Town of Hastings

Highway Construction Specification Ordinance

(Amended 06/11/13)

Adopted 4/28/92

Town of Hastings
Highway Construction Specifications
And
Standard Section/Details

Index

Index
Continued

Town Of Hastings
Highway Construction Specifications Ordinance

AN ORDINANCE REGULATING THE METHODS AND MATERIALS OF CONSTRUCTION OF HIGHWAYS TO BE DEDICATED TO AND ACCEPTED BY THE TOWN, INCLUDING STANDARD CROSS SECTION AND DRAINAGE STANDARDS: REQUIRING PERMITS FOR WORK PERFORMED WITHIN THE TOWN HIGHWAY RIGHT-OF-WAY; AND PROVIDING PENALITIES FOR VIOLATION THEREOF: IN THE TOWN OF HASTINGS, COUNTY OF OSWEGO, STATE OF NEW YORK.

Section 1-Short Title

This Ordinance shall be known as the 1992 Highway Construction Specifications of the Town of Hastings, New York.

Section 2-General Provisions

2.1 Town Highway Superintendent

The Town Highway Superintendent shall have approval authority over highway construction plans and acceptance of roads as further defined herein. The Town Highway Superintendent may designate a representative, including the Town Engineer, to conduct in his place, any or all required reviews, inspections and approvals provided for in this ordinance. All references to the Town Highway Superintendent, therefore, shall be deemed to include the Town Engineer and/or the Superintendent's designated representative.

2.2 Approval of Plans

Two copies of roadway construction plans and Drainage Report (see Section 6.6) shall be submitted for approval by the Town Planning Board and the Town Highway Superintendent prior to or with the application for subdivision approval. The construction plans shall include the street layout plan, street centerline alignment, roadway vertical profile, provisions for storm drainage (layout, materials and details), provisions for erosion control (layout, materials and details), and roadway typical sections. The plans and reports shall have been prepared in accordance with the current Town Subdivision Regulations, and the Construction Specifications and Typical Sections as contained herein and shall be signed and sealed by a registered professional engineer.

No Construction shall commence until plans have be approved by both the Planning Board and the Town Highway Superintendent, and no building permits will be issued for structures located on the streets and roads covered by these

regulations until the Town Highway Superintendent has certified that the streets and roads are substantially complete.

Nothing herein shall supercede the requirements of the Town of Hastings Subdivision Regulations and/or Zoning Ordinance as they may be amended from time to time, but in the event that there are inconsistencies between the Subdivision Regulations or the Zoning Ordinance and the Local Law, the terms of the Local Law shall govern.

NOTE: Refer to Exhibit A – Processes for New Road Plan Approval, Construction and Acceptance for additional information and guidance.

2.3 Notifications and Commencement

The Contractor shall notify the Town Highway Superintendent at least (10) days prior to start of any clearing, site grading, drainage work and roadway construction.

No part of the surface course shall be constructed until all utilities have been installed (see Section 4.3) and until the subgrade and subbase have been approved by the Town Highway Superintendent.

2.4 Materials and Workmanship

All construction materials and workmanship shall be as shown on the approved plans unless any departure from the approved plan is authorized in writing by the Town Highway Superintendent, and all materials shall be obtained from sources approved in writing by the Town Highway Superintendent prior to construction or incorporation in the work.

2.5 Inspection of the Work

The Town Highway Superintendent or his designated representative will periodically inspect the work during its progression. The Contractor shall be responsible for the survey and stakeout of all streets and facilities and for furnishing and installing all materials and facilities in accordance with the plans and Specifications.

The Town Highway Superintendent shall maintain the right to reject any and all materials not meeting Specifications which the Contractor desires to incorporate into the work.

Testing of materials and for compaction, as required under this Ordinance or as ordered by the Highway Superintendent, shall be performed at the expense of the contractor / developer.

The contractor shall notify the Town Highway Superintendent prior to placing subbase material (see Section 4.2), prior to placing the surface course (see Section 4.4) and prior to approval in writing by the Town Highway Superintendent.

An inspection by the Town Highway Superintendent will be made upon substantial completion of all work. A checklist of items requiring further work will be prepared and submitted to the Contractor. Upon completion of the work required by the checklist, a final inspection will be made for the purpose of ascertaining that all work has been completed in accordance with the approved plans, as such plans may have been modified with the written authorization of the Town Highway Superintendent.

All inspections by the Town will be made on a timely basis.

2.6 As Built Drawings

Upon completion of the work, the Contractor shall prepare and submit one reproducible copy and one paper copy of " As-Built Drawing (s) to the Town Engineer, one paper copy to the Town Highway Superintendent, and one paper copy to the Town Clerk. The drawing (s) shall show the {as-constructed} actual roadway centerline elevations, drainage pipe locations and inverts, catch basin locations, inverts and top of the grate elevations, under drain locations, and outlet inverts, and all field modifications made to the approve plans including alignment, profiles, pavement, drainage and roadway typical sections.

2.7 Acceptance

In addition to the requirements set forth in the Subdivision Regulations of the Town of Hastings for the acceptance of subdivision improvements, the following conditions shall also be satisfied before the Town Board will accept dedication of streets and roads:

2.7.1 : The prospective dedicator shall tender to the Town Attorney the originals of all deeds and easements, along with any necessary subordination or other agreements, properly executed in recordable form so as to convey fee title (an unencumbered interest) in the proposed streets and right-of way areas to the Town of Hastings free and clear of any lein, or encumbrances (properly signed and acknowledged in recordable form); a signed real property transfer gains tax affidavit (form TP-584 or acceptable substitute); and a print of the filed subdivision map. The dedicator shall also provide to the Town Attorney, at a dedicator's expense, an up-to-date Abstract of Title for the premises to be conveyed an either a policy of title insurance naming the Town of Hastings or an attorney's certification of title certified to the Town of Hastings covering the property interest conveyed. The Abstract of Title will be brought current to

the date of recording of the deed and/or easement, and dedicator shall pay all applicable recording fees.

2.7.2: The prospective dedicator shall provide a Maintenance Bond for the value of the completed street construction in the amount fixed by resolution of the Town Board. This bond shall be conditioned on the faithful performance by the dedicator of any repairs needed to correct or replace any and all damage to said completed work (normal wear and tear excepted) from the date of acceptance by the Town until a date to be established by Town Board resolution, such date to be at least one year (more if conditions in the opinion of the Town Board warrant).

2.7.3: For those streets which are partially completed and for which as Performance Bond is furnished to assure completion as required in the Subdivision Regulations of the Town of Hastings, a Maintenance Bond shall also be furnished for the value of the completed portion of said street in the amount as fixed by resolution of the Town Board and with the same time period requirements as in Article 2.72

Section 3-Construction Requirements

3.1 Drainage

All grading and construction activities shall be conducted in a manner to insure satisfactory drainage of surface water at and around the work site at all times. All existing culverts and drainage systems shall be maintained in satisfactory operating condition through the course of the work. If it is necessary to interrupt existing surface drainage, sewers, or under drainage, then temporary drainage facilities shall be provided until the permanent drainage facilities are complete and properly functioning.

