

SECTION 600 – PUBLIC ROADWAY SYSTEM

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Section 601 – General

The following list of Standard Construction Documents defines the methods, materials, and testing to be utilized when designing and constructing roadway improvements. The sections in this specification are intended to define further particular elements of both design and construction of roadways in New Lenox, Illinois. The Village Engineer shall decide all questions that arise as to the interpretation of the specifications.

1. “Standard Specification for Road and Bridge Construction”, latest edition, prepared by Illinois Department of Transportation (IDOT)
2. Supplemental Specifications and Recurring Special Provisions, latest editions and updates (IDOT).
3. Design Manual, latest edition (IDOT)
4. Construction Manual, latest edition (IDOT)
5. Soils Manual, latest edition (IDOT)
6. Highway Standards, latest edition (IDOT)
7. Manual on Uniform Traffic Control Devices, latest edition (Federal Highway Administration)
8. AASHTO Standards, latest edition

Section 601.01 – Protection of Right of Way Improvements

The developer and contractor shall have the responsibility to adequately protect the pavement and property, curb and gutter and other right of way improvements, whether newly constructed or existing, from any and all damage. Sufficient means shall be employed by the contractor to protect against such damage to the satisfaction of the Village Engineer.

Any new or existing improvements that are damaged shall be repaired or replaced in a manner which is satisfactory to the Village Engineer.

The contractor and/or developer shall secure all necessary right to perform any work on private property not within the ownership right of the developer. The developer shall bear the sole responsibility for damages that may occur as a result of work performed under contracts that they initiate.

Section 602 – Design Requirements

Section 602.01 – Street Cross sections

Minimum required street cross sections have been developed for all streets with in the Village of New Lenox. These are given in Standard Detail Nos 32 through 37. The cross section for the arterial roadway is the minimum allowable. A pavement design shall be submitted for all Arterial road improvements for approval by the Village Engineer. Any variance from the Standard Details for the remaining roadways will not be allowed unless approved by the Village Engineer.

Section 602.02 – Horizontal Alignment

The design of residential streets shall be so laid out that their use by through traffic will be discouraged. In a residential development where a lot is at the intersection of a residential street and a collector or arterial, a “no access restriction” shall be noted on the final plat for the subdivision prohibiting the installation of driveways along the property line of the lot, which forms the line of the collector or arterial streets.

Roads shall be designed so that all deflection in horizontal alignment will be accomplished through segments of circular curves properly incorporated into the design. The minimum permitted centerline radii shall be as follows:

1. Collectors and arterial streets: 450 feet
2. All other streets: 250 feet

A tangent of at least 100 feet shall be introduced between two curves either one of which has a radius of 250 feet.

Street jog with center line offsets of less than 125 feet should be avoided unless otherwise approved by the Village Board.

Clear visibility, measured along the centerline of the street, shall be provided for at least 300 feet on all arterial streets, at least 200 feet on all collector streets, and at least 100 feet on all other streets, unless otherwise indicated by the Village Engineer. In some cases the Village Engineer reserves the right to request an Intersection Site Distance Study.

The design of intersection must show evidence that all street intersections and confluences encourage safe traffic flow.

Section 602.03 – Vertical Alignment

The minimum longitudinal pavement slope shall be 0.40%.

There shall be vertical curves at all locations where the algebraic difference exceeds 1.25%. The "K" values of the vertical curves shall meet the requirements of the intended design speed.

Section 602.04 – Cul-de-Sacs, “T” turnarounds and Block Length

The length of a street terminating in a Cul – de – Sac shall be measured along the centerline of the road from the center of the circle to the near right of way of the intersecting street and shall not exceed 500 feet for subdivisions with lots having less than 15,000 square feet, or 900 feet for subdivisions with lots having at least 15,000 square feet and no more than 35,000 square feet, and in and case shall the length exceed 1,200 feet.

Where there is a probability of extending a street beyond the present subdivision, a “T” turnaround should be considered, 20 feet wide by 30 feet in length on both sides of the street right of way. Driveways shall not be constructed on “T” turnarounds.

