



TOWN OF MALTA
SARATOGA COUNTY, NEWYORK

STANDARD SPECIFICATIONS
FOR
ROADS AND HIGHWAYS

Amended & Adopted: December 4, 2017
Resolution # 193

Town of Malta
2540 Route 9
Malta, New York

Town Road Policy Statement:

All roads constructed in the Town of Malta shall comply with the minimum material specifications standards set forth below in order to be incorporated into the overall town road system including both public and private, and as may be amended or replaced. The Town Board for the Town of Malta finds that it is in the public interest for the Town of Malta to establish minimum specifications for roads constructed in its jurisdiction. The Town's minimum road construction specifications and standards are intended: to accommodate long-range traffic forecasts; to afford satisfactory access to law enforcement, to the fire department, to the Highway Department snow removal equipment, to sanitation equipment, to road maintenance equipment; and to minimize the Town's routine road maintenance obligations.

Definitions:

For clarity and consistency of application of this Policy, the following definitions shall be applied for the interpretation of the Policy:

1. Town road: A thoroughfare over which the public has a legal right to pass; usually measured to include the complete Right-of-Way (ROW) with ownership residing with a municipal agency.
2. Private road: A thoroughfare over which the public has a legal right to pass; usually measured to include the complete Right-of-Way (ROW), with ownership residing with a party (or parties) other than a municipal agency.
3. Driveway: For the purposes of "Town of Malta Standard Specifications for Roads and Highways" this shall be defined as an access to a single family home, accessory structure serving a single family home, or a single commercial or industrial establishment (one-building), so long as those accesses originate directly from a public or private road as defined by this document. Driveways serving accessory structures serving single family homes can originate from the driveway that serves the home. A single driveway can be used by no more than 2 single family dwellings. The Highway Superintendent shall make in the final determination in situations where this definition does not provide clear guidance.
4. Drainage: The engineered removal of water from the roadway system by means of culverts, ditches, curb and gutter, trenches, channels, and/or a storm sewer drainage system etc.
5. Roadway: The traveled portion of the highway.
6. Grade: The rate of ascent or descent of the slope a road.
7. Approach: The portion of a road extending 100' on either side of a cross culvert bridge or intersection.
8. Road Bed: The entire engineered roadway, sub-structure and surface of a public thoroughfare laid in place and ready for travel.
9. Base Course: The lowest engineered portion of a road bed supporting a roadway, typically consisting of crushed aggregate including the shoulders of the road.
10. Surface: The top of the roadway, or the traveled surface.
11. Sub-grade: The earthen portion of a roadway under the engineered base course.
12. Subbase: The layer of aggregate material laid on the subgrade, on which the base course layer is located.
13. Top Course: One or more layers of a pavement structure designed to accommodate the traffic load, the top layer of which resists skidding, traffic abrasion, and disintegrating effects of climate.
14. Binder Course: The asphalt layer between the top and base courses.
15. Tack Coat: A bituminous emulsion placed between asphalt lifts for adhesion.
16. Truing and Leveling Course: Pavement course of variable thickness and material used to bring the surface of the existing pavement to the same transverse and longitudinal slope required for the finished pavement surface.
17. Standard Specifications: New York State Department of Transportation Standard Specifications.
18. Embankment: The portion of a roadway which requires the placing and compacting of suitable fill material to bring the finished sub-grade up to the required grade.

19. Highway Superintendent: The individual elected to the position of Highway Superintendent of Highways for the Town of Malta.
20. Right Of Way: An area that allows for the passage of people or goods. Rights-of-way include passageways such as freeways, pedestrian connections, alleys, and all streets. A right-of-way may be dedicated or deeded to the public for public use and under the control of a public agency, or it may be privately owned.
21. Underdrain: A drain located under the pavement, usually deeper than edge drains and intended to lower the groundwater by means of gravity flow.
22. Building and Planning Coordinator: The Department head of Building, Planning & Zoning, appointed by the Town Board,
23. Town Engineer: A professional engineer licensed to practice in the State of New York whether an individual or Professional Corporation that is designated by the Town Board. In some cases the Town Highway Superintendent or Building and Planning Coordinator may assign another agent to perform duties other than the Town designated Engineer.