The Contract is responsible to have all constructed drainage ditches neatly cleaned and properly graded at the completion of the project, prior to acceptance of the roadways by the Town. New drainage systems shall be sized per Section 6 of these Specifications.

3.2 Access to Existing Properties

Where new construction is being performed in areas of existing houses, continuous access to and into driveways shall be provided, and the travel way shall be adequately signed and barricaded to protect the traveling public.

3.3 Permits for work within the Town Highway Right-of-way

No work requiring excavation, filling, cutting of pavement, drainage improvements or the installation or maintenance of pipelines or utilities will be permitted within the right-of-way of any Town highway without the prior written consent of the Town Highway Superintendent through the issuance of a permit.

Individuals, corporations or municipal entities seeking such permit approval shall make application in triplicate upon such form as prescribed by the Town. The application shall include plans detailing the proposed work. A performance bond may be required for the satisfactory completion of the proposed work, and if so, in an amount as determined by the Town Board.

Section 4- Material and Details

4.1 Rough Grading of Roads

All soil, rock and other material shall be removed and utilized or disposed of as required by the plans and specifications. All excavation and embankment work shall be executed to the work and limit lines as shown on the plans.

All excavation and embankment work shall be in accordance with Section 203 of the New York State Department of Transportation (NYSDOT) Standard Specifications or as directed by the Town Highway Superintendent. Embankment material shall be natural soil free from excessive moisture, frost, stumps, trees, roots, sod, much, marl, vegetable matter or other unsuitable materials. Embankment materials shall be obtained from borrow pits approved by the Town Highway Superintendent and shall be well graded from fine to coarse within a minimum content of silt.

Where embankments are to be placed under water, only acceptable granular material shall be used. All materials shall be suitable for compaction layers not exceeding eight (8) inches in thickness and shall remain stable when wet.

Prior to the commencement of excavation or fill, stripping shall be conducted to remove all topsoil, roots, organic matter, rubbish or other debris for the full width of the road property.

Useable topsoil from stripping shall be stockpiled for future use {in piles} at approved locations outside the limits of the road property.

If there is not sufficient excavated material of the suitable quality at the site to complete the embankment, subgrades and backfilling to the required lines and grade, the Contractor shall borrow the necessary additional materials. The source and acceptability of the borrow material shall be subject to the approval of

the Town Highway Superintendent at all times.

The Contractor shall request the Town Highway Superintendent's approval of proposed borrow areas at least five (5) days before depositing any material at work site. All test pits, explorations and laboratory tests required by the Town Highway Superintendent to evaluate the acceptability of borrow shall be done by the Contractor at his own expense.

In general, embankment materials shall be placed in horizontal layers not exceeding (8) inches in thickness; measured after compaction, and shall be thoroughly compacted. Stones, if any, shall not exceed 6 inches in greatest dimension and shall be well distributed through the mass.

Each layer of embankment material shall be thoroughly tamped or rolled to the required degree of compaction by sheepsfoot or pneumatic rollers, mechanical tampers, or vibrators, or other method satisfactory to the Town Highway Superintendent. Successive layers shall not be placed until the layer under the construction has been thoroughly compacted.

Trucks or other heavy equipment shall not be operated over pipelines until a minimum of 36 inches of backfill above the crown of the pipe has been placed and properly compacted.

Embankment compaction shall have a minimum dry density of 95 percent of the maximum dry weight density in pounds per cubic foot as determined by the Standard Proctor Compaction Test.

All laboratory tests required by the Town Highway Superintendent shall be done by an approved testing laboratory at the Contractor's expense. Field density testing with a nuclear density meter shall be performed as directed by the Town Highway Superintendent.

When the test results indicate that insufficient compaction has been obtained in any layer, the Contractor shall take such action as the Highway Superintendent may direct to modify or alter the moisture content of the soil, to provide additional compaction or otherwise to increase the in-place soil density.

4.2 Subgrade

Prior to placement of the gravel subbase course, the roadway subgrade and the ditch backslopes shall be brought to the true grade as indicated in the roadway cross section. After shaping, the roadway subgrade shall be proof rolled with a smooth steel-wheeled roller weighing not less than ten tons. Any depression shall be filled with suitable gravel materials. Any soft or unsuitable material shall be removed and replaced as directed by the Town Highway Superintendent. The subgrade shall then be reshaped and re-rolled until there is no movement under

the roller. A geotextile separation (Mirafi 500X or equal) shall be placed under the initial layer of subbase material, to the full width of the roadway (pavement, shoulders & foreslopes), for the full length of road to be constructed. The Superintendent of Highways may waive this requirement, or order only portions of length of the roadway to require geotextile separation, based on field conditions. All such waivers shall be in writing, with a copy sent to the Town Engineer.

Where field conditions warrant, the Superintendent of Highways may require other materials, such as geosynthetic (i.e. geogrid) reinforcement to be placed under or as part the subbase installation.

4.3 Culverts, Subsurface Drainage and Underground Utilities

All underground utilities, culverts and storm sewers, including, where appropriate, underground service connections to the property lines of adjoining properties or each subdivision lot, and excepting the driveway pipes, shall be installed prior to placing the subbase course. All culverts crossing the centerline of the roadway shall be a minimum size of 18 inches in diameter or larger as may be required by drainage analysis. All driveway pipes shall have a minimum diameter of 12 inches or larger, as may be required by drainage analysis. See also requirements of Section 6.

4.4 Subbase Courses

A Subbase course and surface course of the types specified shall be furnished, placed and compacted and fine graded in conformity with the lines, grades and thicknesses as shown in the Town Standard Roadway Sections (Fig. 1 – 3) or as indicated in the approved plans.

Subbase material (gravel) shall be NYSDOT approved Type 3 gravel, or suitable gravel material as approved by the Town Highway Superintendent. Written verification and approval of this subbase material by the Town Highway Superintendent shall occur prior to the placement of any additional subbase material.

Subbase material (crushed stone) shall consist of NYSDOT approved Type 2 crushed stone material, or crushed limestone material as approved by the Town Highway Superintendent. Written verification and approval of this subbase material by the Town Highway Superintendent shall occur prior to the placement of bituminous pavement materials.

Placing and Compaction. Prior to placing the subbase courses, the finished subgrade surface shall not extend above the design elevation at any location. Subbase material shall be spread on the grade by a procedure that minimizes

particle segregation. Compaction of any subbase course lift shall not lag spreading operations by more than five hundred (500) linear feet. The depth of loose spread lifts shall not exceed those permitted by the type and classification of compactor utilized. The minimum loose lift thickness of subbase materials shall be 1.5 times the maximum particle size of the material being placed. Bituminous pavement course materials shall be spread and compacted only after inspection and approval of the subbase course by the Town Highway Superintendent.

Traffic and Contamination. No highway or construction equipment traffic shall be permitted over the final finished subbase course surface except as necessary for the construction of the overlying course at that location or as allowed by the Town Highway Superintendent.

Contamination of either the subbase course or the surface course with any deleterious material, such as silt, clay mud or organic material, though any course whatsoever, shall be corrected by the Contractor by excavation and replacement of the material in the affected area.

