

City of Davenport Iowa  
Supplemental Specifications to

# 2021 SUDAS

Statewide Urban Design and Specifications



**Supplemental Specifications:**

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## **DIVISION 1 – GENERAL CONDITIONS AND COVENANTS**

### **Section 1020 – Proposal Requirements and Conditions**

#### **1.02 Contents of the Proposal Forms**

A. DELETE and REPLACE with the following:

Each prospective bidder will be furnished with a link to the Jurisdiction’s bidding website containing the contract documents including the location and description of the proposed work, the approximate quantities of work to be performed for which bid prices are requested and the completion provisions. The contract documents will contain any special provisions that shall apply to the work to be performed.

#### **1.05 Interpretation of the Contract Documents**

DELETE and REPLACE with the following:

If any prospective bidder is in doubt as to the true meaning of any parts of the contract documents, the bidder may request an interpretation from the Engineer, through the Purchasing Division. Any interpretation of the contract documents will be made only by an addendum delivered through the Jurisdiction’s bidding website to each prospective bidder who received, or in the future requests, contract documents from the Jurisdiction.

#### **1.06 Addendum**

DELETE and REPLACE with the following:

Each bidder will receive a notice of addendum for any changes in the contract documents made prior to the time established for the receipt of bids. The notice will be delivered in the manner chosen by the Jurisdiction to the email address provided by the bidder with an acknowledgement of receipt required. Acknowledgement of the receipt of the addendum will be as provided on the Jurisdiction’s bidding website.

#### **1.09 Preparation of the Proposal**

A. DELETE and REPLACE with the following:

Proposal: Follow Davenport Purchasing Policy and Procedure as provided.

B. DELETE.

C. DELETE.

D. DELETE.

#### **1.11 Irregular and Nonresponsive Proposals**

A. DELETE and REPLACE with the following :

Proposals will be considered irregular and may be rejected for any of the following reasons:

1. If submitted in any way other than through the Jurisdiction’s bidding website;
2. If the bidder submits an obviously unbalanced bid. An unbalanced bid shall be defined as a bid containing lump sum prices or unit bid prices that do not reflect reasonable actual costs plus a reasonable proportionate share of the bidder’s anticipated profit, overhead costs, and other indirect costs to complete that item;
3. If the proposal does not contain a unit price for each pay item listed, except in the case of authorized alternate pay items; or



4. If the bidder submits more than one proposal for the same work under the same of different names.
  - B. Proposals will be considered nonresponsive and shall be rejected for any of the following reasons:
    4. DELETE.
- 1.12 Submission of the Proposal, Identity of Bidder and Bid Security**
- A. DELETE and REPLACE with the following:  
Follow Davenport Purchasing Policy and Procedure as provided and the instructions on the Jurisdiction's bidding website for submittal of the proposal.
- 1.13 Withdrawal or Revision of the Proposal Prior to Opening of Proposals**
- DELETE and REPLACE with the following:  
Follow Davenport Purchasing Policy and Procedure as provided for withdrawal or revision of the proposal prior to opening of the proposals.
- 1.14 Opening of Proposals**
- DELETE and REPLACE with the following:  
Follow Davenport Purchasing Policy and Procedure as provided for opening of proposals.

## **Section 1040 – Scope of Work**

### **1.06 Increase or Decrease of Work**

- D. Contractor is responsible for notifying the Engineer of increased work that will accumulate additional cost. If cost is not agreed upon in advance of the work being completed, no additional payment will be made. Extra work that is to be paid for on a force account basis shall comply with Iowa DOT Specifications Section 1109.03, B.

### **1.07 Change Orders**

ADD the following:

- C. The Contractor shall not proceed with additional work until the Contractor and the Jurisdiction have executed a change order. All documentation needed for finalizing the change order, including final quantities, will be given to the Jurisdiction no later than 30 days after the change order work has been completed. Failure to do so will result in the Contractor's forfeiture of payment.

### **1.09 Changed Site Conditions**

B. Compensation:

ADD the following:

3. No work that will require additional compensation will be completed prior to executing a change order covering that work.

## **Section 1050 – Control of Work**

### **1.07 Examination of Materials and Work**

ADD the following:

- C. If any portion of the work is covered prior to the Engineer or its agents having an opportunity to inspect it, the Contractor, if required, shall remove or uncover portions of the work for observation. The cost of uncovering and restoring the Work in this case will be at the Contractor's expense.

## Section 1070 – Legal Relations and Responsibility to the Public

### PART 2 – RESPONSIBILITIES TO THE PUBLIC

#### 2.06 Traffic Control

A. ADD the following:

3. The Contractor shall be responsible to notify affected jurisdiction(s), property owners, businesses, and residents of any road closure or lane reduction as detailed in the contract documents.
4. If Jurisdiction deems that more traffic control devices are necessary, the Contractor shall provide at no additional cost.
5. Remove barricades and signage that is no longer needed within 24 hours.

ADD the following:

C. Restricting Parking:

1. The Contractor is responsible for furnishing, installing, maintaining and removing any necessary temporary “No Parking” signage. The following are minimum requirements for the signage and the Engineer may add additional:
  - a. Minimum 12 X 18 sign, red on white, with specific start/stop dates/times.
  - b. Signs to have the tow symbol visible.
  - c. Signs attached to either a 48" grabber with reflective stripes or bolted to the top panel of a type 1 barricade (weighted for wind) so that the sign sticks up above the top panel.
  - d. Grabber cone, or similar, are to be placed approximately 20 feet apart along the curb line from end to end.
  - e. Place signs no less than 24 hours ahead of the no parking start time.
  - f. After complete setup, take time/date stamped video or pictures of the entire setup for verification/documentation.
  - g. Check the setup at least once every 24 hours.
2. If towing is needed, the Contractor will contact the Jurisdiction.

#### 2.07 Protection of Aboveground and Underground Facilities

ADD the following:

E. In an attempt to locate underground facilities through potholing, it is the Contractor's responsibility to properly backfill the area.

1. If potholing within pavement, backfill the core hole with gradation No. 11 aggregate to the bottom of the existing pavement and fill the remaining void to the top of pavement with a concrete mix or HMA mix, matching surrounding pavement and approved by the Engineer. Size of replacement patch by approval of the Engineer.
2. If potholing outside pavement, backfill with native soil and compact according to Section 3010 – Trench Excavation and Backfill. Seed and maintain until permanent growth is fully established.

3. If potholing within sidewalks or pedestrian ramps, remove the affected panels and replace with class C concrete or class M, if approved by the Engineer.

### **PART 3 – BONDS AND INSURANCE**

#### **3.02 Insurance Requirements**

- C. Except for workers compensation insurance, the Contractor shall purchase and maintain such insurance as will protect the Contractor and the Jurisdiction as set forth below, which may arise out of or result from the Contractor's operations under the contract, whether such operations be by the Contractor, its subcontractors or consultants, suppliers, third parties, or the agents, officers, or employees of any of them. In addition, the Contractor shall purchase and maintain workers compensation insurance to cover its employees.
  1. DELETE and REPLACE with the following:  
Refer to contract documents for insurance requirements.
  2. DELETE and REPLACE with the following:  
Refer to contract documents for insurance requirements.
  3. DELETE and REPLACE with the following:  
Refer to contract documents for insurance requirements.
  5. DELETE and REPLACE with the following:  
Refer to contract documents for insurance requirements.

## **Section 1080 – Prosecution and Progress**

### **1.01 Subletting or Assignment of Contract**

#### **C. Subcontracts:**

ADD the following:

3. If the Contractor removes a subcontractor for any reason, the Jurisdiction is not responsible for additional costs or schedule changes resulting from replacing the subcontractor.

