

VILLAGE OF SIREN DESIGN AND CONSTRUCTION STANDARDS

General

This document is not intended to be complete; Additional requirements contained in Siren Village Code , Wisconsin Statutes and Administrative Code.

Stormwater management and erosion control shall be done according to WisDNR requirements, including permits. Report application information and hydraulic calculations shall be presented to the Village for review and approval.

Record plans of all utility construction must be provided to the Village within 6-months of substantial completion of the project.

All public improvements to be accepted by the Village shall be warranted for one year from substantial completion.

Cast in Place Concrete

All Concrete shall be a minimum of 4000 psi 28 day compressive strength with a maximum water/cement ratio of 0.45 and air entrainment of 5%-7%.

Maximum slump: Flat work is 4-in, Curb and Gutter Slip Form is 2-in & 3-in for hand work.

Sidewalk

Minimum 4-in depth, 6-in depth across driveways and where there may be vehicle traffic. All sidewalk shall have a cross-slope of between 1% and 2%. Pedestrian ramps shall meet State and Federal Standards.

Sidewalks shall be constructed on a minimum of 6-in of compacted granular soils. Subgrade material prone to frost heaving will be removed before construction.

Property Owner Replacement of Sidewalk

In addition to meeting the above requirements, the following procedure shall be followed when a property owner replaces sidewalk in the right of way in front of the owner's property:

- 1) The property owner shall provide a plan for the sidewalk replacement work to the Village for approval. The plan shall include a schedule for starting and finishing the work. Work shall not start until the plan is approved by the Village. Twenty four hours notice shall be provided to the Village before starting the project.

- 2) The property owner shall provide the name of the proposed qualified concrete contractor, subject to review by the Village. The contractor shall provide a current liability insurance binder to the Village before starting work.
- 3) The property owner and contractor are responsible for controlling erosion during construction and restoring all disturbed areas, including reestablishing turf.
- 4) All work shall be subject to a one year warranty.
- 5) If work is not completed by the agreed upon completion date, the Village reserves the right to complete the project and charge the property owner for the cost.

Driveways/Entrances

All access points along State Highways are subject to review and approval by the WisDOT (DOT).

All driveways constructed, or reconstructed, after August 10, 2009 on curbed streets shall be constructed with a concrete apron the full width of the driveway and with a minimum concrete depth of 6-in.

- a. On street frontages without sidewalk, the apron shall extend a minimum of 3-ft behind the curb.
- b. On streets frontages with a sidewalk, the apron shall extend back to the sidewalk or 5-ft, whichever is less.

Where driveways are constructed on streets with curb & gutter, the curb & gutter shall be removed for the width of the driveway and replaced with a gutter with sloping driveway entrance.

- a. Residential entrances shall be a minimum of 12' and a maximum of 24' plus a minimum taper of 3-ft per side.
- b. Commercial entrances shall be subject to review and approval of the Village.

When a new driveway is constructed, any old driveway being abandoned, or that is not being maintained for use, shall be removed and the drive-over gutter replaced with conventional barrier curb.

New driveways may only be constructed where construction will not cause the maximum number of driveways to be exceeded for the lot, unless an old driveway is removed and replaced with conventional barrier curb.

Driveways may not be constructed next to street intersections where in the opinion of the Village an unsafe traffic situation would be created.

Street Right of Way

Minimum ROW width – 60', except where an exception is granted by the Village.

Street Construction

Residential collector streets shall be curb & gutter, minimum face to face width of 32-ft. Commercial and industrial collector street, and all arterials street, widths to be determined by the Village.

Permanent dead end streets are allowed only with approval by Village. All dead end streets, including temporary, shall have a turn around at the terminal end; type and size to be determined on a case by case basis by the Village.