Fine Grade Tolerance. The final surface of the subbase course shall be fine graded so that, after final compaction and just prior to placement of the surface course, the surface elevation shall not vary more that ¼ -inch above or below the design line and grade at any location. The surface shall be completed to the above tolerance and approved by the Town Highway Superintendent before {prior to} any work may commence at a given location to place an overlying course. If after approval the subbase course becomes displaced or disturbed in any way for any reason, the Contractor shall repair and regrade the damage to the satisfaction of the Town Highway Superintendent prior to placing the overlying course.

All drainage culverts crossing under the street, and all utility lines, or in lieu of the utility lines, a sleeve of sufficient size and material to meet the requirements of the utility company shall be installed during the subbase course work. This requirement is meant to eliminate the need for open cutting of the newly completed street after the pavement course is placed. Failure to install proper drainage culverts, utility line, or sleeves will result in the need for jacking or boring the culverts, utility lines, and or sleeved under the highway.

4.5 Asphalt Concrete Pavement

Minor Street:	Mirafi 500x geotextile separation on approved subgrade, or equal 12" Subbase Course – NYSDOT Type 3 or equal 4" Subbase Course – NYSDOT Type 2 (crushed limestone) or equal. 2 ½" Ashphalt Concrete Binder Course-NYSDOT Type 3 or equal 1 ½' Ashphalt Concrete Top Course-NYSDOT Type 6 or equal

Collector Street:	Mirafi 500x geotextile separtion on approved subgrade, or equal. 12" Subbase Course- NYSDOT Type 3 or equal 6" Subbase Course- NYSDOT Type 2 (crushed limestone) or equal 3" Asphalt Concrete Binder Course- NYSDOT Type 3 or equal 2" Asphalt Concrete Top Course-NYSDOT Type 6 or equal
Commercial & Industrial Streets	Mirafi 500x geotextile separation on approved subgrade, or equal 12" Subbase Course- NYSDOT Type 3 or equal 6" Subbase Course- NYSDOT Type 2 (crushed limestone) or equal 3" Asphalt Concrete Base Course- NYSDOT Type 1 or equal 3" Asphalt Concrete Binder Course- NYSDOT Type 3 or equal 2" Asphalt Concrete Top Course-NYSDOT Type 6 or equal

Asphalt Concrete shall be placed in conformance with NYSDOT Standard Specifications. The contractor shall comply with the requirements and limitations for cold weather placement, and as directed by the Town's Superintendent of Highways.

The placement of the Asphalt Concrete Top Course may be delayed, so long as the value of the pavement is bonded for, and the schedule for placement outlined in the signed Developer's Agreement with the Town. This allows for development of lots and construction of buildings to occur while the roadway is up to binder course pavement. Any damage to the binder course pavement (or underlying sections) shall be fully repaired at the expense of the developer prior to top course paving.

4.6 Improved Shoulders

All streets constructed within the Town of Hastings shall have improved roadway shoulders, constructed to the width and depth shown on the Street Typical Section figures. In general, the improved shoulders shall consist of:

Same Subbase courses (Type 3 and Type 2) as shown in Section 4.5 of this document;

In lieu of pavement courses above the subbase, the shoulder shall be brought up to finished pavement grade with Type 2 Subbase material (crushed limestone, or approved equal) after placement of pavement courses, then receive Bituminous Surface Treatment – Single Course (NYSDOT Item 410.05).

Refer to Roadway Typical Sections (Fig. 1 – 3).

4.7 Establishing Turf

4.7.1 Topsoil: Work for topsoil shall consist of furnishing and placing topsoil in conformance with the lines, grades and thicknesses shown on the Town Standard Details.

Topsoil material shall conform to the requirements of NYSDOT Specification Section 713, or shall be suitable material approved by the Town Highway Superintendent.

Areas receiving topsoil shall be left neatly graded and ready to receive seeding.

4.7.2 Seeding: Work for seeding shall consist of preparing ground surfaces for seeding, furnishing and installing fertilizer, seed mulch and mulch anchorage on areas indicated by the plans, standard details, and in areas directed by the Town Highway Superintendent.

Material for seed, fertilizer, mulch and mulch anchoring shall conform to the requirements of NYSDOT Specification Section 713, or shall be approved by the Town Highway Superintendent.

Suggested seed mix (or equal):

Name	Variety	Weight of Pure Live Seed Per Acre
Red Fescue (Festuca pubra)	Commercial	50 Pounds
Perennial Ryegrass (Lolium perenne)	Commercial	30 Pounds
White Clover (Trifolium repens)	Commercial Maximum 5% Hard Seed)	5 Pounds
Total		85 Pounds

4.7.3 Fertilizer: Suggested fertilizer (or equal):

NYSDOT 713-03 Type No. 3, 10-6-4 (50% N-UF)

Fertilizer shall be applied at the rate of 800 pounds per acre.

The areas to receive seeding shall be thoroughly prepared prior to seeding. Seed and fertilizer shall be spread in the amount specified and shall be evenly distributed on the areas to be seeded.

Mulch (hay or straw) shall be applied at the rate of two (2) tons per acre, and shall be anchored with a commercially available mulch anchorage product.

Section 5- Typical Street Sections and Design Standards

5.1 Street Classification and Typical Sections

The attached typical sections shall be utilized in the following land use zones for the thresholds as listed.

Classification	Zone	Threshold
(a) Minor Street	Residential/Agricultural	Less than 100 Units
(b) Commercial/Industrial St	Commercial/Industrial	Less than 100 Units
(c) Collector Street	All Districts listed in (a&b) when threshold is met or exceeded.	More than 100 Units or More than 4 Minor Streets Served or One-way Design Hour Volume Greater than 100.

5.2 Design Standards

In addition to the width requirements set forth in the typical sections, the following shall apply:

	Minor, Commercial, & Industrial Streets	Collector Streets
Minimum Width of Right of Way	60 feet	80 feet
Minimum Road Width	32 feet	40 feet
Minimum Pavement Width	20 feet	24 feet
Minimum Shoulder Width	6 feet	8 feet
Minimum Radius of Horizontal Curves	150 feet	400 feet
Minimum Length of Vertical Curves	100 feet	200 feet
Minimum Length of Tangents Between Reverse Curves	100 feet	200 feet
Maximum Grade	10%	8%
Minimum Grade	1% (*)	1% (*)
Minimum Stopping Site Distance	250 feet	500 feet

Slopes less than 1.0% may be allowed, depending on site conditions and upon approval of Town Engineer.

Flag turnarounds shall conform to the attached details (Figure 4).

Section 6 Drainage Standards

6.1 Design Frequencies

The following design storm frequencies shall be used in the analysis of storm drainage flows:

A. Cross Culverts	50-Yr. Storm
B. Storm Sewer System	5-Yr. Storm
C. Gutters	5-Yr. Storm
D. Roadway Ditches	10-Yr. Storm
E. Detention/Retention	50-Yr. Storm

In some cases, the Town Highway Superintendent or Town Engineer may require an analysis of the 100 year storm event for protection against property damage or loss of life, and for coordination with Federal regulations.

