

CITY OF HIAWATHA GENERAL SUPPLEMENT TO SUDAS DESIGN MANUAL

This General Supplement to SUDAS Design Manual amends or supplements the Statewide Urban Design and Standards (SUDAS). All provisions which are not so amended or supplemented remain in full force and effect.

Chapter 1 – General Provisions

Section 1C – Submittal Procedures

Add the following:

“D. Ownership of Data

All information collected by the designer and/or surveyor for City improvement projects shall become property of the City of Hiawatha and are subject to open records requests.”

Chapter 2 – Stormwater

Section 2A-1 – General Information

C. Conditions

Replace and replace 1.e with the following: “Street grades are coordinated with lot drainage; drainage slopes shall not be less than 1 ½% to minimize ponding, and not excessive to cause uncontrollable erosion. Lot grades that have a design slope less than 2% shall have a minimum of a 6” tile installed.”

D. Unified Sizing Criteria

1. General Information.

Replace and Replace Table 2A-1.01 with the following:

Table 2A-1.01: Summary of the Stormwater Sizing Criteria for improvements with proposed impervious areas over 11,000 square feet

Sizing Criteria	Recommended Method
Water Quality Volume, WQv	Treat the runoff from 90% of the storms that occur in an average year. For Iowa, this equates to providing water quality treatment for the runoff resulting from a rainfall depth of 1.25 inches or less. Goal is to reduce average annual post-development total suspended solids loadings by 80%
Channel Protection Storage Volume, Cpv	Provide 24 hours of extended detention of the runoff from the 1-year, 24-hour duration storm event. Provide peak discharge control of the 1 thru 5 year storm even such that the post-development peak rate does not exceed the 1-year pre-development release rate. Cpv orifice diameter of less than 3 inches is discouraged.
Overbank Flood Protection, Qp	Manage the impacts of the extreme storm even through detention controls and/or floodplain management. 100-year post-development release rate cannot exceed the 5-year pre-development release rate.

Extreme Flood Protection, Qf (Major Storm)	Locate and design the emergency overflow spillway to convey the 100-year release rate without washing out or damaging the basin when overtopping and to avoid damage to upstream structures.
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Section 2A-3 – Stormwater Management Criteria

Add the following:

E. Private Storm Sewer Connections

“Downspouts from buildings or private yard surface drainage intakes are not allowed to be directly connected to the subdrain or tiled to the sump pump pit. Downspouts from buildings or private yard surface drainage intakes are allowed to be directly connected to the public storm sewer that is 15 inches in diameter or greater.”

Section 2A-4 – Project Drainage Report

C.4.a. Design Standards:

Modify to read:

“Design Standards: All stormwater management facilities will be designed according to these design standards as a minimum. A forebay or pretreatment system designed in accordance with the essential items listed in section 9-11.1 E of the Iowa Stormwater Management shall be used for all inlets to wet detention basins that drain an area greater than 1 acre. The following references may provide helpful design information for stormwater detention and water quality issues.”

C.4.d. Detention Basin Outlet:

Add the following:

“4) For wet retention basins, the water quality and channel protection volume shall be drained using a structure that draws water from at least 3 feet below the permanent pool surface, such as those presented in figure 9.11-1-11 of the Stormwater Management Manual.”

Section 2D-1 – General Information for Storm Sewer Design

D.3.c Minimum Pipe Size:

Modify to read:

“Footing Drain Collector Sewers in Public Right-of-Way: 8 inches in diameter, unless 6” approved by City Engineer.”

Chapter 5 – Roadway Design

Section 5B-1 – Street Classifications

E. Private Streets

Modify to read:

“Hiawatha may allow private streets in specific situations. Private streets are similar to the local streets but generally are located on dead-end roadways less than 250 feet in length, short loop streets less than 600 feet in length, or frontage roads parallel to public streets. Private streets shall be built to public street standards. Hiawatha shall be contacted to determine if they are allowed.”

Section 5C-1 – Geometric Design Tables

Table 5C-1.02: Acceptable Roadway Elements

Add the following to Footnote 15 for Minimum Horizontal Curve Radius (ft):

“For local residential streets a minimum centerline radius of 150’ is allowed. Radius of 100’ may be allowed for local residential streets for cul-de-sacs and loop streets less than 600 feet in length.”

