets shall be avoided. Where this proves impossible, such intersections shall be designed with extreme care for both pedestrian and vehicular safety.

C. Streets entering opposite sides of another street shall be laid out either directly opposite one another or with a minimum off-set of 125 feet between their center lines, except for collector and arterial streets.

D. Where a subdivision abuts or contains an existing street of inadequate right-of-way width, additional right-of-way width will be required.

A-17 Cul-de-Sac Streets

A. Cul-de-sac streets, permanently designed as such, should not exceed 500 feet in length and designed per Appendix V. Other Village requirements concerning the maximum length of streets and cul-de-sac streets may be imposed as part of the Village Zoning laws. Where the limitations upon lengths of streets and cul-de-sac streets imposed herein conflict with similar requirements imposed within the Village Zoning laws, the provisions which are more restrictive shall govern.

B. Temporary hammerhead turnarounds (Appendix W) shall be constructed to Village road specifications except for the top course which will not be required.

A-18 Blocks

A. The length, width and shape of blocks shall be determined with due regard to the following:

1. Provision of adequate building sites
2. Zoning requirements
3. Topography
4. Requirements for safe and convenient vehicular and pedestrian circulation and access
5. Utility service and the operation and maintenance of same

B. All blocks in a subdivision shall have a minimum length of at least 600 feet with a maximum length of 800 feet. Such blocks containing individual lots shall be at least two lot depths in width, except where reverse frontage may be employed along major highways. Modifications of the above requirements are possible in commercial and industrial developments. Special consideration shall be given to these requirements regarding satisfactory fire protection, utility crossing, and pedestrian crossing.

C. Pedestrian interior walks may be required to assist circulation or provide access to community facilities or to provide pedestrian walkway continuity within a given subdivision. Such crosswalks shall have a width of not less than 7 feet.

A-19 Lots

A. The minimum lot size and frontage shall be controlled by the provisions of the Zoning Ordinance of the Village of Geneseo at the time the applicant receives final approval.

B. Double frontage lots should be avoided except where employed to prevent vehicular access to major traffic streets or required by other design parameters. A planting screen easement of at least 10 feet across which there shall be no right of access shall be provided along line of lots abutting major traffic artery or other disadvantageous use.

C. Where either or both water supply and sanitary sewage disposal are provided by individual on-lot facilities and evidence indicates that the requirements of the Zoning Ordinance are not adequate, the Planning Board may require tests and designs, in accordance with Zoning Code, the rules and regulations of the Livingston County Health Department and, if applicable, the NYSDOH and/or the NYSDEC, undertaken at the expense of the Developer, to determine the adequacy of the proposed lot size and existing grade and soil conditions. Such tests and designs shall be subject to the review of the Village's Consultants and Department Heads.

D. Where commercial subdivisions are proposed to be served by either or both on-lot sanitary sewage disposal and water supply facilities, the lot area and dimensions required to prevent health hazards shall be subject to individual review and determination by the Planning Board and the New York State Department of Health and/or Department of Environmental Conservation.

E. Depth and width of parcels laid out or reserved for non-residential use shall be sufficient to provide satisfactory space for off-street parking and unloading as required by the provisions of the Zoning Ordinance.

F. Corner lots shall be at least 10% wider than interior lots to provide for proper building setbacks from each street and to provide a desirable building site.

G. Lots for development shall not be subdivided so that the depth of the lot is greater than three times the lot width at the right-of-way line.

A-20 Building Lines

The minimum building setbacks shall be controlled by the provisions set forth in the Zoning Ordinance of the Village of Geneseo.

A-21 Utilities

If sewer, water, gas, electrical, street lighting or other public utility facilities are proposed, their location and installation shall be coordinated so that they may be operated and maintained at minimum cost. Backflow prevention (RPZ) may be required on water lines for commercial development per New York State Department of Health Public Water Supply Guide, Cross-Connection Control.

A-22 Easements

A. Easements shall be provided for all utilities of a width necessary for installation, repair and/or replacement of said utility. The depth, type, size and location of a utility in addition to soil conditions will be considered when establishing an easement width.

B. To the fullest extent possible, easements shall be centered on or adjacent to rear or side lot lines.

C. No structure shall have its foundation built less than 5 feet from any easement line.

D. Where a development is traversed by a watercourse, the applicant shall provide to the Village at no cost a drainage easement or right-of-way conforming substantially with the line of such watercourse and of such width as will be adequate to preserve natural drainage and maintain the same.

A-23 Alleys

Alleys are prohibited in residential developments. In commercial or industrial districts, alleys shall be a minimum width of 22 feet. Where such alleys dead-end, they shall be provided with a turnaround having an outside roadway diameter to allow emergency vehicle access.

A-24 Reservation and Dedication of Lands for Public Use

A. In reviewing subdivision plans, the Planning Board will consider the adequacy of existing or proposed community facilities to serve the additional dwellings proposed by the subdivision. The layout of the proposed subdivision shall be in general conformity with the features or developments proposed on the Master Plan in effect at the time of the submission of the proposed plat.

B. To meet the requirements of A-3., and Village Law, the Board may require the reservation and dedication of at least 10 percent of the area of land to be subdivided for park, playground, recreation, open land or other public purposes. In locating lands to be reserved and dedicated, the Board shall consider preservation of special environmental and geographic features, unsuitability of certain lands for building purposes, future expansion of public use areas, the most appropriate type of public land use for the area and the conditions necessary to preserve access, use and maintenance of such lands for their intended purpose.

C. Prior to such lands being dedicated to the Village, a Phase I Environmental Audit shall be completed by the applicant at his expense.

D. In the event that the Planning Board, upon consultation with the Village Board, determines that reservation of land of adequate size and suitable purpose cannot be practically located in a proposed subdivision, or that said reservation would not appropriately serve the locale, the Board may condition its approval of a subdivision upon payment to the Village of a sum as set forth by the Village Board. The amount shall be available for use by the Village for neighborhood, playgrounds or other recreation purposes, including the acquisition of property.

A-25 Erosion and Sediment Control

A. General

It is the Village's intent to control soil movement by employing effective erosion and sediment control measures before, during and after site disturbance.

Erosion and sediment control measures, both temporary and permanent, must be designed and presented for approval to the Planning Board prior to any site development or soil disturbance.

The Planning Board and its designated representatives will evaluate submitted erosion and sediment control design plans against the most current edition of "New York Guidelines for Urban Erosion and Sediment Control" manual, as the same may be revised from time to time (see New York Standards and Specifications for Erosion and Sediment Control, latest revision) by the New York State DEC, the NYS Soil and Water Conservation Committee and/or the USDA- Natural Resources Conservation Service. The Board and/or its representatives may require additional controls and details not specifically outlined in the aforementioned manual.

Many stormwater discharges from construction activities within the Village will require authorization under Section 402 of the Clean water Act and the New York State Pollutant Discharge Elimination (SPDES) permitting program. The SPDES permitting program imposes requirements upon discharges for the control of erosion and sedimentation as well as water quality and water quantity. All developments within the Village must satisfy both local and state regulations. Where requirements imposed by the SPDES General Permit (GP-0-15-002), or its successors, are more restrictive than corresponding requirements in these regulations, the provisions which are more restrictive shall govern.

B. Vegetative Controls

To attain the Village's goals, vegetative measures should be used in a site design to control surface water runoff, provide soil stabilization methods and entrap soil sediments generated from the forces of erosion.

1. Site slopes shall be graded to be stable and provide control of any surface or subsurface water prior to vegetative plantings.

2. Site disturbance, especially in sensitive areas, shall be kept at a minimum. Designs shall limit the removal of existing trees, hedgerows and indigenous plant cover. Physiographic features such as drumlins, wetlands and forested areas shall be retained in their natural form.

3. The Site Developer shall take whatever action is necessary to establish a stabilized vigorous stand of vegetative cover on all disturbed site soils within 30 calendar days of initial soil movement. If phasing is necessary to meet these conditions, the Developer shall present such in the development plans presented for Village review.

C. Structural Controls

Some projects may require erosion and sediment controls that will be permanent in nature. If these measures are required to be constructed, they must be fully functional before upland site disturbance begins as determined by the Village. Such structures may include but are not limited to such features as siltation traps, ponds, diversion swales or dikes.

D. Maintenance Measures

It is imperative that both the vegetative and structural components as constructed be periodically reviewed and maintained for optimum erosion and sediment control.

Facilities must be cleaned, repaired and/or replaced as necessary to meet the original design criteria established in the project approval.

1. Dedicatible Projects:

   If the project under consideration involves possible dedication of constructed facilities to the Village, the Developer/Owner must include sufficient funds in the maintenance bond to cover the projected cost of such facilities for a two-year period.

2. Private Projects:

   If a project is under consideration without dedicatible facilities to the Village, the Site Owner is responsible to make sure the erosion control facilities are constructed and properly maintained. Final acceptance of the erosion control facilities is necessary for the Village to issue a Certificate of Occupancy.

E. Penalty

The Village is empowered to assess reasonable penalties to a Site Owner for failure to properly construct, operate and maintain an approved soil erosion and sedimentation control plan. The penalties shall be as follows:

1. The Site Owner shall be charged for the Village's costs for, but is not limited to, cleaning ditches, swales, drains or streams that require such due to the failure of the Site Owner to properly construct, operate and maintain site erosion and sedimentation control devices.

2. No further reviews of such project shall be conducted by the Village until all payments for the Village charges have been satisfied and/or satisfactory completion of the required erosion and sediment control measures has occurred by the Site Owner.

ARTICLE IV – SITE IMPROVEMENTS

A-26 General

The Developer of a parcel of land shall make improvements to the parcel in accordance with the approved plans or the minimum standards required in these regulations as applicable to a specific project.

Where certain standards of development are not set forth they shall be established by the Planning Board, following their review of the particular situation.

In many cases, alternate improvement standards may be permitted if the Planning Board deems them equal in performance characteristics for the proposed use intended, with the approval of the Village Board as a deviation from an adopted regulations. Additional or higher design standards of improvements may be required in specific cases where the Planning Board believes it necessary to create conditions essential to the health, safety, morale and general welfare of the citizens of the Village.

A-27 Road Construction

A. The Village of Geneseo has established basic guidelines for the classification of roads to be constructed in the Village. The guidelines are listed in these regulations under Article VII.

B. All streets or roads developed in the Village shall be constructed to at least the minimum standards as set forth in the specifications or as shown on plans approved by the Village for a given project.

C. Due to the general soil conditions within the Village and normal construction sequences for development, it is deemed to be in the best interests of the Village that the following procedures be followed:

1. Binder material shall not be placed prior to the completion and approval of all underground utilities including the private utility services and a review of the road base by the Village.

2. The weather and seasonal limitations as specified under the Standard Specifications of the New York State Department of Transportation shall apply for placing of bituminous mixtures.

   Restrictions (1) and (2) imply completion of all underground systems well in advance of the Developer's schedule for paving.

3. The following restrictions shall be adhered to regarding Building Permits and Certificates of Occupancy:

   - No building permits will be issued on a stone-base roadway until the binder pavement has been completed and a Letter of Credit posted for all remaining paving.
   - No building permits will be issued without a stone-base roadway in place, completion of binder pavement and approval of the water system by the Department of Health.
   - No Certificate of Occupancy will be issued prior to the Village having accepted for dedication the completed facilities.

4. Upon completion of the binder pavement and all other items related to the completion of a project, the Village may elect to accept for dedication the completed facilities if: (1) an acceptable two year maintenance bond is submitted to the Village; and, (2) the Developer presents a Letter of Credit guaranteeing completion of the top pavement course. The amount of money to be guaranteed in the Letter of Credit will be established by the Superintendent. This sum shall be sufficient to cover the cost of labor and materials to cause the proper installation of the top course.

It is the intent of this option by the Village to allow the Developer to offer the project for dedication before the final pavement is installed. This option will allow the Developer to substantially complete the related construction in the developed area prior to installing the top course. In this manner the area will receive a new pavement top that is less susceptible to marring or patching as a result of normal construction activity.

In general, the final top course must be installed by the developer within one (1) year of the placement of binder course, unless a specific waiver of this time period is obtained (in writing) from the Superintendent.

Before the expiration of the maintenance bond and before the final top is applied, the Village and the Developer will hold a final site review to assess any damages or repairs that may be necessary by the Developer under the maintenance agreement. Once top course has been installed, final acceptance of all roadway improvements shall be obtained from the Village Board.

D. The installation of driveway culverts requires the approval and a permit for culvert location, size and material from the State, County or Village Highway Department having jurisdiction over a given road. New driveway culvert installation shall be the responsibility of the developer/landowner following the receipt of a permit.

The Village reserves the right to remove and/or install driveway or roadway culverts along any existing road to properly transmit surface drainage as determined by the Village Engineer and the Superintendent. All culverts shall be a minimum of 12" in size.

A-28 Sidewalks

Sidewalks shall be installed on both sides of the street and installed 1-foot inside the road right-of-way.

A-29 Storm and Surface Drainage

All storm sewers and drainage facilities such as gutters, catch basins, bridges, culverts and swales shall be designed for the development and be subject to the approval of the Village. Such facilities shall be capable of handling upland flows that may be generated from future land development.

The following points should be considered in the design of storm drainage facilities.

A. Lots shall be laid out and graded to provide positive drainage away from buildings.

B. Storm sewers, culverts and related installations shall be provided:

1. To permit unimpeded flow of natural watercourses.
2. To insure adequate drainage of all low points.
3. To intercept storm water runoff along streets at intervals reasonably related to the extent and grade of the area drained.
4. To convey runoff from roofs and other impervious surfaces to the storm sewer system.

C. Sump pumps (with check valves) will be required to be tied directly to the municipal storm sewer system. Sump pumps shall not be discharged to daylight. Roof leaders, gutters, gravity basement drains, and downspouts will be required to tie into the storm sewer. Gravity basement drains may be considered for discharge to daylight depending on local conditions. Should local conditions warrant the modification of the above-referenced, the design engineer and the Village Engineer can review changes and the Village Engineer may approve such changes if appropriate.

D. In the design of storm sewer systems, special consideration shall be given to avoidance of problems, which may arise from concentration of storm water runoff over adjacent properties. Many stormwater discharges from construction activities within the Village will require authorization under Section 402 of the Clean water Act and the New York State

Pollutant Discharge Elimination (SPDES) permitting program. The SPDES permitting program imposes requirements upon discharges for the control of erosion and sedimentation as well as water quality and water quantity. All developments within the Village must satisfy both local and state regulations. Where requirements imposed by the SPDES General Permit (GP-0-15-002), or its successors, are more restrictive than corresponding requirements in these regulations, the provisions which are more restrictive shall govern.

E. The Village requires the completed construction and the design engineer's certification of all surface drainage improvements and erosion control measures on a development before any building permits are issued.

A-30 Water Supply

Where public water supply, in the opinion of the Planning Board, is reasonably accessible, the developer shall provide and dedicate to the Village a complete water distribution system. The design and installation of said system shall be subject to the approval of the Planning Board and jurisdictional agencies.

Where public water supply is not within reasonable distance, an alternate supply, developed under the guidelines of the State Department of Health, shall be required. The Village does not guarantee or assume any liability for an individual water supply as shown on development plans.

If a private on-site system is to be used as a water supply for a development:

1. The individual source must have a minimum sustained flow of five gallons per minute of potable water.
2. There must be a minimum flow pressure of 20 pounds per square inch at all fixtures in the proposed unit.
3. A certificate of water quality and quantity from a New York State approved testing laboratory must be submitted to the Code Enforcement Office before a building permit is issued.

4. No interconnections shall be permitted between the municipal supply and an individual water supply system.

A-31 Landscaping

A. Adequate site landscaping may be required of the developer on any lands developed in the Village. A landscape plan will designate plant species and locations. The Planning Board will notify the developer after the sketch plan has been reviewed by the Board, if a specific landscape plan is required. (See Appendix Z for planting details.)

B. Visual impacts shall be considered for planting on sight distances.

C. Shade trees shall be planted along all street frontage, parallel to the frontage road with a spacing not to exceed 50 feet or consistent with existing tree spacing on neighboring lots when present.

D. The trees are to be a minimum of 10 feet from the edge of any easement or right-of-way.

E. The trees shall be of a variety that will be medium to small in stature, do not generally have a wide-spreading root system and do not generally have a large-spreading trunk base.

F. All tree plantings shall be a minimum of 2" caliper.

G. Spacing shall be at 50' intervals on both sides of the R.O.W.

H. All commercial development will require a landscaping plan. The size, type, and quantities shall be determined by the Planning Board and will be commensurate with the size and general location of the facility.

I. All plantings shall be covered under a maintenance bond for a period of one (1) year.

A-32 Monuments

Permanent reference monuments shall be set at final grade at all corners and angle points of the boundaries of any major subdivision plan and at all street intersections and such intermediate points as may be required per Appendix AA. These markers shall be set by a licensed land surveyor and certified to the Village as true and accurate before a Certificate of Occupancy is issued.

A-33 Street Signs

Permanent street signs, of the same specifications as those of the Village Highway Department, shall be erected at each intersection by the Highway Department and paid for by the developer.

A-34 Street Lighting

Lighting facilities shall be required along all new streets. Light spacing, fixtures, and underground conduit shall meet with the requirements set forth by the Planning Board and Electric Corporation having jurisdiction in the service area. Street lighting shall be compliant with the dark sky standards, as described in the Village's Zoning Code.

The Planning Board may also require additional sidewalk or site lighting to be installed. All non-residential sites will be independently reviewed in regard to lighting systems. Such a system shall be coordinated with the electrical utility system and designed to keep light from illuminating areas outside of the developed site.

A-35 Electric, Telephone, Cable TV or Other Buried Cable Utility

In every development, provisions shall be made for service from the private utility supply systems. All utilities serving a major subdivision and a street lighting system shall be underground, rather than on poles, standard or towers. Underground conduit and cables

shall be installed per the regulations of the Public Service Commission and a minimum of 2 feet below any drainage way.

Utility services for any minor subdivision proposed shall be consistent with the service methods that exist within 500 feet of the proposed development area. Applicants shall discuss with the Planning Board the service method to be used for every development submitted for review.

A-36 General Site Consideration

General site considerations should include pedestrian and vehicular access and circulation, as well as provisions for handicapped access. Location, arrangement, size, architectural features, and design of buildings, lighting and signs, protection of adjacent properties and general public against noise, glare and unsightliness, or other objectionable features will also be considered by the Board.

A-37 Parking Areas

All parking areas, passageways and driveways, except when provided in connection with one- and two-family residential uses, shall be surfaced with a dust-less, durable, all-weather pavement such as asphalt or Portland cement. Parking areas shall be so graded and drained as to dispose of all surface water accumulation. The Planning Board may alter this requirement at the time of site plan approval when surface water drainage or other special requirements exist. Appropriate screening and landscaping as deemed appropriate by the Planning Board will also be required.

ARTICLE V – ADMINISTRATION

A-38 General Provisions

For the purpose of enabling and encouraging flexibility of design and development of land in such a manner as to promote the most appropriate use of land, to facilitate the adequate and economical layout of streets and utilities and to preserve the natural and scenic qualities of open lands, the Planning Board, simultaneously with the approval of a Plan, may in appropriate cases modify applicable provisions of the zoning ordinance in accordance with Village Law providing:

A. The Village Board authorizes the Planning Board to act on a specific application.

B. The Owner makes written application for such modification.

C. The Planning Board adopts rules and regulations setting forth the criteria of an application.

D. The modifications would not result in greater number of dwelling units or building plots than are permitted if the land were subdivided into lots conforming to the minimum lot size and density requirements of the zoning ordinance applicable to such land. Two plans will be required for the Planning Board to review:

1. Conventional layout meeting all zoning aspects of the Village, and other development regulations.

2. Modified plan meeting applicant's intent of development.

E. No modifications granted by the Planning Board may change the permitted uses of such lands as set forth in the Village's Zoning Ordinance.

F. The Planning Board shall record in its minutes the grounds for granting any modification and note the date of such modification and the nature thereof on the final subdivision plan to

be recorded in the Office of the County Clerk. The Village Clerk shall make appropriate notations and references of such modification on the official Zoning Map of the Village.

A-39 Hardships

Where the Planning Board finds that because of unusual circumstances of shape, topography or other physical features of a proposed development – extraordinary hardship may result from strict compliance with these regulations. The applicant should refer to the Code of the Village of Geneseo, Subdivision of Land, Chapter 130-100, for procedures regarding this issue.

A-40 Large Scale Development

The standards and requirements of these regulations may be modified by the Planning Board with Village Board approval in the case of a plan and program for a new community or a neighborhood unit, which in the judgment of the Planning Board provides adequate public spaces and improvements for the circulation, recreation, light, air and service needs of the tract when fully developed and populated and which also provides such covenants or other legal provisions as will assure conformity to the achievement of the plan.

A-41 Conditions

In granting modifications, the Planning Board may require such conditions as will, in its judgment, secure substantially the objectives of the standards or requirements so modified.

A-42 Amendments

The rules and regulations as set forth above may be amended, altered or revised by the Planning Board from time to time, after public hearing and subject to the approval of the Village Board per applicable section of the Village Law.

A-43 Validity

Should any section or provision of these rules and regulations be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of the rules and regulations as a whole or any other part thereof.

A-44 Fee Charge Schedule

The Village of Geneseo has a Fee Schedule on file at the Village Clerk's Office. Copies of this Schedule are available and any fees due the Village must be paid in full before approvals are considered.

PART II

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CRITERIA FOR DESIGN AND CONSTRUCTION

ARTICLE VI – GENERAL PROVISIONS

A-45 Purpose

The purpose of these Specifications is to provide minimum criteria for the design and construction of improvements within the Village, which upon the satisfactory completion thereof, may be offered for dedication to the Village of Geneseo for perpetual operation and maintenance. The information contained in Part II is to be used in conjunction with Part I of these Regulations.

The criteria established is intended to provide minimum standards, which may be upgraded to serve the best interests of the Village. The information in this booklet is provided to aid in the submission of material in a uniform manner and attempt to expedite the various review and approval procedures.

This criteria shall govern in all areas of private, public, industrial and commercial development and/or areas that will involve the connections to existing municipal systems in the Village.

A-46 Responsibility

It is the responsibility of the Developer to insure preparation of the Plans is sufficient to meet the standards and requirements herein incorporated. Said Plans shall be prepared by a professional, licensed in the State of New York, who shall have experience in design of land development.

The Village and/or its representatives shall review the proposed Plans as to their compliance with the standards and conditions encountered while meeting the best interests of the Village.

It is the responsibility of the Contractor, acting for the Developer, to construct the facilities in conformance with the approved Plans and the Village standards.

Construction observation shall be provided by the Village or its designated representative to review construction as it is being performed at the cost of the developer.

The final results of the project remain the prime responsibility of the Developer and until the development is satisfactorily approved the Village and/or its representatives, said development shall not be accepted for dedication.

A-47 Building Permits

Building permits shall not be granted until:

1. An approved subdivision plan is filed in the office of the Livingston County Clerk.
2. Drainage improvements are completed to the satisfaction of the Superintendent and certified by the design engineer to the Village Code Enforcement Office.
3. Easements affecting the development of a parcel are filed in the office of the Livingston County Clerk, and notification of such received by the Village.
4. A site plan has received final approval of the Planning Board and Items 2 and 3 above are addressed.
5. The main water distribution system has been installed, tested and accepted by the Livingston County Department of Health, thereby providing fire protection capability for the site.
6. The stone subbase courses have been placed for the road, providing reasonable access to the site for emergency equipment.

ARTICLE VII – DESIGN CRITERIA

A-48 Public Sanitary Sewers

Minimum requirements shall be as established by the New York State Department of Environmental Conservation and Chapter 98 of the Code of the Village of Geneseo.

A-49 Gravity Sanitary Sewers - Expanded Information

Design of gravity sanitary sewers shall adhere to the following:

1. Sewer mains shall be a minimum of 8-inch diameter.
2. Manhole spacing, maximum of 300 L.F.
3. All necessary mains and laterals required to connect to the public sewage system as shown on the final approved plan shall be installed by the Developer.
4. Elevations – Where other utilities parallel or cross the sanitary system, vertical clearance between the systems shall be provided to permit the satisfactory installation of all services.
5. Laterals for each individual lot shall be:
    a. Minimum of 4 inches in diameter.
    b. Minimum slope of ¼-inch per L.F. (2%)
    c. Cleanouts shall be provided at a maximum distance of 85 feet and one shall be located on the right-of-way or easement line. No additional cleanouts shall be located within the road right-of-way. All cleanouts shall include a cast iron cover per Appendix B.

A-50 Pressure Sanitary Sewers

Design of pressure sanitary sewers shall adhere to the following:

1. Pressure sewer systems shall be laid out in a configuration that is hydraulically efficient.

2. Access shall be provided at the upstream end of each forcemain branch.
3. All appurtenances and fittings shall be compatible with the piping system designed and shall be full bore with smooth interior surfaces.
4. Building service connections shall have a minimum diameter of 1-1/4 inches and shall tap into the forcemain with a corporation stop. A check valve shall be provided near the service pump.

A-51 Sewage Lift Stations

In all cases, the use of gravity systems are encouraged over sewage lift stations (pump stations). Specific geographic and/or topographic areas may require the use of sewage lift stations to transmit contributory flows to the trunk sewer system. If sewage lift stations are to be used in a development, developer shall adhere to the following:

1. Before sewage-pumping stations are designed they should be discussed with the Village to provide compatible equipment to that already in use.
2. Compliance with Design Criteria of the New York State Department of Environmental Conservation recommended standards for Wastewater Facilities (latest revision).
3. Provision of an audible and visual high-water alarm system, battery operated.
4. Provision to operate pumps on supplied auxiliary power equipment.
5. Pump stations shall be designed to have the controls and motors above ground as manufactured by Gorman Rupp, or approved equal.
6. Elapsed time meters shall be provided on the motors to determine quantity of flow being pumped from the station.

A-52 Storm Drainage Systems

All development projects shall be required to provide for the adequate conveyance of storm drainage through the development. The natural drainage patterns are to be followed as much as possible. Drainage systems shall be sized to accommodate the future potential runoff

based on the probable land use and the ultimate development of the upland watershed area. Water quality shall also be incorporated into all system designs.

A. Storm Sewers and Stormwater Conveyance

A drainage area of up to 1,000 acres shall be designed to transmit the flow of a one-in-ten year storm. Larger systems and structures on natural watercourse channels shall have design return intervals as follows:

Drainage Area	**Design Return Interval**
1,000 acres to 4 square miles	25 year
4 square miles to 20 square miles	50 year
20 square miles and above	100 year

B. Allowance for Overflow Conditions

Overflow conditions shall be designed into each system to protect against damage from major storms and provide an outlet for storm water, should inlets or pipes become damaged or plugged.

C. Natural Channels and Open Swales

Natural channels are generally preferred alignments for major components of a residential drainage system. However, the utilization of open channels shall be evaluated as to the ease and cost of maintenance, safety hazards and aesthetics. The channels may require special invert or side design to properly convey water while keeping the maintenance cost minimal. Natural channels and open swales shall have a minimum slope of 2.0 per cent.

D. Stormwater Runoff Conveyance Computations

1. The design of stormwater conveyances shall be generally established by the Rational Formula (Q = CiA) where:

   Q = Runoff in cfs
   C = runoff coefficient
   i = Rainfall intensity in inches/hour
   A - Drainage basin area in acres

2. Rainfall intensity figures shall be taken from the charts provided in Appendix Y for the time of concentration and return period required for a particular basin.

3. Times of concentration shall be calculated by the Design Engineer but shall be a maximum of 15 minutes to the first inlet for a residential subdivision.

4. Runoff coefficients shall also be calculated by the Design Engineer to establish a weighted value representative of the type of development proposed. In general, the following ranges shall be adhered to:

Description of Area or Character of Surface	**Runoff Coefficient**
Business District	0.70 to 0.95
Residential –Single family	0.40 to 0.50
Residential – Apartments	0.50 to 0.70
Industrial	0.50 to 0.90
Unimproved	0.10 to 0.30
Pavement	0.70 to 0.95
Lawns	0.10 to 0.35

Factors to be considered in the determination of the runoff coefficient are: Soil type, slope of land, development density, etc.

5. Points of discharge shall be recognized U.S.C. & G.S. drainage courses, which may require the Developer to acquire downstream easements for dedication to the Village.

6. Culverts shall be designed to accommodate the design storm for the drainage area but shall be checked for the next highest increment of storm return interval to evaluate the possible complications. Headwater and/or tailwater calculations will be required to determine ponding that may occur. In general, the use of multiple culverts is discouraged because of maintenance problems. Inlets and outlets of culverts shall be protected from erosion or turbulence problems by the use of riprap, headwalls, energy dissipaters, etc.

7. Backyard swales shall be designed with minimum side slopes of 1 on 4 and a minimum longitudinal slope of 2.0 percent. Field inlets shall be generally provided every 300 lineal feet at all low points and where swales intersect.