Aggregate to meet DOT standards: Minimum 8-in aggregate Base

Asphalt to meet DOT Standards: Minimum 4-in asphalt

DOT - D30 Concrete curb & gutter

- a. Minimum 20-ft curb radius at street corners. Concrete aprons, 6-in depth, behind the curb at all driveways.
- b. On street frontages without sidewalk, the apron shall extend a minimum of 3-ft behind the curb.
- c. On streets frontages with a sidewalk, the apron shall extend back to the sidewalk or 5-ft, whichever is less.

Minimum street slope – 0.5%, maximum -10%. Cross slopes shall be 2%.

Tangents. A tangent of at least 100 feet shall be required between reverse curves on arterial and collector streets.

Street grades shall be established wherever practicable so as to avoid excessive grading, the promiscuous removal of ground cover and tree growth, and general leveling of the topography. All changes in street grades shall be connected by vertical curves of a minimum length equivalent in feet to 15 times the algebraic difference in the rates of grade for major streets and ½ this minimum for all other streets

Radii of curvature. When a continuous street center line deflects at an point by more than 10 degrees, a circular curve shall be introduced having a radius of curvature on said center line of not less than the following:

- 1) Arterial Streets: 500 feet
- 2) Collector Streets: 300 feet
- 3) Minor Streets: 100 feet

Vertical curves. All changes in street grades shall be connected by vertical curves of a minimum length in feet equivalent to 30 times the algebraic difference in grade for major thoroughfares and 20 times this algebraic difference for all other streets.

Cul-de-Sacs. Cul-de-sac street designed to have one end permanently closed shall not exceed 500 feet in length. All cul-de-sac streets designed to have one end permanently closed shall terminate in a circular turnaround having minimum right of way radius of 60 feet and a minimum inside curb radius of 40 feet.

Temporary dead-ends or cul-de-sacs. All temporary dead ends shall have a maximum length of 800 feet and a temporary cul-de-sac shall have minimum right of way of 60 feet and a minimum inside curb radius of 40 feet.

Street Repair

Base. Street excavations to be restored with the same depth of aggregate base as the existing base, or six inches of aggregate base, whichever is more.

Pavement. Street excavations shall be restored with the same depth of hot mix asphalt was the existing pavement, or a minimum of three inches, whichever is more.

Stormsewer

All stormsewer shall be placed in public right of way or in public easements. Easements shall be a minimum of 20-ft wide.

Concrete pipe only shall be used under streets and sidewalks; other materials may be used with approval of Village when pipe is not under a street.

R-3067L catch basin castings; standard grates shall be "L" type

R-1550 manhole castings, type "B" solid lids

Emergency flood routes shall be included in plan design for to prevent flooding during precipitation events greater than the design storm.

Design storm shall be determined by the Village on a case by case basis depending on the street type and expected amount of use.

Existing stormsewer shall be cleaned before the end of the project by the contractor.

Water

Watermain extensions shall be approved by the Wisconsin DNR.

Hydrant, valve and shut-offs to be reviewed by Village.

Watermain to be ductile iron Class 52 or better, minimum of 8-ft bury.

Valves, fittings and appurtances to be manufactured in the United States.

Hydrants: Waterous WB 67-250, 22-in break off section; Maximum spacing of 400-ft.

Curbs stops to be Minneapolis pattern with rods.

Fittings shall be AWWA C-153 compact.

Restrain shall be by use of Megalug, including hydrant leads.

Sewer

Sewer pipe shall be PVC SDR 35 down to maximum depth of 18-ft, and PVC SDR 26 from 18-ft to 26-ft.

R-1550 manhole castings, "B" solid lids, HDPE adjustment rings

Sewer mains and services with less than 7-ft of cover shall be insulated.

All manholes shall be in the middle of the street unless an exception is granted by the Village.

New sanitary sewer lines shall be plugged at the connection to the existing sewer system until the new line is cleaned at the end of construction.

Grading

Drainage should be directed along lot lines. Drainage ways serving more than two lots should be within drainage easements.

Garage floor elevations should be a minimum of 1-ft above the top of curb unless building is more than 75-ft from the street.

Driveways shall not have more than 10% slopes.