Section 5C-2 – Geometric Design Elements

E.4.b: Vertical Curves

Remove Paragraph 2 “For both sag and crest vertical curves with a low algebraic difference in grade, sight distance restrictions may not control the design of the curve. In these cases, rider comfort and curve appearance are the primary considerations for vertical curve design. Generally, vertical curves with a minimum length (in feet) equal to three times the design speed (in mph) are acceptable”

Add the following:

“Shall be per approved design for constructability as approved by the City.”

R: Intersection Radii and Right Turning Vehicle Speeds

Add the following:

“Intersection radii may be modified with permission of the City Engineer”

Section 5F-1 – Pavement Thickness Design

D. Determining Pavement Thickness

Add the following

“Minimum pavement section for new rigid pavements on local roadways is 7-inch PCC with 6-inch granular subbase and subbase preparation per SUDAS Standard Specifications Section 2010; and 9-inch PCC with 6-inch granular subbase and subbase preparation per SUDAS Standard Specifications Section 2010 for minor/major arterials. Geogrid is required under all pavements.”

“Minimum pavement section for all reconstruction is 7-inch PCC with 12 inches granular subbase on geogrid and subbase preparation per SUDAS Specifications Section 2010 for local roadways and 9-inch PCC with 12 inches granular subbase on geogrid and subbase preparation per SUDAS Standard Specifications Section 2010 for minor/major arterials.”

“Minimum HMA pavement section shall match structural equivalent of rigid pavement above and only allowed with permission of the City Engineer.”

Section 5L-4 - Access Management

B. Width Measurement

Remove and Replace with the following:

“1. Local street residential widths shall be measured on the street side of the sidewalk. If no sidewalk is present, the width shall be measured at the right-of-way.”

2. All other widths shall be measured at the right-of-way or end of driveway curb flare onto the property if the distance is needed to fully construct the allowed radius per Table 5L-4.01.”

C. Dimensions

Amend Table 5L-4.01 and the applicable footnotes both of which modify the residential driveway widths and curb openings.

“Maximum widths are 24 feet for one or two care garage, and 36 feet for three or more car garage. Accesses on cul-de-sac bulbs will have a maximum width of 24 feet, or as approved by the City Engineer”

Table 5L-4.01: Driveway Dimensions¹
(all dimensions are in feet)

Dimension Reference (See Figure 5L-4.01)		Major Arterial Street				Minor Arterial Street				Collector (Major and Minor)				Local Street			
		Residential	Commercial	Industrial	Agricultural	Residential	Commercial	Industrial	Agricultural	Residential	Commercial	Industrial	Agricultural	Residential	Commercial	Industrial	Agricultural
Width																	
Minimum	W	15	24	24	20	15	24	24	20	10	24	24	20	10	24	24	20
Maximum		30	45	45	30	30	45	45	30	38	40	45	30	38	32	40	30
Right-turn Radius ²																	
Minimum	R	10	10	25	25	10	10	25	25	10	10	25	25	10	10	10	20
Maximum		25	35	50	35	25	35	50	35	25	35	50	35	15	20	30	35
Min. Acute Angle ³	A	60°	70°	70°	70°	60°	70°	70°	70°	60°	70°	70°	70°	60°	70°	70°	70°
Pref. Acute Angle		90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°	90°
Min. Pavement Thickness (inches)	T	6/8	7/9	*	6	6	7	*	6	6	7	*	6	6	7	*	6

¹ Major entrances require special design

² 2-foot flares (F) may be used for residential and agricultural entrances.

³ Any variation from 90° will be evaluated on a case by case basis. The minimum acute angle (measured from the edge of the pavement) is 60°.

⁴ Maximum driveway widths are 24 feet for one or two stall garage, and 36 feet for three or more car garage. Access on cul-de-sac bulbs will have a maximum width of 24 feet, or as approved by the City Engineer. The curb opening width shall not exceed 40 feet for residential driveway openings.

⁵ All sidewalks shall be at least five (5) feet in width unless noted otherwise

* Requires special design.

C.3.a Single Family (SF) Residential

Add the following:

“Maximum total width of accesses combined shall not exceed 36 feet if more than one is allowed, or as approved by the City.”