## **Section 1090 – Measurement and Payment**

### **1.08 Acceptance and Final Payment**

ADD the following:

- E. Submit a set of As-built plans, which will include any changes from the construction plans.
- F. Acceptance of subdivisions or applicable private development shall be per Davenport City Code.

## **DIVISION 2 – EARTHWORK**

### **Section 2010 – Earthwork, Subgrade and Subbase**

#### **PART 1 – GENERAL**

##### **1.08 Measurement and Payment**

###### **D. Topsoil:**

###### **1. On-site Topsoil**

###### **a. Measurement:**

DELETE and REPLACE with the following:

Measurement will be in cubic yards of topsoil stripped, salvaged and spread, and will be computed on the basis of a uniform finished thickness, as required by the Davenport Stormwater Manual, or as specified.

###### **E. Class 10, Class 12 or Class 13 Excavation:**

###### **3. Includes, but not limited to:**

###### **e. DELETE and REPLACE with the following:**

The Jurisdiction is responsible for compaction testing, unless otherwise specified in the contract documents. The Contractor will be responsible for payments associated with all retesting from failure of initial tests.

###### **I. Subbase:**

###### **3. Includes:**

ADD the following statement:

When Excavation is needed for the placement of subbase, the cost of excavation shall be incidental to the bid price for subbase.

#### **PART 2 – PRODUCTS**

##### **2.01 Topsoil**

DELETE and REPLACE with the following:

Comply with the Davenport Stormwater Manual for on-site, compost-amended and off-site top soil product specifications. Visual approval by the Engineer is required.

If testing is necessary, the Contractor will be responsible for payment. Follow Davenport Stormwater Manual.

##### **2.03 Suitable Embankment Materials**

Add the following:

F. Or approved by the Engineer.

##### **2.04 Foundation Materials**

B. Granular Stabilization Materials:

ADD the following:



3. Any use of crushed concrete must be approved by the Engineer.
- D. Subbase:
- ADD the following statement:
- Any use of crushed concrete, recycled pavement or RAP must be approved by the Engineer.
1. Special Backfill
    - a. DELETE and REPLACE with the following:  
Comply with Iowa DOT Specifications Section 4132. The quality requirements of Iowa DOT Materials I.M. 210 for recycled pavements are enforced.

### **PART 3 – EXECUTION**

#### **3.02 Stripping, Salvaging and Spreading Topsoil**

- A. Stripping and Salvaging Topsoil
2. DELETE and REPLACE with the following:  
Remove an adequate amount of topsoil from existing on-site topsoil to allow finish grading with a finished grade of salvaged or amended topsoil, at a depth following the Davenport Stormwater Manual. The topsoil may be moved directly to an area where it is to be used, or may be stockpiled for future use.

#### **3.04 Embankment Construction**

ADD the following:  
Embankments not to be built on frozen earth.

#### **3.06 Subgrade Preparation**

- B. Subgrade Stability:
1. DELETE and REPLACE with the following:  
Perform proof rolling with a truck loaded to the maximum single legal axle gross weight of 20,000 pounds or the maximum tandem axle gross weight of 34,000 pounds. Verify axle and truck weights by tickets from a certified scale.
  2. DELETE and REPLACE with the following:  
Operate trucks at less than 10 mph. Make multiple passes for every lane. The subgrade will be considered to be unstable if, under the operation of the loaded truck, the surface shows yielding (soil wave in front of the loaded tires) or rutting of more than 1 inch, measured from the top to the bottom of the rut at the outside edges.

END OF DIVISION

## **DIVISION 3 – TRENCH AND TRENCHLESS CONSTRUCTION**

### **Section 3010 – Trench Excavation and Backfill**

#### **PART 2 – PRODUCTS**

ADD the following:

Sand and manufactured sand may only be used if approved by the Engineer.

#### **PART 3 – EXCAVATION**

##### **3.01 Trench Excavation**

B. DELETE and REPLACE with the following:

Remove topsoil and stockpile.

##### **3.05 Pipe Bedding and Backfill**

E. Final Trench Backfill

5. DELETE and REPLACE with the following:

In areas to remain unpaved, terminate backfill material and place topsoil to final grade at a depth in accordance with the Davenport Stormwater Manual.

END OF DIVISION

## **DIVISION 4 – SEWERS and DRAINS**

### **Section 4010 – Sanitary Sewers**

#### **PART 1 – GENERAL**

##### **1.07 Special Requirements**

DELETE and REPLACE with the following:

Sawcut, stamp or otherwise permanently mark, a 4 inch x 4 inch upside down “T” into the adjacent curb to mark the lateral location, and spray paint the sawcut area green.

#### **PART 2 – PRODUCTS**

##### **2.01 Sanitary Sewer Gravity Mains**

I. Double Walled Polypropylene Pipe 12 inch to 30 inch:

ADD the following:

4. By approval of the Engineer only.

J. Double Walled Polypropylene Pipe 30 inch to 36 inch:

ADD the following:

4. By approval of the Engineer only.

##### **2.02 Sanitary Sewer Force Mains**

E. Tracer Wire Station:

2. ADD the following:

Color specified is green.

#### **PART 3 – EXECUTION**

##### **3.06 Sanitary Sewer Service Stubs:**

C. ADD the following:

5. DELETE AND REPLACE with the following:

For undeveloped properties, place watertight stopper, cap or plug in end of sanitary sewer service. Mark the end of the service stub with a 2x4 painted green, extending 2 feet above the surface. Location of sanitary sewer service stubs will be verified using GPS and provided to Jurisdiction.

##### **3.08 Sanitary Sewer Abandonment**

ADD the following:

All sanitary services abandoned at the sewer main.

A. Plug:

ADD the following:

3. In addition, insert a twist plug when abandoning services. If a wye is unavailable, install a saddle wye, and then insert the plug into the saddle wye.

**3.10 Sanitary Sewer Cleanout**

ADD the following:

Unless approved by the Engineer, cleanouts are not allowed on sanitary sewer mains.

Figure 4010.203 only applicable to sanitary sewer services.

## **SECTION 4020 – Storm Sewers**

### **PART 2 – PRODUCTS**

#### **2.01 Storm Sewers**

- A. Reinforced Concrete Pipe (RCP):
  - 3. DELETE and REPLACE with the following:  
Use joints complying with ASTM C 443.
- B. Reinforced Concrete Arch Pipe (RCAP):
  - 3. DELETE and REPLACE with the following:  
Use joints complying with ASTM C 443.
- C. Reinforced Concrete Elliptical Pipe (RCEP):
  - 3. DELETE and REPLACE with the following:  
Use joints complying with ASTM C 443.
- D. Reinforced Concrete Low Head Pressure Pipe:
  - 3. DELETE and REPLACE with the following:  
Use joints complying with ASTM C 361.

### **PART 3 – EXECUTION**

#### **3.02 Pipe Installation**

- A. General
  - 3. DELETE and REPLACE with the following:  
Place pipe with lifting holes at the top of the pipe and fill lift hole with non-shrink grout and manufactured plugs.

## **SECTION 4040 – SUBDRAINS AND FOOTING DRAIN COLLECTORS**

### **PART 1 – GENERAL**

#### **1.07 Special Requirements**

DELETE and REPLACE with the following:

- A. Sump pump/footing drain collection system shall be installed with all new subdivision and as required by the City Engineer. If requested, design calculations shall be submitted for review.
- B. Install a post and provide GPS information to the Jurisdiction of the location of sump pump drains and footing drain service stubs. Sawcut, stamp or otherwise permanently mark, a 4 inch x 4 inch triangle “Δ” into the adjacent curb to mark the footing drain location, and spray paint the sawcut area green.