Applicability:

This Policy shall be applicable to all roads approved by the Town Board or Planning Board following adoption and publication of the Policy including, but not limited to: any private roads (excluding driveways), and any other roads accepted by the Town as public roads for access in the Town of Malta. It is noted that existing and new town owned or town constructed roadways or access ways, may be exempt from these provisions. Also, it is noted that in all cases, roads and driveways constructed in the Town of Malta, shall meet the minimum requirements of the applicable provisions of the New York State Fire Code (latest revision).

General

A. Description:

- I. The following subsections establish the construction requirements for and the sequence in which new roads, streets or highways are to be constructed.
- II. The Road Specifications set forth in the following paragraphs shall be employed in the final design and construction of all roads within the Town. Detailed drawings for such facilities shall be considered an integral part of the final plans submitted for Town approval.

B. Requirements:

- I. It shall be the responsibility of the Contractor to supply and install all materials in accordance with these Standards. The Superintendent of Highways or the Building and Planning Coordinator, and/or their representative reserve the right to conduct any testing to verify that the material and/or installation are within the requirements of the sections of these Standards. Should any material and/or installation be determined not to be in accordance with all the requirements the sections of Standards, the Contractor shall, at his own expense, correct the unacceptable material and/or installation. The Contractor shall also reimburse the Town for all costs associated with the testing of materials and/or installations that is determined not to be in accordance with the requirements of the sections of these Standards.

C. Referencing Standards:

- I. The State of New York's Department of Transportation (NYSDOT) Specifications shall generally be approved for construction. Other materials may be used only with prior written approved from the Town Highway Superintendent.

1. Construction Specifications

- A. Roads: All roads and streets shall be constructed in accordance with the Town of Malta Typical Highway Cross Sections attached.

I. Embankment:

- a. No organic material, frozen, frozen material or other unsuitable material shall be used in embankments.
- b. The compacted embankment shall have a minimum dry density of 95% of the maximum density. The maximum density shall mean the maximum dry weight density as determined by the AASHTO Designation T-99, Method C.
- c. The slopes of all embankments which slope steeper than one on five shall be stabilized by spreading and rolling topsoil and seeding to obtain a satisfactory stand of grass.
- d. Embankments shall be placed and rolled in layers of maximum eight-inch depth, measured before compaction.

II. Subgrade:

- a. The subgrade shall be prepared in accordance with Section 203 of the New York State Department of Transportation Standard Specifications.
- b. All trees, brush, topsoil, stumps, roots more than one-half inch in diameter and rubbish shall be removed from the area of the roadway. Boulders shall be removed to a depth of one foot below the subgrade surface. Muck, spongy material or other unsuitable material shall be completely removed and the excavation filled with suitable material.
- c. The subgrade shall be compacted to 95% Standard Proctor (ASTM D698).
- d. The width of the subgrade shall be equal to the final pavement width plus one (1) foot beyond each edge of pavement.
- e. The elevation of the subgrade is determined by the approved design drawings and details and shall be generally the same cross-sectional shape as the final design grade.