Design of detention/retention systems shall be based on the 50-year storm volume. Provision for control of the 2, 10, and 50-year storm pre-development flow rates shall be made. In addition, overflow consideration for 100-year storm event shall be made.

6.2 Off-Site Drainage Criteria

In general, the peak runoff flow rate of discharge from a proposed site after development shall not exceed the peak runoff flow rate that prevailed prior to development. In general, this requirement may necessitate the design and construction of detention/retention facilities of various types. Such facilities include rooftop storage, parking lot storage, subsurface seepage pits and/or detention/retention basins. If it can be demonstrated that downstream conditions are such that this requirement can be altered without jeopardizing downstream drainage patterns, alteration of the requirement may be made at the discretion of the Planning Board and Town Engineer.

A peak runoff flow rate entering the proposed site from an upper portion of the watershed (s) shall be incorporated into the storm water management plan for the proposed site. However, it may be assumed that this flow rate will not increase in the future as upper portions of the watershed are developed. If this assumption is not made, and therefore, added capacity within the drainage facilities of the proposed site is provided, then such capacity should be so stated in the Drainage report.

For purposes of calculating peak runoff flow rates for the design of detention facilities, a 50 year storm frequency return period shall be used. Provisions of overflow of facilities shall be made for protection against loss of life and damage to personal property for storms having less frequent return periods

of up to one hundred years. Calculations shall be based on any of the recognized methods commonly used to calculate storm water runoff (i.e., Rational Method, TR55, StormCad, etc.).

6.3 Design of Storm Sewers (a.k.a. Closed Drainage Systems)

(1) Pipe Sizing – pipe shall be sized for peak flows resulting from a 5 year storm without surcharging. The minimum pipe diameter for storm sewers shall be 12 inches. All pipes shall be designed for a 3 ft./sec. Minimum velocity when flowing full and an 8 ft./sec. Maximum velocity when flowing full.

(2) Pipe Placement – vertical alignment shall provide for a minimum cover of 1 foot as measured down from the subgrade level to the top of pipe, and as shown on the Town Standard Detail for storm drainage pipe installation. When pipe sizes of different diameters enter a catch basin at a straight through grade condition, crown elevations of pipe shall be matched.

(3) Catch Basin Placement – the distance which water is allowed to run in open gutter flow along streets shall not exceed 400 feet. Catch basins shall generally be placed at all street intersections, unless otherwise approved by the Town Planning Board and Highway Superintendent.

6.4 Design of Culverts

All cross culverts shall be designed to discharge a 50 year peak flow utilizing available head at the entrance. Available head shall be understood as that flood stage elevation which will not cause highway travel lane flooding or endangerment to life or personal property. Culvert design shall include an analysis of the inlet/outlet control conditions.

Culvert design shall include provisions for slope stability for the roadway embankment section, as well as the selection of appropriate inlet and outlet end section structures and erosion protection.

6.5 Design of Open Channels

All open channels shall be designed to carry a 10 year peak flow. Site conditions should be such that a 100 year peak flow in ditches and open channels will not present serious endangerment to life or personal property.

Based on the velocity at peak flow conditions, an appropriate lining or stabilization of the channel bed and side slopes shall be employed to eliminate erosion. When channels discharge into existing streams, appropriate measures will be taken to minimize stream bed erosion at the point of discharge.

6.6 Drainage Report

The developer shall submit to the Town Planning Board and the Town Engineer prior to preliminary subdivision approval a complete Drainage Report that details the design of each drainage facility, and the impact of the proposed project on existing drainage patterns and existing drainage facilities in the vicinity. The Drainage Report shall accompany the submittal of project plans to the Town. The report shall have been prepared in accordance with the current Town Specifications and shall be signed and sealed by a registered Professional Engineer.

The report shall include all drainage runoff calculations as detailed in Section 6 of this Specifications, and the necessary calculation and text explanation for:

-Off-site Drainage
-Culvert Sizing
-Storm Sewer Sizing
-Catch Basin Type
-Ditch/Channel Sizing
-Erosion and Sediment Control
-Impact to Downstream Drainage Patterns, Facilities
-Detention, If Necessary

Methods prescribed by the Federal Highway Administration (FHWA), NYSDOT, or equal, are suggested for the sizing of the items listed above.

Where required by the NYSDEC regulations governing stormwater management, as site specific Stormwater Pollution Prevention Plan (SWPPP) may be needed. The SWPPP and Drainage Report can be a combined document, so long as the requirements of this Ordinance and the NYSDEC are satisfied.

6.7 Storm Sewer and Culvert Pipe

All storm sewer pipes shall be bituminous-coated corrugated steel pipe (CSP), having a continuous spiral lock seam, smooth interior corrugated polyethylene pipe (SICPP) or reinforced concrete pipe (RCP), Class IV.

Minimum pipe thickness for corrugated steel pipe shall be 16 gauge for pipe diameters of 12-inches and 15-inches, 14 gauge for 18-inches thru 24-inches, 12 gauge for 30-inches thru 42-inches, and 10 gauge for 48-inch diameter.

All pipes shall be laid true to line and grade and shall have a full firm and even bearing. Pipe laying shall begin at the downgrade end and progress in the upgrade direction.

Connecting bands shall be placed with the clamping angles and bolts at the tops of the pipe. A gap greater than 1 inch shall not be permitted between ends of pipe at clamping points.

The type of material to be used in bedding, filling and backfilling at structures, culverts, pipes, conduits and direct burial cable is subject to the approval of the Town Highway Superintendent.

Backfill at culverts and other structures shall be deposited in horizontal layers not exceeding 8 inches in thickness prior to compaction. A minimum of 95 percent to Standard Proctor Maximum Density will be required. See Standard Storm Drainage Pipe Installation Detail for further information.

All end sections shall be prefabricated end sections, matching the material in the pipe. End sections shall be installed and anchored to prevent movement. Pipe outlets shall be protected against erosion with appropriately designed dumped stone lining (NYSDOT Item No. 620.XXX) sized as necessary (FHWA Method, or equal).

6.8 Drainage Structures

Drainage structure including catch basins, drop inlets and manholes shall generally be round precast concrete sections for pipe diameters up to 36 inches. Four foot diameter sections shall be used for pipe sizes up to 18 inches in diameter and 5-foot diameter sections shall be used for pipe sizes of 24-inch to 36-inch diameter. For pipe sizes above 36-sinches, special structures shall be designed and installed and may be precast or cast-in-place.

All precast concrete sections and units shall be reinforced concrete, conforming to ASTM Designation C478, latest revision.

The precast concrete base shall be a minimum of eight (8) inches thick and shall be cast as an integral part of the first riser section, together forming a bottom section.

The precast concrete riser sections shall have a minimum diameter of four (4) feet and a wall thickness of five (5) inches.

Precast riser sections of variable heights shall be installed over the bottom section as required and shall be continued to the surface. The joints between the several sections shall be sealed by a flexible pre-molded endless rubber gasket held in compression by the precast concrete joint.

The precast concrete lid shall be reinforced concrete with a minimum thickness of eight (8) inches designed to withstand all superimposed earth loads in addition

to maximum HS20 truck loadings. The lid shall be cast with an opening of the shape and size required by the frame and grate or cover as specified on the plans.