## **SECTION 4050 – PIPE REHABILITATION**

### **PART 1 – GENERAL**

#### **1.07 Special Requirements**

**B. DELETE and REPLACE with the following:**

Unless otherwise specified, the Contractor will coordinate the use of fire hydrants with Iowa American Water Company (IAWC). Portable water meters with proper backflow prevention devices are required for use of water from all fire hydrants. IAWC will supply the RPZ backflow preventer and the meter to the Contractor. The Contractor must also notify both the City of Davenport's Fire Department and IAWC as to the location of meters. The use of fire hydrants is restricted to authorized personnel only. IAWC must be present and given twenty four (24) hours' notice when meters are to be moved. Per IAWC, the Contractor may be responsible to install a protective locked box over the fire hydrant, RPZ valve and meter being used at all times during the course of the program. The Contractor shall be responsible for all coordination, deposits, permits and associated fees, rental charges and charges for the volume of water used.

2.

## **SECTION 4060 – CLEANING, INSPECTION AND TESTING OF SEWERS**

### **PART 1 – GENERAL**

#### **1.07 Special Requirements**

DELETE and REPLACE with the following:

Comply with National Association of Sewer Service Companies (NASSCO) requirements for all televising of storm and sanitary sewers and services.

END OF DIVISION



## **DIVISION 5 – WATER MAINS AND APPURTENANCES**

### **Section 5010 – Pipe and Fittings**

#### **PART 1 – GENERAL**

##### **1.07 Special Requirements**

DELETE and REPLACE with the following:

*The Iowa American Water Standard Specifications for Water Main Construction, Current Edition*, supersedes SUDAS Section 5010.

Sawcut, stamp or otherwise permanently mark, a 4 inch x 4 inch arrow mark, “↑”, into the adjacent curb to mark service stub locations and spray paint the sawcut area blue

### **Section 5020 – Valves, Fire Hydrants and Appurtenances**

#### **PART 1 – GENERAL**

##### **1.07 Special Requirements**

DELETE and REPLACE with the following:

*The Iowa American Water Standard Specifications for Water Main Construction, Current Edition*, supersedes SUDAS Section 5020.

Sawcut, stamp or otherwise permanently mark, a 4 inch x 4 inch “X” into the adjacent curb to mark valve locations and spray paint the sawcut area blue.

### **Section 5030 – Testing and Disinfection**

#### **PART 1 – GENERAL**

##### **1.07 Special Requirements**

DELETE and REPLACE with the following:

*The Iowa American Water Standard Specifications for Water Main Construction, Current Edition*, supersedes SUDAS Section 5030.

END OF DIVISION

## **DIVISION 6 – STRUCTURES FOR SANITARY AND STORM SEWERS**

### **Section 6010 – Structures for Sanitary and Storm Sewers**

#### **PART 1 – GENERAL**

##### **1.07 Special Requirements**

ADD the following:

- C. Place a permanent saw cut in concrete curbs adjacent to all manholes located beyond the back of curb.  
Sawcut, stamp or otherwise permanently mark, a 4 inch x 4 inch square into the curb to mark the manhole location, and spray paint it green.

##### **1.08 Measurement and Payment**

###### **A. Manhole**

3. DELETE and REPLACE with the following:

Unit price includes, but is not limited to, excavation, furnishing bedding material, placing bedding and backfill material, compaction, base, structural concrete, reinforcing steel, precast units (if used), inverts, pipe connections, infiltration barriers (sanitary and storm manholes), castings, and adjusting rings.

###### **E. Manhole or Intake Adjustment, Minor:**

3. DELETE and REPLACE with the following:

Includes: Unit price includes, but is not limited to, removing existing casting and existing adjustment rings, furnishing and installing adjustment rings, furnishing and installing new castings and furnishing and installing new infiltration barrier (sanitary and storm manholes).

###### **F. Manhole or Intake Adjustment, Major:**

3. DELETE and REPLACE with the following:

Includes: Unit price includes, but is not limited to, removal of existing casting, adjustment rings, top sections and risers; excavation; concrete and reinforcing steel or precast sections; furnishing and installing new casting; furnishing and installing new infiltration barrier (sanitary and storm manholes); placing backfill material; and compaction.

#### **PART 2 – PRODUCTS**

##### **2.05 Precast Riser Joints**

###### **B. Joint Sealant:**

2. Storm Sewers: DELETE and REPLACE with the following:

All joint sealants used on sanitary sewer manholes must be used on storm sewer manholes

**2.09 Manhole or Intake Adjustment Rings (Grade Rings)**

## A. ADD the following:

## 1. ADD the following:

a. Sealant: Butyl material meeting ASTM C 990.

i. Proper butyl sealant for metal to concrete surfaces used on final ring.

**2.10 Castings (Ring, Cover, Grate, and Extensions)**

## C. Casting Types:

## 1. Manholes:

ADD the following:

Use of Figure 6010.601 Type B and Type D by approval of the Engineer.

Use of Figure 6010.602 Type F by approval of the Engineer.

## 2. Intakes:

b. DELETE and REPLACE with the following:

Storm sewer casting to include environmental symbols and/or messages such as "DUMP NO WASTE, DRAINS TO RIVER." If not on casting, stamp into boxout if allowed by the Engineer.

**2.13 STEPS**

## A. DELETE and REPLACE with the following:

Install steps in all manholes and intakes unless otherwise specified.

**PART 3 – EXECUTION****3.01 General Requirements for Installation of Manholes and Intakes**

## E. Pipes:

## 4. Sanitary Sewer Manholes on Existing Pipe:

ADD the following:

a. Provide pipe joint, non-shearing coupling or other approved flexible coupling within 2 feet of structure wall to allow for differential settlement between the existing sewer and the new structure.

## F. Joint Sealant:

## 1. Sanitary Sewer Manholes:

c. ADD: Both a &amp; b MUST be used when constructing Sanitary Sewer Manholes

## 2. DELETE and REPLACE with the following:

Storm Sewer Manholes: All joint sealants used on sanitary manholes must be used for storm sewer manholes

## 3. ADD the following:

Storm Sewer Intakes:

a. Apply bituminous jointing material or install rubber rope gasket.

b. If indicated in the contract documents, apply engineering fabric wrap to joints.

## I. Adjustment Rings:

1. DELETE and REPLACE with the following  
Bed each concrete ring in butyl sealant material.
3. DELETE and REPLACE with the following:
  - b. Maximum: 8 inches for new intakes; 12 inches for new manholes; 16 inches for existing manholes.

J Casting:

ADD the following:

4. Seal the back of the intake by placing ready mix concrete over the rear flange of the casting frame to prevent infiltration of water between the frame and the intake box. Care shall be taken not to restrict the movement of the curb box (if applicable) in doing so.

K Infiltration Barrier:

DELETE

Install on sanitary sewer manholes.

ADD the following.

Install on sanitary and storm sewer manholes. Use only external chimney seal unless approved by the Engineer.

### 3.02 Additional Requirements for Cast-in-Place Concrete Structures

B. Reinforcing Steel:

1. ADD the following:  
Use epoxy coated reinforcement.

### 3.04 Adjustment of Existing Manhole or Intake

B. Minor Adjustment (Adding or Removing Adjustment Rings):

2. Modify adjustment ring stack height by one of the following methods:
  - a. DELETE and REPLACE with the following:  
Add adjustment rings as necessary to adjust existing manhole or intake to finished pavement grade or finished topsoil grade, to a maximum ring stack as stated in 6010. Bed each concrete ring with butyl sealant material. Bed each polyethylene ring with manufacturer's approved product.
3. ADD the following:  
Any existing casting not specified to be reused will become property of the Jurisdiction.
5. ADD the following:  
If existing manhole does not have an infiltration barrier, install a new external infiltration barrier to the structure.

C. Major Adjustment (Adding, Removing or Modifying Riser or Cone Section):

4. ADD the following:

Any existing casting not specified to be reused will become property of the Jurisdiction.

6. ADD the following:

If existing manhole does not have an infiltration barrier, install a new external infiltration barrier to the structure.