- III. Utilities:
- a. After the subgrade has been approved, all utilities shall be installed in accordance with Town Standard Specifications and/or local agencies with jurisdiction.
 - b. Utilities will not be allowed to be installed between November 1st and April 15th, unless it is an emergency and/or approved by the Town Highway Superintendent.
- IV. Under drains:
- a. After utilities have been installed and approved as required and proper compaction has been attained, underdrains shall be installed in accordance with the Town of Malta Roadway Underdrain Detail and Section 605 of the New York State Department of Transportation Standard Specifications and/or as ordered by the Town Highway Superintendent or Town.
 - b. The final locations for underdrains shall be determined based upon subgrade conditions and following proof rolling of the subgrade.
- V. Stabilization Fabric:
- a. Road stabilization fabric is required under all road base gravel.
 - b. The fabric shall be Amoco woven geotextile fabric(2006) or approved equivalent.
 - c. The geotextile fabric shall be installed in accordance with Section 207 of the NYSDOT Standard Specifications. This requirement may be waived by the Town Highway Superintendent and Town Engineer if the road base is built on solid rock or similar geological formations. The waiver must be obtained in writing prior to proceeding with the placement of gravel.
- VI. Subbase:
- a. The subbase shall be installed in accordance with Section 304 of the Standard Specifications.
 - b. The subbase shall consist of twelve (12) inches of compacted gravel, Type 2, Item 304 [The subbase depth shall be increased to eighteen (18) inches if soil conditions dictate or if ordered by the Town Engineer or Highway Superintendent] as outlined in the NYSDOT Standard Specifications.
 - c. The subbase shall cover the entire area of the subgrade.
 - d. A subbase in excess of eighteen (18) inches may be required for special conditions, including but not limited to high traffic volume and/or poor subgrade conditions.
 - e. Subbase shall be installed in lifts not to exceed 6-inches.
 - f. Once Subbase has been placed, no vehicular traffic shall be permitted until such time that the asphalt base course has been placed unless approved by the Highway Superintendent.
- VII. Binder Course:
- a. After the subbase has been installed and approved by the Town Engineer, three and one-half (3 1/2) inches of Type 3 asphalt dense binder base (compacted depth) shall be installed in accordance with all applicable parts of Section 400 of the Standard Specifications for Item 403-13, Type 3 dense binder.
 - b. The width of the pavement shall be based on the type of road (collector, local, rural) unless otherwise approved by the Town Highway Superintendent and/or Town Engineer to meet special circumstances.
- VIII. Initial Top Course:
- a. The initial base top course shall be placed one and one-half (1-1/2) inches (compacted) of Type 6F asphalt concrete installed in accordance with all applicable parts of Section 400 of the NYSDOT Standard Specifications for Type 6F, top course.
 - b. All utility access structures shall be set to within ½-inch of the Initial Top course pavement elevation. The owner/developer shall be responsible for the raising of all iron to within ½-inch of the final finished grade prior to top course paving.
 - c. The width of the pavement shall be based on the type of road (collector, local, rural) unless otherwise approved by the Town Highway Superintendent and/or Town Engineer to meet special circumstances.
 - d. With the exception of issuance of one building permit for the purpose of construction of a model home, no other building permits shall be issued until the base asphalt course and the first top asphalt course has been placed to the satisfaction of the Town of Malta.
(Amended by Town Board resolution 11/6/14)

IX. Final Top Course:

- a. The final top course, or final wearing surface, shall be placed one and one-half (1-1/2) inches (compacted) of Type 6 asphalt concrete top installed in accordance with all applicable parts of Section 400 of the Standard Specifications for Type 6, top course.
- b. Unless specifically stipulated otherwise on the approved plans, the final top course shall not be paved in the same calendar year as the initial top course.
- c. A tack coat shall be applied to the existing pavement course prior to application of the final top course. The application of the tack coat shall comply with all requirements of Section 407 and applicable portions of Section 702, including Table 702-9, Asphalt Emulsion Tack Coat, of the NYSDOT Standard Specifications.
- d. A truing and leveling course may be required, at the expense of the owner/developer, prior to the top course paving.
- e. Manholes, valve boxes, and catch basin grates shall be raised to be within 1/2-inches of the final top course.
- f. The width of the pavement shall be based on the type of road (collector, local, rural) unless otherwise approved by the Town Highway Superintendent and/or Town Engineer to meet special circumstances.

X. Conditions for Paving:

- a. Weather Conditions and Seasonal Limitations: Bituminous asphalt concrete mix shall not be placed on any wet surface or when the surface temperature is less than that stipulated in the chart below, or when weather conditions will otherwise prevent the proper handling or finishing of the bituminous mixtures as determined by the Town Engineer or the Town Superintendent of Highways.
- b. Pavement of any road/street must take place between May 1 and October 31 and must meet the following surface temperature requirements based on compacted nominal lift or course thickness:

Normal Compacted Lift Thickness	Minimum Surface Temperature
3" or greater (75mm)	40°F (5°C)
Greater than 1" (25mm) but Less than 3" (75mm)	45°F (8°C)
1" or less (25mm)	50°F (10°C)

- c. Seasonal limitations and weather conditions shall be strictly enforced unless a written waiver is received from the Town Engineer and countersigned by the Town Superintendent of Highways prior to paving stating that the above conditions shall be waived.