The maximum length of blocks permitted is 1,800 feet. Blocks over 800 feet may require crosswalk easements. Crosswalk easements not less than ten (10) feet in width shall be provided where deemed necessary by the plan commission at the approximate centers of the blocks. The use of additional crosswalk ways in any instance to provide safe and convenient access to schools, parks, or other similar destination may be recommended by the plan commission.

Section 602.04 – Overland Flow Path Locations

In locations where the roadway is at a low point and the indicated overland flow route is to be directed through the side yard the design shall be such that a maximum of eight (8) inches of ponding is allowed. The parkway shall be graded such that the overland flow route is accommodated. The sidewalk at these locations shall be constructed such that it does not impede the overland flow path. The developer shall construct a minimum of twenty lineal feet of sidewalk in all locations where an overland flow route is to cross the sidewalk.

Section 602.05 – Parkway Preparation and Restoration

All parkways within the street's right-of-way, which are to have a finished earth surface, shall be graded with topsoil and seeded or sodded.

All parkways between the sidewalk and curb shall be graded so as to have a minimum cross-drainage slope of four (4%) percent and a maximum cross-drainage slope of eight (8%) to the curb line except in situation as detail in Section 602.04.

Unsuitable soil, boulders, and other debris, including broken or excess concrete shall be removed from the parkway so as to provide an acceptable subgrade. Stumps shall be removed to a minimum of 12-inches below the proposed finished grade.

After the parkway subgrade has been prepared, acceptable topsoil material shall be placed to a minimum depth of six inches (6") and graded to proposed finish surface.

Section 603 – Flexible Pavement

All streets within Village limits shall be constructed of Flexible Pavement unless otherwise approved by the Village Engineer. The pavement of all streets and the material used shall comply with Standard Detail Nos. 32 – 39.

Section 604 – Curb and Gutter

Section 604.01 – Types

The types of curb and gutter allowed shall be either the barrier or mountable type as depicted in Standard Detail Nos. 27 and 28.

Section 604.02 – ADA Compatibility

Depressed curbs shall be provided at all intersection of sidewalk and roadway, as approved by the Village Engineer. Curb Joints shall not be allowed in the ADA walkways. The dimensions and locations shall comply with Detail No. 30.

Section 604.03 – Protective Treatment

All concrete curb, gutter, and sidewalks shall be cured in accordance with IDOT “Standard Specification for Road and Bridge Construction”, latest edition. All provisions of Section 1020 shall be employed; in addition when membrane curing compounds are utilized they shall also be a type that provides a protective seal that is satisfactory to the Village Engineer. All membrane products shall be applied in accordance with the manufacturer’s recommendations.

Section 605 – Roadway Lighting

Section 605.01 – General

This section is intended to further define the elements of both design and construction of street lighting and street light systems in New Lenox, Illinois. All work and equipment performed and installed under this section shall be governed and comply with the following specifications, manuals, and codes. The most current editions and all subsequent revisions and alterations for the specifications are required. The Village Engineer shall decide all questions that arise as to the interpretation of the specifications.

1. The Standard Specifications for Road and Bridge Construction, adopted by the Illinois Department of Transportation.
2. The Manual on Uniform Traffic Control Devices for Streets and Highways, and the Illinois Supplement to the National Manual on Uniform Traffic Control Devices adopted by the Illinois Department of Transportation.
3. The National Electrical Code
4. The National Electrical Safety Code
5. The Safety Rules for the Installation and Maintenance of Electric Supply and Communication Lines
6. ASTM Specification
7. AASHTO Standards

Material/product cut sheets shall be submitted to Village’s Street Department for review and approval. The cut sheets shall include but are not limited to poles, luminaires, bases, foundations, wiring, cut off enclosures, control cabinets, fusing photo-electric sensor, etc.

Section 605.02 – Street Lighting Design

The Design of street lighting for streets under the jurisdiction of the Village of New Lenox shall meet or exceed the following requirements.