**FIGURES:**

Notes:

Manholes less than 60" inside diameter not allowed unless approved by City Engineer

Manhole base thickness shall be 1" for every 24" of manhole height with a minimum thickness of 6".

With approval by the Engineer, 28.5" adjusting rings may be used with sanitary and storm structures.

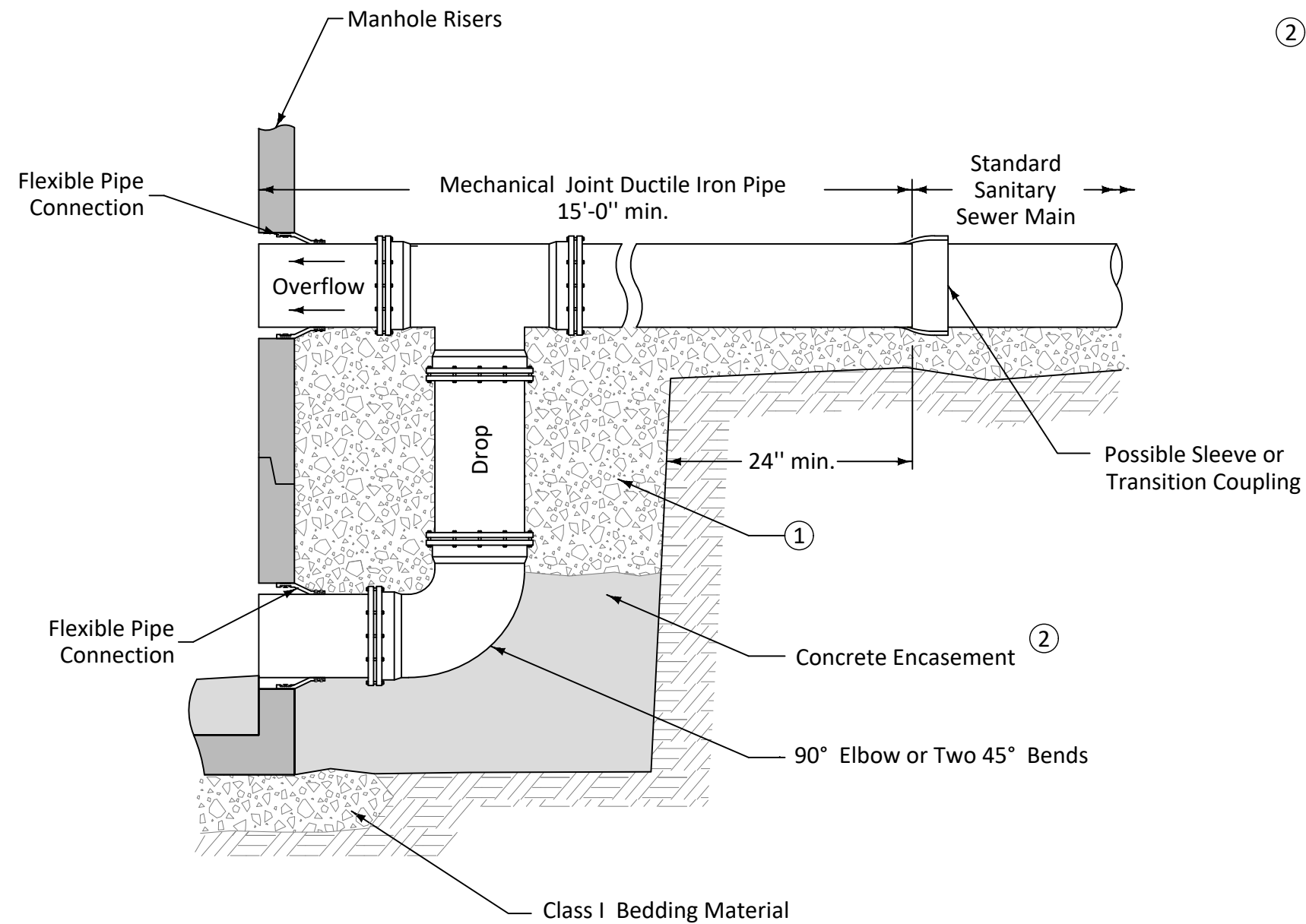
Use of Figures 6010.304-6010.305 allowed only by approval of the Engineer.

REPLACE Figure 6010.307 with Figure DAV6010.307. See Next Page.

Use of Figures 6010.404-6010.405 allowed only by approval of the Engineer.

END OF DIVISION


FIGURE DAV6010.307



Construct drop and overflow from ductile iron pipe of same diameter specified for sewer main. Provide mechanical joints for all ductile iron pipe and fittings.

- ① Place CLSM, flowable mortar, or concrete from top of elbow to bottom of sewer main.
- ② Encase elbow in concrete. 12 inches minimum on all sides.

FIGURE DAV6010.307 SHEET 1 OF 1

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CITY ENGINEER		DESIGN DEVELOPMENT ENGINEER
<b>DROP CONNECTION          FOR SANITARY SEWER MANHOLE</b>		

## **DIVISION 7 – STREETS AND RELATED WORK**

### **Section 7010 – Portland Cement Concrete Pavement**

#### **PART 1 – GENERAL**

##### **1.08 Measurement and Payment**

###### **M. Fixture Adjustment:**

Comply with corresponding utility requirements for adjusting other appurtenances.

#### **PART 2 – PRODUCTS**

##### **2.01 Materials**

###### **D. Coarse Aggregate for Concrete:**

###### **1. DELETE and REPLACE with the following:**

Crushed stone particles with Class 3 durability complying with Iowa DOT Section 4115 and Materials I.M. 409, Source Approvals for Aggregates.

##### **2.02 Concrete Mixes**

###### **A. Mix Design:**

ADD the Following:

3. For all new Arterial roads, Collector streets, or other roads as identified by the City Engineer, higher durability mixes (C-SUD or CV-SUD) shall be used unless otherwise specified.

#### **PART 3 – EXECUTION**

##### **3.02 Pavement Construction**

###### **C. Surface Fixture Adjustment:**

###### **1. ADD the following:**

Comply with corresponding utility requirements for adjusting other appurtenances.

###### **G. Integral Curbs:**

###### **6. ADD the following:**

- d. Back plaster any areas without proper consolidation.

###### **K. Construction of Joints:**

###### **1. General:**

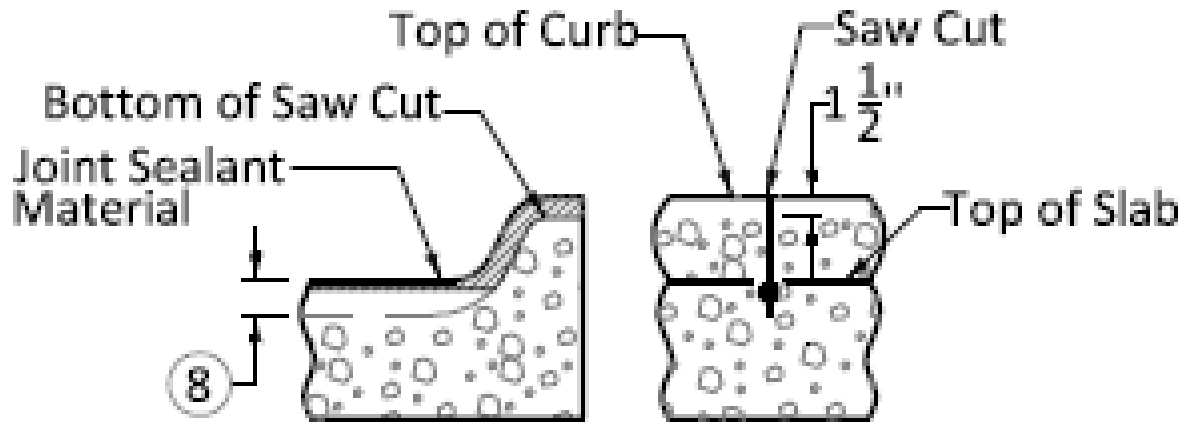
ADD the following:

- k. Saw cut through the curb.