B. Curbing: All wing curbing shall be constructed in accordance with the Town of Malta Typical Construction Details attached.

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C. Guiderails: All guiderails shall be constructed in accordance with the Town of Malta Typical Construction Details attached, and NYSDOT Standard Specifications, Section 606.

I. Box Beam:

- a. Steel Rails and Posts:
 - i. Rail Element: 6" x 6" hollow structural steel tube galvanized (ASTM A123).
 - ii. Posts: S3 x 5.7 ASTM A36 galvanized (ASTM A123)
- b. Hardware:
 - i. Steel Shapes and Plates: ASTM A36
 - ii. Bolts and Nuts: ASTM A307
 - iii. Galvanized Finish: ASTM A153
- c. Installation
 - i. Posts: Drive posts using approved equipment that will set posts in final position free of distortion, burning, or other damage.

- ii. Rails: Attached to posts as indicated with the alignment resulting in a smooth continuous rail.
- II. Corrugated Beam:
- a. Steel Rails and Posts:
 - i. Rail Element: 12 gage, semi-spring corrugated galvanized (ASTM A123) steel plate. Minimum width 12 inches, minimum depth 3 inches.
 - ii. End Section: 12 gage corrugated galvanized (ASTM A123) steel plate curved to extend a minimum of 12 inches in back of rail face.
 - iii. Posts- 'I' or 'H' Beam: ASTM A36 galvanized (ASTMA123).
 - iv. Posts- Railroad "T" Rails: Factory cleaned and painted with zinc chromate primer before shipment.
 - b. Hardware:
 - i. Steel Shapes and Plates: ASTM A36
 - ii. Bolts and Nuts: ASTM A307
 - iii. Galvanized Finish: ASTM A153
 - c. Installation
 - i. Posts: Drive posts using approved equipment that will set posts in final position free of distortion, burning or other damage. Pain exposed portions of railroad rails with two coats of aluminum paint (FS TT-P-28D) prior to attaching rail element.
 - ii. Rails: Attached to posts as indicated with the alignment resulting in a smooth continuous rail.
- D. Pavement Marking: All pavement markings within a road shall be constructed in accordance with the Town of Malta Typical Construction Details attached.
- I. Materials:
- a. Paint: DOT Section 640-2, yellow or white as indicated, or if not indicated as directed by the Town Engineer and/or Town Highway Superintendent.
 - b. Rapid Dry Paint: Aexcel Corp., www.aexcelcorp.com, 12W-D310 White, 12W-D330 Yellow; Sherwin-Williams, www.swpavementmarkings.com, TM5126 White, TM5127 Yellow; Franklin Paint Company, Inc., www.franklinpaint.com, 2040 White, 2041 Yellow.
- II. Preparation:
- a. Remove dust, dirt, and other foreign material detrimental to paint adhesion.
 - b. Mark layout of stripes and lines with chalk or paint.
- III. Application:
- a. Apply paint in accordance with DOT Section 640-3.02, delete references to Glass Beads.

2. Product Submittals

- A. Prior to installation of any materials associated with road construction, the contractor and/or engineer of record must furnish the Town Engineer or other agent designated by the Building and Planning Coordinator, the Highway Superintendent and the Building and Planning Coordinator, copies of any and all submittals that document compliance with these specifications.