8. Stormwater retention, sedimentation basins, and erosion control measures in all new land development shall be provided where, in the judgement of the Village Engineer, it is felt necessary in order to provide proper drainage and/or erosion control. Many stormwater discharges from construction activities within the Village will require authorization under Section 402 of the Clean water Act and the New York State Pollutant Discharge Elimination (SPDES) permitting program. The SPDES permitting program imposes requirements upon discharges for the control of erosion and sedimentation as well as water quality and water quantity. All developments within the Village must satisfy both local and state regulations. Where requirements imposed by the SPDES General Permit (GP-0-15-002), or its successors, are more restrictive than corresponding requirements in these regulations, the provisions which are more restrictive shall govern.

    a. In general, whether or not the associated discharge requires authorization under the SPDES permitting program, the design of all stormwater retention, infiltration basins, sedimentation basins and erosion control measures

proposed for development within the Village shall be in conformance to the New York State Stormwater Management Design Manual, January 2015, as the same may be amended from time to time. Plan view and details are required to show the pond location, size, inlet structures, and outlet structures, as well as any appurtenances. All retention facilities shall be constructed with a minimum 1:3 side slope from base of pond to top of bank. A 25' access easement to the Village shall be provided around all portions of said pond for emergency purposes.

In designing the detention facility, attention shall be given to the types of soils found in the site. The village may require that the pond bottom be lined or constructed of impervious soils or manufactured sealants, (i.e. Bentonite) to prevent seepage or piping of stored water along the underlying bedrock.

During design, the Village may require the developer to provide a soils report done by a professional soils engineer to determine if the on-site material meets the requirements for infiltration capacity or as a pond liner.

The developer's engineer shall submit, with his final plans, drainage calculations justifying the size of pipes, channels, impoundment basins, and related structures.

b. Stormwater retention/detention facilities shall be required to mitigate the impact of land development to downstream properties and drainage systems. The increased rates of stormwater run-off may cause environmental problems downstream such as highly erosive velocities, flooding and over-topping of banks. The Village may require retention/detention basins where deemed appropriate and to have these basins designed in a manner compatible with these specifications. The purpose of this regulation is:

- To establish the basin general philosophy for these facilities;
- To set forth a series of parameters or rules governing the design.

While the Village reserves the right to establish particular parameters in each individual instance, the general philosophy is to permit runoff from any particular development to an amount no more than would normally occur under a natural, undeveloped condition.

The developer shall design all storm drainage improvements in conformance with any Village watershed drainage studies. Where on-site detention/retention is not required, the developer shall submit the equivalent fees for their share of any off-site facilities.

The Village reserves the right to establish other more restrictive parameters. For example, if the downstream area has been subject to floods in the past, even while the upstream areas were not developed, and if the Village deems it desirable and appropriate to remedy this situation, they may at their discretion, require an impoundment area of a size and type, which can assist in rectifying the downstream flooding situation.

c. The following represents the basic philosophy regarding stormwater discharge:

- No developed area shall discharge more stormwater into adjacent culverts and channels than occurs under a natural undeveloped condition.
- The flow capacity of channels and culverts immediately downstream from a development does not necessarily govern the adequacy of the total drainage system downstream.
- As one travels downstream in any given drainage basin (and, therefore, from any given development) the area contributing to any drainage channel is increasing.

Culverts and channels downstream from a development may be able to handle the total runoff from that development alone, but this does not imply that said channels and culverts can handle the total runoff to that location.

The fact that downstream facilities are inadequate prior to the development and, therefore, flood at certain times, does not imply that this flooding condition or any greater frequency flooding is desirable.

d. In order to arrive at an engineering estimate of storm flows and proposed detention pond size, the engineer should proceed according to the steps listed herein. The design engineer may also be required to identify impacts of particular site drainage on the watershed as a whole. These use of computer modeling by the developer's engineers is permitted.

i. The design engineer shall design the design stormwater facility in accordance with the New York State Stormwater Management Design Manual.

- All ponds shall have an emergency spillway designed such that a 100-year storm can be routed through the pond without overtopping the banks.
- All detention/retention facilities shall be designed to address the impacts of a 1-year, 10-year, and 100-year design storm.

ii. The developer's engineer shall use existing topographic maps and the appropriate rainfall charts and graphs to determine the maximum expected natural rate of runoff for the design storms form an undeveloped site. Factors affecting this rate include slope of land, surface cover, area of drainage basin, and the presence or lack of well-defined natural channels. This rate of runoff shall be the controlling allowable discharge from any development in the area under question for the given design storm. If downstream sewers,

culverts, or channels have a capacity of less than the derived rate, this downstream capacity shall control as the allowable discharge rate. The runoff coefficient for developed conditions shall be a weighted number based upon area of impervious surfaces.

iii. Design the collection system using the standard rational method, TR 20, or other methods as approved by the Village Engineer.

iv. With an area designated for the location of the pond, determine the maximum depth of the pond.

v. Design an outlet structure, which discharges water as a continuous function of head and which will discharge the maximum allowable flow at maximum pond depth. Lesser storms should discharge approximately proportional lesser flows.

vi. Provide inflow hydrographs for a number of design storms of different durations and make a straight line approximately to an outflow hydrograph starting with Qo=0 at t=0 and assuming that good pond design is based on the outflow reaching its peak just as the inflow equals the outflow.

vii. Calculate the accumulated volume for each of the above cases. The one giving the greatest volume is the critical storm for this retention pond.

viii. If desired, make a more detailed analysis using the now determined critical storm and standard flood routing techniques. Otherwise, use the above estimated volume and size the area of the pond.

9. Flood Hazard Prevention

Flood hazard prevention shall include the control of soil erosion of land and surface and drainage channels and the prevention of inundation and excessive groundwater seepage by comprehensive site grading and the establishment of adequate elevations of buildings, building openings, and roadways above the observed, anticipated, or computed water levels of storm sewers, streams, channels, flood plains, detention basins, and swales.

Particular attention shall be paid to development in the vicinity of Jaycox Creek and its flood plains. No alteration of the existing characteristics of the area shall take place without the specific approval of the regulatory agency and the Village Engineer as to the adequacy of the protective measures taken, if any. The effects of such development on upstream and downstream reaches of the watercourses, as well as adjacent properties, shall be defined by the applicant.

All development proposed within the special Flood Hazard Area as defined by the Code Enforcement Office shall comply with the various regulations set forth by the Code Enforcement Officer and the Village.

a. The Design Engineer shall submit as a minimum, the following information for review of the drainage design:

   i. A U.S.C. & G.S. quadrangle reprint with the development and drainage basin outlined.
   ii. A tabular form showing computed runoffs and design capacities of the system.
   iii. A map of the development showing the on-site drainage areas with inlets numbered in conjunction with the tabular calculation sheet.

E. Storm Drains

1. Minimum pipe size - 12 inch diameter
2. Minimum velocity when flowing full - 3 fps
3. Maximum manhole and catch basin spacing - 300 lineal feet
4. In general, only natural waterways may be continued in open channels. Street drainage and other parts of a storm sewer system shall be in closed conduit. When gradient and tributary runoff require conduit greater than 36 inches in diameter, then open channel design may be considered.

F. Storm Laterals

Gravity laterals shall be a minimum of 4 inches in diameter. Sump pumps with check valves and roof runoff must only discharge to storm laterals.

G. Catch Basins

Catch basins shall be placed at all low points and intersections with maximum spacing of 300 feet. Catch basin leads shall only be connected to the storm sewers at manholes except in those areas where the storm sewer is 24 inches in diameter or greater.

H. Storm Manholes

Storm manholes shall be designed to accommodate the pipes entering and exiting the structures. A schedule of manhole diameters shall be provided on the final plan.

I. Drainage Easements

The minimum easement width shall be 20 feet, but the actual width acceptable to the Village will consider all those factors previously listed.

J. Water Quality

The Village of Geneseo is supportive of initiative to preserve water quality in all major streams, creeks, and tributaries. Water quality initiatives are designed to reduce the thermal impacts, sediment load, and intrusion of pollutants into sensitive streams that support fish and wildlife habitat. Water quality measures shall be incorporated into all developments either through construction of man-made wetlands, mechanical purification methods, or cash contributions to regional water quality facilities.

K. Design

All development shall incorporate water quality measures into the design of the project if they meet the following thresholds:

- Project involves the creation of an additional 15,000 square feet or more of impervious surface.
- Project involves the creation of an additional 6,000 square feet or more of parking area.

Best management practices shall be utilized that are consistent with the "New York Guidelines for Urban Erosion and Sediment Control", as the same may be amended from time to time.

The required treatment volume shall be calculated per the formula described in the "Design of Stormwater Wetlands Systems" (1992), prepared by Thomas Schueler or as described in the New York State Stormwater Management Design Manual. The wetland treatment systems shall be designed to treat the first 1" of runoff from the drainage area.

The use of mechanical treatment systems shall be considered upon review by the Village Engineer. The developer must submit a Property Maintenance Agreement to assure the long-term care and cleaning of any mechanical treatment systems.

Under some instances, the developer may be required to submit cash in lieu of on-site treatment facilities. This fee shall be used for the creation of a regional water quality treatment facility where a greater benefit can be achieved to the downstream receiving waters.

All facilities shall be designed to meet the following:

- Be aesthetically pleasing,
- Safe,
- Reliable,
- Provide wildlife habitat,
- Maintenance free, and
- Be of an appropriate scale to the adjoining area.

L. Construction

Water quality measures shall be utilized during the construction of all projects. Erosion and sedimentation control plans should mitigate any impacts to adjoining downstream properties and receiving waters.

All construction projects that meet the above threshold for design shall prepare a Stormwater Prevention Plan prior to construction. This report shall be made available to the Village Engineer prior to scheduling a pre-construction meeting.

The Irrevocable Letter of Credit shall include sufficient costs to install, maintain, and remove erosion and sedimentation control measures.

A-53 Water Mains

All work performed and materials furnished for the purpose of supplying the development with potable water shall comply with Article IV, Code of the Village of Geneseo and Recommended Standards for Water Works (latest edition).

A. Design

Water supply system shall be designed to provide adequate domestic usage and fire protection. Where public water supply is not accessible, an alternate private supply shall be furnished, which conforms to the New York State Health Department regulations.

The Design Engineer shall substantiate all main and service sizing.

All water mains shall be a minimum of 8 inches except:

1. Where mains are part of a major transmission distribution network, the Village may require a larger size main.
2. Where project demands allow a smaller main while still providing adequate fire and domestic flows, the Village may accept for dedication a 6" diameter main.

B. Hydrants

Hydrants shall be spaced to comply with ISO requirements but at a maximum 500-foot intervals in subdivisions and 600-foot intervals in open spaces.

C. Valves

Valves shall be located such that no more than 30 dwelling units and no more than two hydrants need be out of service for repair of a water main. Valves shall generally be provided at intersections and shall be no more than 1,200 feet apart along the water main.

Additional valves may be required at creek intersections and/or railroad crossings depending on network configuration and permit requirements.

D. Dead End Mains

Provide 2 inch blow-off units at the end of all "dead end" mains.

E. Water Services

Provide minimum of 1-inch water service to the curb stop located at the right-of-way line of all individual lots or where an easement is provided, the service shall extend to the easement line, (joint utility trench easement). All services within the road right-of-way (or adjacent easements) shall be Type K copper without line couplings. From the curb stop, the service may be a minimum of ¾-inch Type K copper or a minimum of 1-inch polyethylene pipe. Meters shall be installed for each individual service and are to be purchased from the Village.

A-54 Grading

A. General

The finished grading on developed lands shall provide for the effective removal of storm water runoff to a drainage system.

In general, the Design Engineer shall try to establish a finished grade at the structure line to permit a minimum of 2.0 percent grade away from the structure to the drainage system.

Drainage shall generally be to side or rear lot swales provided:

1. Swales are of a proper cross-section to permit ease of maintenance by the individual Owner.
2. Easements are provided for access and/or maintenance where necessary.
3. Finish grade at right-of-way line shall be not more than 2 feet above finish grade at centerline and the driveway slope within the lot shall not be greater than 10 percent. A leveling area of 3 percent maximum grade adjacent to the right-of-way shall be provided, at a minimum of 30 feet in length from the edge of the street pavement.
4. Where multi-lot grading is proposed, all swales required for positive drainage will be installed prior to the issuance of a building permit.

B. Grading Plan

A Grading Plan shall be submitted, with the final plan for any development, showing at a minimum the following items:

1. Existing contours.
2. Proposed finish contours.
3. Spot elevations of proposed finish grades at key locations.
4. Garage floor elevations.
5. Minimum elevations of any architectural opening where flood hazard areas exist.
6. Culvert invert elevations.
7. All elevations shall be established from USC&GS datum and the plan shall show a site benchmark.

A-55 Roads

The following designations will be used by the Village to classify roads and their respective design criteria. The basic considerations of each road classification are as follows:

A. Collector

1. Provides access to established commercial and industrial areas.
2. Provides access to local roads.
3. High volume of traffic.
4. Moderate volume truck/tractor trailer traffic.

B. Local

1. Densities as permitted by the zoning ordinance.
2. Design speeds of 30-MPH or less.
3. Low volume of traffic.
4. Individual driveways at regular intervals.

5. Usually no effect on overall Village traffic pattern.

C. Private (non-dedicated and more than one user)

1. Has free ownership on a dedicated street.
2. Low volume of traffic.
3. Has no effect on overall Village traffic pattern.
4. Design speed of 20-MPH or less
5. Maintenance covered by deed agreement or Homeowner's Association depending on the number of units.

Each of these roads has basic characteristics, which may be varied to be consistent with unique proposals of development and construction. The individual variations of the conditions will not be permitted if they sacrifice design safety or maintenance of a proposed road type. Standard roads shall comply with the typical cross-sections shown in Appendices S, T, and U.

A-56 General Road Design Considerations

A. Right-of-Way (R.O.W.)

1. Minimum width 60-feet for dedicated roads.
2. Private drive width depends on design constraints.
3. Private underground utilities to be located on easements beyond R.O.W limit.

B. Horizontal Alignment

The following factors shall be incorporated into the design of each road type:

1. Sight distance must conform to minimum safe stopping sight distance per "Geometric Design of Highways and Streets", AASHTO Latest Edition.
2. Clear sight at intersections.

3. No centerline intersection angles less than 75 degrees.
4. Minimum centerline radius of 150-feet.
5. Road pavement intersections shall have a minimum of 35-foot radius.
6. Cul-de-sacs should not exceed 1,000-feet in length and end with a turnaround. (See Appendices V and W.)
7. Access to future developments will be provided to property liens.
8. Tangent sections shall be used between curves to maintain the proper flow of traffic at design speeds.

C. Vertical Alignment

1. The minimum length of vertical curves shall be based upon current AASHTO policy covering selection of vertical curve length based upon stopping sight distance, passing sight distance, riding comfort, and headlight sight distance. Vertical curves are required whenever changes in grade exceed 1 percent.

D. Road Grades – Dedicated

1. Minimum – 0.7 percent with shoulders; 0.5 percent with gutters.
2. Maximum – 8 percent – Maximum grade may exceed 8 percent for short distances with engineering justification and Village approval.

E. Leveling Areas

Leveling areas shall be incorporated at all intersections for a minimum distance of 100-feet from the edge of the pavement and the grade shall not exceed 3 percent.

F. Road Widths

Class	Pavement Width	Edge Treatment	Drainage
Collector	26’ 24’	Curbing Gutter	Storm Sewer Storm Sewer
Local	20’	Gutter	Storm Sewer
Private	14’	3’ shoulder	Storm Sewer

G. Special Considerations

1. Underdrains – When soil or subsurface conditions could cause base failures in the road, the developer will be required to install underdrains. The method used shall be subject to the review and approval of the Village Engineer and the Superintendent.

2. Frontage Development – Where frontage development is to be approved along collector roads, the Planning Board may require that the roadside swale be enclosed in conduit along the fronts of the development. Such conduits shall be of the proper size to accommodate anticipated flows as previously outlined. A parallel access road may also be considered by the Planning Board and discussed during sketch plan submittal.

A-57 Road Design

A. General Requirements

The Design Engineer shall consider the proposed use of the road when preparing a road design. The following criteria is listed as minimum standards to be considered by the designer. It is the intent of these requirements to obtain a road and a base that is stable and capable of supporting H-20 loading to the sites.

B. Minimum Design Standards

1. Collector

a. Geotextile fabric shall be used over the compacted subsoil and prior to the installation of any stone base courses.
b. One 12” lift of No.2 and No.3 crushed stone equally mixed.
c. One 3” lift of fine crusher-run stone.
d. Asphaltic concrete courses shall be 4” of Type 1 base, 2” of Type 3 binder and 1 1/2” of Type 7F top.
e. Curbing per Appendix KA, KB, or concrete gutter per Appendix K.

2. Local

a. Geotextile fabric shall be used over the compacted subsoil and prior to the installation of any stone base courses.
b. One 8” lift of No.2 and No.3 stone equally mixed.
c. One 4” lift of fine crusher-run stone.
d. Asphaltic concrete course shall be 4” of Type 1 base, 2” of Type 3 binder and 1 1/2” of Type 7F top.
e. Concrete gutter per Appendix K, or curbing per Appendix KA or KB.

3. Private

a. Geotextile fabric shall be used over the compacted subsoil and prior to the installation of any stone base courses.
b. One 8” lift of No.2 and No.3 stone equally mixed.
c. One 4” lift of fine crusher-run stone.
d. Asphaltic concrete course shall be 4” of Type 1 base, 2” of Type 3 binder and 1 1/2” of Type 7F top.
e. Shoulder per Appendix U.

f. A private drive off a dedicated road shall:

(1) Be designed to keep surface water flows from entering the travel way of the dedicated street.
(2) Provide soil erosion measures on the site as it is being developed.
(3) Provide adequately sized culverts with end sections or headwall treatment.
(4) Finish grade and seed the area immediately upon completion of the private drive base.
(5) Provide a hard surface from the edge of the existing pavement at least 30-feet toward the developed site.
(6) No private drive should exceed a slope greater than 3 percent from the edge of the pavement to a point 30 into the property being developed.
(7) Maximum grade within the development site shall be 10 percent.

Note: All depths are compacted thicknesses.

A-58 Driveway Culverts

A. Driveway culvers shall be provided along existing road frontage lots to properly convey roadside drainage. The culverts shall be installed to the proper grade to allow the natural flow of water. All culverts installed shall be subject to the review of the Superintendent having jurisdiction on the road. Design of driveway culverts shall adhere to the following:

1. Minimum of 12" diameter unless they are a part of a larger drainage course which may require larger diameter pipes.
2. The culverts shall extend a minimum of 5' beyond the edge of the access driveway and be provided with end sections or headwalls. The slope from the driveway to the culvert end section shall be graded and seeded to maintain the slope stability.
3. Elevations to be set by U.S.C. & G.S. datum.
4. Culverts shall have a minimum of 12" of cover.

A-59 Sidewalks

Where required by the Planning Board, sidewalks shall be 5’ wide concrete and installed on both sides of the street per Appendix X.

A-60 Monuments

Monuments shall be located at:

1. P.C. and P.T. of all horizontal curves along one side of the right-of-way.
2. Maximum of 1,000 feet along one side of right-of-way line.

A-61 Reserved Land for Future Use

Where land areas are reserved for future connections to adjacent parcels, all improvements, i.e., sanitary, storm, water, roads, will be constructed to the common property line.

ARTICLE VIII – MATERIAL SPECIFICATIONS

A-62 General Information

The materials intended to establish the degree of excellence are herein included and deemed to be of satisfactory quality for installation within the Village. When new materials may be made available, their use may be permitted in limited test sections with the restriction that should these materials prove unsatisfactory through the test period as established by the Village, they shall be removed and replaced with those herein called for at no expense to the Village.

A-63 Sanitary Sewers

A. Polyvinyl Chloride (PVC) Pipe for Gravity Sewer

Shall meet the requirements of ASTM D-3034 for Sewer Pipe and Fittings, minimum wall thickness SDR-35. The joints shall be bell and spigot conforming to ASTM D-3212 with elastomeric gasket conforming to ASTM F-477. All pipe and fittings shall be made from PVC components as defined and described in ASTM D-1784.

B. Polyvinyl Chloride (PVC) Pipe for Sewage Force Mains

Shall meet the requirements of ASTM D-2241 for PVC plastic pipe. Pipe and fittings shall be 160 psi, minimum SDR-26 extruded from clean, virgin, resin compound conforming to ASTM D-1784. Bell and spigot joints are required with elastomeric gaskets conforming to ASTM D-3139.

C. Ductile Iron (DIP) Pipe for Sewage Force Main

Shall conform to AWWA C-151, minimum allowable thickness shall be Class 51. Rubber gasket push on joints shall be used in accordance to AWWA C-111. All ductile iron pipe shall be cement-mortar lined in accordance with AWWA C-104.

D. Sewer Connection for Gravity Sewer

1. Sewer connections on new sewer main installations shall be made with wye fabricated or injection molded fittings. The minimum strength classification of these fittings shall be equal to that of the pipe and the fittings shall be compatible with the pipe.

2. Connections to an existing sewer shall be made with GENCO strap-on saddles with double stainless steel straps and stainless steel or bronze bolts for sewers up to 14 inches in diameter and GENCO bolt-on saddles for sewers greater than 14 inches in diameter.

3. Connections to mains must be separated by minimum of 10 feet.

E. Sewer Lateral Pipe for Gravity Sewer

1. Cast iron sewer pipe shall be extra heavy class with rubber gasket joints and maximum lengths equal to 5’-0” per ASTM A-74.

2. PVC pipe shall be of a minimum wall thickness SDR-35 with elastomeric gasket joints, supplied in standard length and conform to ASTM D-3034 (#10 gauge copper tracer wire from right-of-way or easement line to the structure shall be included).

F. Sewer Lateral Pipe for Pressure Sewer

Polyvinyl chloride (PVC) pipe and fittings shall meet the same requirements as PVC force mains.

A-64 Storm Drain

A. Reinforced Concrete Pipe

Shall be supplied in conformance with ASTM C-76 Class II. Joints shall be of the bell and spigot type with compression type with compression type joint ASTM C-443.

B. Polyvinyl Chloride (PVC) Pipe

Shall meet the requirements of ASTM D-3034 or ASTM F-679, minimum wall thickness SDR-35 with elastomeric gasket joint, ASTM D-3212 or ASTM F-794 for ribbed gravity pipe. PVC pipe shall not be used as driveway culverts.

C. Corrugated Steel Pipe

All pipe shall be coated inside and outside and have joints made with connecting bands. Thickness gauge will be dependent on the load conditions, except that 16 gauge shall be the minimum allowable thickness.

D. Corrugated Polyethylene Tubing (HDPE)

Pipe shall be smooth lined (smooth bore) and shall conform to the requirements of ASTM F-405 or ASTM F-667.

E. Storm Laterals

1. Corrugated steel pipe shall be coated inside and outside and have joints with connecting bands. Thickness gauge will be dependent on the load conditions, except that 16 gauge shall be the minimum allowable thickness.

2. PVC conforming to ASTM D-3034, minimum 4 inches in diameter with fabricated tees and wyes.

3. HDPE shall conform to ASTM F-405 with fabricated tees and wyes.

F. Catch Basin Leads

Shall be a minimum of 12 inches in diameter.

1. Reinforced Concrete Pipe.
2. Polyvinyl Chloride Pipe.
3. Corrugated Steel Pipe.
4. High Density Polyethylene Pipe.

A-65 Manholes and Manhole Ladders

A. Manholes

Precast reinforced concrete sections shall be manufactured in accordance with ASTM Specifications C-478. Riser sections shall have tongue and groove ends and super "O" joints and gaskets conforming to ASTM C-443. Manhole bases may be pre-formed or poured in the field. Roof slabs shall be precast structural concrete, reinforced for H-20 and 30 percent impact loading. A 24 inch diameter hole shall be eccentrically located in the roof slab. In place of preformed openings in base sections, flexible manhole sleeves may be cast directly into the base walls may be used with compatible pipe material.

All manholes shall be sealed inside and outside completely with two coats of heavy-duty water repellent protective coating which complies with ASTM Specification D-450, Type B.

Manholes constructed of other materials shall be considered for approval following a review of said manhole construction. In specifying these manholes, the Developer's Engineer shall submit adequate design data and/or shop drawings to substantiate the materials.

B. Manhole Ladders and Steps

Manhole ladders or steps shall be provided in all sanitary and storm manholes and shall be constructed of one of the following materials.

1. Non-corrodible, aluminum magnesium alloy ladders, with intermediate supports at 5 foot intervals.
2. Forged aluminum with drop front design and groove tread surface.
3. Cast iron with an asphalt coating.

Steps shall be cast into walls of riser sections and shall be aligned in each section to form a continuous ladder with rugs equally spaced vertically in the assembled manhole at a distance of 12 inches apart.

A-66 Frames and Covers

A. Sanitary Manhole Frames and Covers

Shall be Syracuse Castings 1032 or other approved equal. The word "Sanitary" shall be cast into the top of the cover. The lid diameter shall be 24 inches.

B. Sanitary Cleanout Covers

Cast iron vent covers per Kistner Concrete Products C1-SV-6, or equal.

C. Storm Manhole Frames and Covers

Shall be Syracuse Casting 1032 with a vented cover or other approved equal. The lid diameter shall be 24 inches.

D. Catch Basin Frames and Grates

Shall be rectangular, galvanized (ASTM A-123) and sized to fit gutter inlets or field inlets. The gutter grates shall be NYSDOT size No. 1 to fit the catch basin inside dimensions of 18" x 24". The minimum field inlet shall be NYSDOT size No. 9 to fit a field inlet of 24" x 24" inside dimension.

Catch basin manholes shall be set to allow a NYSDOT size No. 1 grate to be installed.

Frames and grates shall be as specified in NYSDOT Specifications Drawing 655-6R1 and Section 655 of the NYSDOT Standard Specification Manual. All grates shall be bolted to frames.

A-67 Water Mains

A. Ductile Iron (DIP) Pipe

Shall conform to AWWA C-151, minimum allowable thickness shall be Class 52. Pipe shall be cement lined in accordance with AWWA C104 and shall have rubber gasket push-on joint in accordance with AWWA C-111. If soil conditions warrant, polyethylene wrap shall be required.

B. Fittings

1. Ductile iron shall meet AWWA C-111 Specifications, minimum Class 250, with mechanical or push-on joint, except for hydrant branches which shall be mechanical joint. Fittings shall be cement lined in accordance with AWWA C-104. Bolts and nuts shall be high-strength, low alloy steel.

2. PVC shall meet specifications of AWWA C-900 made from PVC Compound 12454-B (ASTM D1784) with casket joints meeting ASTM D3139.

C. Hydrants

Shall be manufactured in accordance with AWWA C-502. Hydrants shall be Mueller Centurions manufactured for 5 foot bury with break-away flange construction and 6 inch mechanical joint inlet. They shall open left and be painted yellow bodies. Hydrants shall be three way with 2-1/2 inch hose nozzles and one 4-1/2 inch pumper connection with National Standard threads. Main valve openings shall be 5-1/4 inch with the total unit consisting of the tee, guard valve, hydrant and adaptors.

D. Flushing Hydrant – Blowoff

Shall be 2 inch self-draining, non-freezing with 5 foot bury, with all bronze parts designed to connect to a 2 inch main line outlet as manufactured by GIL Industries, Inc., Model Slim Line 2.

E. Gate Valve and Box

Gate valves shall conform to AWWA C509, Resilient-seated wedge type epoxy coated gate valves with non-rising stem. They shall be of the 350 psi test class with a minimum working pressure of 250 psi. Gate valves shall be Mueller model number A2360-20, with MJ ends, a 2" square operating nut, and shall open left.

Valve boxes shall be Bibby model number B5004 series two-piece side-type valve box, 5-1/4 inch inside diameter with covers marked with "WATER".

If the valves are buried deep they must have an extension stem that can be reached with a 6 foot valve box key.

F. Anchoring Fittings

Anchoring pipe in accordance with ANSI-A21.4 shall be employed to anchor all hydrants to gate valves. The anchoring pipe shall be coal tar coated, cement lined and provided with a

rotating gland. There should be a minimum 18 inches between hydrant and gate valve. These anchoring pipes shall be either Clow F-1216 or Tyler 5-198.

G. Restrainers

Shall be manufactured of high strength ductile iron pipe and incorporate a full 360 degree support around the pipe. They shall be as manufactured by Uni-Flange series 1300, 1350, or 1390 depending on the specific use.

H. Water Service Material

1. Corporation stop shall be Mueller H-15008 compression type.
2. Curb stops shall be Mueller H-15209 Mark II compression type.
3. Curb boxes shall be Mueller H-10314, 5 feet long.
4. Copper pipe shall be Type "K" ASTM B88.
5. Plastic pipe shall be copper tube size (CTS) polyethylene ASTM D-2737, PE3408 per AWWA C-901 (only used from curb box to unit and a #10 gauge copper tracer wire shall be included from the curb box to the structure).