Chapter 6 – Geotechnical

Section 6G-1 Subsurface Drainage Systems

D.3 Subdrains

ADD the following:

“d. Downspouts from buildings or private yard surface drainage intakes are not allowed to be directly connected to the subdrain or tiled to the sump pump pit.”

Chapter 11 – Street Lighting

Section 11C-1 Facility Design

B. Design Process

Remove and replace in its entirety with the following:

“1. Local street (streets not designated in Major Streets Plan) streetlights should be located as follows:

- At all intersections
- Between intersections, streetlights should be spaced not more than 500 feet apart.
- On all dead end cul-de-sacs if the back of curb of the cul-de-sac is over 300 feet from the nearest intersection.”

2. Other relevant factors should be considered for new streetlights:

- a. Accident Rates
- b. Pedestrian use
- c. Street design (straight or curved).
- d. Terrain

3. Streets designated as major or minor arterial may need additional streetlights to assure better illumination. Additional streetlights may also be necessary for Commercial and Industrial areas to assure traffic safety for vehicles entering and exiting driveways.

4. Installation responsibility:

- a. Cost of installing new street lights in existing developments is the responsibility of the City.
- b. Cost of installing street lights in new subdivisions is the responsibility of the Developer.”

Chapter 12 - Pedestrian and Bicycle Facilities

Section 12A – Pedestrian Facilities

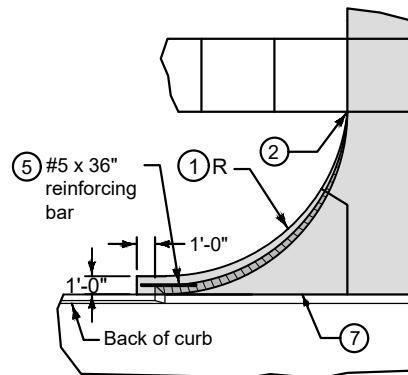
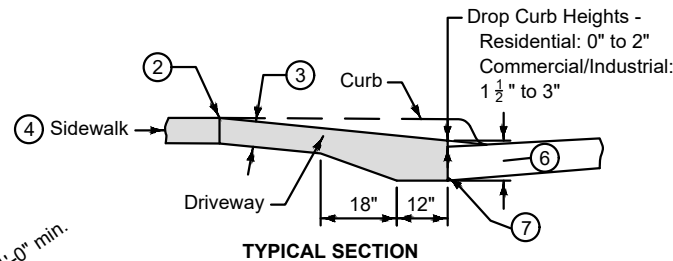
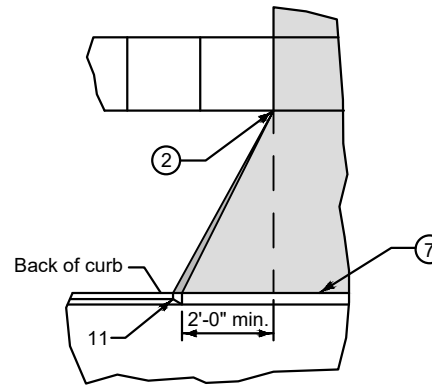
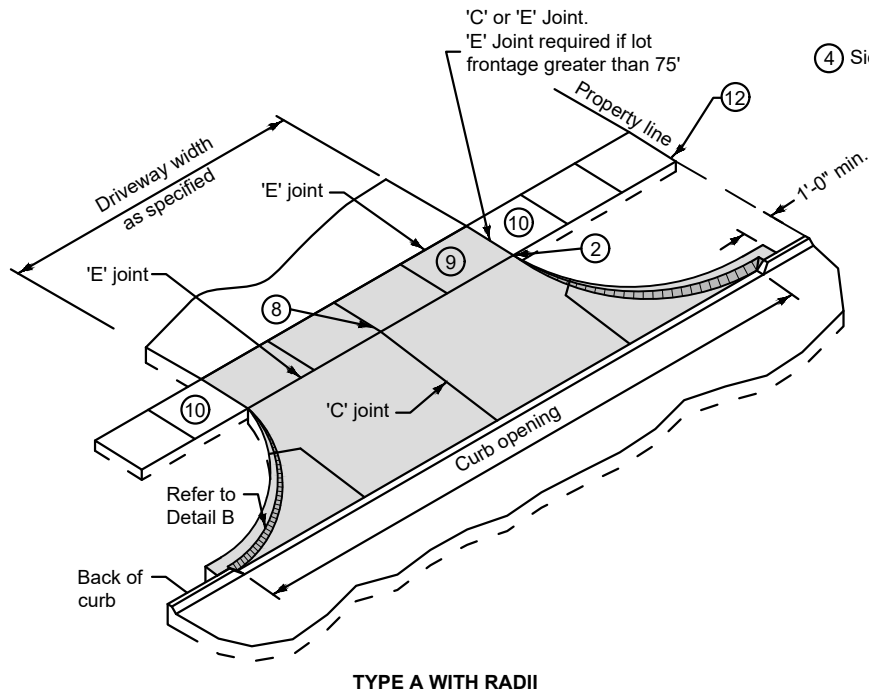
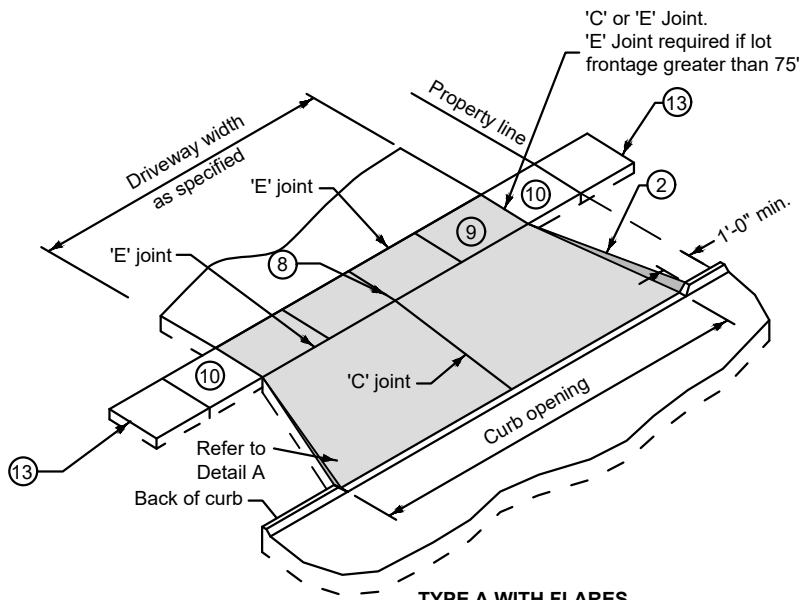
C. Sidewalk Classes