3. Testing Requirements

- A. Sub-grade:
 - I. Testing will determine maximum density and optimum moisture content for compaction in accordance with ASTM D1-1557 (one test for each type of material for each source). Field density testing will be conducted in accordance with ASTM D1-1556 and/or D-2922 and D-3017. Minimum frequency for field testing shall be two (2) acceptable tests per roadway or as follows, whichever number is greater:
 - a. One moisture/density test per 100' of roadway.
 - ii. Additional density testing may be required under the following conditions:
 - a. Soil Density does not meet project requirements.
 - b. Change in method of compaction.
 - c. Change in source or quality of soil or aggregate.
 - d. Disturbed cut areas.
- B. Asphalt (Binder and Top Courses):
 - I. Acceptable compaction of the hot mixed asphalt will be determined by comparing the finished product to a laboratory compacted specimen obtained from the same asphalt mix as used on the project. Final compaction or density shall be achieved before the material cools to 185°F (85°C) or below. The target density shall be 96% of the laboratory compacted specimen with 4% air voids. Air void content of the finished product must be within a 3% to 7.5% range of the laboratory compacted sample as a condition for acceptance of new roads. The burden of proof for compliance and the associated expenses shall be the sole responsibility of the developer/contractor.
- C. Core Samples:
 - I. Upon completion and compaction of the initial top course pavement, core samples shall be taken to verify the depth, compaction and type of materials placed.
 - II. Core sampling and testing shall be performed by an independent laboratory approved by the Town. All expenses associated with the taking and testing of the core samples shall be borne by the owner/developer.
 - III. Core samples shall be taken along the road/street near the beginning and ending points and at intervals of approximately five hundred (500) feet in each pass of the paving machine. The exact location shall be determined in the field by the Town Engineer, Superintendent of Highways, and the Building and Planning Coordinator, or their designated representative.
 - IV. Stamped and signed results of the core samples shall be submitted to the Town Engineer, the Superintendent of Highways, and the Building and Planning Coordinator, for approval before the street can be recommended for acceptance by the Town Board.
 - V. The average thickness of all core samples taken on any new street shall be equal to or greater than the approved thickness for each type of material. A deficiency of more than ¼ inch in the asphalt dense binder base course thickness will be made up by increasing the top course pavement by a corresponding amount. Any deficiencies in the subbase materials of ½ inch or more of thickness, compaction or the type of material placed shall be grounds for rejection or remedial procedures as determined by the Town Engineer or Superintendent of Highways.
 - VI. All core holes shall be filled in with Hot Mix Asphalt and compacted in a manner satisfactory to the Highway Superintendent.

4. Performance Standards

- A. All of the requirements enumerated in this specification shall be performed and all of the utilities and work shall be installed in accordance with standards, specifications and procedures acceptable to the Town Engineer, or other agent designated by the Building and Planning Coordinator, and Highway Superintendent.

5. Inspection and Certification

- A. Adequate inspection shall be provided during all phases of construction and shall be done under the direction of the Highway Superintendent, Town Engineer or other agent designated by the Building and Planning Coordinator, or the Building and Planning Coordinator.
- B. Inspection Requirements for Town Roads:
 - I. Any road intended for conveyance to the Town shall be required to have full time construction observation. The observations shall typically commence from embankment placement (if required) up through top course pavement placement.
 - II. The service may be provided either by the Town or by an agency approved by the Town. However, the engineer hired by the owner/developer to perform the design may not inspect his or her own work on behalf of the Town due to a conflict of interest. In either case, the cost of inspection shall be the responsibility of the developer. If the inspection service is provided by the Town, the cost will be based on the actual costs of Town payroll plus overhead incurred by the Town.
- C. Inspection Requirements for Other Roads:
 - I. Any road intended to be retained by a private entity other than the Town, the frequency and duration of construction observation is not mandated.
 - II. The service may be provided either the Town, by an adjacency approved by the Town or the engineer hired by the owner/developer to perform the design. In all instances, the cost of inspection shall be the responsibility of the developer. If the inspection service is provided by the Town, the cost will be based on the actual costs of payroll plus overhead incurred by the Town.
- D. Upon completion of the roads up through the initial top course pavement, the Town shall be provided with a written certification by a New York State licensed engineer certifying to the Town that the road was constructed in accordance with approved plans and the Town's standard specifications.
- E. An as-built plan shall be provided to the Town for all roads intended to be offered for Town ownership. Please refer to the Town's "Standard Procedures for Acceptance and Dedication of Roads" for as-built requirements.

6. Modification or Waiver Requirements

- A. When the designated Town official regarding review of the Application (Planning Staff, Planning Board, ZBA, Town Board, THS) determines that extraordinary hardship would result from strict compliance with the provisions of this specification because of an unusual circumstance of topography or other physical condition in the proposed location of a road, it may modify the requirements for said road. Financial hardship is not considered and not applicable to this provision. In addition, for good cause, the Town Board, in consultation with the Highway Superintendent, may waive compliance with the provisions of any part of this specification in connection with the construction of a proposed road.

**STANDARD CONSTRUCTION DETAILS
FOR
ROADS AND HIGHWAYS**