Drainage structure steps shall be required only when structure depths exceed five (5) feet. Steps shall be in line vertically, and spaced at twelve (12) inches.

Details of the design and installation of drainage structures shall be completely shown on the Construction Plans as required in Section 2.1.

(1) Street Catch Basin and Drop Inlets – Syracuse Castings 3430A or Neenah 24916.

(2) Drainage Manholes – Syracuse Castings 1255B or Neenah Foundary 25139. lettering on cover to read " Storm Sewer".

(3) Yard Drainage – Syracuse Castings 1455g or approved alternative.

Frames, covers and grates shall be placed true to line and grade. Thy shall make firm, full and even bearing on their respective underlying surfaces and shall be non-rocking under the influence of traffic or other loads.

Section 7- Signs

The town shall furnish and install all streets name and traffic signs required by the Town. The developer shall reimburse the Town for the cost of initial materials and installation.

Section 8 – Applicability, Enforcement and Miscellaneous Provisions

8.1 Applicability

The Specifications and requirements of this ordinance shall apply to all street construction in, and to all work performed within, the highway rights-of-way of the Town of Hastings, New York, outside the Village of Central Square, and shall specifically apply to all subdivision of property, involving the construction of roads and streets, which have not received preliminary subdivision approval as of the effective date of this ordinance.

8.2 Compliance Required

All owners, contractors and their agents performing work regulated by this ordinance shall be responsible for compliance therewith. Compliance with the Specifications and requirements of this ordinance shall be precondition to the acceptance of streets by the Town of Hastings.

8.3 Penalties

Any person, firm or corporation violating any of the provisions of this ordinance shall be guilty of a violation and, upon conviction thereof, shall be subject to a fine not to exceed $1,000.00 for each violation.

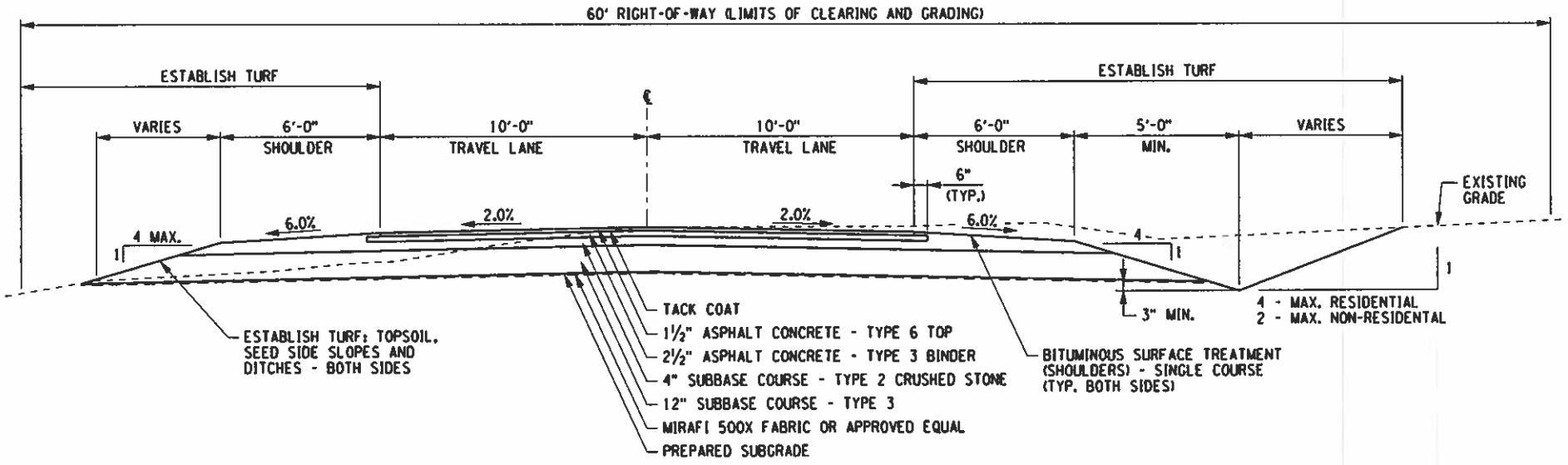
8.4 Separability

If any section, paragraph , sub-section, clause, phrase or provision shall be adjudged invalid or unconstitutional, the same shall not affect the validity of this ordinance as a whole, or any part or provision thereof other thean the part so adjudged invalid or unconstitutional.

8.5 Effective Date

This ordinance shall take effect immediately

FIGURES



HALF SECTION IN FILL

MINOR STREET

(WIDTHS SHOWN ARE MINIMUM)

HALF SECTION IN CUT

NOTE:

ITEMS NOTED AS "OR APPROVED EQUAL" ARE SUBJECT TO THE APPROVAL OF THE TOWN HIGHWAY SUPERINTENDENT.

Barton & Loguidice, P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

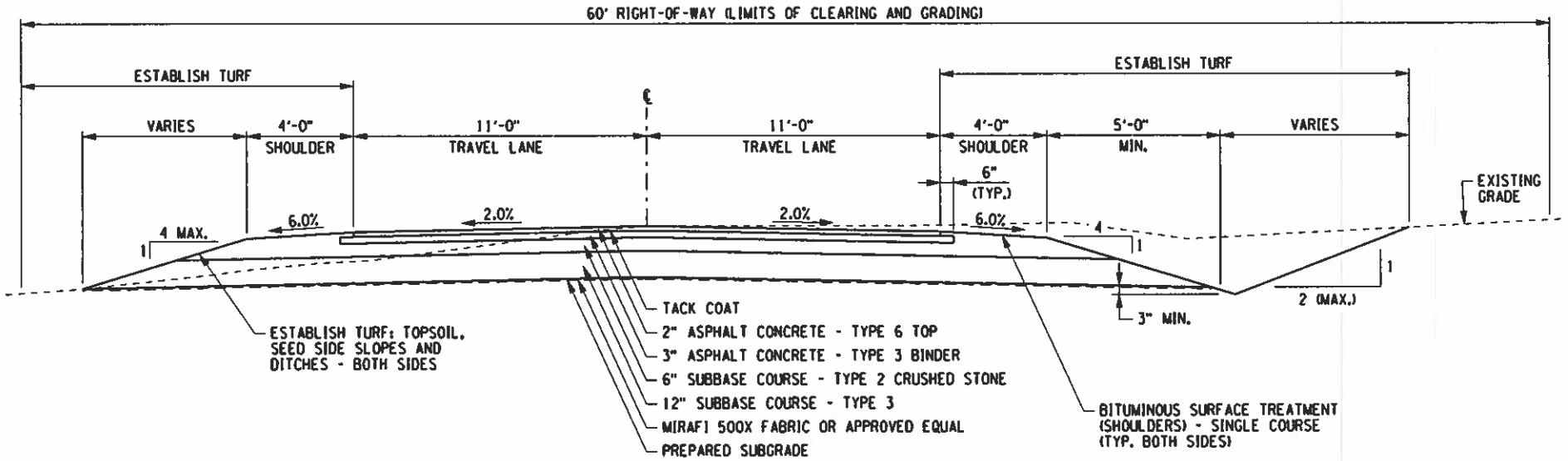
TOWN OF HASTINGS

MINOR STREET TYPICAL ROADWAY SECTION

MAY 2013 OSWEGO CO., NEW YORK

Figure 1

Project No. 366.007.005



HALF SECTION IN FILL

COMMERICAL / INDUSTRIAL STREET
(WIDTHS SHOWN ARE MINIMUM)

HALF SECTION IN CUT

NOTE:

ITEMS NOTED AS "OR APPROVED EQUAL" ARE SUBJECT TO THE APPROVAL OF THE TOWN HIGHWAY SUPERINTENDENT.