Add the following:

“4. General Specifications: These additional general specifications shall apply to all sidewalks in Hiawatha unless noted otherwise:

- a. All sidewalks shall be at least five (5) feet in width, unless replacing an existing 4-foot sidewalk.
- b. All sidewalks shall be Class B sidewalks placed one (1) foot from the edge of the right of way unless design exception is requested and approved by the City Engineer.

**End of Section
Adopted October 15, 2025
City of Hiawatha Resolution #25-**



- ① Driveway radius (R).
Residential: 10 foot minimum, 15 foot maximum.
Commercial and industrial: As specified in the contract documents.
- ② Transition the curb height to 0 inches at end of taper/radius or at the front edge of sidewalk. Do not extend raised curb across sidewalk.
- ③ Pavement thickness (driveway approach).
Residential: 6 inches minimum.
Commercial and industrial: 7 inches minimum.
- ④ Sidewalk thickness through driveway to match thickness of driveway approach.
- ⑤ Center reinforcing bar vertically in the pavement.
- ⑥ Match thickness of adjacent roadway, 8 inches minimum.
- ⑦ Provide 1" 'E' joint at back of curb
- ⑧ For alleys, invert the pavement crown 2% toward center of alley.
- ⑨ Target cross slope of 1.5% with a maximum cross slope of 2.0%. If specified in the contract documents, construct the sidewalk through the driveway 5 feet wide to serve as a passing space.
- ⑩ If cross slope of adjacent sidewalk panel exceeds 2.0%, remove and replace to transition from existing sidewalk to sidewalk through driveway. If elevation change requires a curb ramp, comply with Figure 7030.205; verify need for detectable warning panel with Engineer.
- ⑪ Transition street curb at minimum 1:1 slope to meet driveway curb.
- ⑫ 1/2" Expansion at property line
- ⑬ RT Joint using minimum of (2) #3 bars when connecting to existing sidewalk
- ⑭ If curb stop is present in sidewalk, place floating valve box over it