#### **FIGURES**

Note on Figure 7010.101-sheet 2 of 8 on 'C' Joint, continue joint sealant material to top of curb as shown on next page.





**'C' JOINT IN CURB**  
(Match 'CT', 'CD', or 'C' joint in pavement.)

## **Section 7011 – Portland Cement Concrete Overlays**

### **PART 1 – GENERAL**

#### **1.08 Measurement and Payment**

##### G. Fixture Adjustment:

Comply with corresponding utility requirements for adjusting other appurtenances.

### **PART 2 – PRODUCTS**

#### **2.01 Materials**

##### D. Coarse Aggregate for Concrete:

1. DELETE and REPLACE with the following:

Crushed stone particles with Class 3 durability complying with Iowa DOT Section 4115 and Materials I.M. 409, Source Approvals for Aggregates.

## **Section 7020 – Hot Mix Asphalt Pavement**

### **PART 1 - GENERAL**

#### **1.08 Measurement and Payment**

J. Fixture Adjustment:

ADD the following:

Comply with corresponding utility requirements for adjusting other appurtenances.

### **PART 3 – EXECUTION**

#### **3.01 HMA Pavement**

A. Preparation of Pavement Foundation:

ADD the following:

Saw cut PCC curb, flag and all other headers to provide a clean vertical face.

Apply a tack coat before each HMA lift and on the vertical face of all headers.

F. Fixtures in the Pavement Surface:

3. ADD the following:

For smaller fixtures, boxout with a 2 foot by 2 foot concrete panel, similar to Figure 7010.103, with 20 inch, epoxy-coated #4 bars.

## Section 7030 – Sidewalks, Shared Use Paths and Driveways

### PART 1 – GENERAL

#### 1.07 Special Requirements

ADD the following:

Comply with Davenport streetscape requirements in applicable areas.

### PART 2 – PRODUCTS

#### 2.01 Portland Cement Concrete

A. DELETE and REPLACE with the following:

Use only Class C concrete with materials complying with Section 7010. Use coarse aggregate of Class 2 durability or better.

#### 2.07 Detectable Warnings

DELETE and REPLACE with the following:

Use manufactured, wet-set, detectable warning panels with a non-slip surface and raised truncated domes. Surface Mount or Retro-Fit panels will not be allowed unless specified. Comply with the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (also known as PROWAG) for contrast and dimension requirements.

Acceptable color is Safety Red – Federal Standard #31350, or approved equal.

### PART 3 – EXECUTION

#### 3.02 SUBGRADE PREPARATION

ADD the following:

- C. Subbase: For all Sidewalks, Shared Use Paths and Driveways, place and compact a minimum 3" of subbase material which complies with Iowa DOT Gradation 11 unless otherwise specified in the contract documents or approved by City Engineer.

#### 3.04 PCC Sidewalks, Shared Use Paths and Driveways

C. Finishing

- 1. Shared Use Paths and Driveways:

ADD the following:

- c. Stamp driveway entrances in a neat, permanent and lasting manner with the year and the name of the person, firm or corporation who laid the driveway entrance. The name plate and location to be approved by the Engineer. If work is not properly stamped, the contractor shall remove the appropriate slab of sidewalk, re-pour it and stamp it.

- 2. Sidewalks:

ADD the following:

- g. Stamp sidewalks in a neat, permanent and lasting manner with the year and the name of the person, firm or corporation who laid the

walk. The name plate to be approved by the Engineer. The walks to be stamped at each end of the property, as near the property line as is feasible, or at each end of any continuous stretch of walk exceeding 10 feet in length. Remove the appropriate slabs, re-pour and stamp if the work is not properly stamped.

F. Jointing

2. Transverse Contraction Joints:

b. Sidewalks and Driveways

3) REMOVE and REPLACE with:

Form all transverse contraction joints to a depth of 1 ¼ inches with a pointed trowel or jointing tool unless approved by City Engineer.

4. Isolation Joints:

a. ADD the following:

Install an 'E' joint every 50' along length of sidewalk and/or at property lines.

**3.10 Cleaning**

ADD the following:

D. Clean concrete and curing compound from detectable warning surfaces.

**Figures**

REPLACE Figure 7030.101 with Figure DAV7030.101.

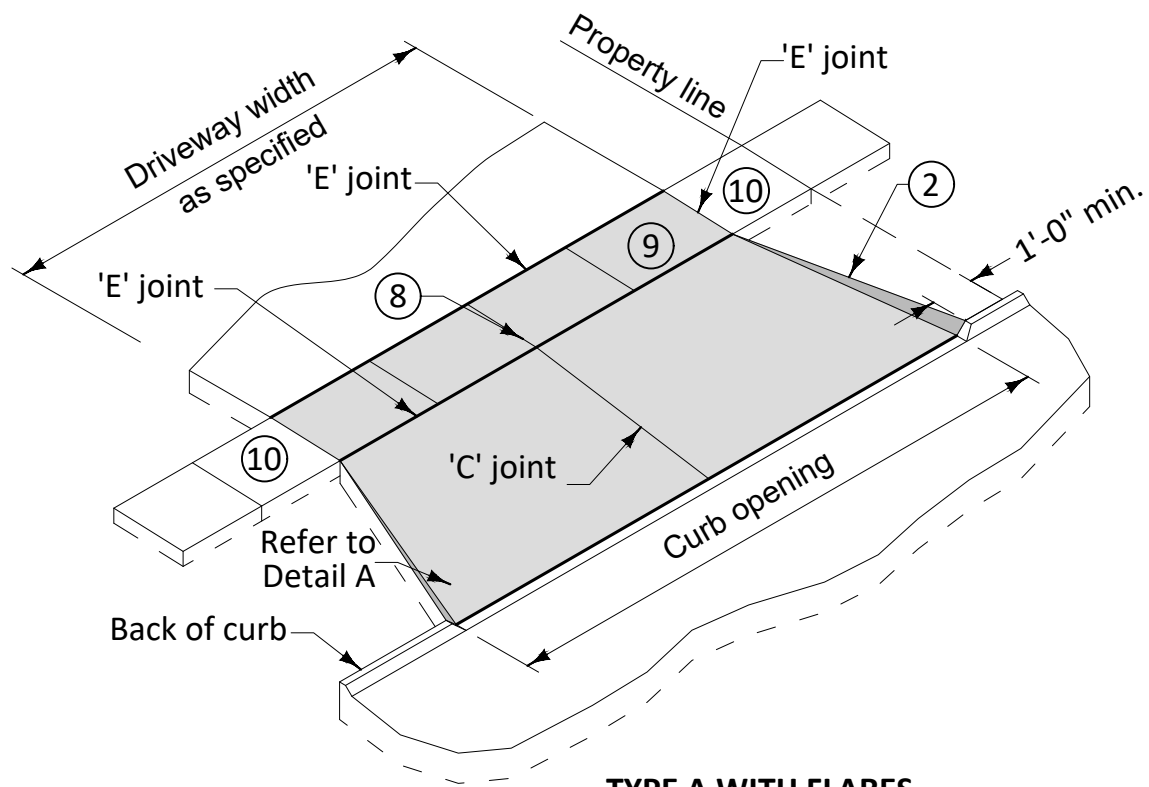
DELETE Figure 7030.102 – Concrete Driveway, Type B – Not allowed unless approved by City Engineer.