A-68 Concrete Gutters and Sidewalks

A. Concrete

1. Shall be a minimum of 4000 psi (28 day strength) Class A concrete conforming to NYSDOT Specification 609.
2. Air entraining admixture conforming to ASTM Specification C-260.
3. Bituminous expansion material shall conform to NYSDOT Specification 705-07.
4. Curing and sealing compound – conforming to ASTM C-309, Type I, Class B for curing and sealing.

A-69 Road Materials

A. Sub-Base and Base Courses

1. Crusher run stone shall conform to NYSDOT Specification Section 304-2.02, Type 2.
2. Aggregate shall conform to NYSDOT Gradation Table 703-4, size as specified.
3. NYSDOT Specification 304-2.02 Type 4 gravel may be substituted for No. 2 and No. 3 crushed stone (NYSDOT Gradation Table 703-4) if acceptable subsoil conditions exist with the approval of the Superintendent and Village Engineer. The Design Engineer shall submit data justifying the use of gravel over specific subsoil conditions.

B. Bituminous Pavement

1. Base course shall conform to NYSDOT Specification Section 401, Type 1 Base.
2. Binder course shall conform to NYSDOT Specification Section 401, Type 3 (Dense Binder).
3. Top course shall conform to NYSDOT Specification Section 401, Type 7F.

C. Tack Coat

Shall conform to NYSDOT Specification Section 407. The grade shall depend on the specific use intended.

D. Premoulded Bituminous Joint Filler

Shall conform to NYSDOT Specification Section 705-07.

E. Underdrains

Shall be 4 inch perforated SDR-35 PVC per NYSDOT 706-15 or High Density Polyethylene Tubing per AASHTO M-252.

A-70 Equivalents

The mention of apparatus, articles or materials by name and such specific description of same as is made herein is intended to convey to the Developer and his Contractor an understanding of the degree of excellence required. The Village shall be the sole judge of the qualifications of the offerings and will determine all questions regarding the conformance of any offer outside the specifications.

For any project it will be assumed that the Developer will furnish the exact materials specified on the plans and specifications unless the Developer files with the Village of Geneseo prior to any use in the development, the names and complete description of each article which he proposes to substitute for approval by the Village Board.

Any costs incurred by the Village or its representatives associated with the verification of substitute equipment and materials will be the responsibility of the Developer.

ARTICLE IX – INSTALLATION OF IMPROVEMENTS

A-71 General Information

A. Pre-Construction Meeting

A pre-construction meeting shall be requested by the Developer and scheduled through the Village Code Enforcement Office prior to the start of construction of a development. The Developer, his Contractor and Design Engineer shall meet with all private utility representatives, the Village Engineer, Department Heads and project observers to discuss the overall project, its impacts and schedules. A schedule of construction shall be presented in writing at this meeting by the site contractor.

Prior to scheduling a pre-construction meeting, the Developer shall obtain a checklist from the Village Code Enforcement Office, identifying all items that the Developer must bring to the meeting.

B. Meaning of Drawings

The Contractor shall abide by and comply with the true intent and meaning of all drawings and of the specifications taken as a whole. If the Contractor believes that the construction indicated on the project drawings will not, when executed, produce safe and substantial results or if it appears that there is any discrepancy in the drawings, it is his duty to immediately notify the Developer's Engineer, in writing, and to thereafter proceed only upon written order of the Village.

C. Protection of Property and Work

The Contractor shall conduct his operations to prevent damage to trees, garden plots, shrubbery, pipe lines, conduits, buildings and other structures. The Contractor shall use all necessary precautions to protect the work and adjacent structures of all kinds during

construction and shall so conduct his operations that at no time shall the work or such structures be endangered.

Responsibility and damage – the Developer shall be responsible for all parts of his work, temporary or permanent, until the project is complete and shall thoroughly protect all work, finished or unfinished, against damage from any cause as all work is at the Contractor's risk until the same is accepted by the Developer. The use of part or all of the work by the Village as provided for in these specifications shall not relieve the Developer of this responsibility. The Contractor shall be responsible for damage to life and property due to his operations and shall provide all necessary guards, rails, night lights, etc.

D. Construction Schedule

The Developer shall provide a construction schedule showing the order in which work will be completed at the pre-construction meeting. The schedule shall be reviewed at the pre-construction meeting and revised if necessary. No work will begin until a schedule is acceptable to and is on file with the Village.

E. Permits

The Developer shall secure all necessary permits from the Village including Highway, Water Utilities Departments and/or any other agency who may have authority over any work prior to the start of construction.

F. Existing Utilities or Structures

Before construction begins near any existing utility or structure, the Contractor shall notify the appropriate Owner of his intention and their instructions as to the protection of their property must be followed. Before commencing work, the Contractor shall determine the exact location of any structure or underground utility in order that the Contractor's project will not damage or disrupt these facilities.

The Contractor shall take necessary precautions to prevent entry of mud, debris, etc. into existing utilities or onto streets near the site.

All existing underground facilities shall be checked for damage before backfilling. In the event a facility is damaged, the Owner of that facility shall be notified by the Contractor so as to insure an acceptable repair and/or replacement.

G. Facilities for Observation

The Contractor shall furnish all reasonable facilities and aid to the construction observers for safe and convenient footways, scaffolds, ladders, etc., that may be needed for the examination and review of any part of the work. The Village of Geneseo may stop work when the Contractor has no responsible agent on the project or if the Village feels that the Contractor is not performing the work in the best interests of the municipality. Disorderly, intemperate and incompetent persons shall not be allowed on the project. The employees who neglect or refuse to follow the construction observer's instructions shall be permanently removed from the project by the Contractor. Failure to conform to these controls may warrant refusal of the municipality to consider the development for dedication.

H. Layout

It shall be the responsibility of the Developer to have the work carefully laid out by qualified surveying or engineering personnel in a manner that will assure accurate completion of the work.

I. Defective Work

The review of the work shall not relieve the Developer of any of his obligations to comply with the specifications. Any defective work shall be made good and any unsuitable materials which have been previously overlooked by the Village or its representatives shall be removed and replaced. If the work or any part thereof shall be found defective at any

time before the final acceptance of the project, the Developer shall make good such defect in a manner satisfactory to the Village.

A-72 Grading

Completion of grading per the grading plan to within 1 foot of design grade shall precede any trench excavation. Such grading shall include house "pads", removal of enough material to form "box" for road base, surface drainage channels, required temporary situation basins, etc.

Construction brush and debris will not be buried on the site. Wood materials shall be cut, chipped, mulched or removed from the site and deposited in a permitted construction/demolition landfill.

A-73 Trench Excavation

A. Excavation

Under this term will be included all excavation in trenches and pits, together with all backfilling and embankments that may be needed for the laying of the utilities and appurtenances or that may be necessary for the laying, changing and construction of any water, sewers, conduits, culverts, drainage ditches or water courses, or for any other incidental work that may be required or ordered by the Village or its representative.

It is the Contractor's sole responsibility to make sure that all work shall be conducted in strict accordance with the Federal Safety Standards of OSHA.

B. Width of Trenches

The trenches shall be of such width as may be required by the Design Engineer to insure proper laying and handling of the pipes and appurtenances, proper tamping and backfilling operations. In all cases, trenches should be kept as narrow as possible. The Contractor shall

be responsible to provide sheeting/bracing or other requirements to insure the safety of his workmen in conjunction with the proper installation of the pipe.

C. Depth of Trenches

In general, the trenches shall be excavated to such a depth to properly install utilities to the grade established in the field by the Design Engineer. The depth of the excavation shall allow the proper bedding material to be placed under the pipe.

Any extra excavated depth by the Contractor shall be filled with compacted crushed stone to the proper grade required.

Utilities shall be designed to prevent damage from frost penetration or surface forces. Water mains and services shall be generally buried with 4'-6" of cover in fields but at least 6'-0" when they cross existing or proposed roads.

D. Tunneling

Work shall generally be conducted in open trenches or excavations, with proper protection. Tunneling shall be done only in areas specifically called for by the design plans with design details approved by the Village.

E. Blasting

Whenever necessary to resort to blasting for making the excavations, the trench shall be covered in a form to prevent fragments of rock from being thrown out. Only experienced, licensed workmen shall be employed in the handling and uses of explosives. All blasting operations shall be conducted in strict accordance with existing ordinances, regulations and specifications relative to rock blasting, storage and use of explosives.

F. Bailing and Draining

The Contractor shall furnish a sufficient pumping plant and shall provide and maintain, at his own expense, satisfactory drainage whenever needed in the trench and other excavations during the progress of the work and up to final inspection. No structures shall be laid in water. Water shall not be allowed to flow or rise upon any concrete or other masonry or flow on adjacent lands. All water pumped or bailed from the trench or other excavation shall be conveyed in a proper manner to a suitable point of discharge and may require temporary siltation traps.

G. Bottom of Trench

The bottom of the trench shall be carefully graded and formed according to the directions of the Design Engineer, before any structures are laid thereon. When other instructions or design are not indicated, all trenches shall be excavated in a straight line. In hard pan, boulder formations or rock, the excavation shall extend at least 6 inches below the bottom of the pipe and a carefully compacted bed of crushed stone screenings placed in the bottom of the trench up to the level of the spring line of the pipe.

It is the intention of this specification to achieve not less than Class "B" pipe bedding.

H. Suitable Bedding and Safety Backfill Material

It shall be the responsibility of the Contractor to generally utilize material excavated from the trench in order to provide the required backfill to meet the listed specifications unless crossing an existing or proposed road. Should the nature of the soil be such that the Contractor is unable to meet the above requirements by selecting, with reasonable care, from the excavated material, he shall provide the following materials, if so ordered by the Village.

Sand, stone or concrete cradle when the trench bottom does not provide sufficient bearing capacity or when specification requires specific bedding for certain utilities.

Sand encasement shall be ordered by the Village when the trench is excavated in rock, boulders, or hard pan and none of the material above this level is suitable for backfilling the pipe.

A-74 Pipe Installation

A. Line and Grade

All pipes and appurtenances of whatever character shall, when set, conform to the alignments and grades required by the Design Engineer. All of the required special castings and other fixtures that are indicated upon the plans, or that may be required during the progress of the work, shall be installed in their proper positions.

B. Laying Pipe and Castings

The Contractor shall use suitable tools and appliances for the safe and convenient handling and laying of all utilities and appurtenances. All pipes and castings shall be carefully examined by the Contractor for defects and no pipe or casting which is known to be defective shall be laid. If defective pipe or castings should be discovered after being laid, these shall be removed and replaced with sound pipe or castings. The pipes shall be cleaned before they are laid and shall be kept clean until they are accepted with the completed work. All ends of the pipes shall be watertight capped to exclude water and debris from entering the pipes.

Sewers shall be built to the lines and grades between manholes as shown on the project drawings. The Contractor shall provide sufficient grade control to properly install the pipe and appurtenances. Sewer pipe shall be laid upgrade with spigots placed in the direction of flow. All pipes shall be fitted together to form a smooth, even invert. Pipes disturbed after laying shall be removed and re-laid.

After the pipe has been placed and adjusted to line and grade, the bed shall be trimmed to support the pipe for its entire length. Material used for bedding shall be thoroughly

compacted under the bottom and the haunches of the pipe. The trench shall then be backfilled to above the top of the pipe and carefully compacted to hold the pipe in position.

C. Cutting Pipe

Whenever it may be necessary to cut any straight pipe it shall be completed by skilled workmen with proper tools, in such manner as will not cause any cracking of the pipe.

D. Thrust Blocks:

At all tees, bends, or sharp curves and any other location determined necessary by the Design Engineer, concrete thrust blocks shall be poured between the pipe or fittings and the firm wall of the trench. Stone or wood blocks will not be permitted as thrust blocks except as temporary construction blocking.

A-75 Manhole Construction

A. General

Manholes shall be constructed of the size, type and at the locations shown on the Plans, or as designated by the Design Engineer in the field.

The manhole bed shall be excavated level and include a minimum of 6 inches of crushed stone.

Manhole risers and flat slab covers shall be precast reinforced units. Manhole bases may be precast "Monobase" or field poured with 3,500 psi concrete.

Eccentric cone sections may be used on the top of manhole riser sections if the inside height dimension from the bench wall to the bottom of the eccentric section exceeds 8 feet.

Interior and exterior concrete surfaces shall be sealed by the supplier and touched up or recoated by the Contractor with like material.

Any pipe entering a manhole shall be neatly cut with proper sharp tools before installation in the manhole. Pipe shall not be "chipped off" after installation.

All openings and joints in the manhole sections shall be completely filled once the sections are set, with non-shrink grout and after initial set, waterproofed on the inside and outside with a coal tar coating. When PVC is used all openings around pipes shall be completely filled with 100 percent epoxy non-shrink grout.

Before each barrel of the manhole is set, the joint shall be cleaned and the barrel correctly aligned, so that the steps form a continuous ladder. The first step shall be no more than 30 inches below finished grade and continue to the top of the bench wall.

It is the intent of these specifications to construct first-class manholes which will exclude all ground water, by means of carefully constructed foundations, tight barrel joints and the coating of the inside and outside of the manholes.

B. Frames and Covers

The frames shall be firmly set in a bed of not less than one full inch of cement mortar and adjusted to the finished grade. The manhole frame may be set directly on the concrete roof slab, providing the top will be at the proper grade; otherwise, precast concrete spacers or bricks shall be mortared to the roof slab to raise the frame to the proper grade. A maximum of three courses of spacers or bricks shall be used to adjust the frames and grates to the proper grade.

C. Inverts

Inverts shall be constructed in all manholes. The inverts may be constructed of the mainline pipe or brick (Grade SS) and shall be the depth of the pipe. When PVC material is used, all brick, concrete or other masonry material that interfaces with the PVC shall be adhered to the PVC with 100 percent epoxy non-shrink grout.

D. Drop Manholes

Wherever the invert of the entering sewer is more than 2 feet above the invert of the outlet sewer, it shall be connected with a vertical outside drop with a clean-out pipe half bricked up. When drops are placed, the entire excavation around the drop pipe shall be filled with 3,000 psi concrete extending not less than 2 feet along the main sewer.

The clean-out opening in the barrel of the manhole shall be cut in after the manhole wall pipe is in place and the joint between the clean-out pipe and the manhole wall shall be thoroughly sealed with cement mortar on the inside and bituminous joint material on the outside.

E. Shallow Sewer Manholes

Where any manhole is less than 4 feet from invert to bottom of roof slab, the Contractor is to provide a manhole. The roof slab shall be precast structural concrete reinforced to withstand a concentrated H-20 load plus 30 percent impact. The slab shall be formed to fit into the ends of the vertical pipe and shall have a full bearing for its entire circumference.

F. Sealing of Manholes

All manholes shall be sealed with two coats of sealer as applied by the manhole manufacturer to the entire interior and exterior surfaces in minimum dry thickness of 11 mils per coat. Application shall be in accordance with the coating manufacturer's recommendations and shall be certified thereto by the suppliers. Before placement in the field, abraded areas shall be touched up with two coats by the Contractor. Covers and other exposed surfaces shall also be coated in the field. Improper materials or mil thickness shall be cause for rejection of manhole sections.

A-76 Catch Basins

Catch basins shall be constructed as shown in the Appendix H or as shown on the plans for special conditions. However, in no instance shall catch basins be constructed to include sumps. Catch basins shall be constructed of precast concrete structures.

All catch basins shall be coated inside and outside with two coats of heavy duty coal tar sealer.

A-77 Sewer Laterals and Water Services

Sewer laterals and water services shall be installed to the right-of-way (or easement) line for all lots. Each service shall be located with a stake color coded in conformance with Industrial Code 53 to denote the type of service they represent.

A-78 Hydrants and Valves

A hydrant unit shall consist of a hydrant, guard valve, mechanical joint tee and anchor pipes.

Before hydrants or valves are installed they shall be checked to determine if they are in the proper working order.

Hydrants shall be set plumb with the break flange 3 inches above the finished grade. Hydrant weeps shall be surrounded by at least 10 cubic feet of crushed stone or gravel. If the ground water is higher than the drainage plug, the plug shall be closed and the crushed stone eliminated.

Valve boxes shall be placed plumb over the operating nut of the valve and adjusted to the final grade.

All hydrants shall be painted yellow and all valve box covers shall be painted blue.

A-79 Backfilling and Finishing

A. General

Trenches shall be immediately backfilled following the installation of utilities unless specifically changed in writing by the Design Engineer and approved by the Village. The roadways and sidewalks shall be left unobstructed, with their surface in a safe passable condition. The trench shall be tamped sufficiently to prevent settlement of or damage to existing or newly installed structures.

B. Backfill Immediately After Approval

Only select earth material shall be deposited around the utility and appurtenances covering them by hand for a depth of at least 12 inches above the pipe. This earth shall be thoroughly tamped as it is being placed so as to fill the lower portion of the trench thoroughly to give utilities a Class B bed for their entire length.

C. Restrictions as to Materials

No rock or frozen materials shall be placed in trenches within existing or proposed streets. Such material may be used in fields where immediate compaction is not necessary and at least 2 feet of select fill has been placed over the pipe.

D. Backfilling Pavement Crossings

All utility lines or laterals that cross existing or proposed streets shall be backfilled with crusher run stone conforming to NYSDOT Specification Section 304-2.02 Gradation Type 2. At the discretion of the Superintendent, native trench material may be used for backfill in lieu of crusher-run.

Material shall be compacted in lifts of 1 foot maximum to the elevation of the road subgrade. From there the backfill shall conform to the material specifications for individual road sections.

E. Cleaning Up

As the work progresses or as directed by the Design Engineer, all rubbish or refuse, unused materials and tools, shall be removed at once from along and near the trench line construction.

Rough clean up along the route shall immediately follow installation procedures. Large spoil banks will not be permitted in developed areas.

Final clean up and landscaping shall proceed immediately after the installation, testing and approval of the facility.

Erosion control measures must be maintained throughout the construction process and removed only upon the approval of the Village.

In all cases, the project site shall be restored to a condition equal to or better than that which previously existed.

A-80 Compaction

Compaction densities specified herein shall be the percentage of the maximum density obtainable at optimum moisture content as determined and controlled, in accordance with AASHTO Standard T-10, Rodded Unit Weight. Field density tests shall be made in accordance with AASHTO Standard T-238.

Each layer of backfill shall be moistened or dried as required and shall be compacted to the following densities, unless otherwise specified.

A. Select Fill

Under all existing or proposed roads, driveways, parking areas: 95%

All other areas:85%

B. Methods and Equipment

Methods and equipment proposed for compaction shall be subject to the approval of the Village. Compaction by rolling or operating heavy equipment over fill areas shall be conducted in a manner by which damage to existing utilities and structures shall be avoided. Any pipe or structure damaged thereby shall be replaced or repaired as directed by the Village at the expense of the Developer.

C. Testing

1. Field density tests may be ordered by the Village as necessary and will be paid for by the Developer.

2. The Developer shall furnish all necessary samples for laboratory tests and shall provide assistance and cooperation during field tests. The Developer shall plan his operations to allow adequate time for laboratory tests and to permit taking of field density tests during compaction.

   Any areas found to be below required compaction densities shall be removed and replaced with new material at the Developer's expense. The methods of operation and/or the backfill materials shall be changed to meet required compactions.

   Inadequate compaction shall be cause for the Village to issue a stop work order on a project.

A-81 Testing of Underground Utilities

A. General Information

Upon the satisfactory completion of the installation of the underground utilities, the Contractor shall proceed to test each of the installed facilities as herein specified. All utilities shall be pretested by the contractor before the Village is to witness the final tests. No test will be accepted unless witnessed by the Village. Records and date of these tests shall be submitted to the municipality as part of the record drawing information.

Water or test required of the Developer during any procedures will be paid for by the Developer. All hydrants for water supply or testing use shall be operated only by the Village Water Utilities Department.

B. Sanitary Gravity Sewers

1. All sewers shall be flushed clean by the Contractor and the lines shall be lamped with the Village.

2. All flexible pipe shall be tested for deflection. The deflection test shall be conducted after the final backfill has been in place at least 30 calendar days to permit stabilization of the soil-pipe system.

    a. No pipe shall exceed a deflection of 5 percent. If deflection exceeds 5 percent, replacement of the defective sewer will be required.

    b. A rigid ball or mandrel having a diameter of not less than 95 percent of the base inside diameter of the specified pipe shall be used for the deflection test. The test shall be performed without mechanical pulling devices.

3. Leakage tests shall also be conducted on the sewer. This test shall be by low pressure air testing. The Village under specific circumstances may require the contractor to infiltrate a sewer system depending on ground water levels.

4. Each manhole shall be subjected to testing as follows:

   a. Vacuum Testing - Each manhole shall be subjected to a vacuum of 10 inches of Hg for one minute with an allowable loss of 1 inch of Hg.

C. Sanitary Pressure Sewer

Pressure tests shall be made only after the completion of backfilling operations and at least 36 hours after the concrete thrust blocks have been cast.

The duration of pressure tests shall be one hour, unless otherwise directed by the Village. Test pressure shall be 60 psi minimum or a pressure of 2-1/2 times the maximum system operating pressure, whichever is greater.

The pipe line shall be slowly filled with water. The specified pressure, measured at the lowest point of elevation, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Village.

During the filling of the pipe and before applying the specified pressure, all air shall be expelled from the pipe line by making taps at the point of highest elevation. After completion of the test, the taps shall be tightly plugged at the main.

D. Storm Drains

All storm sewers shall be flushed clean by the Contractor and the lines shall be lamped with the Village.

E. Water Mains

1. Pressure Tests

The entire system, including services to the curb stops, shall be pressure tested at a minimum 1.5 times the working pressure or 150 psi whichever is greater for a period of two hours. The test pressure shall not vary by more than 5+ psi during the test period. No high pressure test will be allowed when temperature is less than 32 degrees, unless a heated shelter is provided for test equipment. A leakage test at operating line pressure shall be conducted for 24 hours in addition to the pressure test. These tests shall be performed in accordance with AWWA C600. The pressures at the point of testing shall be related to the highest elevation of the main.

2. Disinfection

Upon completion of the pressure testing the main shall be disinfected in accordance with AWWA C651 as applicable.

3. Samples

After flushing of the newly disinfected main, the Village of Geneseo Water Utilities Department shall obtain samples of water and submit them to a laboratory approved by the New York State Department of Health. Upon the receipt of a satisfactory laboratory report, this information together with the Village Engineer's Certificate of Construction shall be submitted to the New York State Department of Health for approval. Upon receipt of the Approval of Completed Work from the Health Department, the water system shall be considered complete and may be accepted for service by the Village.

F. Defective Areas

In any areas where satisfactory results of applied tests cannot be obtained, the defective portion of the system shall be located and replaced with new material.

That portion of the system shall then be retested until satisfactory results are obtained. Use of repair clamps will not be permitted by the Village.

A-82 Erosion Control

In order to assure that the surrounding properties and watercourses will not be subjected to siltation or erosion the Developer shall be required to follow certain erosion control practices. Such procedures may include:

1. Installing and maintaining temporary sedimentation basins at the point or points of storm water discharge from the property.
2. Exposing the smallest practical area of land at any one time during development.
3. Provision for temporary vegetation and/or mulching to protect critical areas.
4. Provisions for adequate drainage facilities to accommodate effectively the increased runoff caused by changed soil and surface conditions during and after development.
5. Retention and protection of natural vegetation wherever possible.
6. Installation of permanent final vegetation and structures as soon as practical.
7. Provision of adequate protective measures when measures when slopes in excess of 10% are graded; and minimizing such steep grading.
8. Provision for interceptor swales and sedimentation basins along the lower edges of all developments, and these shall be shown on the plans.

A-83 Roads, Gutters and Sidewalks

A. General Information

The Contractor shall not proceed to construct any surface improvements until the underground system has been installed, tested and approved by the Village.

Careful attention shall be given by the Contractor to obtain the necessary compaction densities as specified. All surface improvements shall be constructed to the shape and dimensions as shown on the typical sections or on the approved plans. A greater road width and base may be required in those areas where particular soil conditions or traffic patterns require special considerations.

A-84 Roads

A. Subgrade

The subgrade shall be graded to remove all unsatisfactory or unstable material. Where material is removed below the subgrade elevation, suitable granular material shall be used to bring the road to proper subgrade. Where ground water or poor soil conditions exist, the Developer shall be required to install perforated underdrain and crushed stone weeps to drain the base. The entire subgrade surface shall be thoroughly compacted according to NYSDOT Specification 203-3.12.

Fabric filter material shall be required by the Village to stabilize the base and subbase before the Contractor proceeds to install same.

No movement shall be observed in the subgrade material as the roller passes. When the subgrade is completed, the Contractor shall so notify the Village Superintendent and the Village Engineer for a base determination. Upon the review and written approval of the subgrade by the Village Engineer or his representative, the base material may be placed.

B. Base Material

Approved base materials shall be uniformly deposited and compacted in layers with a roller, according to NYSDOT Specifications. Rolling shall begin at the sides and continue toward the center and shall continue until there is no movement of the course ahead of the roller. After compaction, the top surface of this course shall not extend above the theoretical elevation for this course and when tested with a straight-edge 16 feet in length, any bump or depression over 1/4 inch from the theoretical grade line shall be satisfactorily eliminated.

When the base has been prepared to the satisfaction of the Village Engineer or his representative, the Developer may place the binder course, however, the Developer shall provide 48-hour notice to the Village Engineer or his representative prior to placement of the binder course.

If base conditions are changed as determined by the Village Engineer or his representative before the binder is placed, he may order the Developer to seal the stone with a rapid sealing liquid asphalt emulsion as specified in NYSDOT Section 702-10 or 702-11 with 0.5 gallons per square yard as determined by the conditions and not more than 24 hours prior to placement of binder asphalt.

If the compaction of the base is questionable by the Village Engineer or his representative, it may require re-rolling or stone replacement by the Developer.

C. Bituminous Pavement

1. Binder shall be placed and compacted to a minimum finished layer thickness of 2 inches with a self-propelled asphalt spreader and rolled according to NYSDOT Specifications 401-3.06 and 401-3.12. Before applying the top course, any irregularities in the binder course shall be eliminated but at no time will "cold patch" or "winter mix" be allowed on the binder for repair work.

2. Before the surface course is placed, the binder will be cleaned by the Developer and inspected by the Village Engineer or his representative to determine the condition of the pavement. It may be necessary to apply a tack coat at the rate of 0.1 gallon/square yard before placing the surface.

3. Surface Course shall be placed and compacted to a minimum finished layer thickness of 1 ½ inch with a self-propelled asphalt spreader and rolled in accordance with NYSDOT Specifications 401-3.06 and 401.3.12.

D. Temporary Road Construction

Where construction sequences preclude the specified road construction items and these requirements for Certificates of Occupancy, a temporary road consisting of the specified road section less top surface course may be constructed.

This temporary road shall be reviewed by the Village Superintendent and approved in writing prior to the issuance of any Certificate of Occupancy. The Village may accept dedication of the road if sufficient monies remain in the financial guarantee to top the road the next year.

E. Continuation of Existing Road

When construction of a road is continued from an existing road or previous developed section, the pavements shall be joined with a triangular cut of at least 15 feet from edge of the pavement to the centerline of the old pavement. The intent of this provision is to eliminate any grade difference and make a smooth riding transition.

All pavement joints shall receive a tack coat before placing the binder or top course.

F. Stabilities Shoulders

Stabilized shoulders shall be constructed to the dimensions shown on the typical sections. Construction methods shall conform to NYSDOT Specification 410-3.01. The base course shall consist of a wedge of crusher run stone with a single surface treatment.

G. Underdrains

Underdrains shall be installed in conformance with NYSDOT Specification 605 and underdrain filter Type 1 per NYSDOT Specification 605-2.02.

A-85 Concrete Gutters and Sidewalks

A. Concrete Gutters

1. Concrete gutters shall be a minimum of 6 inches in depth and constructed true to the shape, line and grade on a thoroughly compacted base. The gutters may be constructed using a slip form method or in-place form work.

2. Joints between sections shall be placed every 10 feet at right angles to the flow line and must be "wet struck" 1/8 inch wide and 3/4 inch deep. Full depth bituminous expansion joints shall be placed every 50 feet and at all structures or inlets.

3. Gutters shall be broom finished before the joints are struck and the finish shall be consistent throughout the project.

4. Gutters shall be cured and sealed by spraying with an approved curing and sealing compound at the rate recommended by the manufacturer.

5. One coat of curing and sealing compound shall be applied when the work is complete and another coat after the gutters have set for 48 hours.

6. The use of burlap or coverings for curing or protection is not acceptable until after the concrete has been sprayed and set.