JOINTS

(C) 1/4"W x 1-1/4"D Saw Cut

(E) 1/2" Expansion Joint*
1" Expansion at back of curb

Note: Expansion joint shall be full depth of pavement

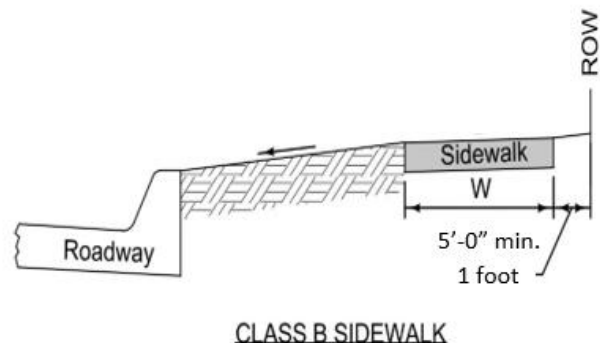
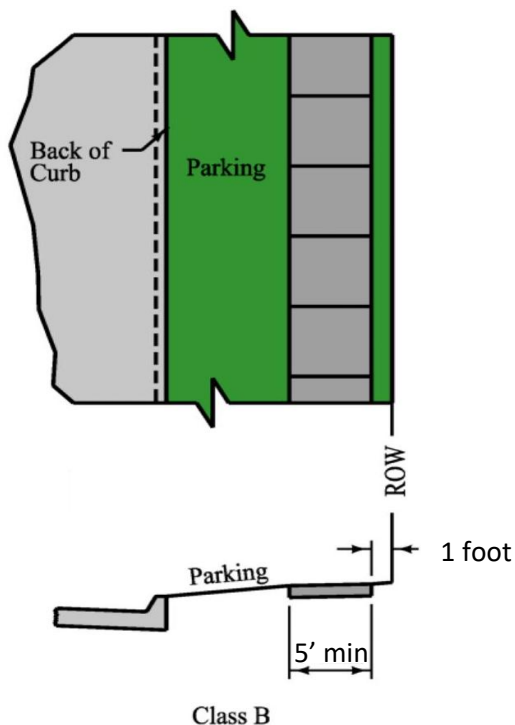
***Joint Sealant Optional**

SIDEWALK DESIGN CRITERIA

General Specifications:

The following specifications shall apply to all sidewalks in Hiawatha unless noted otherwise:

- a. **Type:** Sidewalks shall be Class B sidewalks placed one (1) foot from the edge of the right of way unless noted otherwise and approved by City Council.
- b. **Width:** Sidewalks shall be at least five (5) feet in width on all new. When replacing existing sidewalk, width may be matched or updated to five (5) feet.
- c. **Sidewalk Thickness:** Sidewalks should be constructed of PCC with a minimum thickness of 4 inches. Where sidewalks cross driveways, the minimum shall be 6" for residential, 7" for commercial, or the thickness of the driveway, whichever is greater.
- d. **Obstructions:** All obstructions are to be removed or relocated unless prior approval by the City Engineer.
- e. **Transverse construction joints:** Construct a ½ inch expansion joint every 75 feet or at nearest joint for all PCC sidewalks and shared use paths. Control joints should be placed equally to width of the sidewalk.
- f. **Control Joints:** Provide a saw cut or tooled joint spaced in increments equal to the width of the sidewalk. Saw cuts shall be 1/4" W x 1-1/4" D. Tooled joints shall be limited to 1/4" radius (**Maximum**).
- g. **Target slopes:** Sidewalks shall have a target cross slope of 1.5% with a maximum cross slope of 2.0% (including sidewalk through driveway).
- h. **Parking slopes:**
 - a. If parking width is less than 10 feet wide, slope at ¼ inch per foot (**Maximum**).
 - b. If parking width is 10 feet wide and greater, slope at ½ inch per foot (**Maximum**).
 - c. Special grade may be specified in the contract documents with City Engineers approval.



Note: Sidewalks and approaches (driveways) in the city right of way require a permit.