ADD MI-220 Iowa DOT Standard Road Plan

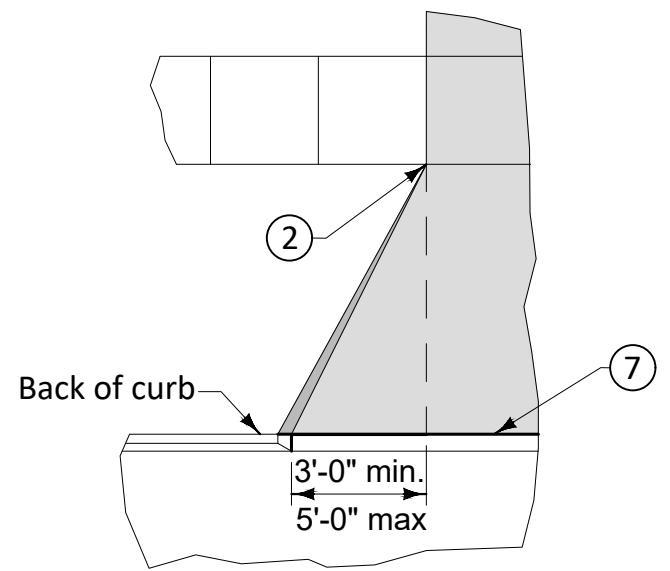
REPLACE Figure 7030.201 with Figure DAV7030.201.

DELETE Figure 7030.202 – Curb Details for Class A Sidewalk

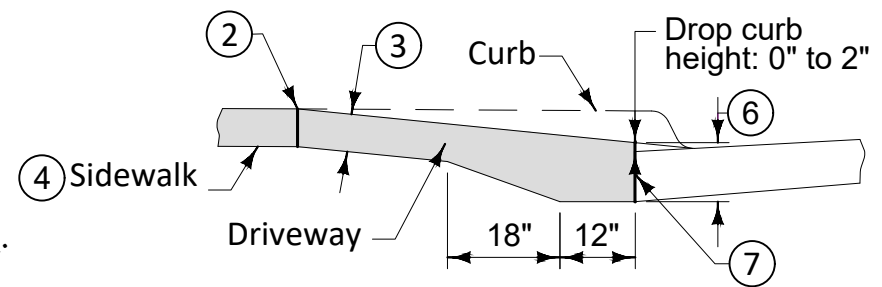
FIGURE DAV7030.101



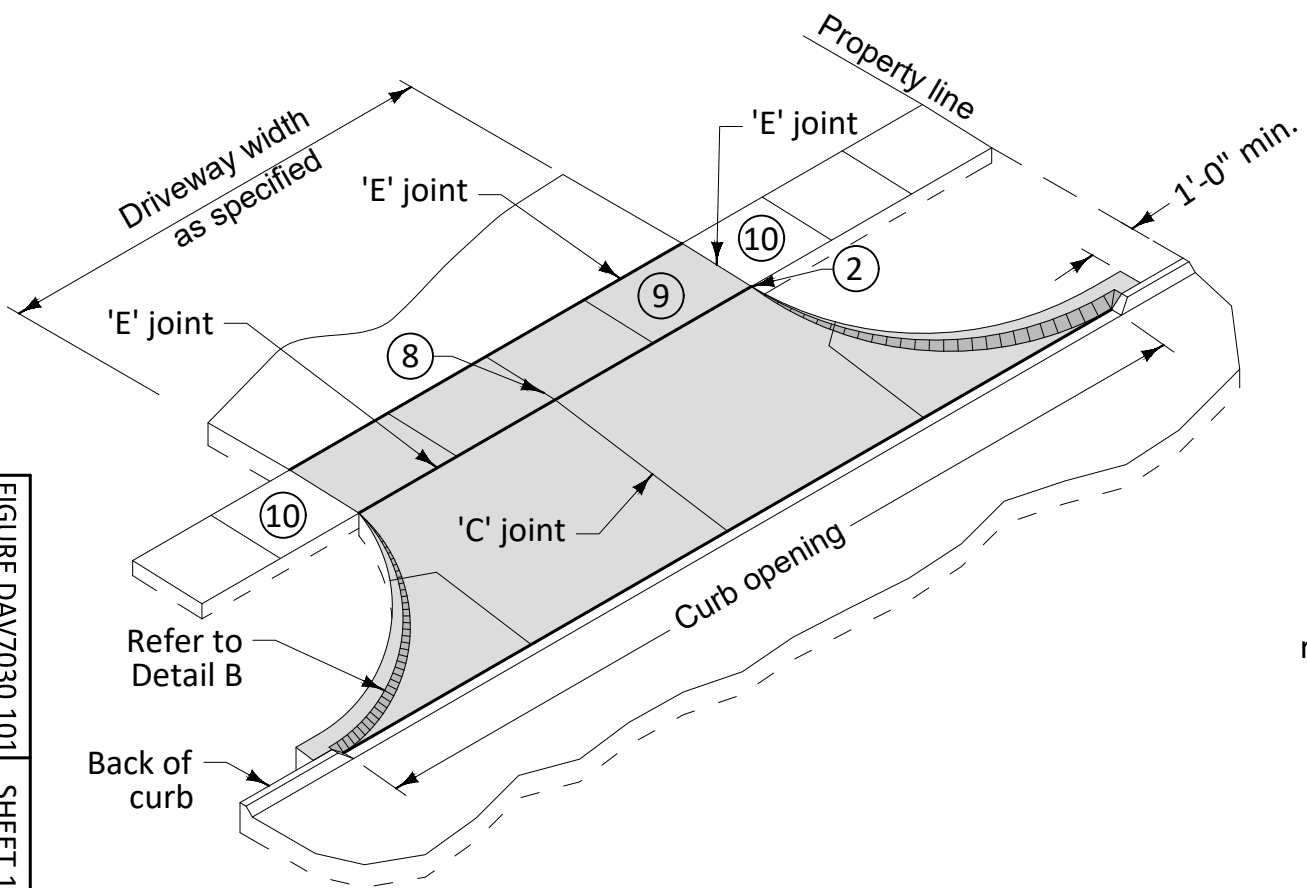
**TYPE A WITH FLARES**



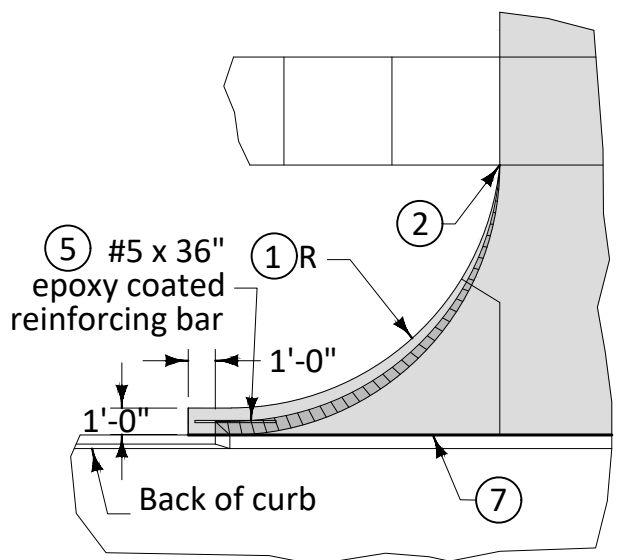
**DETAIL A**



**TYPICAL SECTION**



**TYPE A WITH RADII**



**DETAIL B**

- 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.  
Commercial and residential: 7 inches minimum.
- ④ Sidewalk thickness through driveway to match thickness of driveway.
- ⑤ Center reinforcing bar vertically in the pavement.
- ⑥ Match thickness of adjacent roadway, 8 inches minimum.
- ⑦ Provide 'E' joint at back of curb unless 'B' joint is specified.
- 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.