7. The gutters, prior to final paving, shall be flooded and checked for horizontal and vertical line and grade and finish. If any gutters are found to be constructed in an unacceptable manner by the Superintendent, they shall be removed and replaced.

8. Gutter replacements shall conform to the existing gutter regarding finish and color.

B. Concrete Sidewalks

1. Minimum 5 inches in depth and constructed true to shape, line and grade. Sidewalks installed through driveways shall be 6 inches in depth.

2. Minimum width shall be 5 feet or to match existing.

3. The base shall be thoroughly compacted crusher run stone with a thickness of 4 inches. The base material shall extend 6 inches outside each edge of the concrete sidewalk.

4. A cross slope of 1/4 inch per foot shall be maintained for positive drainage.

5. Construction joints shall be wet struck at 5 foot increments and be 3/4 inch deep. Full depth bituminous expansion joints shall be placed every 25 feet and at all castings.

6. Sidewalks shall be broom finished and have troweled edges with a corner radius of 1/4 inch. The finish shall be consistent throughout the project.

7. Two coats of approved curing and sealing compound shall be applied. One coat immediately following the finish work and the second coat 48 hours later.

C. Testing

1. The Contractor shall obtain in accordance with ASTM C-31 two samples from every other truck delivering concrete to the site and have the samples compression tested by an independent testing laboratory.

2. Results of these tests shall be submitted to the Superintendent.

A-86 Monuments

The monuments shall be installed at those locations shown on the approved final plan and as located in the field by a Licensed Land Surveyor. They shall be installed to a depth of at least 30 inches below finished grade with the top surface to be flush with finished grade. Upon the installation of the monuments the location shall be certified to the Village by a Licensed Land Surveyor as to their accuracy.

A-87 Final Grading

Upon satisfactory completion of the utilities and roads, the entire area within the right-of-way shall be raked and graded to the approved plans.

The site Contractor shall be responsible to fine grade the right-of-way and maintain erosion control. In those areas where home building has started, clean up and site maintenance will then become the responsibility of the builder.

Debris and spoil banks created during the development (not home building) of the site shall be entirely removed and/or disposed of from the site. No burying of debris or material shall be allowed on approved or proposed building lots.

A-88 Final Cleaning

During the time period between initial installation and testing and acceptance for dedication, debris and/or sediment may accumulate in the utility systems. The Developer shall be responsible to flush and remove this debris from the system prior to the final inspection for dedication.

A-89 Signs

Street and traffic signs shall be supplied and installed by the Highway Department in accordance with standards outlined in the Manual of Uniform Traffic Control Devices (State of New York, Department of Transportation, Division of Traffic and Safety).

Signs and posts shall be ordered by the Highway Department for consistency throughout the Village. Upon receipt of signs, they shall be placed in the field by the Highway Department with sign, post and installation cost the responsibility of the Developer.

ARTICLE X – REQUIREMENTS FOR DEDITCATION AND PROJECT ACCEPTANCE

A-90 General

All construction within the right-of-way or lands to be dedicated to the Village shall be complete with final site reviews and written approvals of the construction by the following:

1. Village Engineer
2. Village Superintendent
3. Code Enforcement Officer
4. Any other agency approvals required by law

In addition to the field review, the Village Attorney shall notify the Village in writing that all legal aspects of the project have been satisfied.

A-91 Monuments

Monuments shall have been set in their required locations and certified to the Village.

A-92 Grading

Final grading shall be completed within the right-of-way and all spoil removed from the site.

A-93 Street Signs

All street and traffic signs shall be properly set in their designated locations.

A-94 Record Drawings

Record drawings, video inspections and all testing results shall be supplied to the Village and are subject to their review and approval at least 15 calendar days prior to any dedication procedures.

All completed sanitary sewer mains and storm sewer mains shall be video inspected and a video record of the inspection provided to the Village.

Record maps shall be prepared by a licensed professional and eight prints and a reproducible (mylar) shall be submitted to the Village's Code Enforcement Office. The record drawings shall contain, at a minimum, the following information:

1. The locations, sizes, elevations, lengths, slopes, inverts and top elevations of all structures in the sewer systems.
2. The elevations of any drainage swales and drainage structures to be dedicated to the Village.
3. The locations including ties to all valves, curb boxes and hydrants to permanent structures.
4. The locations at the property or easement line of each individual lot of:

    a. Sanitary Lateral Cleanouts
    b. Storm Lateral
    c. Water Service Curb Box

5. Any other significant details affecting the operation or maintenance of any system by the Village.
6. The location of all facilities shall be tied to visible and reproducible objects.

A-95 Maintenance Bonds

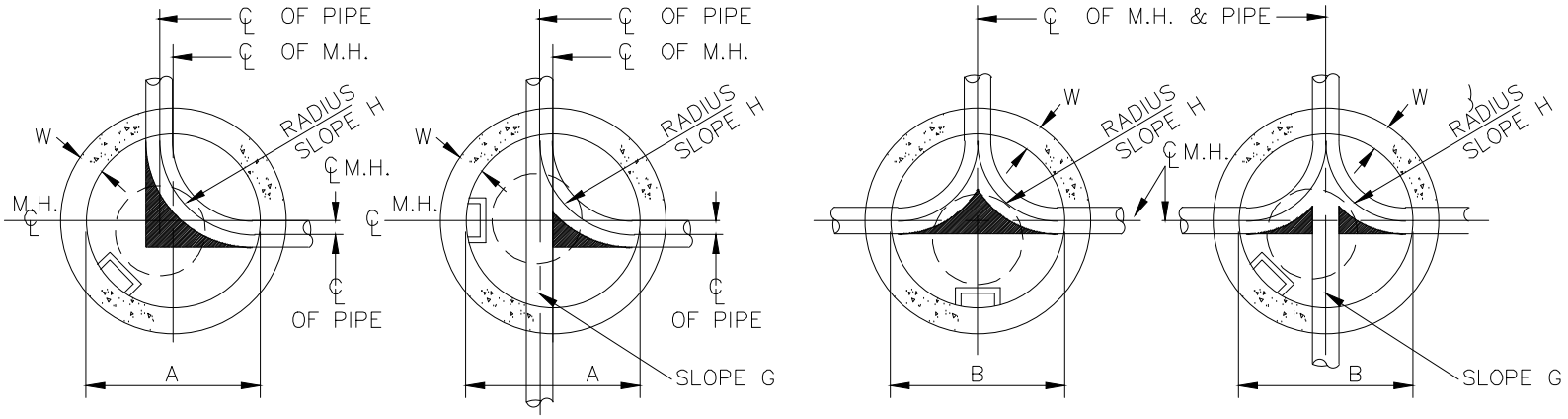
The submission and acceptance of the two year Maintenance Bonds for all improvements to be offered to the Village for dedication. Maintenance Bonds shall be written by a surety licensed to do business in New York State and they shall be in the amount of 10 percent of the final construction cost. Bonds shall be approved as to form and content by the Village Attorney prior to any dedication procedure.

A-96 Final Release of Funds

The Village Board, upon signature recommendation of the Design Engineer, Owner, Village Engineer, receipt of the Village Attorney's written opinion of legal status, receipt of two year Maintenance Bond, record drawings accepted by the Village Departments and a final field review report, shall then authorize release of monies retained in the Letter of Credit.

LIST OF APPENDICES

APPENDIX



NOTE:
BENCH CUT DOWN TO ℄ OF PIPE
IN ALL SHADED AREAS.

SEWER PIPE DIA.		8"	10"	12"	18"
MANHOLE DIA.	A	4'–0"	4'–0"	4'–0"	5'–0"
	B	5'–0"	5'–0"	5'–0"	5'–0"
INVERT DIFF.	G	0.1'	0.1'	0.1'	0.05'
	H	0.3'	0.3'	0.2'	0.2'

M.H. BARREL WALL THICKNESS		
A	4'–0"	5'–0"
B	–	5'–0"
W	5"	6"

NOTE: WHERE INLET AND OUTLET PIPES ARE OF DIFFERENT DIAMETERS THE SLOPE MUST NOT BE LESS THAN THE DIFFERENCE IN DIAMETER OR GREATER THAN 9"

STANDARD MANHOLE DIMENSIONS

(N.T.S.)

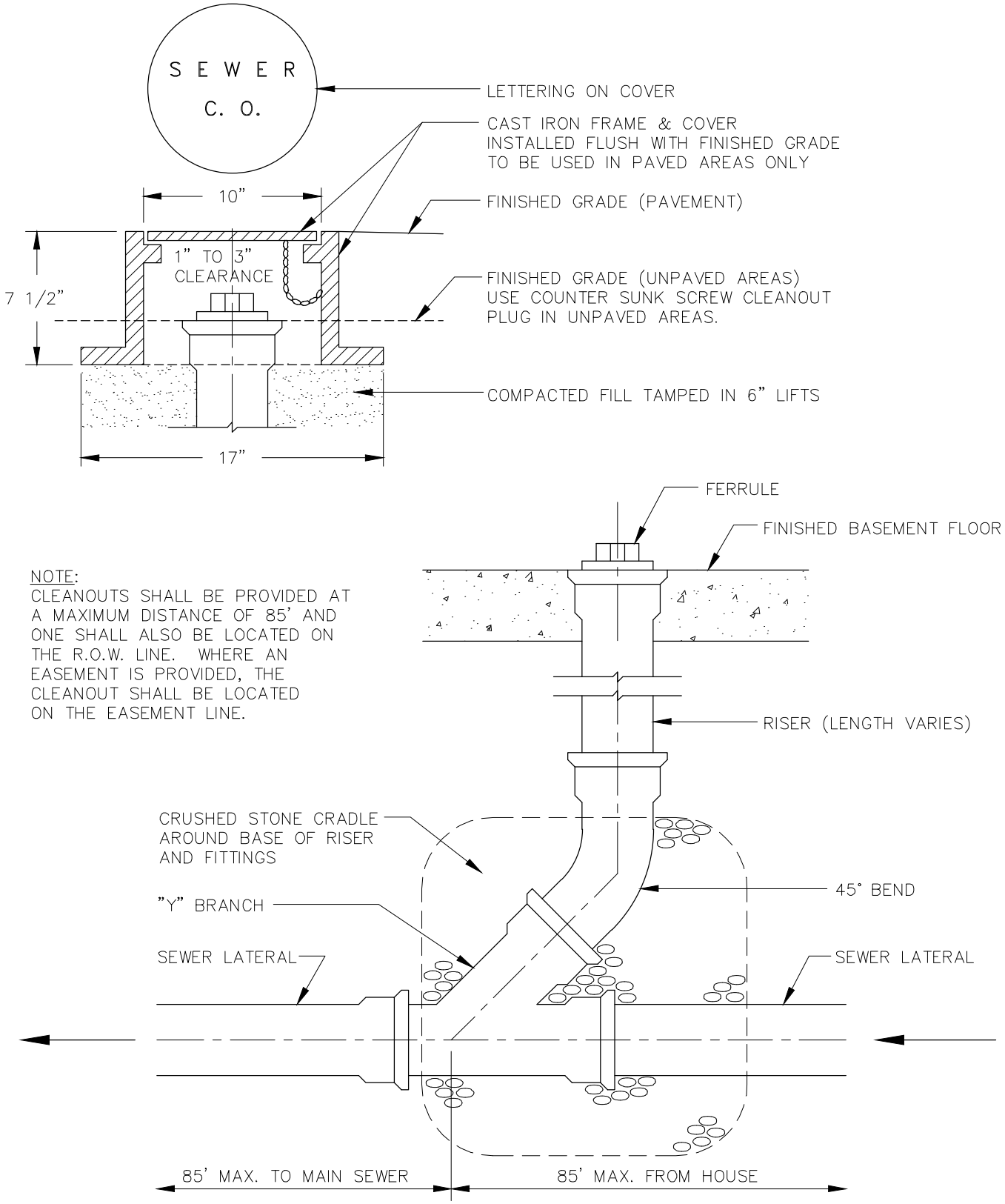
APPENDIX: A
DATE: NOVEMBER 2017

VILLAGE OF GENESEO

MRB group
ENGINEERING/ARCHITECTURE/SURVEYING, D.P.C.
145 CULVER ROAD, SUITE 160, ROCHESTER, N.Y. 14607

MRB | group
ENGINEERING/ARCHITECTURE/SURVEYING, D.P.C.
145 CULVER ROAD, SUITE 160, ROCHESTER, N.Y. 14607

VILLAGE OF GENESEO



STORM & SANITARY CLEANOUT DETAIL

(N.T.S.)

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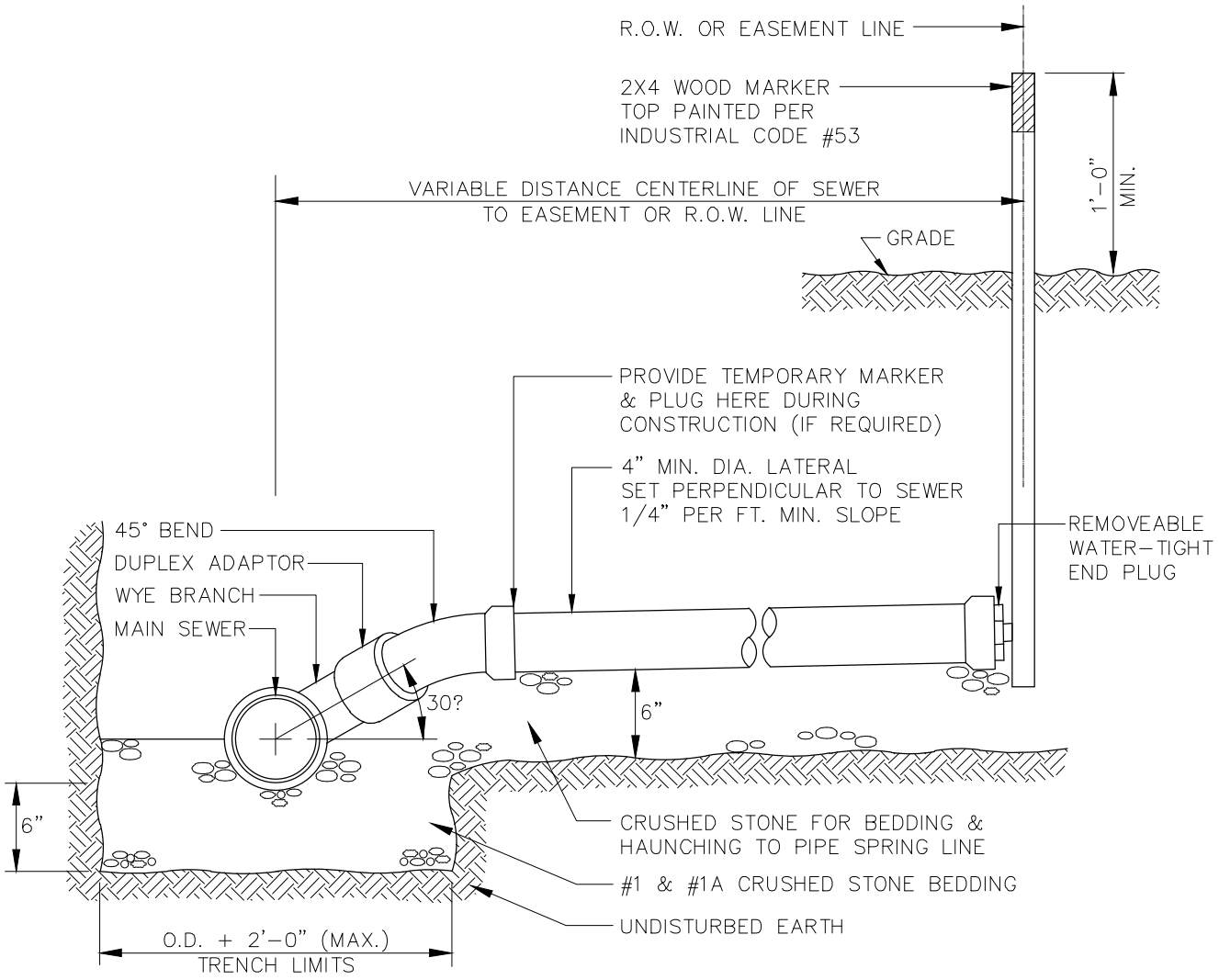

EARTH OR ROCK EXCAVATION

STANDARD STORM & SANITARY LATERAL DETAIL

(N.T.S.)

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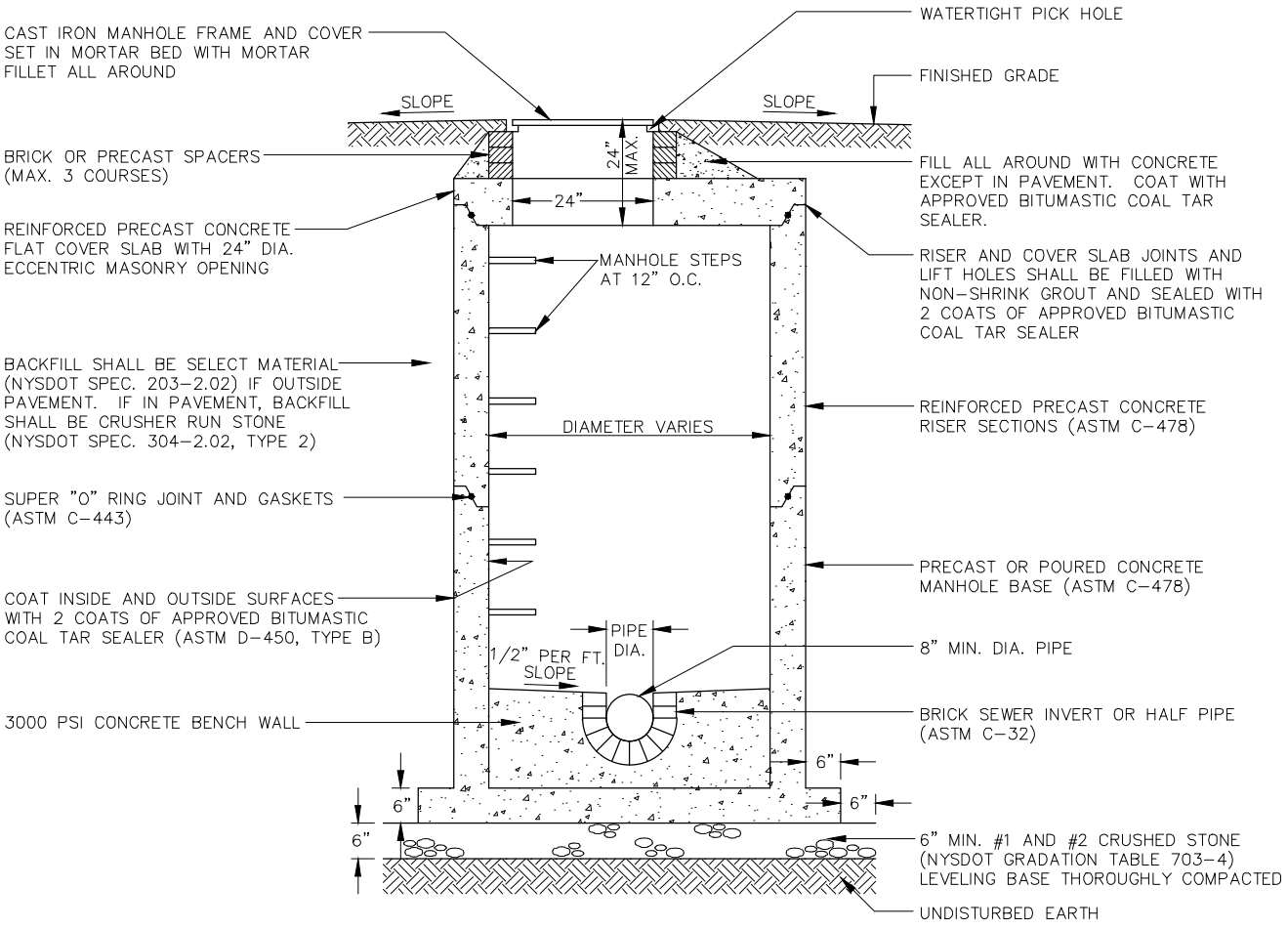

SANITARY SEWER MANHOLE DETAIL

(N.T.S.)

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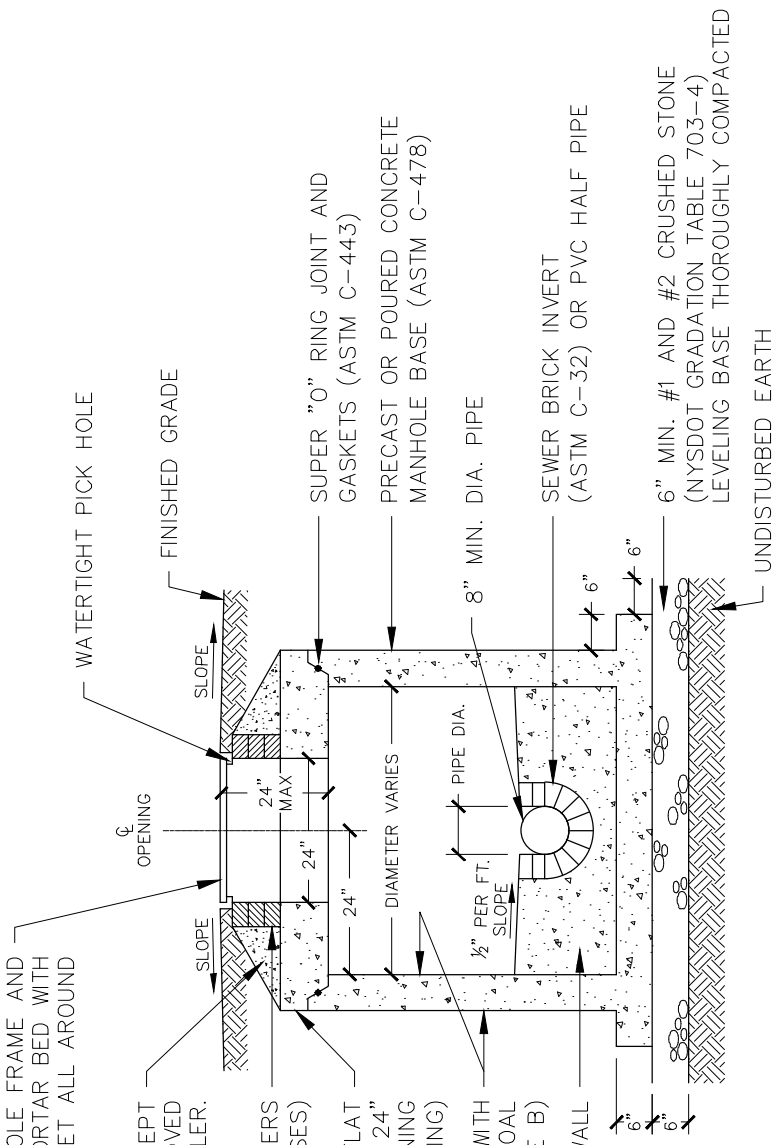

SHALLOW SEWER MANHOLE DETAIL

(LESS THAN 4' DEEP)

(N.T.S.)

NOTES:

1. RISER AND COVER SLAB JOINTS AND LIFT HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND SEALED WITH 2 COATS OF APPROVED BITUMASTIC COAL TAR SEALER.
2. BACKFILL SHALL BE SELECT MATERIAL (NYSDOT SPEC. 230-2.02) IF OUTSIDE PAVEMENT. IF IN PAVEMENT, BACKFILL SHALL BE CRUSHER RUN STONE (NYSDOT SPEC. 304-2.02, TYPE 2)

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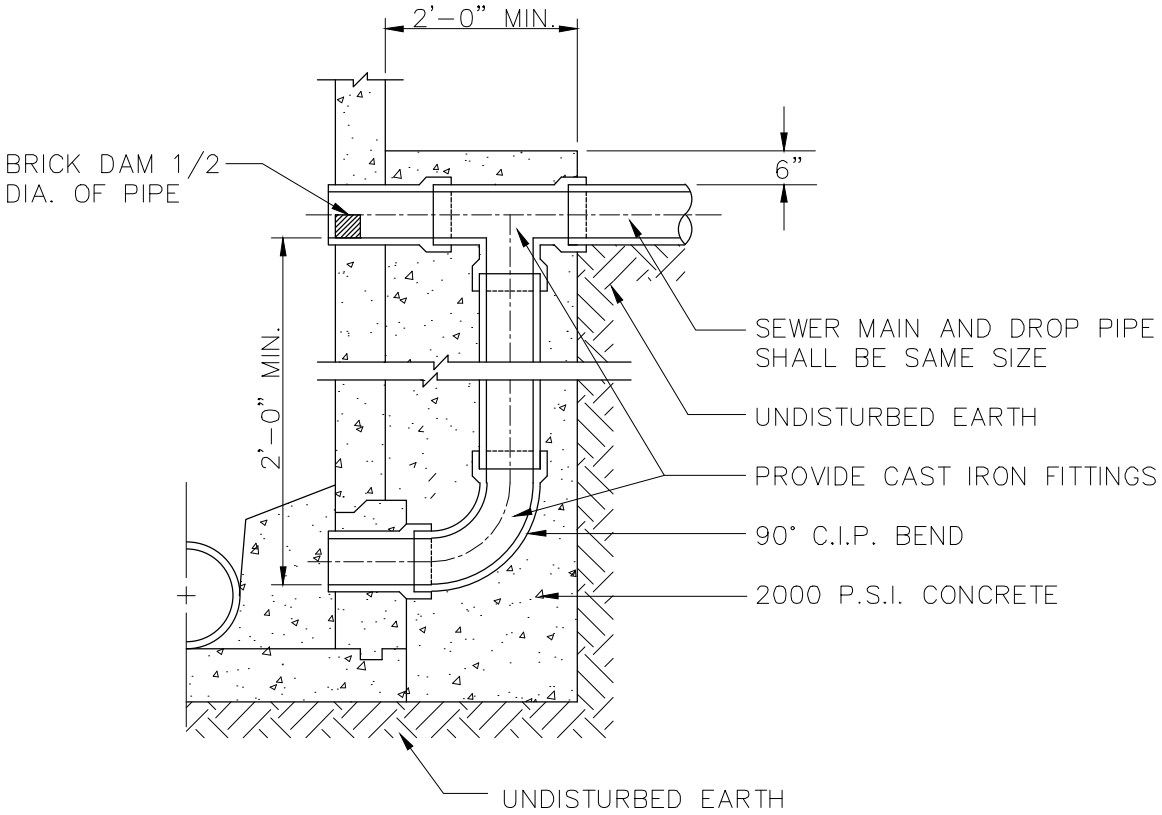

NOTES

1. SEE SANITARY MANHOLE DETAIL FOR ALL OTHER CONSTRUCTION FEATURES NOT SHOWN HEREON.

2. CONCRETE CASING SURROUNDING RISER SHALL BE A MINIMUM 6" THICKNESS ON ALL SIDES OF THE PIPE WALL.

STANDARD DROP CONNECTION

(N.T.S.)

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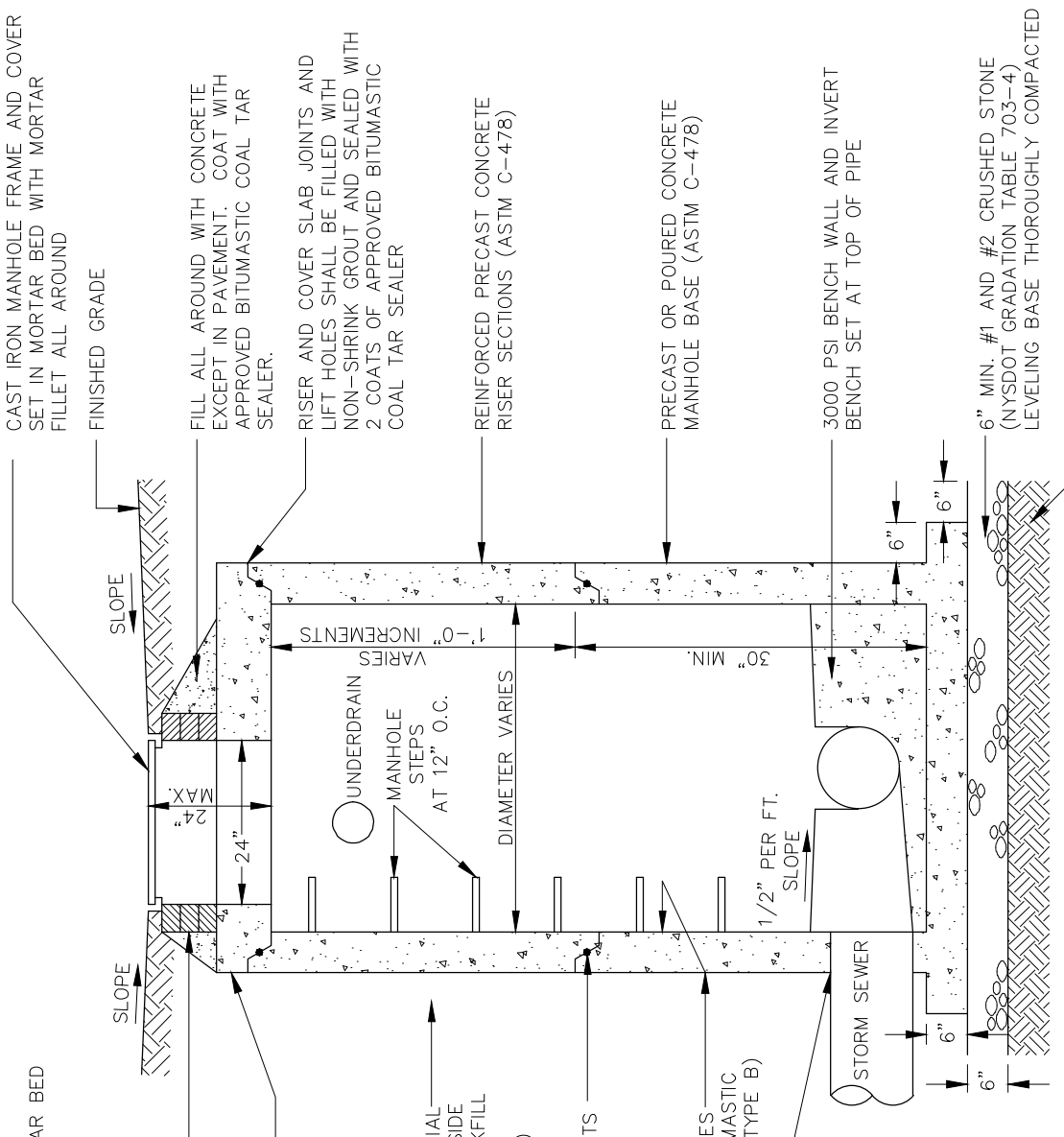

STORM SEWER MANHOLE AND CATCH BASIN MANHOLE

(LESS THAN 12' DEEP)

(N.T.S.)