Barton & Loguidice, P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

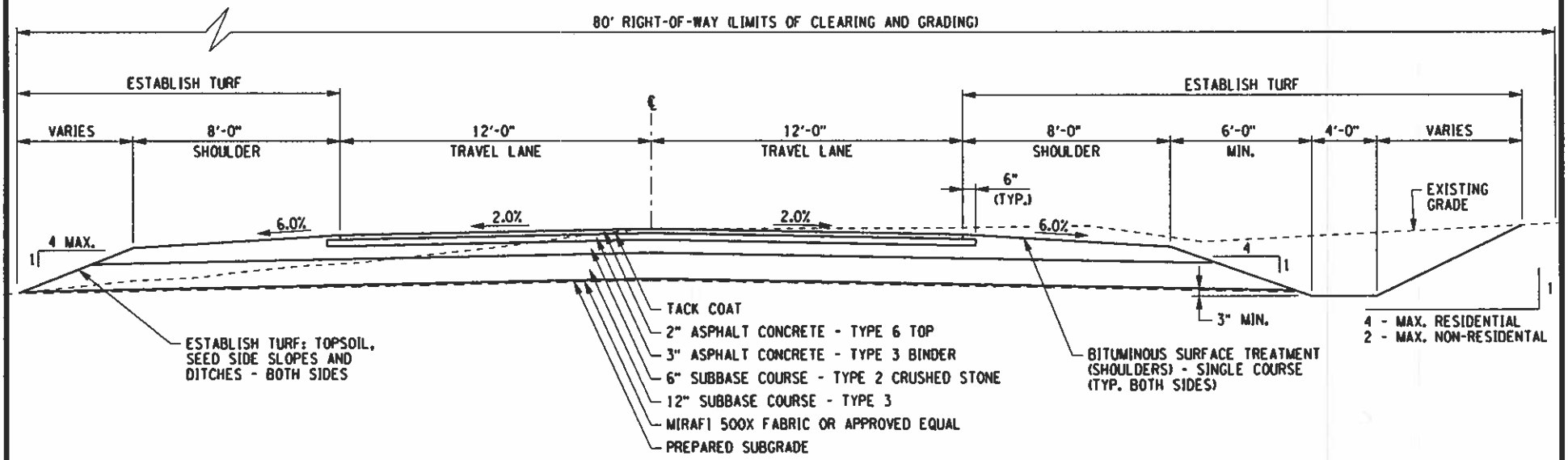
TOWN OF HASTINGS

COMMERICAL/INDUSTRIAL STREET TYPICAL ROADWAY SECTION

MAY 2013 OSWEGO CO., NEW YORK

Figure 2

Project No. 366.007.005



HALF SECTION IN FILL

COLLECTOR STREET
(WIDTHS SHOWN ARE MINIMUM)

HALF SECTION IN CUT

NOTE:

ITEMS NOTED AS "OR APPROVED EQUAL" ARE SUBJECT TO THE APPROVAL OF THE TOWN HIGHWAY SUPERINTENDENT.