FIGURE DAV7030.101 SHEET 1 OF 1


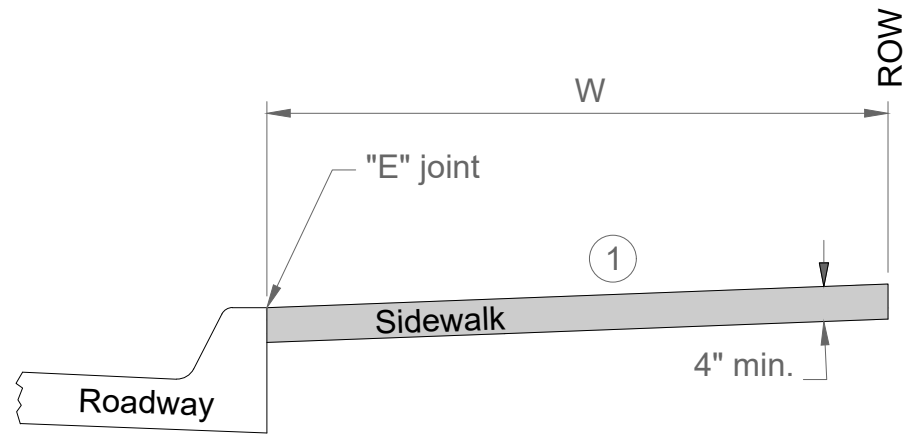
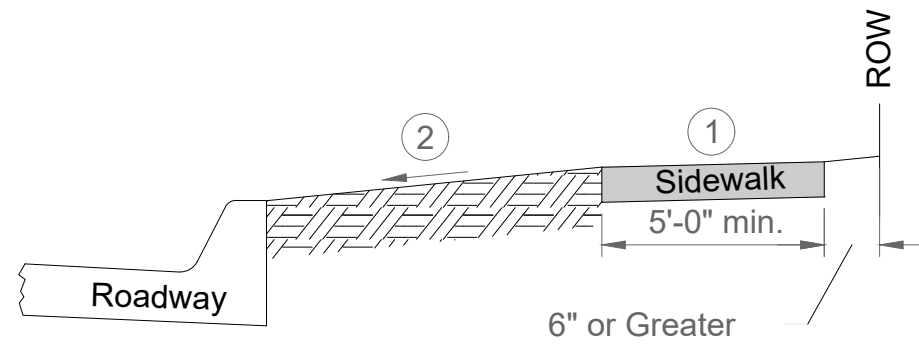
 <b>CITY OF DAVENPORT, IOWA</b> ENGINEERING DIVISION <small>1200 East 46th Street Davenport, Iowa 52807 (563) 326-7923 FAX (563) 326-7923</small>	REVISION	
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REVISIONS:		SHEET 1 of 1
CITY ENGINEER	DESIGN DEVELOPMENT ENGINEER	
<b>CONCRETE DRIVEWAY, TYPE A</b>		

FIGURE DAV7030.201

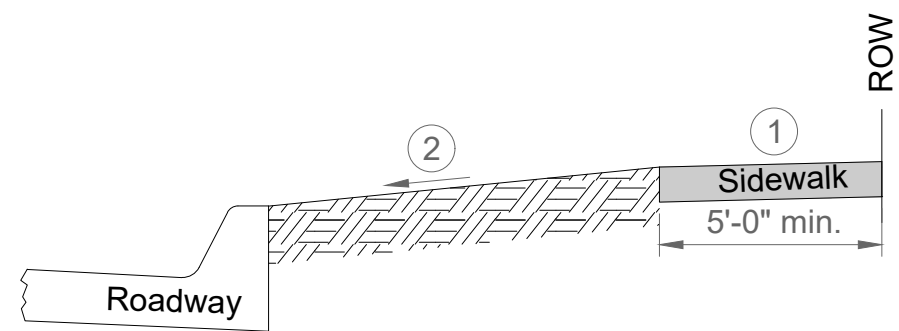




**CLASS A SIDEWALK**  
(Sidewalk extends from back of curb to ROW)




**CLASS B SIDEWALK**



**CLASS C SIDEWALK**

- ① Target cross slope of 1.5% with a maximum cross slope of 2.0% (including sidewalk through driveway).
  - ② Parking Slopes:  
Slope at 1/2 inch per foot.
- Special grade may be specified in the contract documents.

W = Sidewalk width as specified in the contract documents - 5' - 0" min.

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<b>CLASSES OF SIDEWALKS</b>		

## 7040 – Pavement Rehabilitation

### PART 1 – GENERAL

#### 1.08 Measurement and Payment

##### G. Milling

##### 3. Includes:

ADD the following:

Include edge sections that cannot be reached by the milling machine.

### PART 3 – EXECUTION

#### 3.01 General

##### B. DELETE.

##### C. ADD the following:

Partial width full depth patches by approval of the Engineer.

##### D. ADD the following:

Unless otherwise directed by the Engineer.

ADD the following:

H. Pavement type for all Full Depth Patches must be approved by City Engineer.

#### 3.02 Full Depth Patching

##### A. Pavement Removal:

ADD the following:

3. If patching is due to trench work, remove at least 1 foot from edge of trench to edge of pavement.

##### C. Placing PCC Patches:

##### 4. Placing, Consolidating and Finishing the Concrete:

##### g. ADD the following:

Broom or drag finish if adjacent pavement texture is non-existent.

#### 3.05 Milling

ADD the following:

##### I. Thoroughly clean milled surface to allow the Engineer to properly mark out patching areas.

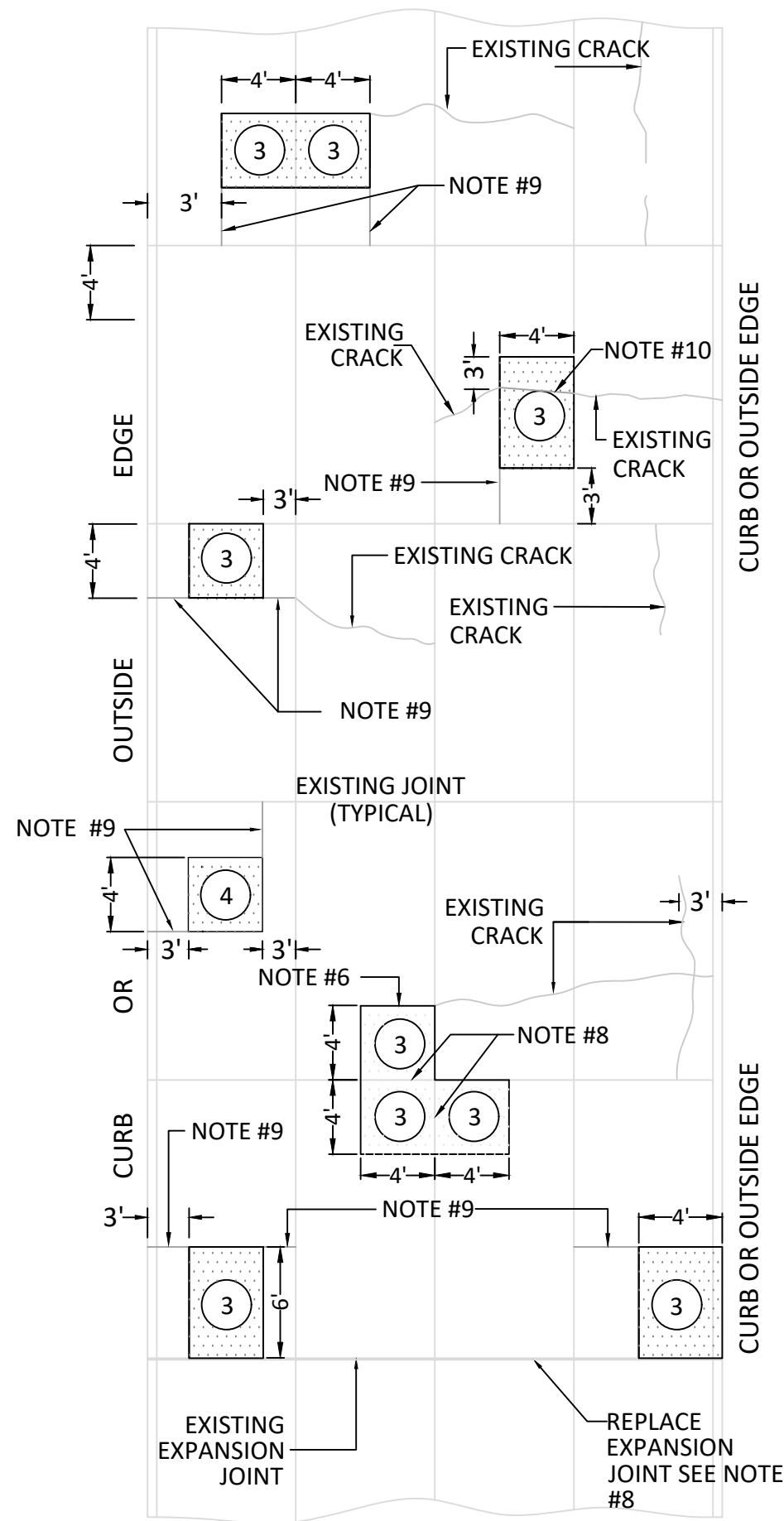
##### J. Saw cut milled edges to provide a clean vertical face along curbline and headers.