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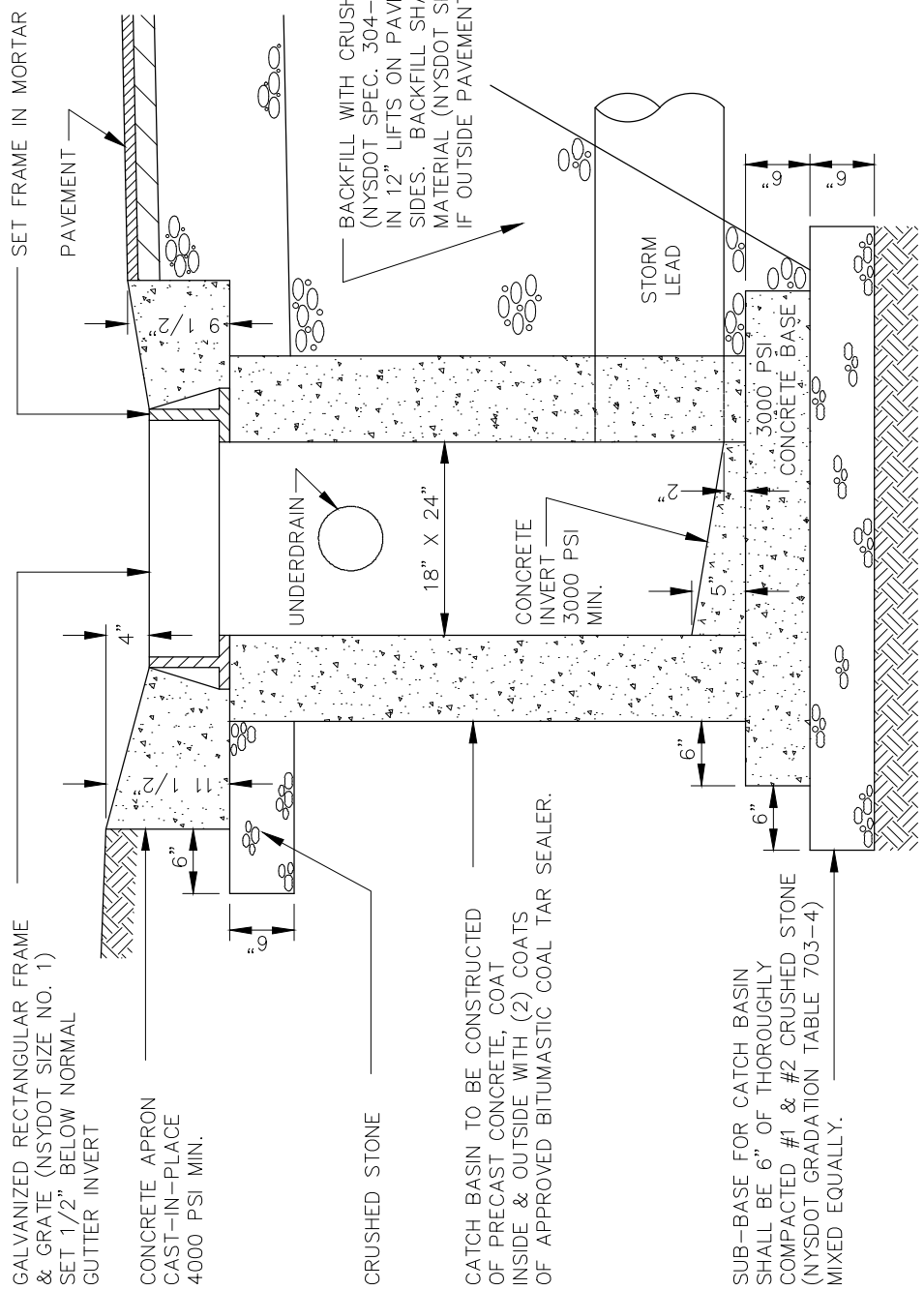

CATCH BASIN DETAIL

(N.T.S.)

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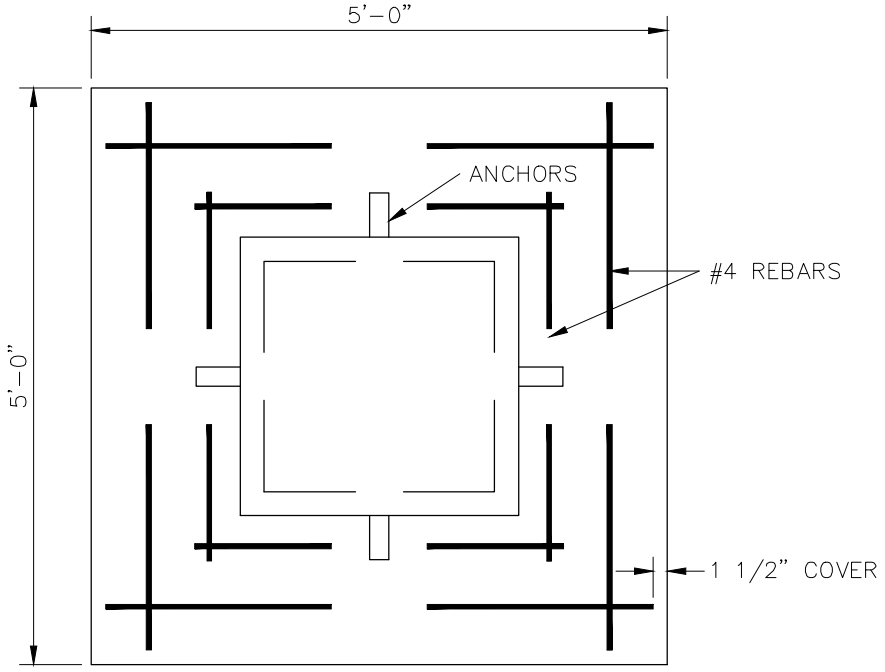
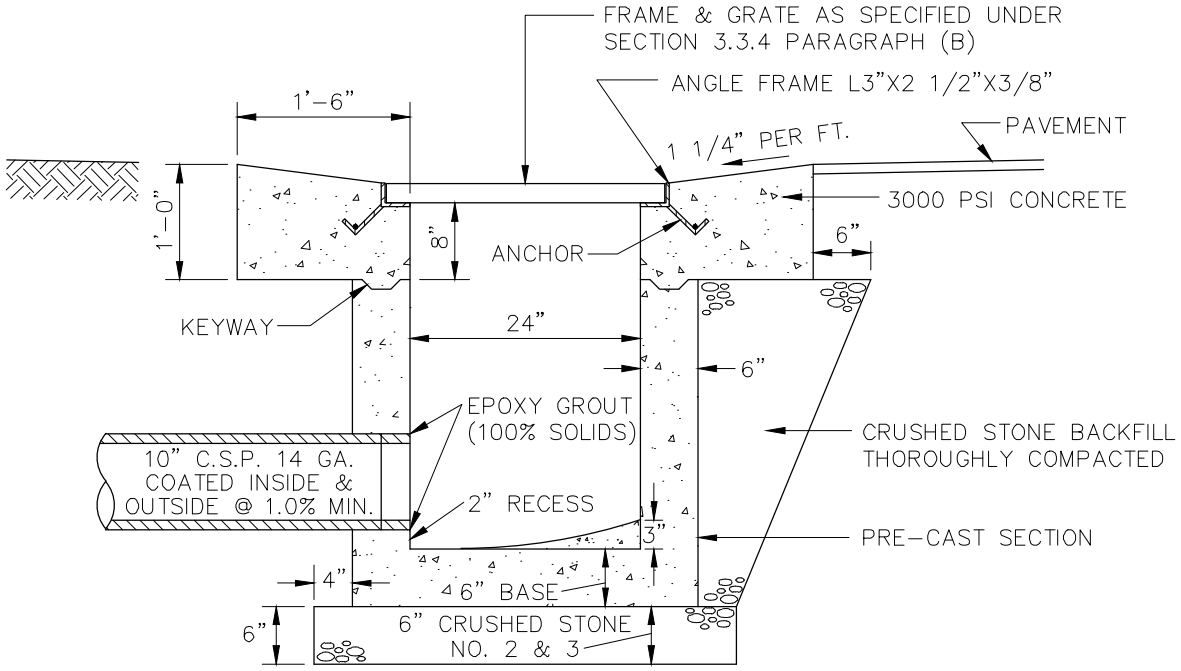


NOTE: PRECAST DROP INLET SECTIONS SHALL BE MANUFACTURED BY L.S. LEE & SON MODEL NO. RB-1, TYPE "B", LAKELANDS NO. CB-1105 OR APPROVED EQUIVALENT.

THE INSIDE & OUTSIDE WALLS OF DROP INLET SHALL BE COATED WITH KOPPERS BITUMASTIC 300-M, FARBERTITE (C) AS MANUFACTURED BY BRIGGS BITUMINOUS COMPOSITION CO. OR APPROVED EQUIVALENT.



TYPICAL FIELD INLET

(N.T.S.)

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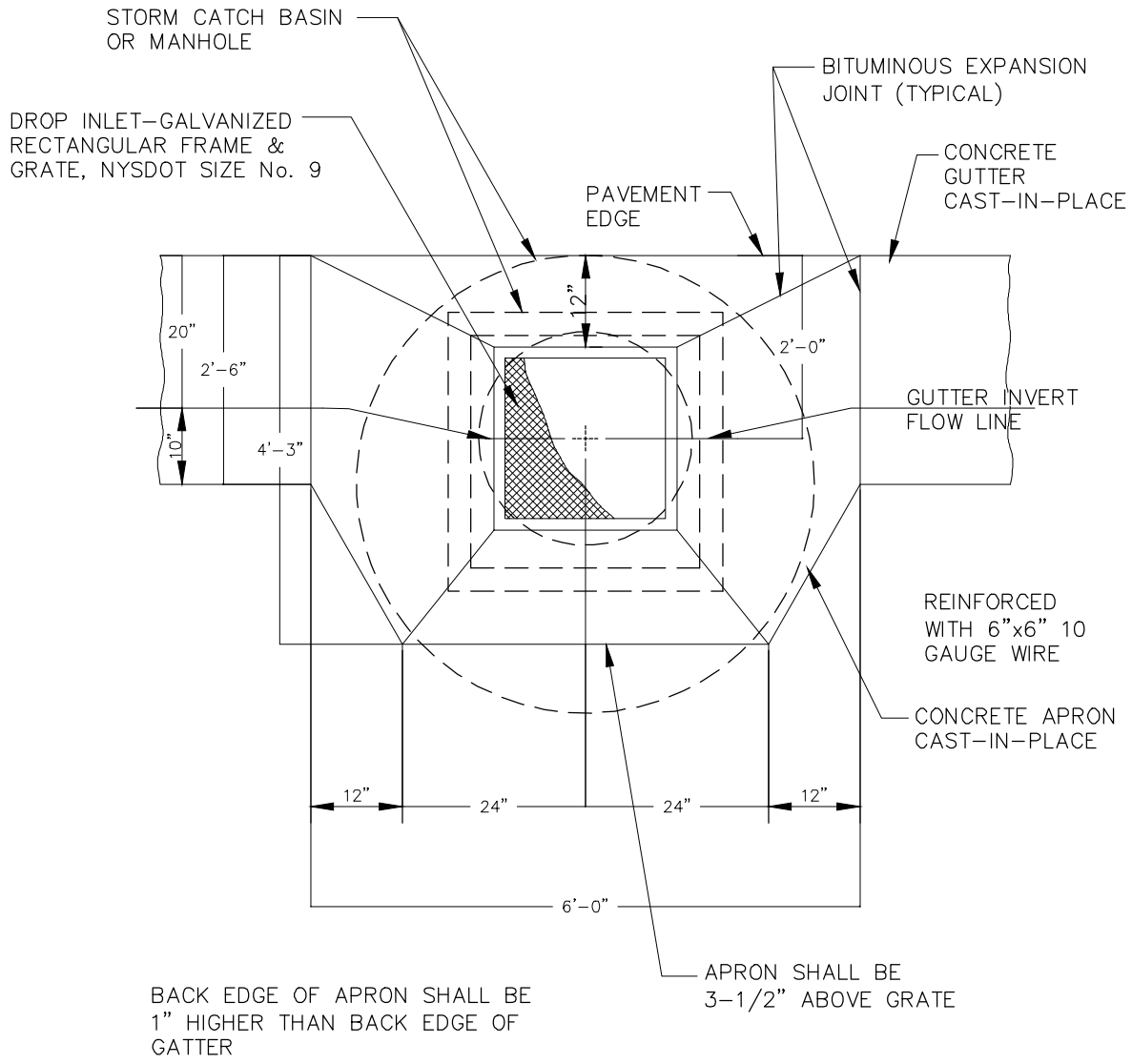

GUTTER & CATCH BASIN APRON DETAIL

(N.T.S.)

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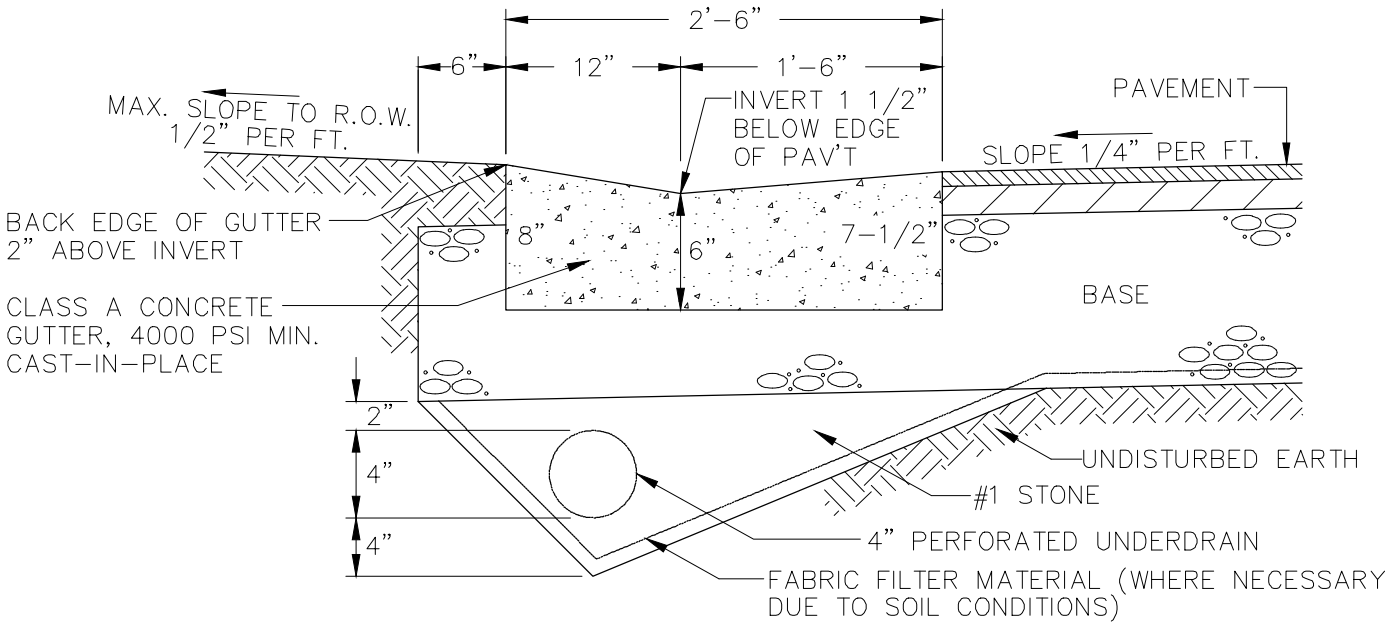
145 CULVER ROAD, SUITE 160, ROCHESTER, N.Y. 14607

VILLAGE OF GENESEO



GUTTER SECTION

(N.T.S.)

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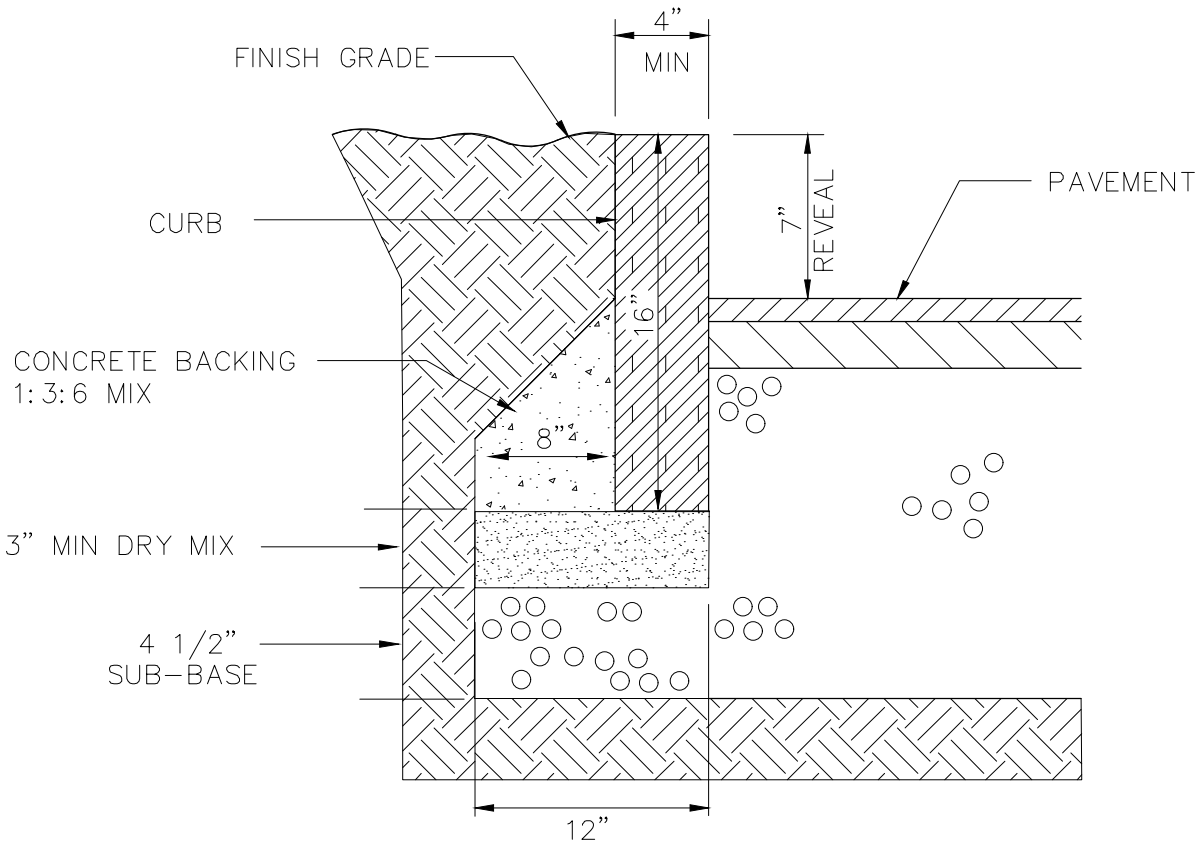
VILLAGE OF GENESEO



GRANITE CURB DETAIL

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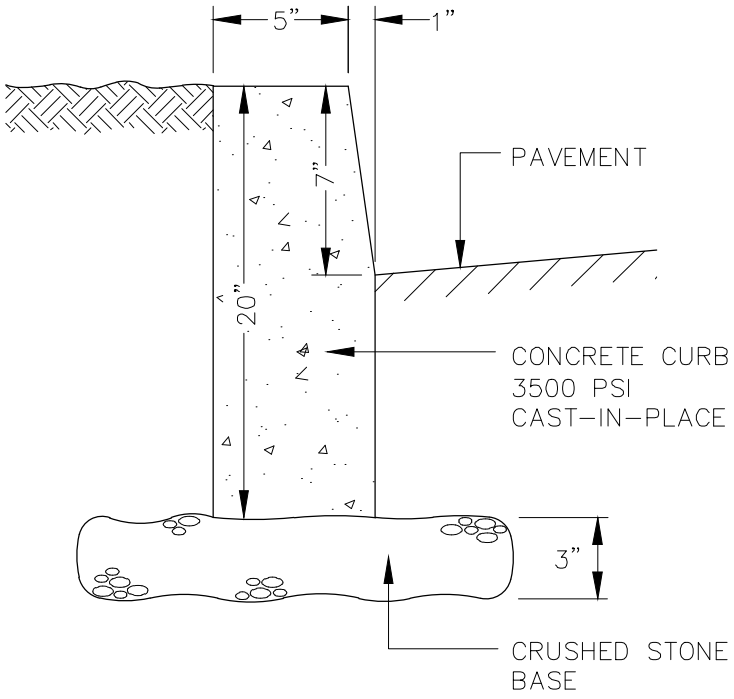

CONCRETE CURB SECTION

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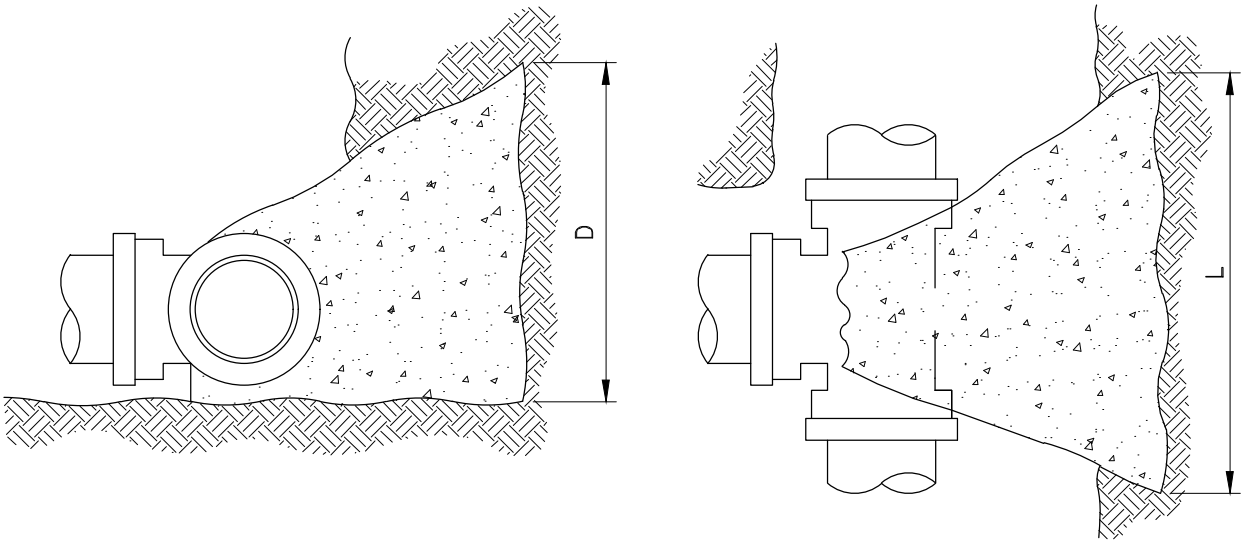
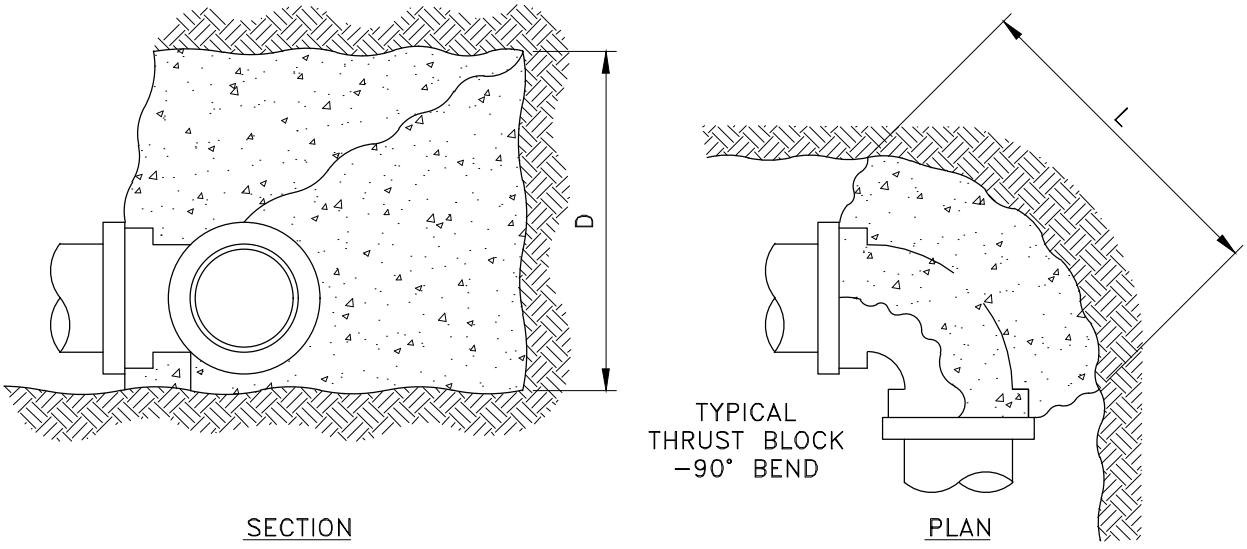
VILLAGE OF GENESEO



SECTION PLAN

TEE



SECTION PLAN

BEND

WATERMAIN THRUST BLOCK DETAILS

(N.T.S.)

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NOTES:

1. ALL DIMENSIONS ARE IN FEET.
2. BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING PRESSURE OF 3000 PSF.
3. HEIGHT OF THRUST BLOCK SHOULD BE EQUAL TO OR LESS THAN 1/2 THE DEPTH FROM THE GROUND SURFACE TO THE BASE OF THE BLOCK.
4. ALL THRUST BLOCKS SHALL CURE A MINIMUM OF SEVEN (7) DAYS BEFORE ANY PRESSURE TESTS ARE CONDUCTED.

PIPE SIZE (INCHES)	WORKING PRESSURE (PSIG)	TEE OF PLUG		90° BEND		45° BEND		22-1/2° BEND	
		L	D	L	D	L	D	L	D
4	150	1.50	0.67	1.50	0.67	1.50	0.67	1.50	0.67
	250	1.50	0.67	1.67	0.75	1.50	0.67	1.50	0.67
6	150	1.67	0.75	2.00	1.00	1.50	0.67	1.50	0.67
	250	2.00	1.25	2.00	1.50	1.75	1.00	1.50	0.67
8	150	2.00	1.25	2.00	1.50	1.75	1.00	1.50	0.67
	250	2.25	1.75	3.00	2.00	2.00	1.50	1.67	1.00
10	150	2.00	1.75	2.50	2.00	1.75	1.50	1.67	1.00
	250	3.00	2.00	3.67	2.50	2.50	2.00	1.75	1.50
12	150	2.50	2.00	3.00	2.50	2.25	1.75	1.75	1.25
	250	3.67	2.50	4.00	3.00	3.00	2.33	2.00	1.75
14	150	3.00	2.33	4.00	2.50	2.75	2.00	2.00	1.50
	250	4.00	3.00	5.00	3.50	3.75	2.67	2.50	2.00
16	150	3.75	2.67	5.00	3.00	3.00	2.50	2.25	1.75
	250	5.00	3.25	6.00	3.50	4.00	3.00	3.25	2.00
18	150	4.00	3.00	5.50	3.25	3.67	2.50	2.50	2.00
	250	6.00	3.33	7.00	4.00	5.00	3.25	3.50	2.50
20	150	5.00	3.00	6.00	3.50	4.00	2.75	3.00	2.00
	250	6.50	4.00	8.00	4.50	6.00	3.25	4.00	2.50
24	150	6.00	3.33	7.00	4.25	5.00	3.25	3.67	2.50
	250	8.00	4.50	9.00	5.50	6.50	4.00	5.00	3.00

WATERMAIN THRUST BLOCK SCHEDULE

(N.T.S.)