Street light shall be placed:

1. At each intersection
2. On each Cul-De-Sac, on the point where the tangent meets the circular outside of the Cul-De-Sac
3. At mid block locations. The spacing for mid-block street lights shall not exceed 400 feet.

Section 605.03 – Street Lighting Poles and Appurtenances.

Residential street lighting poles and appurtenances should be as follows (See Detail 43):

1. Poles: Centercon, Inc. Concrete Pole, model number MEO-7.5-112
2. Luminaire: See Detail 43
3. Bracket Arm: Centercon, Inc., Aluminum Davit Arm, model number MO-AD-8

Collector and Arterial street lighting poles and appurtenances should be as follows (See Detail 44):

1. Poles: Hapco, 31'-8" Aluminum light pole shaft, 8" bottom diameter, 4-1/2" top diameter, .188 wall thickness, 11" to 12" bolt circle, model number 880298-002
2. Luminaire: See Detail 44
3. Truss Arm: Hapco, 12' aluminum truss arm for 4-1/2" top pole, model number 80083-001
4. Breakaway base: Akron Foundry, 11" to 12" bolt circle, model number TB6-9
5. Foundation: Either a metal foundation complying with Article 1085.31 of the IDOT Standard Specifications or a cast in place reinforced concrete foundation complying with Article 836.03 of the IDOT Standard Specifications.

Decorative street lighting poles and appurtenances should be as follows (See Detail 45):

1. Poles: Sun Valley Lighting, 18'-0", 5" diameter, .188" wall thickness, model number 17-1070
2. Base: Sun Valley Lighting, 12" bolt circle, model number 1700
3. Luminaire: See Detail 45
4. Arm: Sun Valley Lighting, Cast and extruded aluminum arm, model number XPM-1

Section 605.04 – Electrical Cable, Conduit, and Cable Trench

All service distribution wiring shall be 2 - #6 copper stranded XLP-USE direct burial cables, except in locations of street crossings where 2 - #6 copper stranded XLP-USE

cables shall be provided in 2” unit duct. The conduit shall extend five feet beyond the curb or edge of pavement.

All cable and conduit shall be placed in a trench at a depth of not less than thirty (30) inches. The trench shall be backfilled with the original excavated material except in area located within five (5) feet of the back of curb. In such locations granular trench back fill meeting the gradation of CA 7 shall be used.

A four (4) inch wide yellow warning tape shall be installed over the street light cable at all locations where new cable is placed by the trench and backfill method. The warning tape shall be placed approximately one (1) foot below finished grade.

Section 606 – Material Testing

The testing of materials for improvements under the jurisdiction of the Village of New Lenox shall meet or exceed the following requirements.

Test Item	Test	Who Performs Test*	Number of Tests	Test Paid for By	Test Ordered By
Soil predesign (not required for residential streets)	IBR	SC	1 per 500 LF of Pavement, min 2 per location	Developer	Developer
Subgrade	Proof roll	VE	Min of entire road, each lane of travel	Developer	Village
	Stringline	VE	As Needed	Developer	Village
Base	Proof roll	VE	Min of entire road, each lane of travel	Developer	Village
	Stringline	VE	As Needed	Developer	Village
Concrete Curb and Gutter, Sidewalk	General	VE	As Needed		
	Strength	SC	1 Set (3 per set) for every 50 C.Y. min. 1 per pour.	Developer	Developer
Asphalt	General Laydown	VE	1 st day for each material until roll pattern established	Developer	Developer
	Nuclear	SC	Min. of 4 sets of tests per day and location	Developer	Developer

* SC = Soil Consultant, VE = Village Engineer

All test performed shall be in accordance with the standards as set forth by the Illinois Department of Transportation.

The proof roll shall be performed using a full loaded 50,000 LB GVW, Tandem Axle, commonly referred to as a six wheeler. The developer or the developer's agent must provide the fully loaded vehicle.

The Village Engineer reserves the right to reject all materials that were not tested at the time of installation or order testing of the installed materials. The developer will be responsible for all cost incurred for testing and any restoration required due to the testing.

If any material fails to meet the minimum requirements, the developer shall remove and replace the failing material.