Barton & Loguidice, P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

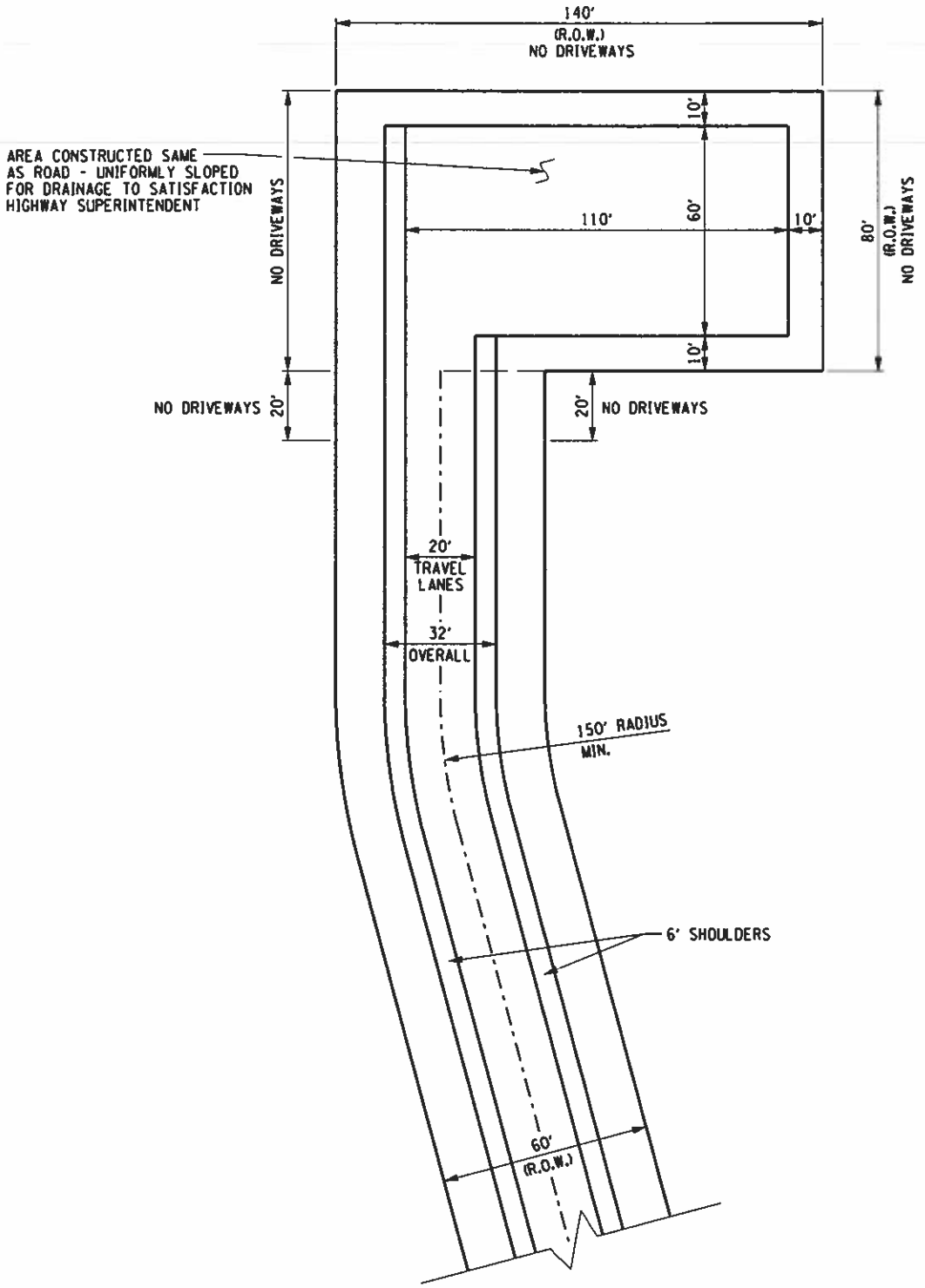
TOWN OF HASTINGS

COLLECTOR STREET TYPICAL ROADWAY SECTION

MAY 2013 OSWEGO CO., NEW YORK

Figure 3

Project No. 366.007.005



Barton & Loguidice, P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

TOWN OF HASTINGS

STANDARD FLAG TURNAROUND (DEAD-END) DETAIL

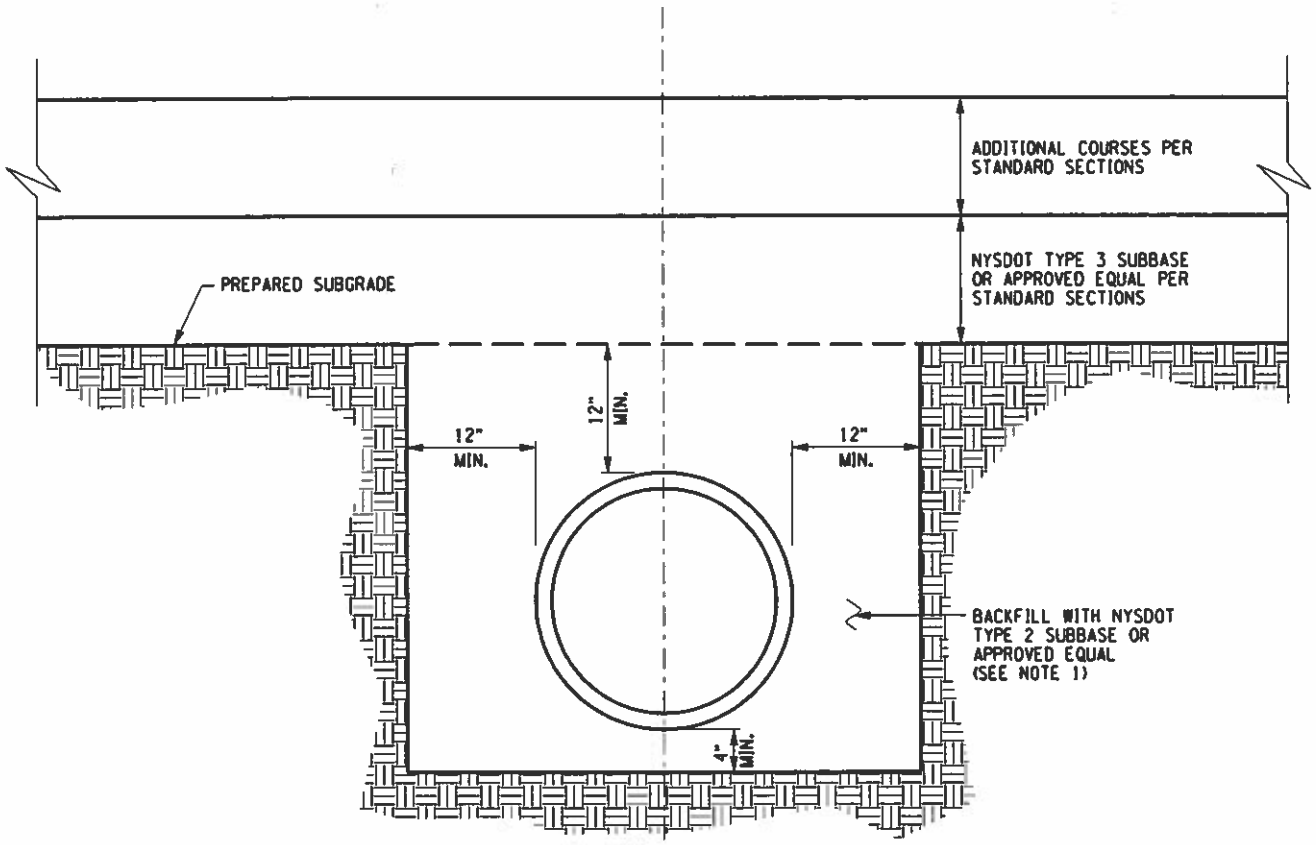
MAY 2013 OSWEGO CO., NEW YORK

Figure

4

Project No.

366.007.005



STANDARD STORM DRAINAGE PIPE INSTALLATION DETAIL

(NTS)

NOTES:

1.) APPROVED EQUAL MATERIALS TO BE APPROVED BY THE TOWN HIGHWAY SUPERINTENDENT.

2.) ADDITIONAL DEPTH MAY REQUIRE SHEETING OF TRENCH OR SLOPING BACK TRENCH WALLS PER OHSA REQUIREMENTS.

Barton & Loguidice, P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

TOWN OF HASTINGS

STANDARD DETAIL

MAY 2013 OSWEGO CO., NEW YORK

Figure 5

Project No. 366.007.005

EXHIBITS

Exhibit A – Processes for New Road Plan Approval, Construction and Acceptance

TOWN OF HASTINGS

PROCESSES FOR NEW ROAD PLAN APPROVAL, CONSTRUCTION, AND ACCEPTANCE

The following is a summary of the processes for new road plan approval, construction and acceptance in the Town of Hastings, NY. This process follows the procedures outlined in the Town Subdivision Regulations and the Town Highway Construction Specifications Ordinance.

Note that the Town Highway Specifications Ordinance state that **"NO CONSTRUCTION SHALL COMMENCE UNTIL PLANS HAVE BEEN APPROVED BY BOTH THE TOWN PLANNING BOARD AND THE TOWN HIGHWAY SUPERINTENDENT...."** This statement means that any stripping, excavating, placement of fill or other materials prior to plan approval is at the developer's risk. If construction takes place without the necessary field observation by the Town Highway Superintendent (or his designated representative), the work may be subject to rejection and need to be redone, and the responsible party may be subject to fines under the NYSDEC SPDES Regulations.

PROCESS FOR NEW ROAD APPROVAL

1. Developer presents a Sketch Plan of subdivision with roadways to the Town Planning Board for consideration.

2. Based on input from Sketch Plan review, developer prepares Preliminary Plat for subdivision, and supplemental plan(s) & profile(s) for new roadway(s). Submit Plat and supplementary plans to Town Planning Board. Plans for roadway should follow Town regulations, and shall be prepared by a registered engineer.

3. Town Planning Board sets Public Hearing date (typically for next meeting) & initiates SEQR review.

4. Developer to set up escrow account with Planning Board, for engineering review of plans and profile for new road(s) and drainage study.

5. Developer is responsible for having his engineer provide a drainage study for the project, to determine culvert crossing sizes and detention requirements (if necessary). The Developer shall note that the Town requires the construction to proceed in accordance with the NYS Department of Environmental Conservation's regulations regarding stormwater management (SPDES).