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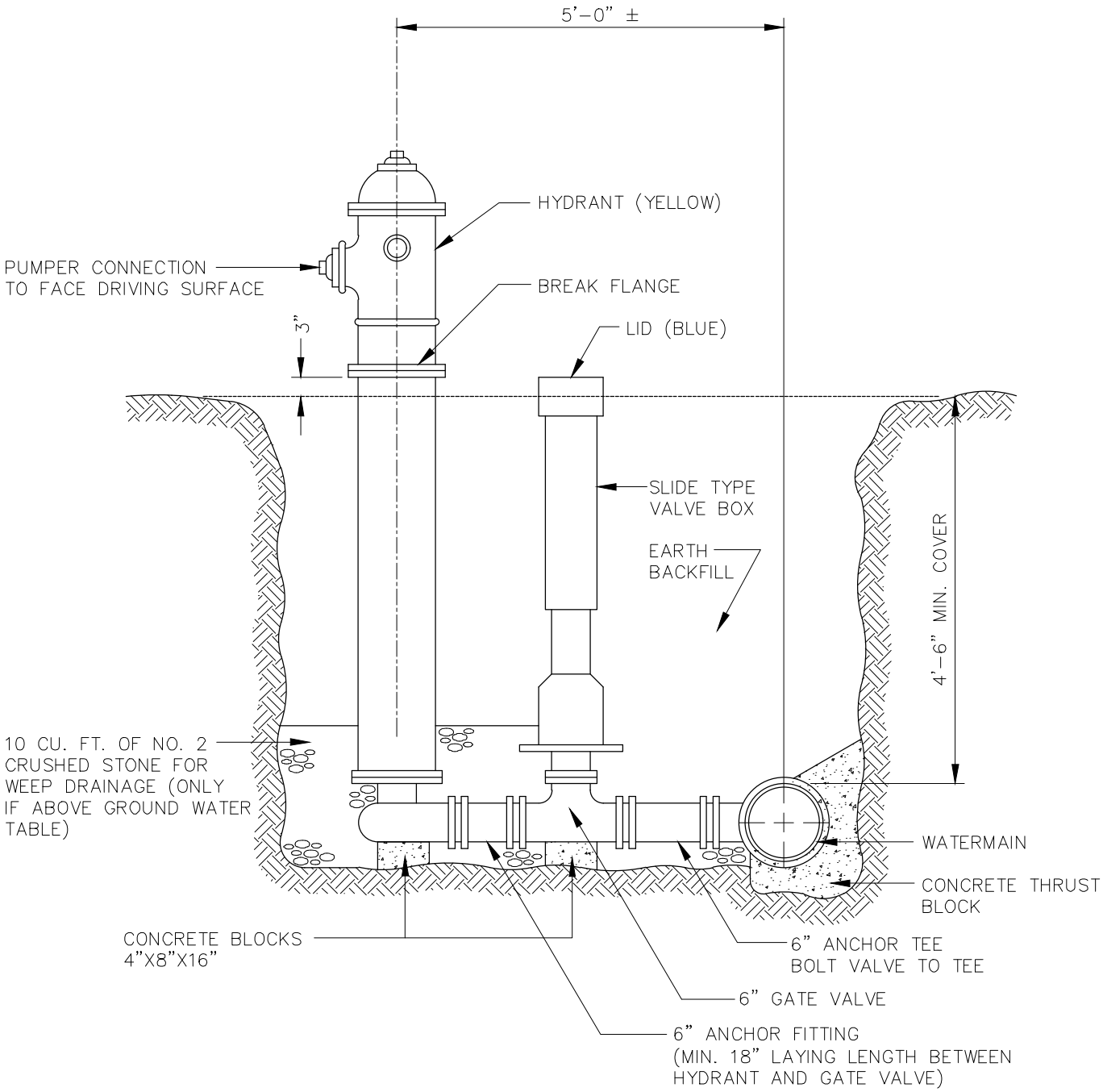
VILLAGE OF GENESEO



FIRE HYDRANT UNIT DETAIL

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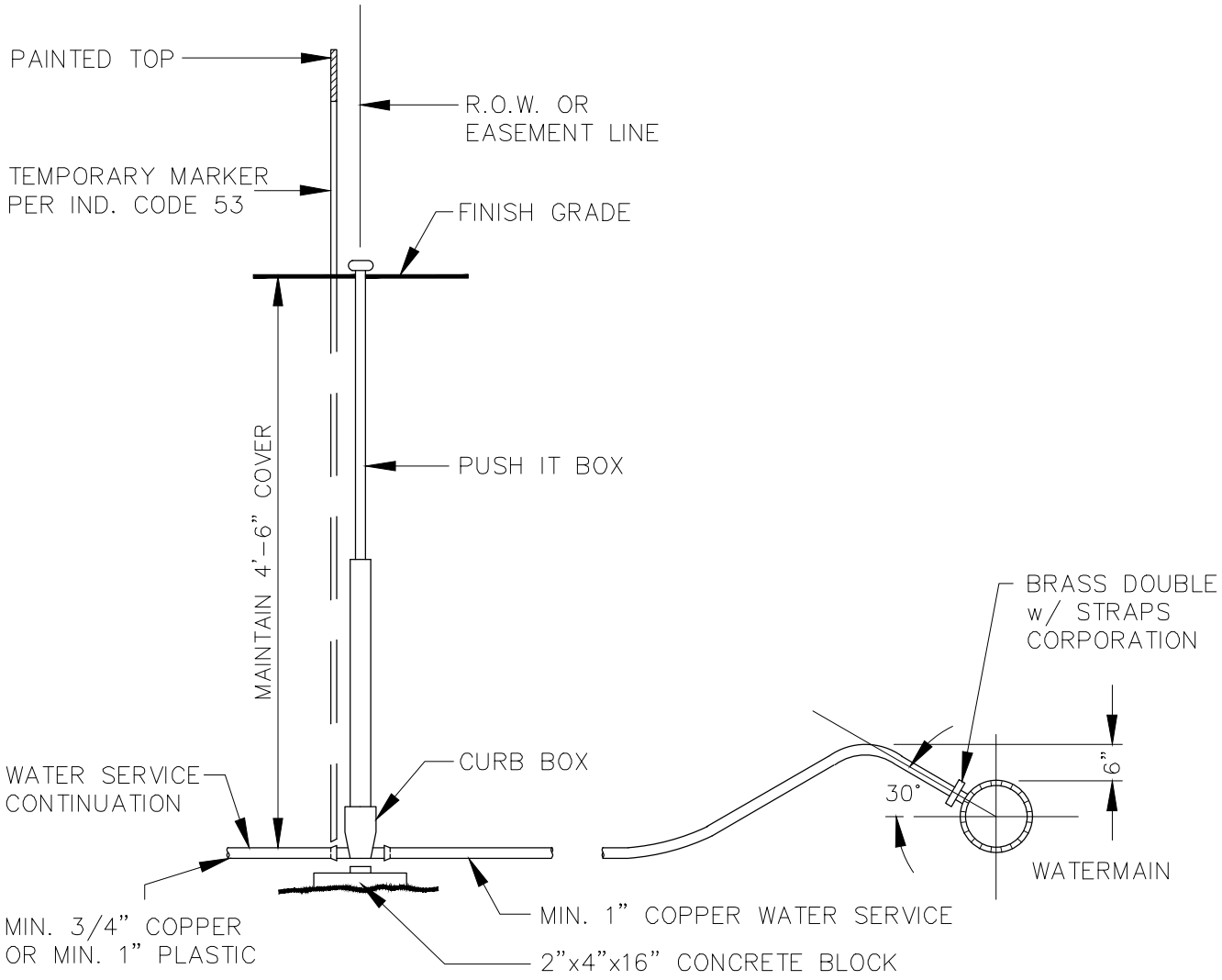
VILLAGE OF GENESEO



NOTE: COPPER SERVICES SHALL BE ENCASED
ALL AROUND WITH SELECT EARTH

WATER SERVICE DETAIL

(N.T.S.)

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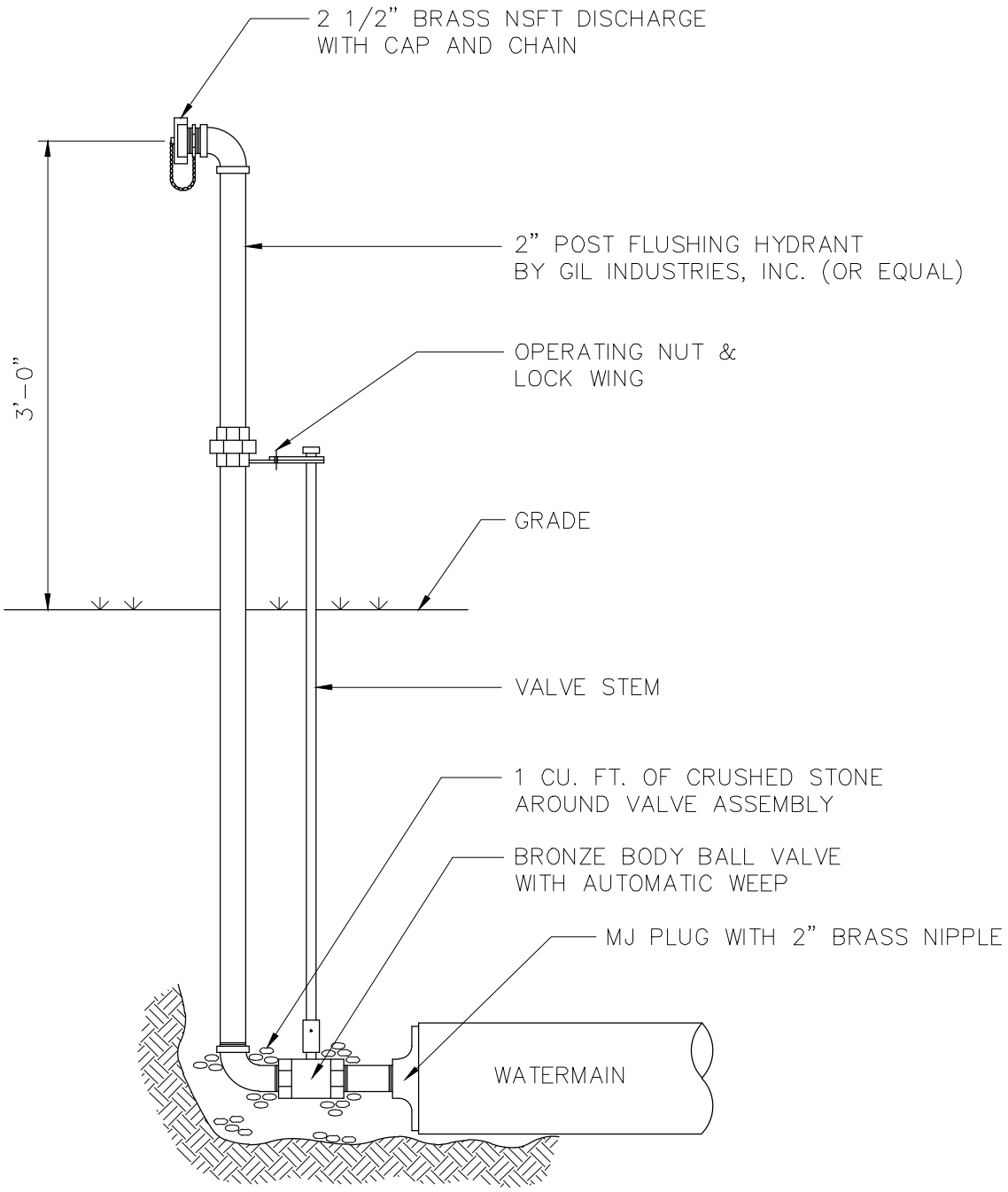
VILLAGE OF GENESEO



WATERMAIN BLOW-OFF DETAIL

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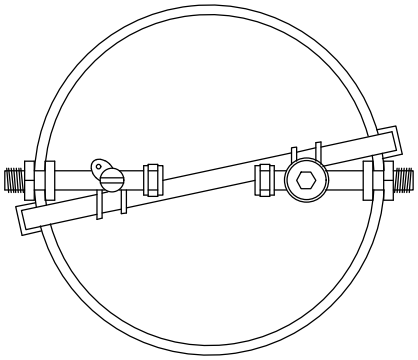
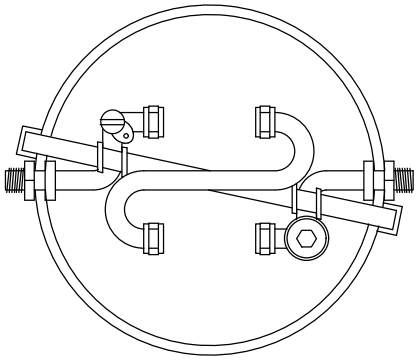
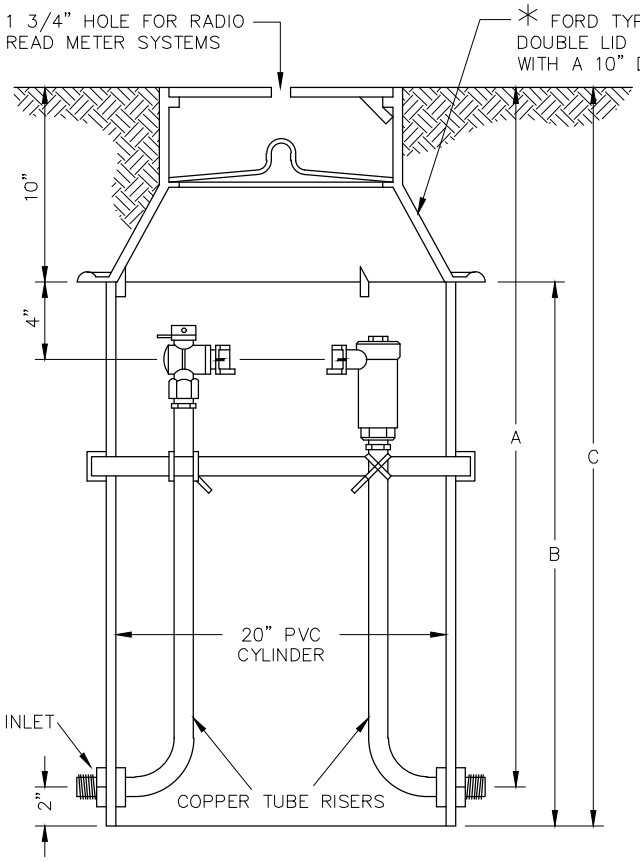
VILLAGE OF GENESEO



SINGLE METER SETTING



TANDEM SETTING



VERTICAL MEASUREMENTS
(PIT DIAMETER IS 18" OR 20")

PIT DEPTH	SERVICE LINE DEPTH "A"	PVC CYLINDER LENGTH "B"	TOTAL PIT DEPTH "C"
5 FT.	60"	52"	62"
6 FT.	72"	64"	74"

* OR MUELLER APPROVED EQUAL

WATER METER PIT DETAIL

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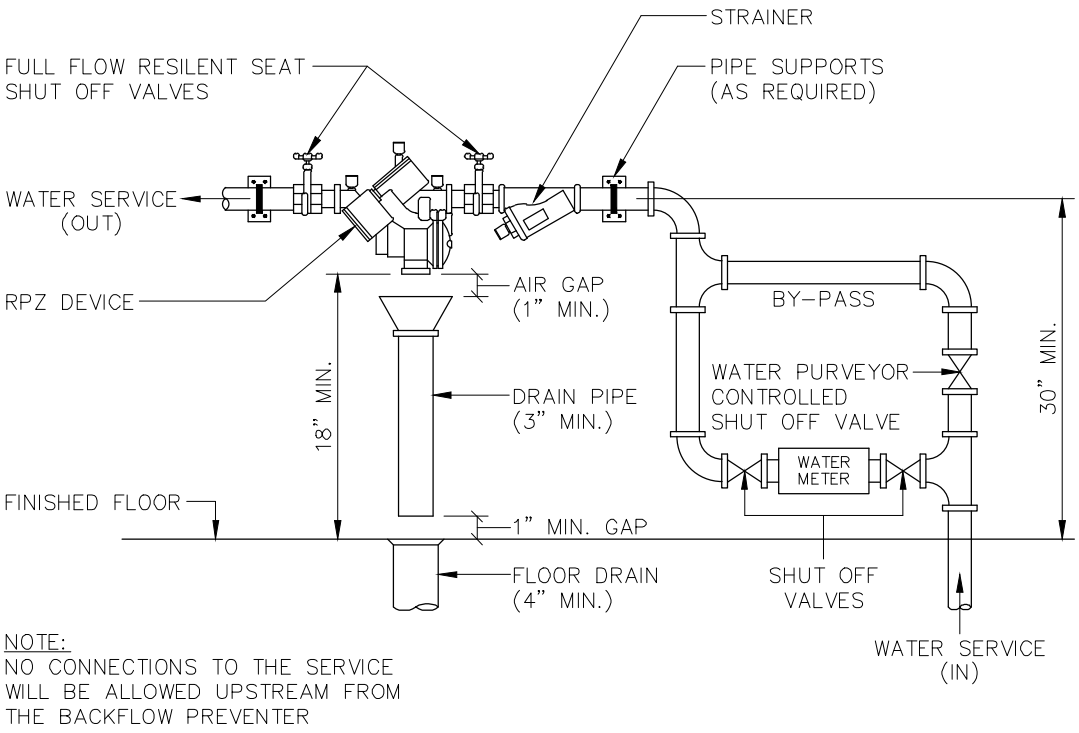
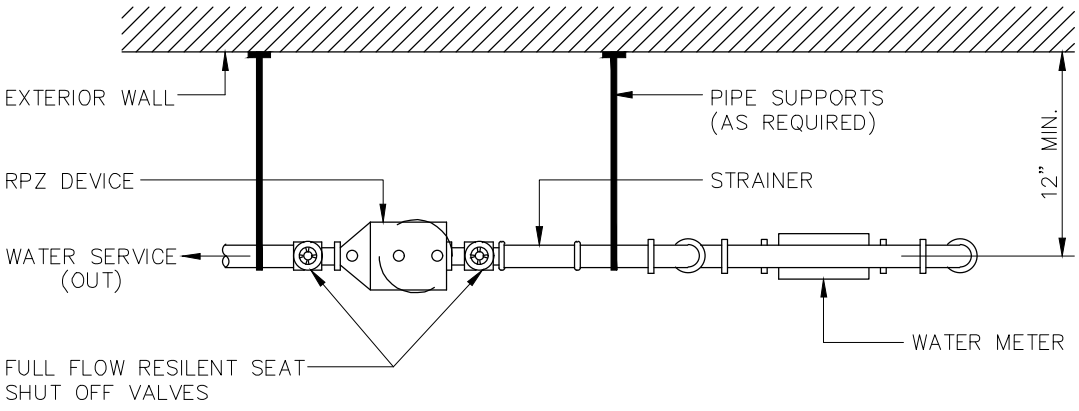
VILLAGE OF GENESEO



NOTE:
NO CONNECTIONS TO THE SERVICE WILL BE ALLOWED UPSTREAM FROM THE BACKFLOW PREVENTER

ELEVATION



PLAN

RPZ BACKFLOW PREVENTER

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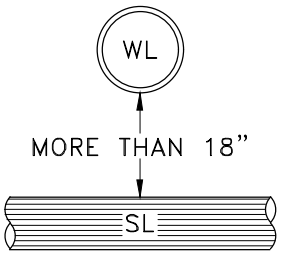
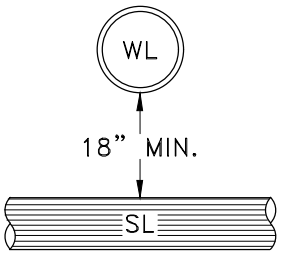
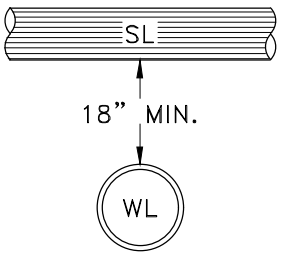
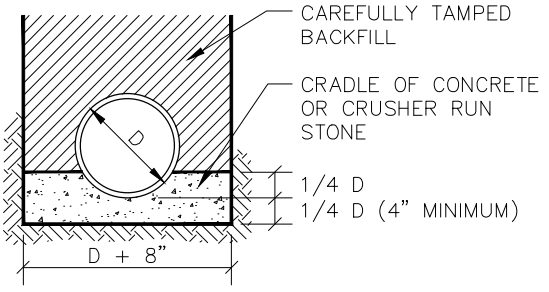
VILLAGE OF GENESEO

CONDITION	SCHEMATIC	REQUIREMENTS
I WATER LINE ABOVE SEWER LINE		A) WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT CROSSING. EACH LENGTH OF PIPE TO BE 10 FT. MINIMUM. B) BACKFILL WITH COMPACTED CRUSHER RUN STONE.
II WATER LINE ABOVE SEWER LINE		A) WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT CROSSING. EACH LENGTH OF PIPE TO BE 10 FT. MINIMUM. B) WHEN BOTH WATER LINE AND SEWER LINE ARE NEW, SLEEVE SEWER LINE WITH STEEL CASING FOR 10 FT. EACH SIDE OF CROSSING. WHEN ONE LINE IS EXISTING, SLEEVE PIPE BEING INSTALLED WITH STEEL CASING FOR 10 FT. EACH SIDE OF CROSSING. C) BACKFILL WITH COMPACTED CRUSHER RUN STONE.
III SEWER LINE ABOVE WATER LINE		A) WATER LINE AND SEWER LINE PIPE LENGTHS TO BE CENTERED AT CROSSING. EACH LENGTH OF PIPE TO BE 10 FT. MINIMUM. B) SLEEVE SEWER LINE WITH STEEL CASING FOR 10 FT. EACH SIDE OF CROSSING. C) PROVIDE CRADLE OF CONCRETE OR CRUSHER RUN STONE (SEE TRENCH DETAIL BELOW) FOR WATER LINE AND SEWER LINE FOR 10 FT. EACH SIDE OF CROSSING.
NOTES WL (WATER LINE) SL (SEWER LINE) D (OUTSIDE DIAMETER OF PIPE) IN NO CASE SHALL PIPES BE CLOSER THAN 18" APART. DISTANCES ARE MEASURED BETWEEN OUTSIDES OF PIPE.		

WATERMAIN/SEWER CROSSING DETAIL

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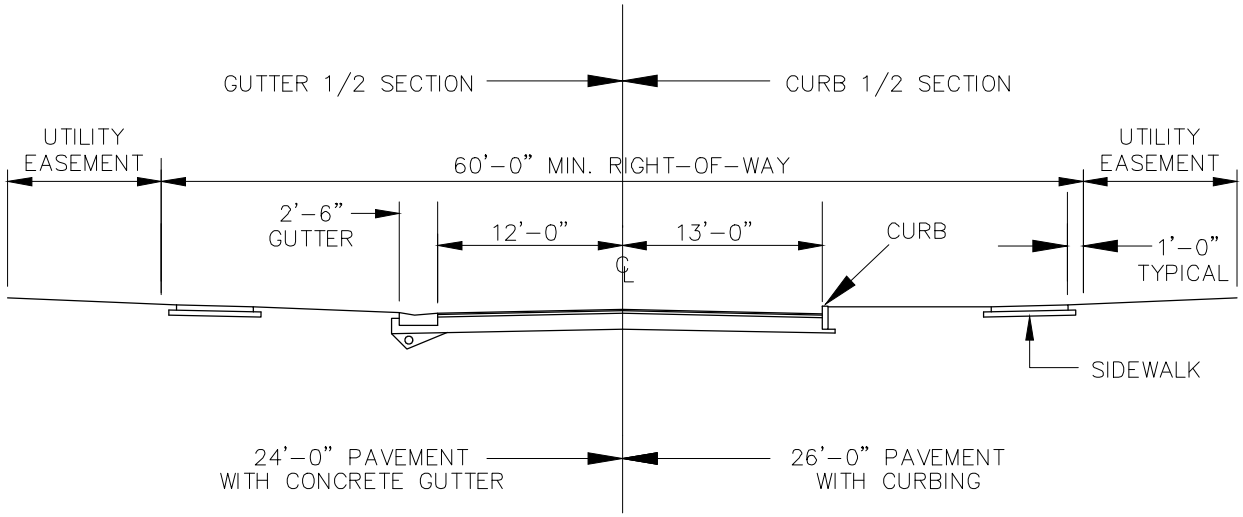
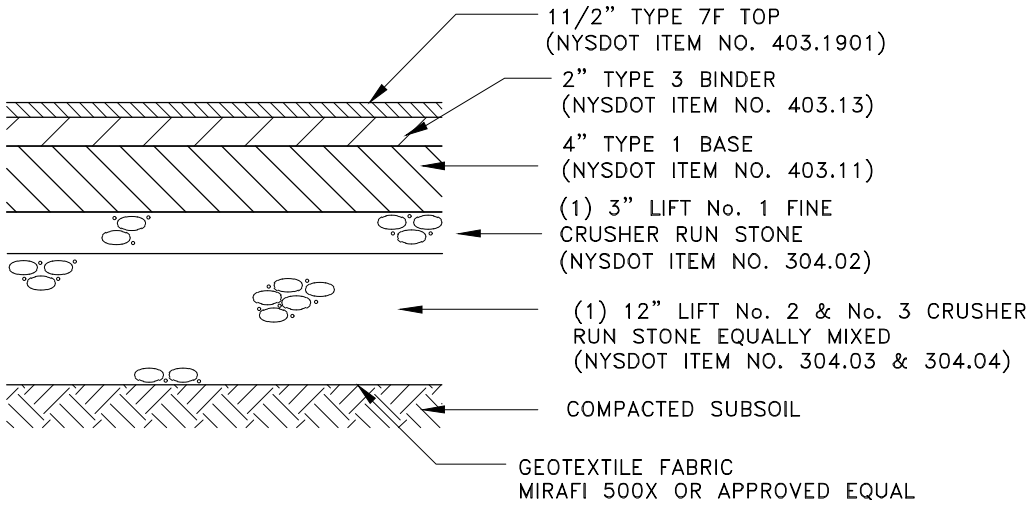
VILLAGE OF GENESEO

COLLECTOR ROAD



TYPICAL ROAD CROSS SECTION

(N.T.S.)



NOTE: ALL DEPTHS ARE COMPACTED THICKNESSES

PAVEMENT CROSS SECTION (TYP.)

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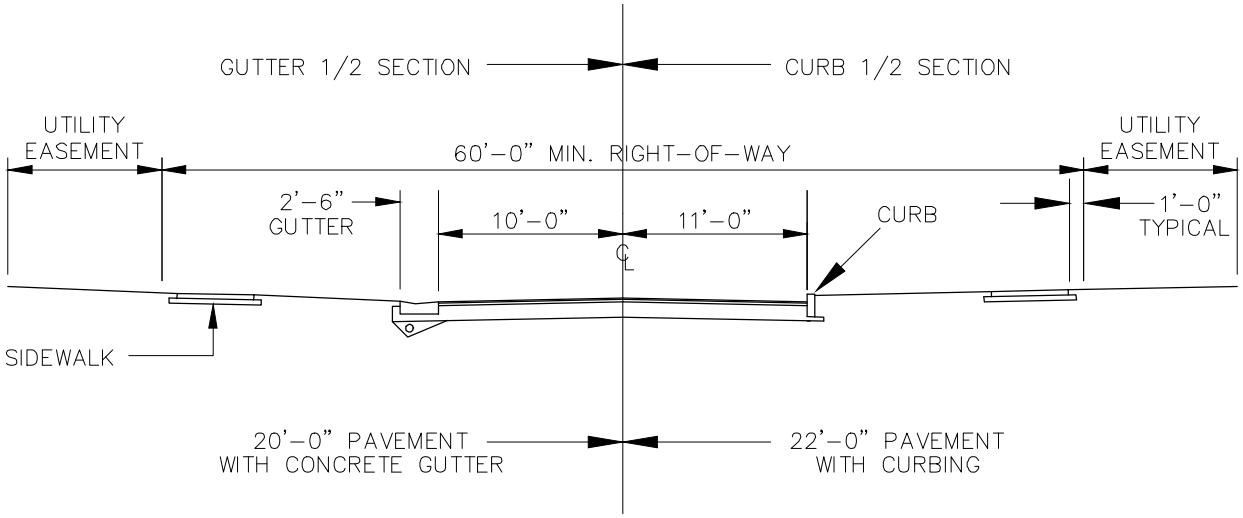
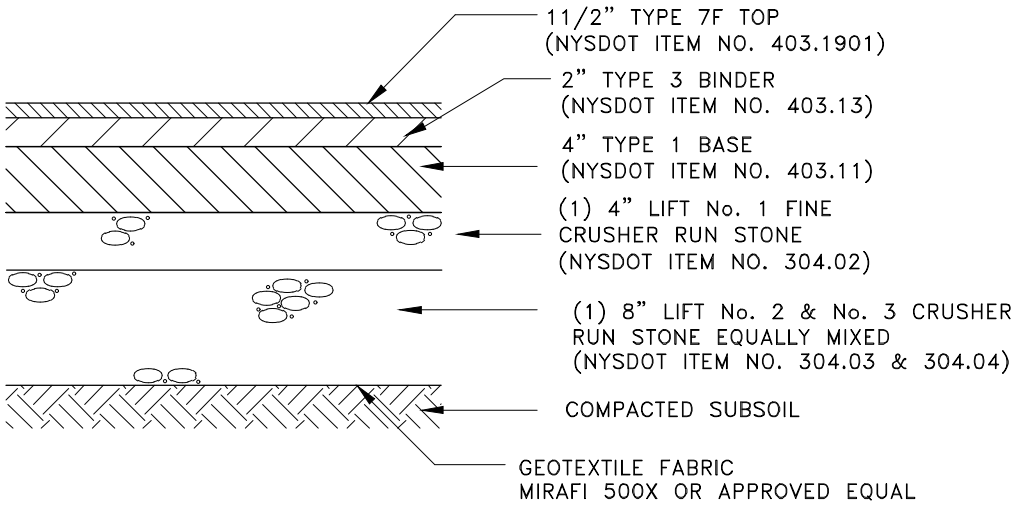
VILLAGE OF GENESEO

LOCAL ROAD



TYPICAL ROAD CROSS SECTION

(N.T.S.)



NOTE: ALL DEPTHS ARE COMPACTED THICKNESSES

PAVEMENT CROSS SECTION (TYP.)

(N.T.S.)

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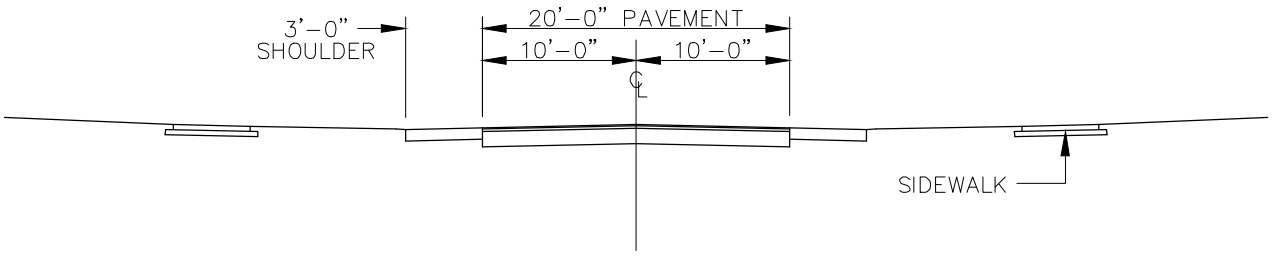
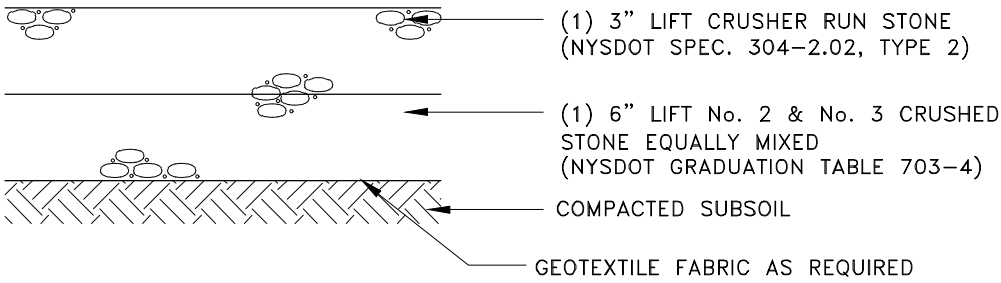
VILLAGE OF GENESEO

PRIVATE ROAD



TYPICAL ROAD CROSS SECTION

(N.T.S.)



NOTE: ALL DEPTHS ARE COMPACTED THICKNESSES

PAVEMENT CROSS SECTION (TYP.)

(N.T.S.)

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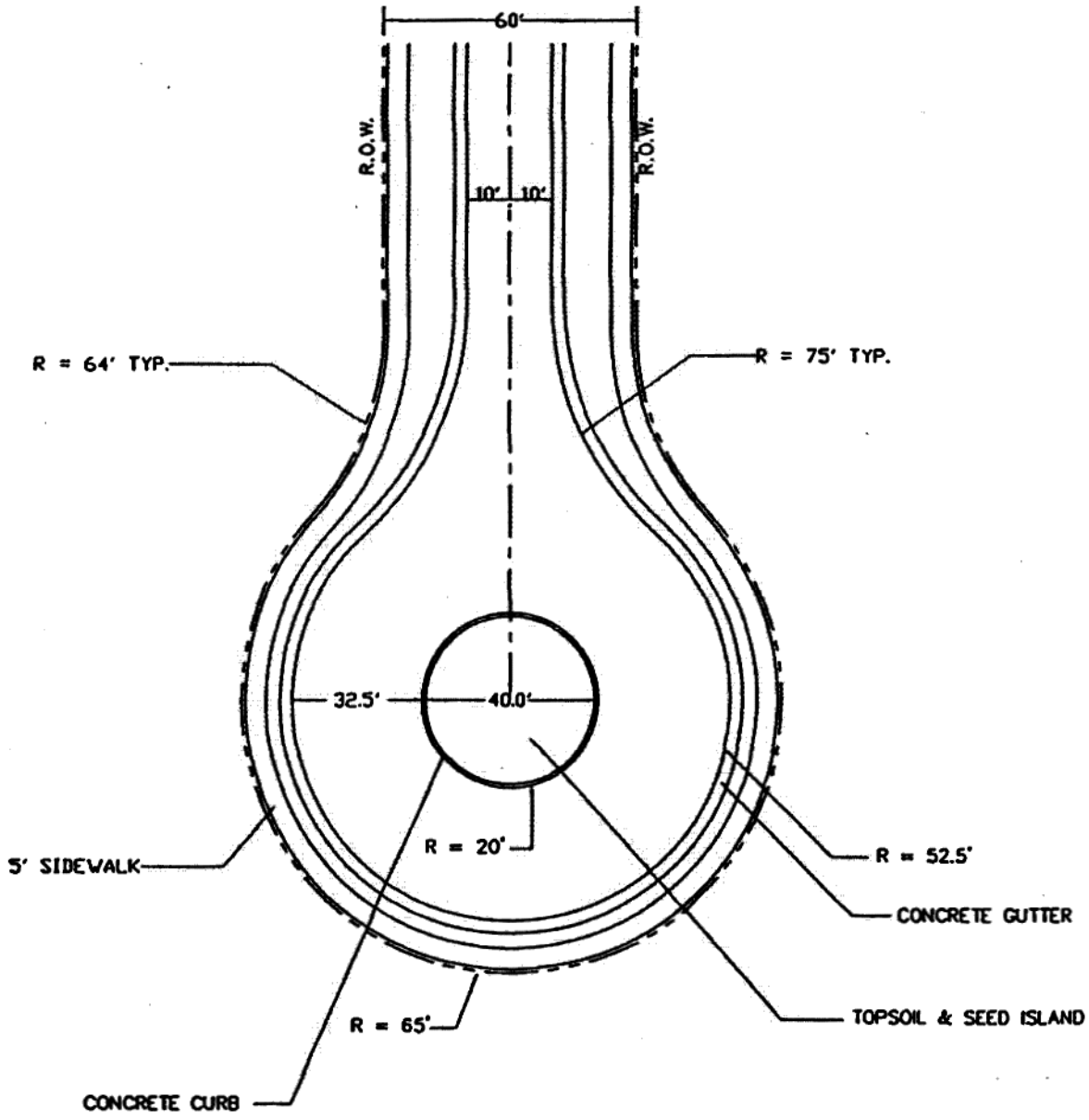
VILLAGE OF GENESEO



CUL-DE-SAC PLAN

N.T.S.

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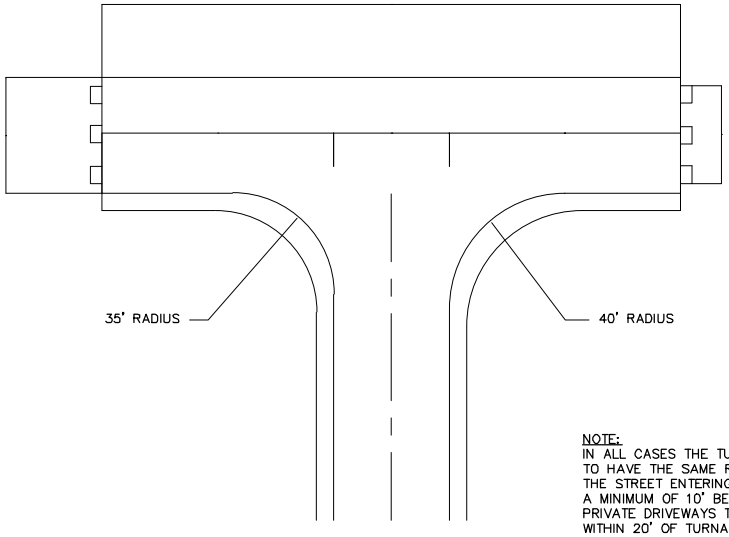
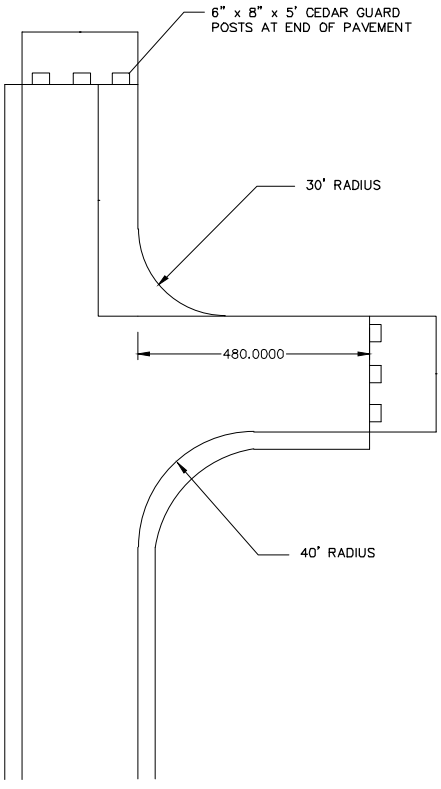
VILLAGE OF GENESEO



NOTE:
IN ALL CASES THE TURNAROUNDS ARE TO HAVE THE SAME R.O.W. WIDTH AS THE STREET ENTERING. R.O.W. TO EXTEND A MINIMUM OF 10' BEYOND PAVEMNET. NO PRIVATE DRIVEWAYS TO EXIT INTO OR WITHIN 20' OF TURNAROUND.



TEMPORARY TURN AROUND PLAN

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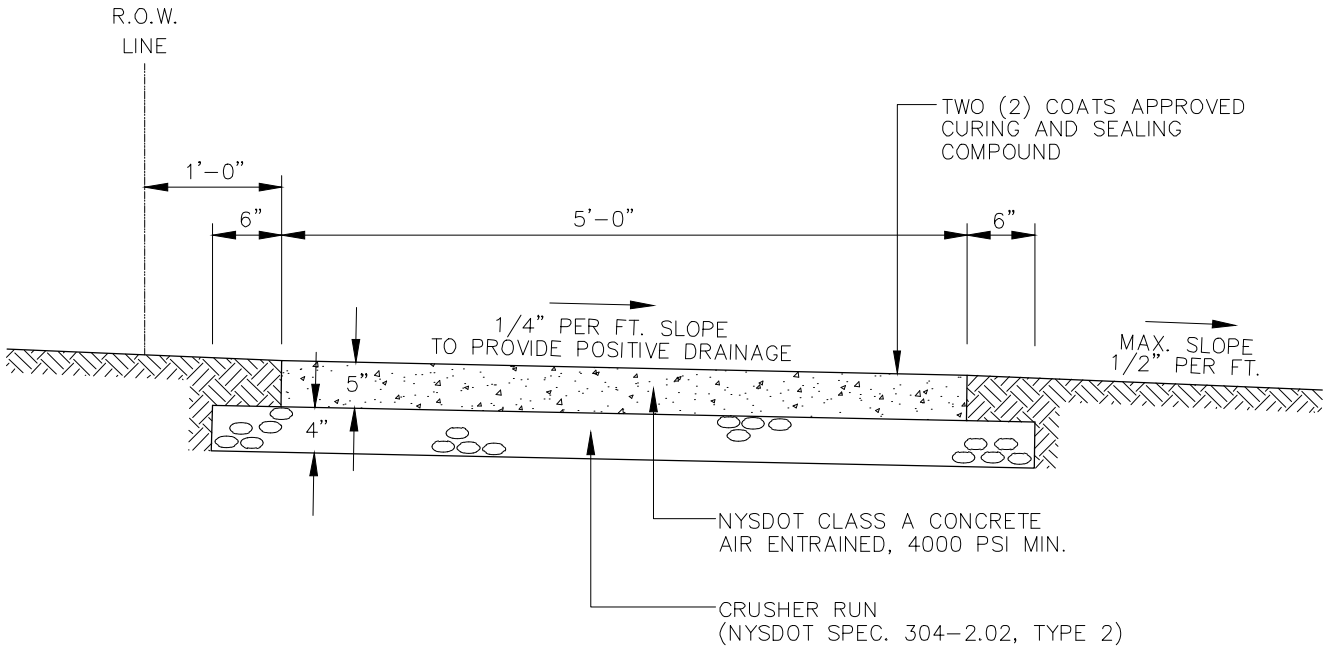
VILLAGE OF GENESEO



NOTE:
CONCRETE SIDEWALKS THROUGH DRIVEWAYS SHALL BE INCREASED TO A 6" THICKNESS

SIDEWALK DETAIL

(N.T.S.)

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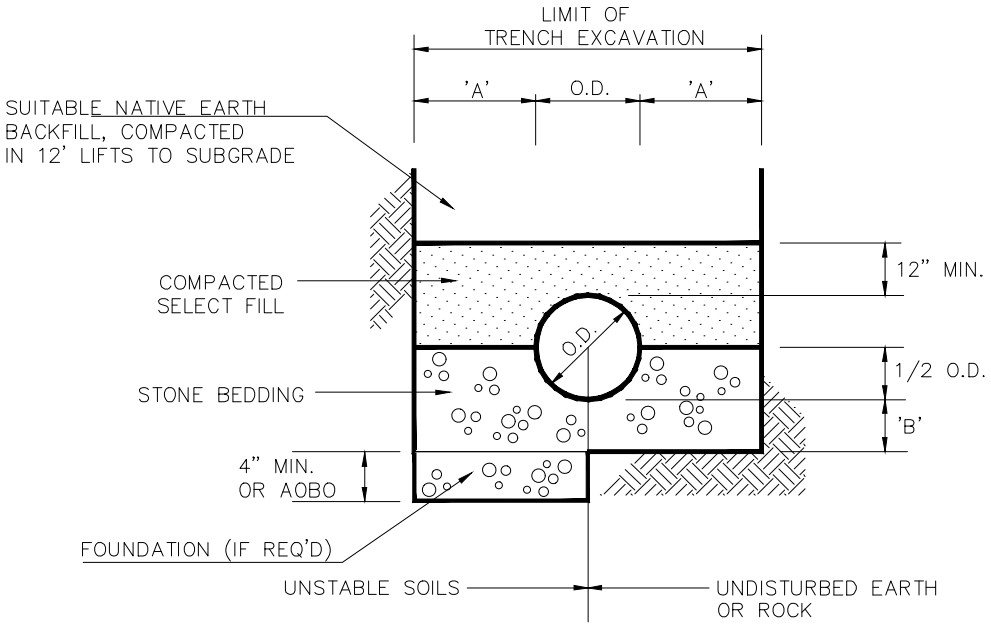
VILLAGE OF GENESEO



		IN EARTH	IN ROCK
PIPE DIA.	'A'	'B'	'B'
UP TO 18"	1.0'	3"	4"
21" TO 36"	1.5'	6"	6"
OVER 36"	2.0'	6"	6"

1. SELECT FILL SHALL BE SAND, GRAVEL AND SIMILAR MATERIAL WHICH SHALL BE FREE FROM CLAY, LOAM, ORGANIC MATERIAL, DEBRIS, FROZEN MATERIAL AND SHALL CONTAIN ONLY SMALL AMOUNTS OF STONE, PEBBLES OR LUMPS OVER ONE INCH IN GREATEST DIMENSION BUT NONE OVER TWO INCHES IN GREATEST DIMENSION.
2. STONE BEDDING MATERIAL SHALL BE ANGULAR 1/4" TO 1-1/2" MAX. SIZE, WELL GRADED AND THOROUGHLY COMPACTED.
3. FOUNDATION STONE MATERIAL SHALL BE 1" TO 2 1/2" MAX SIZE
4. STONE MATERIALS SHALL MEET ALL REQUIREMENTS OF NYSDOT SECTION 703-02 COURSE AGGREGATE, AND SHALL CONSIST OF CRUSHED STONE OR CRUSHED GRAVEL
5. SUITABLE NATIVE EARTH BACKFILL SHALL BE EARTH MATERIAL EXCAVATED FROM THE TRENCH, FREE OF LARGE ROCKS, TOPSOIL, ORGANIC MATERIAL, FROZEN MATERIAL AND EXCESS MOISTURE.

BEDDING DETAIL FOR SANITARY AND STORM SEWERS

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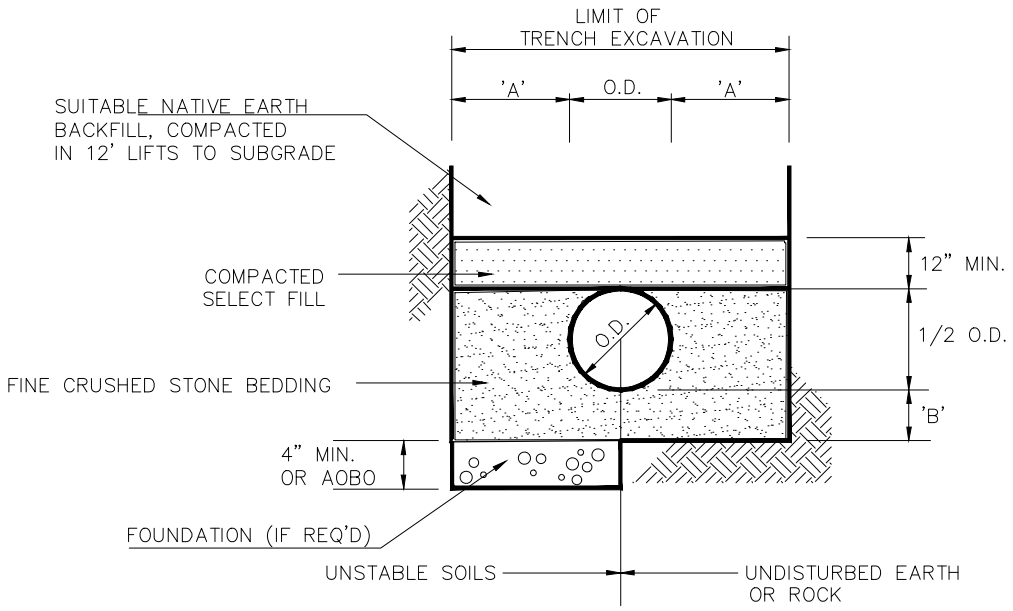
VILLAGE OF GENESEO



		IN EARTH	IN ROCK
PIPE DIA.	'A'	'B'	'B'
UP TO 18"	1.0'	3"	4"
21" TO 36"	1.5'	6"	6"
OVER 36"	2.0'	6"	6"

1. SELECT FILL SHALL BE SAND, GRAVEL AND SIMILAR MATERIAL WHICH SHALL BE FREE FROM CLAY, LOAM, ORGANIC MATERIAL, DEBRIS, FROZEN MATERIAL AND SHALL CONTAIN ONLY SMALL AMOUNTS OF STONE, PEBBLES OR LUMPS OVER ONE INCH IN GREATEST DIMENSION BUT NONE OVER TWO INCHES IN GREATEST DIMENSION.
2. FINE CRUSHED STONE BEDDING MATERIAL SHALL BE UP TO 3/8 INCH MAXIMUM SIZE, AND SHALL MEET ALL REQUIREMENTS OF NYSDOT, SECTION 703–01, FINE AGGREGATE, OR 703–02, COURSE AGGREGATE.
3. TRENCHES THROUGH EXISTING OR PROPOSED PAVED AREAS SHALL BE BACKFILLED WITH RUN–OF–BANK GRAVEL, COMPACTED IN 12" LIFTS, FROM THE TOP OF SELECT FILL TO SUBGRADE.
4. SUITABLE NATIVE EARTH BACKFILL SHALL BE EARTH MATERIAL EXCAVATED FROM THE TRENCH, FREE OF LARGE ROCKS, TOPSOIL, ORGANIC MATERIAL, FROZEN MATERIAL AND EXCESS MOISTURE.
5. FOUNDATION STONE MATERIAL SHALL BE 1" TO 2 1/2" MAX SIZE
6. STONE MATERIALS SHALL MEET ALL REQUIREMENTS OF NYSDOT SECTION 703–02 COURSE AGGREGATE, AND SHALL CONSIST OF CRUSHED STONE OR CRUSHED GRAVEL.

BEDDING DETAIL FOR DUCTILE IRON WATER MAIN

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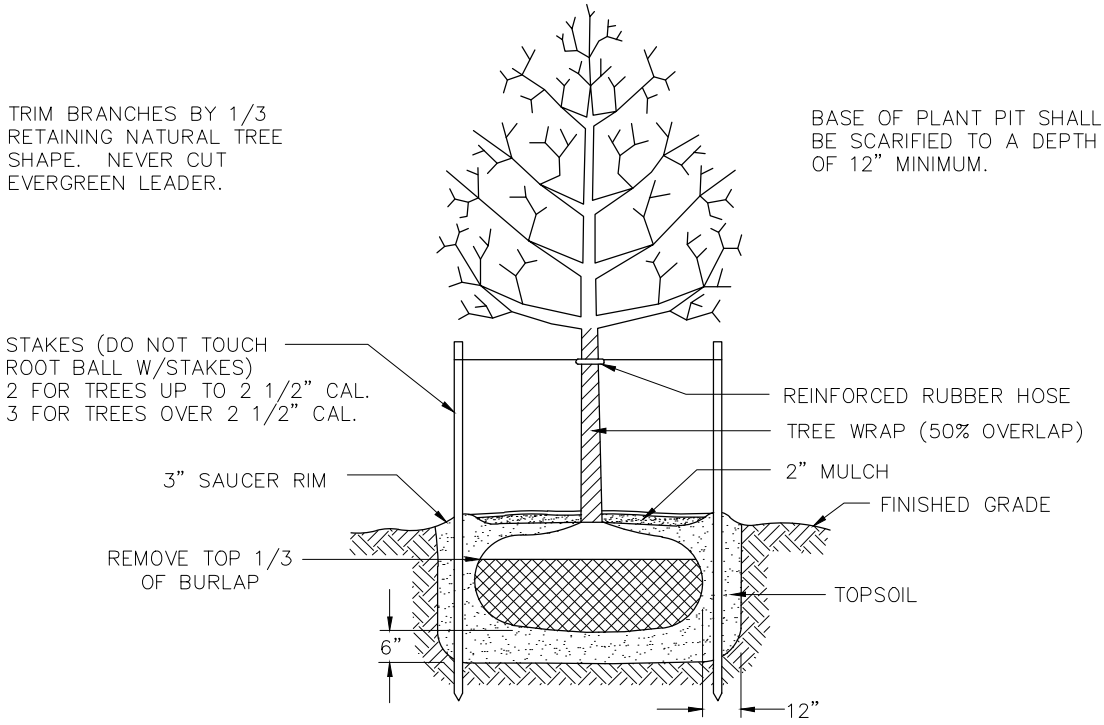
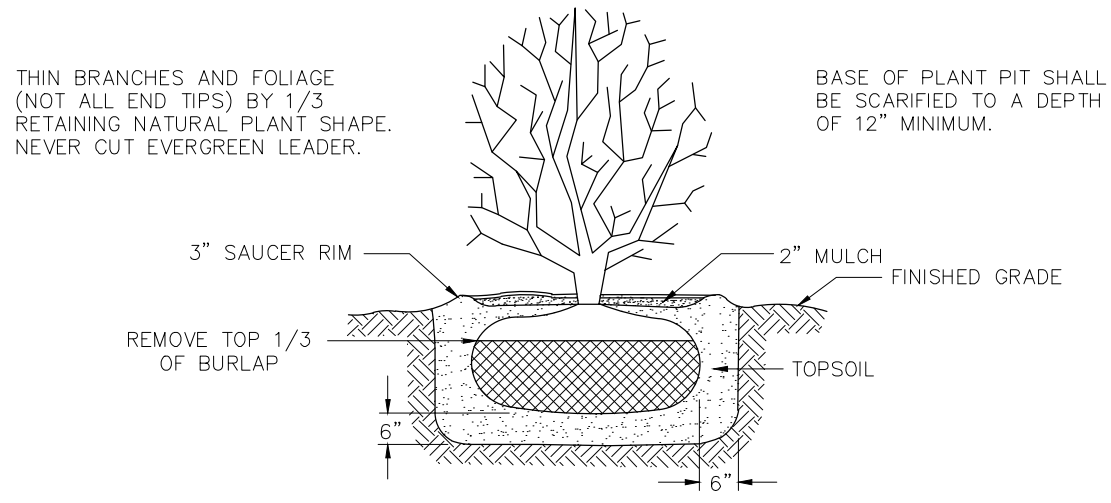
VILLAGE OF GENESEO



TYPICAL TREE PLANTING DETAIL

(N.T.S.)



TYPICAL SHRUB PLANTING DETAIL

(N.T.S.)

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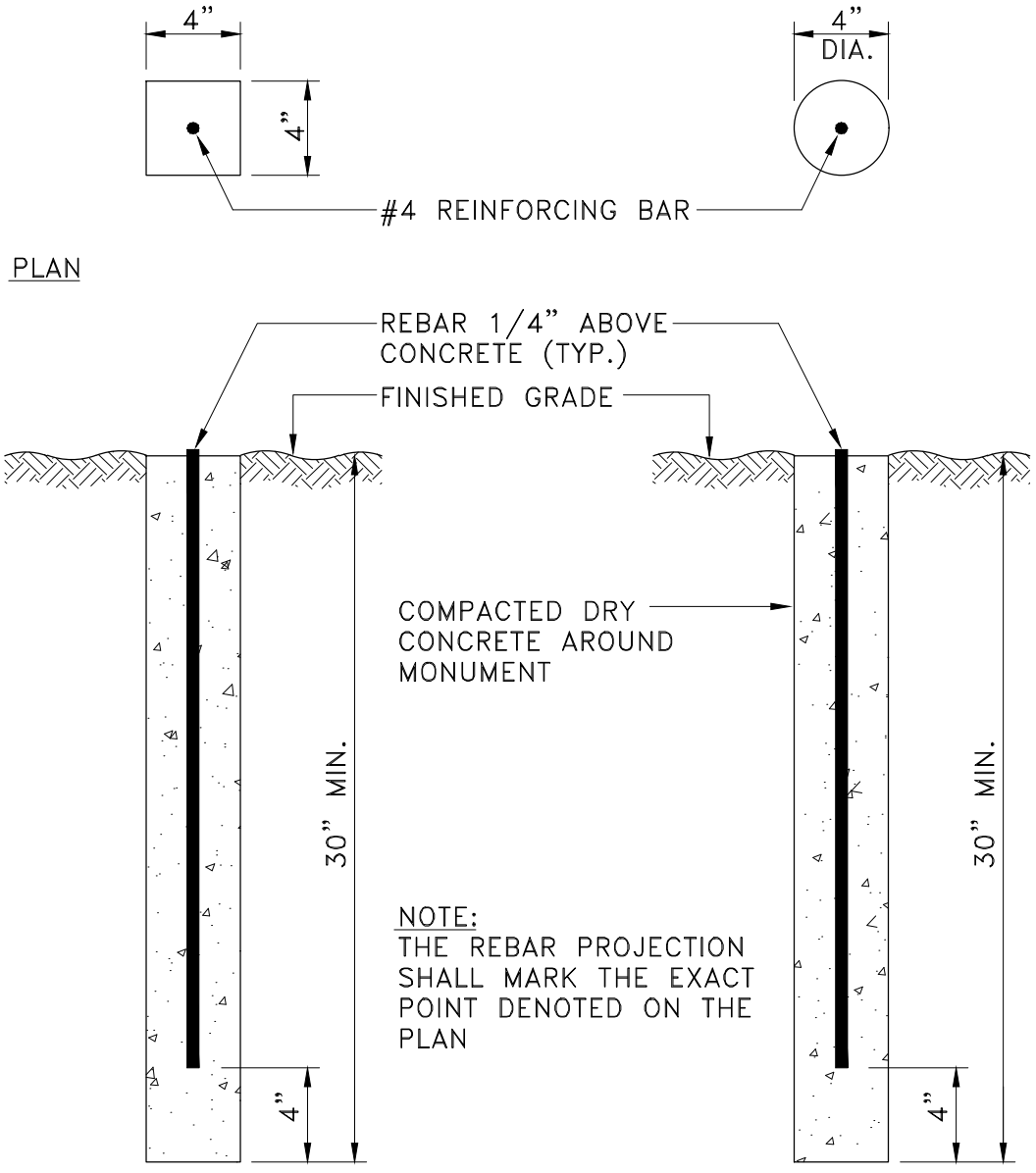
VILLAGE OF GENESEO



MONUMENT

(N.T.S.)