6. Town Engineer reviews plans & report, provides comments or approval. Developer's engineer to address all comments, resubmit to Town Engineer.

7. Upon acceptance of the plans by the Town Engineer, the Town Planning Board may act on the Preliminary Plat after SEQR determination at their next available meeting.

8. Final Plat submitted and considered by Town Planning Board (see sheet 2 of 4 for additional information regarding prerequisites for consideration of Final Plat). Items related to road to be submitted prior to approval of Final Plat include the required performance and maintenance bonding, Subdivider's Contract.

9. The Town Highway Superintendent shall provide a written approval of the roadway plans and concurrence with bonding to the Town Board and Town Planning Board.

10. The Town Planning Board may proceed to approve the Final Plat.

TOWN OF HASTINGS

PROCESS FOR NEW ROAD ACCEPTANCE

(Per Town of Hastings Subdivision Regulations, January, 1987,
and the Town Highway Construction Specifications Ordinance, 4/28/92, as modified)

1. Initial step is approval of roadway plans by Planning Board and Town Highway Superintendent (see sheet 1 of 4).

2. Prior to Final Plat approval by Planning Board, developer shall either;

    a. Construct all improvements required by regulations;
    b. In lieu of constructing improvements, furnish bond (termed a Performance Bond) executed by a surety company equal to the cost of construction of all improvements based on an estimate approved by the superintendent of highways; or
    c. In lieu of constructing improvements, deposit a certified check equal to the cost of construction of all improvements.
    AND
    d. Enter into a Developer's Agreement with the Town, if bond or certified check is offered. The contract shall be a written agreement itemizing the schedule of improvements in sequence, with the cost opposite each phase of construction.

(Note that bonding for all improvements includes roadways, storm drainage, public water supply, & signs)

3. The Performance Bond and Maintenance Bond (or certified checks) offered to the Town shall be approved by the Town Attorney. Upon the Town Attorneys approval, the Town Board may accept the bond or certified check.

4. Upon acceptance of the bond or certified check and completion of the subdivider's contract, the Planning Board may proceed to approve the Final Plat.

==========At this point, roadway construction may begin (See sheet 3 & 4 of 4)==========

5. The improvements shall be constructed within one year from date of approval of Final Plat. The developer may request an extension of time, provided he can show reasonable cause. The time extension shall not exceed six (6) months, at the end of which time the Town will use as much of the bond or check deposit to construct the improvements as may be necessary.

6. Inspections during construction of roadways are necessary (see sheet 3 & 4 of 4).

7. Upon completion of all improvements and a Final Inspection, the Planning Board (or their designee, generally, the Town Highway Superintendent, or Town Engineer) shall certify to the Planning Board and Town Board that the improvements have been completed in accordance with the Towns Regulations and Developer's Agreement.

8. Prior to consideration of acceptance of the roadway(s), the developer shall provide to the Town Attorney:

    a. Originals of all deeds and easements, properly executed in recordable form, so as to convey fee title to the Town, free and clear of liens or encumbrances;
    b. A signed real property transfer gains tax affidavit (form TP-584 or acceptable substitute);
    c. A print of the filed subdivision map;
    d. An up-to-date Abstract of Title or the land to be conveyed;
    e. Either a policy of title insurance naming the Town of Hastings, or an attorneys certificate of title certified to the Town of Hastings.

9. The Town Board, upon review and approval of the above information, and after certification that the improvements are completed, may proceed to accept the facilities for which the bond or certified check has been deposited.

TOWN OF HASTINGS

PROCESS FOR NEW ROAD CONSTRUCTION

(Per Highway Construction Specifications Ordinance, as modified)

1. Upon approval of the road plans by the Town Planning Board and the Town Highway Superintendent, construction of the roadways may commence.

2. The contractor shall notify the Town Highway Superintendent at least ten (10) days in advance of any clearing, site grading, drainage work and roadway construction.

3. The sequence of work for road construction will typically include:

   - Placement of erosion controls per erosion control plan and or Stormwater Pollution Prevention Plan (SWPPP).
   - Stripping of topsoil, vegetation from the road ROW.
   - Placement of embankment fill and/or excavation of materials (rough grading). All embankments to be thoroughly compacted.
   - Install cross drainage culverts.
   - Bring subgrade and ditch backslopes to true grade, per typical section.
   - Proof roll subgrade
   - Repair soft spots, placement of geotextile separation, and geogrid (if required by Highway Superintendent).
   - Placement and compaction of 12" NYSDOT Type 3 subbase (or equal, per written approval by Town Highway Superintendent).
   - Placement and compaction of NYSDOT Type 2 crushed stone subbase to the thickness shown in the highway ordinance, or crushed limestone subbase, or equal, per written approval of Highway Superintendent
   - Placement and compaction of Asphalt Concrete courses at a minimum up through binder course, per Highway Ordinance. Developer must include the schedule for top course asphalt placement in the Developer's agreement with Town, if not done immediately.
   - Complete ditch grading
   - Placement and compaction of Type 2 subbase for improved shoulders
   - Placement of topsoil and seeding of all ditches and otherwise disturbed areas.
   - Placement of asphalt concrete top course
   - Final dressing up of improved shoulders with Type 2 subbase
   - Final Inspection of roadway construction by Town Highway Superintendent.

4. Several inspections of the work in progress by the Town Highway Superintendent (or his designated representative) are required, including:

   a. Inspection of subgrade & witness proof rolling, prior to subbase, including placement of geotextiles
   b. Inspection of culvert installations
   c. Inspection of completed Type 3 subbase course, prior to placement of Type 2 material
   d. Inspection of completed Type 2 subbase course, prior to asphalt concrete pavement
   e. Inspection of all hot mix asphalt course placements
   f. Inspection of improved shoulder material placement
   g. Final Inspection of completed work, including ditches, seeding, etc.

5. It is the intent of this process to have all roadways to be constructed at a minimum up through binder course and have improved shoulder material placed prior to the onset of winter weather.

TOWN OF HASTINGS

PROCESS FOR NEW ROAD CONSTRUCTION

(Per Highway Construction Specifications Ordinance, as modified)

6. In specific instances, and with written permission, the Town Highway Superintendent has allowed the road Type 3 subbase to sit (without being topped) during the winter months. If this is allowed by the Town Highway Superintendent, the developer should be aware of the following requirements:

   a. The Town will not provide snowplow service to roadways that are not topped & accepted.
   b. The Town is not liable for damages to the exposed roadway subbase.
   c. The Developer shall take whatever corrective actions are needed to decontaminate the Type 3 subbase course prior to further work. This may include the excavation of contaminated subbase material, and placement of new clean subbase material.

7. The Town shall furnish and install all street name and traffic signs required. The developer shall reimburse the Town for the cost of initial construction. For stop signs at intersections with State Highways, the Developer shall contact the NYSDOT for information.

8. The developer is responsible for providing the Town with "As-Built Drawings" of the new roadways, per Town Specifications Section 2.6.

9. Upon completion of improvements, and final inspection, the developer may offer the roadway for acceptance to Town (see #7, sheet 2 of 4 for further information).