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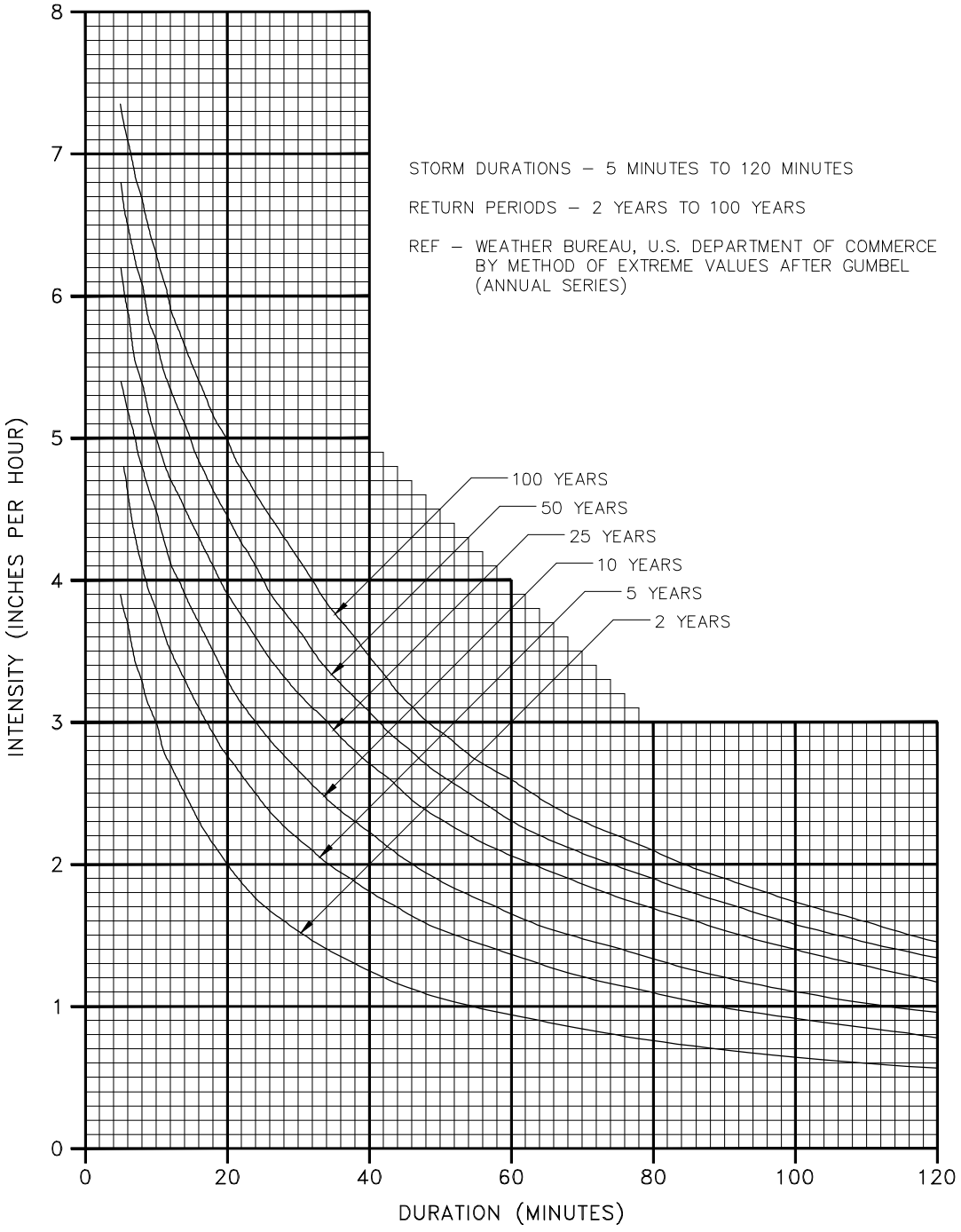
VILLAGE OF GENESEO



RAINFALL INTENSITY CURVES

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GENERAL

ALL TESTING OF GRAVITY SEWERS SHALL BE COMPLETED UNDER THE OBSERVATION OF THE TOWN. THE CONTRACTOR SHALL FURNISH ALL LABOR AND TESTING EQUIPMENT INCLUDING HOSES, PUMPS, PLUGS, TEMPORARY CONNECTIONS, GAUGES, ETC. NECESSARY TO PERFORM THE REQUIRED TESTS. WATER FOR CLEANING AND TESTING SHALL BE FURNISHED BY THE CONTRACTOR.

CLEANING

EACH SECTION OF GRAVITY SEWER SHALL BE FLUSHED TO REMOVE ALL SILT, SAND, GRAVEL AND OTHER DEBRIS PRIOR TO TESTING. IF ANY SECTIONS OF PIPE CANNOT BE FLUSHED CLEAN, MECHANICAL METHODS SHALL BE USED TO DISLODGE ANY DEPOSITS IN THE PIPE.

TESTING GRAVITY SEWERS

I. AIR TESTING SHALL BE THE METHOD USED FOR THE FINAL ACCEPTANCE OF EACH SECTION OF GRAVITY SEWER UNLESS OTHERWISE DESIGNATED BY THE TOWN. GRAVITY SEWERS SHALL BE TESTED IN SECTIONS NOT EXCEEDING 1,000 FEET IN LENGTH. ANY SECTION OF GRAVITY SEWER WHICH DOES NOTE GIVE SATISFACTORY TEST RESULTS MUST BE REPLACED AND RETESTED UNTIL A SATISFACTORY TEST IS COMPLETED.

AIR TEST: LOW PRESSURE AIR TEST SHALL BE USED TO TEST A SECTION OF SEWER PIPE OR LOCATE AREAS REQUIRING REPLACEMENT. THE FOLLOWING PROCEDURES SHALL BE USED FOR LOW PRESSURE AIR TEST.

1. THE TEST SHALL BE CONDUCTED BETWEEN TWO (2) CONSECUTIVE MANHOLES.
2. THE TEST SECTION OF THE SEWER LINE SHALL BE PLUGGED AT EACH END. ONE OF THE PLUGS USED AT THE MANHOLE MUST BE TAPPED AND EQUIPPED FOR THE AIR INLET CONNECTION FOR FILLING THE LINE FROM THE AIR COMPRESSOR.
3. ALL SERVICE LATERALS, STUBS AND FITTINGS INTO THE SEWER TEST SECTION SHALL BE PROPERLY CAPPED OR PLUGGED AND CAREFULLY BRACED AGAINST THE INTERNAL PRESSURE TO PREVENT AIR LEAKAGE BY SLIPPAGE AND BLOWOUTS.

CLEANING AND TESTING OF SANITARY SEWERS

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4. SUPPLY AIR TO THE TEST SECTION SLOWLY, FILLING THE PIPE LINE UNTIL A CONSTANT PRESSURE OF 4.0 PSIG IS MAINTAINED. THE AIR PRESSURE SHALL BE REGULATED TO PREVENT THE PRESSURE INSIDE THE PIPE FROM EXCEEDING 5.0 PSIG.

5. WHEN CONSTANT PRESSURE OF 4.0 PSIG IS REACHED, THROTTLE THE AIR SUPPLY TO MAINTAIN THE INTERNAL PRESSURE ABOVE 3.5 PSIG FOR AT LEAST FIVE (5) MINUTES. THIS TIME PERMITS THE TEMPERATURE OF THE ENTERING AIR TO EQUALIZE WITH THE TEMPERATURE OF THE PIPE WALL.

6. AFTER THE STABILIZATION PERIOD, THE AIR PRESSURE SHALL BE ADJUSTED TO 4.0 PSIG AND THE AIR SUPPLY DISCONNECTED. AT 4.0 PSIG COMMENCE TIMING WITH A STOP WATCH WHICH IS ALLOWED TO RUN UNTIL THE LINE PRESSURE DROPS TO 3.5 PSIG AT WHICH TIME THE STOP WATCH SHALL BE STOPPED. THE TIME REQUIRED FOR A PRESSURE LOSS OF 0.5 PSIG SHALL BE COMPARED TO THE FOLLOWING CHART.

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ANY TIME WHICH IS LESS THAN SHOWN IN THE FOLLOWING TABLE SHALL BE CAUSE FOR REJECTION:

TIME REQUIREMENTS FOR AIR TESTING

PIPE SIZE	TIME	
(Inches)	(Minutes)	(Seconds)
4	2	32
6	3	50
8	5	6
10	6	22
12	7	39
14	8	56
15	9	35
16	10	12
18	11	34
20	12	45
21	13	30

FOR LARGER DIAMETER PIPE: MINIMUM TIME IN SECONDS = 462 X PIPE DIAMETER IN FEET

7. AN AIR PRESSURE CORRECTION SHALL BE REQUIRED WHEN THE PREVAILING GROUND WATER IS ABOVE THE SEWER LINE BEING TESTED. UNDER THIS CONDITION, THE AIR TEST PRESSURE SHALL BE INCREASED TO 0.433 PSIG FOR EACH FOOT THE GROUND WATER LEVEL IS ABOVE THE INVERT OF THE PIPE.

II. WATER TESTS
(IF THE VILLAGE DETERMINES THAT INFILTRATION TESTS ARE REQUIRED)
INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH DIAMETER PER MILE PER DAY FOR ANY SECTION TESTED.

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		TEST PRESSURE (P.S.I.)					
		100	125	150	175	200	225
	PIPE DIA. (INCHES)	ALLOWABLE LEAKAGE (G.P.H.)					
D.I.P. PER 1,000 L.F. OF LINE	6	0.45	0.50	0.55	0.59	0.64	0.68
	8	0.60	0.67	0.74	0.80	0.85	0.90
	10	0.75	0.84	0.92	0.99	1.06	1.13
	12	0.90	1.01	1.10	1.19	1.28	1.35
P.V.C. PER 1,000 L.F. OF LINE	6	0.41	0.45	0.50	0.53	0.57	0.61
	8	0.54	0.60	0.66	0.71	0.76	0.81
	10	0.68	0.75	0.83	0.90	0.96	1.02
	12	0.81	0.89	0.99	1.07	1.15	1.22

NOTES:

1. PRESSURE TESTS SHALL BE CONDUCTED SO THE PIPE SECTIONS ARE WITHIN 10 PSI OF THE TEST PRESSURE LOCATION.
2. PRESSURE TESTS SHALL BE CONDUCTED FOR A MINIMUM OF 2 HOURS.
3. LEAKAGE TESTS AT LINE PRESSURE SHALL BE CONDUCTED OVER A 24 HOUR PERIOD.

WATERMAIN PRESSURE TEST

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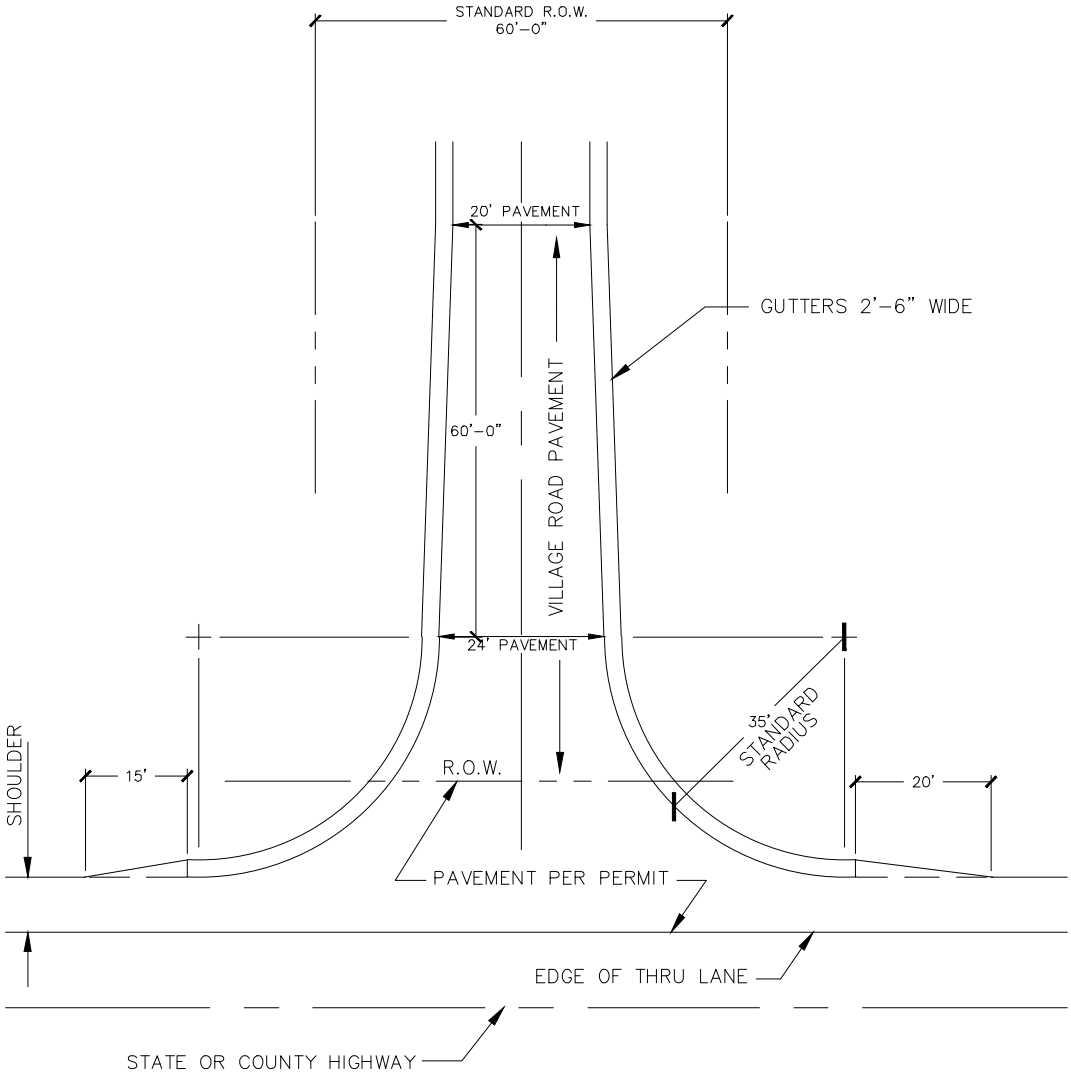

TAPERED INTERSECTION PLAN

(N.T.S)

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VILLAGE OF GENESEO

ENGINEER'S ESTIMATE
SUMMARY SHEET

Based on Engineer's Estimate Dated: _____

Project Name: _____

Earthwork	$ _____	
Contingency (10%)	$ _____	
TOTAL EARTHWORK		$ _____
Erosion Control Measures	$ _____	
Contingency (10%)	$ _____	
TOTAL EROSION CONTROL		$ _____
Sewage Disposal Systems	$ _____	
Contingency (10%)	$ _____	
TOTAL SEWAGE DISPOSAL SYSTEMS		$ _____
Drainage Systems	$ _____	
Contingency (10%)	$ _____	
TOTAL DRAINAGE SYSTEMS		$ _____
Water Supply	$ _____	
Contingency (10%)	$ _____	
TOTAL WATER SUPPLY		$ _____
Roadways	$ _____	
Contingency (10%)	$ _____	
TOTAL ROADWAYS		$ _____
Sub–Total Construction Cost		$ _____
Construction Observation		$ _____
Road Signs & Clean Up		$ _____
Design Engineering & Surveying Fees		$ _____
TOTAL ESTIMATE OF COST		$ _____

APPENDIX: GG
DATE: NOVEMBER 2017

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VILLAGE OF GENESEO

LETTER OF CREDIT RELEASE

PROJECT NAME _____ ESTIMATE NO. _____

_____ DATE _____

PROJECT NO. _____

Total Construction To Date $ _____

Less Retainage $ _____

A. Construction Value To Be Released $ _____

B. Engineering Costs $ _____

C. Construction Observation Costs $ _____

D. Other Costs $ _____

Amount Previously Released Through Estimate No. ____ $ _____

Amount Authorized For Release $ _____

LETTER OF CREDIT INFORMATION

1) Original Amount

$ _____

2) Authorized For Release Per Estimate Nos.

_____ $ _____

_____ $ _____

_____ $ _____

_____ $ _____

_____ $ _____

Subtotal $ _____

* Balance Remaining In Letter Of Credit Through This Statement

$ _____

*The balance amount shall be sufficient to insure satisfactory completion of the remainder of the development.

_____ Project Engineer _____ Date

_____ Developer _____ Date

_____ Municipal Engineer _____ Date

_____ Fiscal Officer _____ Date

SUBDIVISION FLOW CHART

VILLAGE OF GENESEO

OPTION OF CONCEPT APPLICATION TO PLANNING BOARD CLERK

PLANNING BOARD DISCUSSION

SKETCH PLAN APPLICATION TO PLANNING BOARD CLERK

SKETCH PLAN REVIEWED AND CLASSIFIED

MINOR

PRELIMINARY/FINAL PLAN, APPLICATION & SEQR FORM TO PLANNING BOARD CLERK

SUBMISSION INCOMPLETE

PLANNING BOARD HOLDS PUBLIC HEARING WITHIN 62 DAYS OF COMPLETE SUBMISSION

PLANNING BOARD ADDRESSES REQUIREMENTS OF SEQR FOLLOWING PUBLIC HEARING SEE SEQR FLOW CHART

PLANNING BOARD TAKES ACTION WITHIN 62 DAYS OF PUBLIC HEARING

DISAPPROVAL

APPROVAL

CONDITIONAL APPROVAL

RESUBMISSION WITHIN 180 DAYS

OWNER MUST MEET CONDITIONS

CONDITIONS MET

REQUIRED SIGNATURES

OWNER FILES APPROVED PLAT WITHIN 62 DAYS OF TOWN APPROVAL IN COUNTY CLERK'S OFFICE

CONSTRUCTION OR BUILDING PERMITS

MAJOR

PRELIMINARY APPLICATION AND SEQR FORM TO PLANNING BOARD CLERK

SUBMISSION INCOMPLETE

PLANNING BOARD HOLDS PUBLIC HEARING ON PRELIMINARY APPLICATION AND SEQR FORM WITHIN 62 DAYS OF COMPLETE SUBMISSION

PLANNING BOARD ADDRESSES REQUIREMENTS OF SEQR FOLLOWING PUBLIC HEARING

PLANNING BOARD TAKES ACTION WITHIN 62 DAYS OF PUBLIC HEARING

DISAPPROVAL

APPROVAL

CONDITIONAL APPROVAL

RESUBMISSION WITHIN 180 DAYS

OWNER MUST MEET CONDITIONS

CONDITIONS MET

FINAL APPLICATION TO PLANNING BOARD CLERK

SUBMISSION INCOMPLETE

PUBLIC HEARING REQUIRED

NO PUBLIC HEARING

PLANNING BOARD TAKES ACTION WITHIN 62 DAYS OF COMPLETE FINAL SUBMISSION

PUBLIC HEARING HELD WITHIN 62 DAYS OF COMPLETE FINAL SUBMISSION

PLANNING BOARD TAKES ACTION WITHIN 62 DAYS OF PUBLIC HEARING

DISAPPROVAL

APPROVAL

CONDITIONAL APPROVAL

RESUBMISSION WITHIN 180 DAYS

OWNER MUST MEET CONDITIONS

CONDITIONS MET

FINAL APPROVALS BY OTHER PERMITTING AGENCIES

REQUIRED SIGNATURES

OWNER FILES APPROVED PLAT WITHIN 62 DAYS OF TOWN APPROVAL IN COUNTY CLERK'S OFFICE

CONSTRUCTION OR BUILDING PERMITS

VILLAGE ACTION

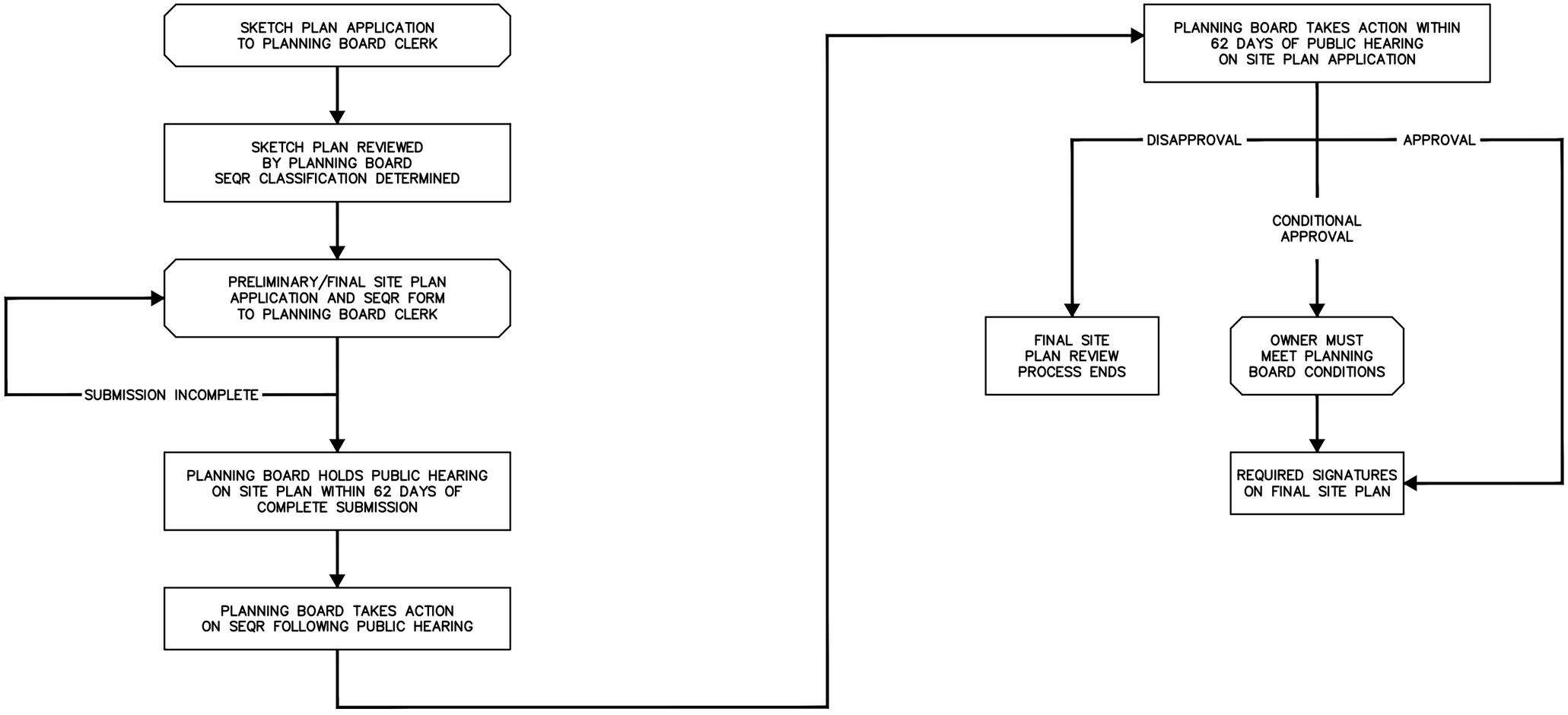
OWNER ACTION

MRB | group

SITE PLAN REVIEW PROCESS

FOR EXISTING TAXED PARCEL TO BE DEVELOPED
WITHOUT SUBDIVISION OF LAND

VILLAGE OF GENESEO



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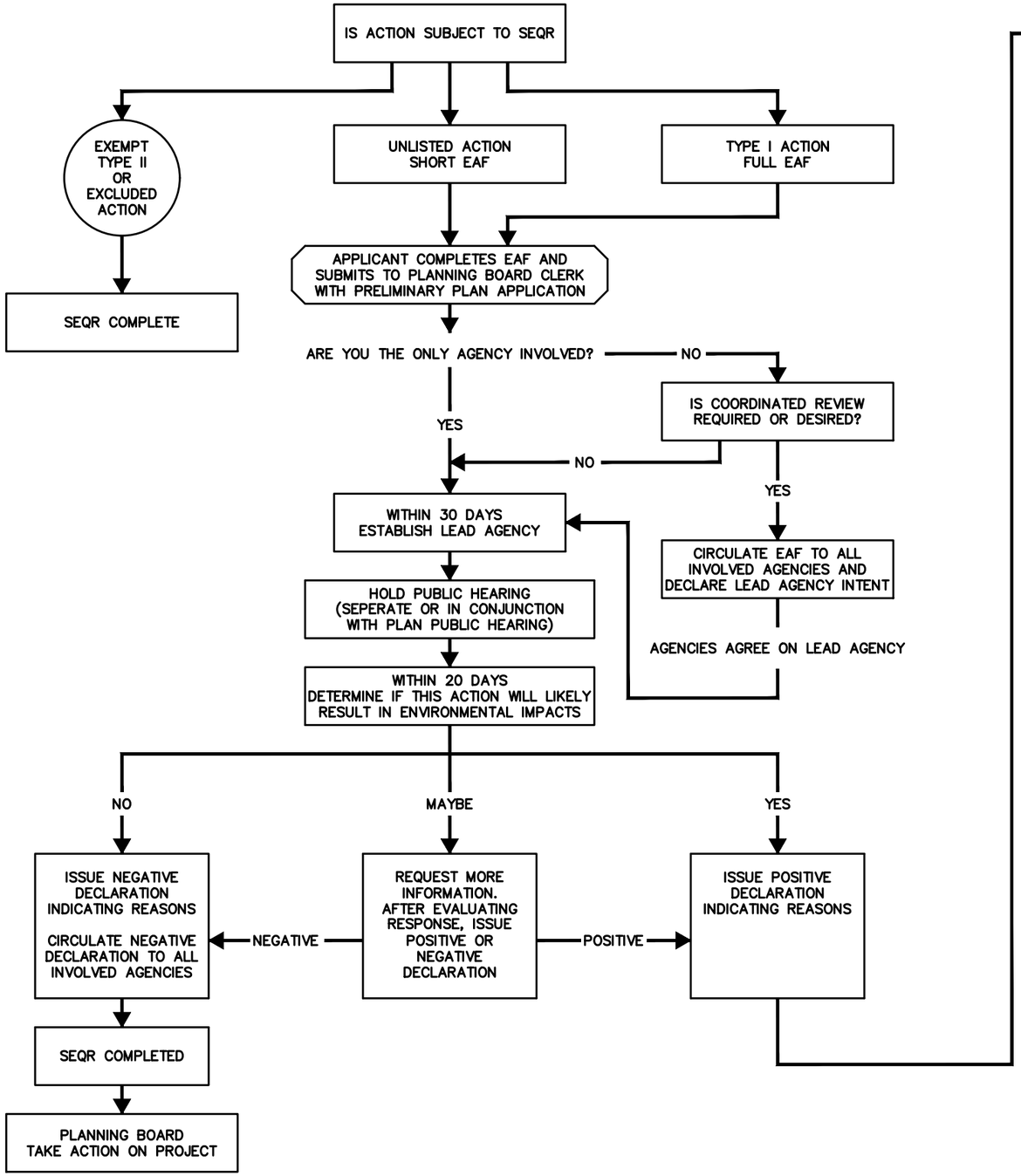
SEQR BASIC FLOW CHART

VILLAGE OF GENESEO



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