### FIGURES

ADD Figure DAV7040.106. See Next Page.

FIGURE DAV7040.106

1 OF 3



### Notes

1. ALL DIMENSIONS SHOWN ARE MINIMUMS.
2. Patches shall be generally squared up as depicted except where meeting skewed joints.
3. Minimum edge dimension for any PCC patch edge shall be four (4) feet.
4. Patches shall extend a minimum of six (6) feet from an expansion joint or four (4) feet from other joints.
5. If the patch is within three (3) feet from a joint or pavement edge, it shall be enlarged to the joint or edge.
6. If the patch is within three (3) feet of an existing crack, increase its size to meet the crack if practicable.
7. Sawcuts and edge treatments shall conform to the specifications and figures.
8. All joints lying within a patch shall be replaced at their original location.
9. For EDGE and INTERIOR PATCHES, extend sawcuts from patch to nearest joints and to meet existing cracks if the joint and/or crack is within five (5) feet. Only two sawcuts required for interior (spot) patches, but extend from opposite corners of the patch.
10. Sawcut through patches to meet extending sawcuts and cracks that intercept patches three (3) feet or more from the near patch edge.

### Types of Patches

- 3** EDGE PATCH  
Extends to a joint or the edge of pavement. See sheet 3 for details.
- 4** INTERIOR PATCH  
Shall be a minimum of three (3) feet from a joint or pavement edge. See sheet 3 for details.

FIGURE DAV7040.106 SHEET 1 OF 3


 CITY OF DAVENPORT, IOWA ENGINEERING DIVISION <small>1200 East 46th Street Davenport, Iowa 52807          (563) 326-7923 FAX (563) 326-7923</small>	REVISION	
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3	4-8-2021	
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SHEET 1 of 3		
REVISIONS:		
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<b>PCC FULL DEPTH REPAIR</b> <b>Repair Area Guidelines</b>		

FIGURE DAV7040.106

2 OF 3

## Types of Patches

- 3 EDGE PATCH  
Extends to a joint or the edge of pavement. See sheet 3 for details.
- 4 INTERIOR PATCH  
Shall be a minimum of three (3) feet from a joint or pavement edge. See sheet 3 for details.

 PATCHES  
All shall generally be squared up or as shown.

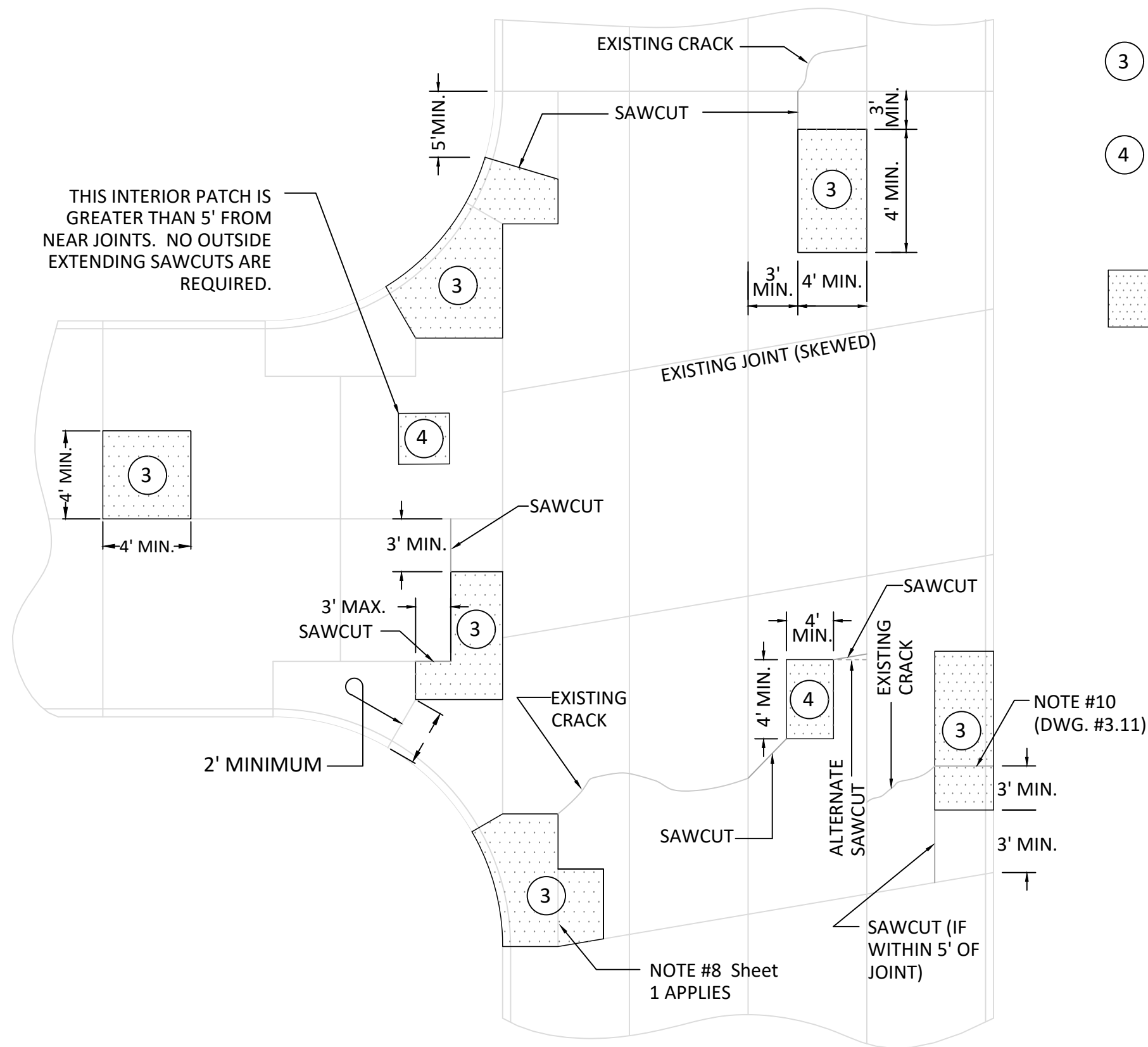


FIGURE DAV7040.106 SHEET 2 OF 3


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REVISIONS:		
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<b>PCC FULL DEPTH REPAIR</b> <b>Repair Area Guidelines</b> <b>(Intersection Area)</b>		

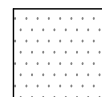
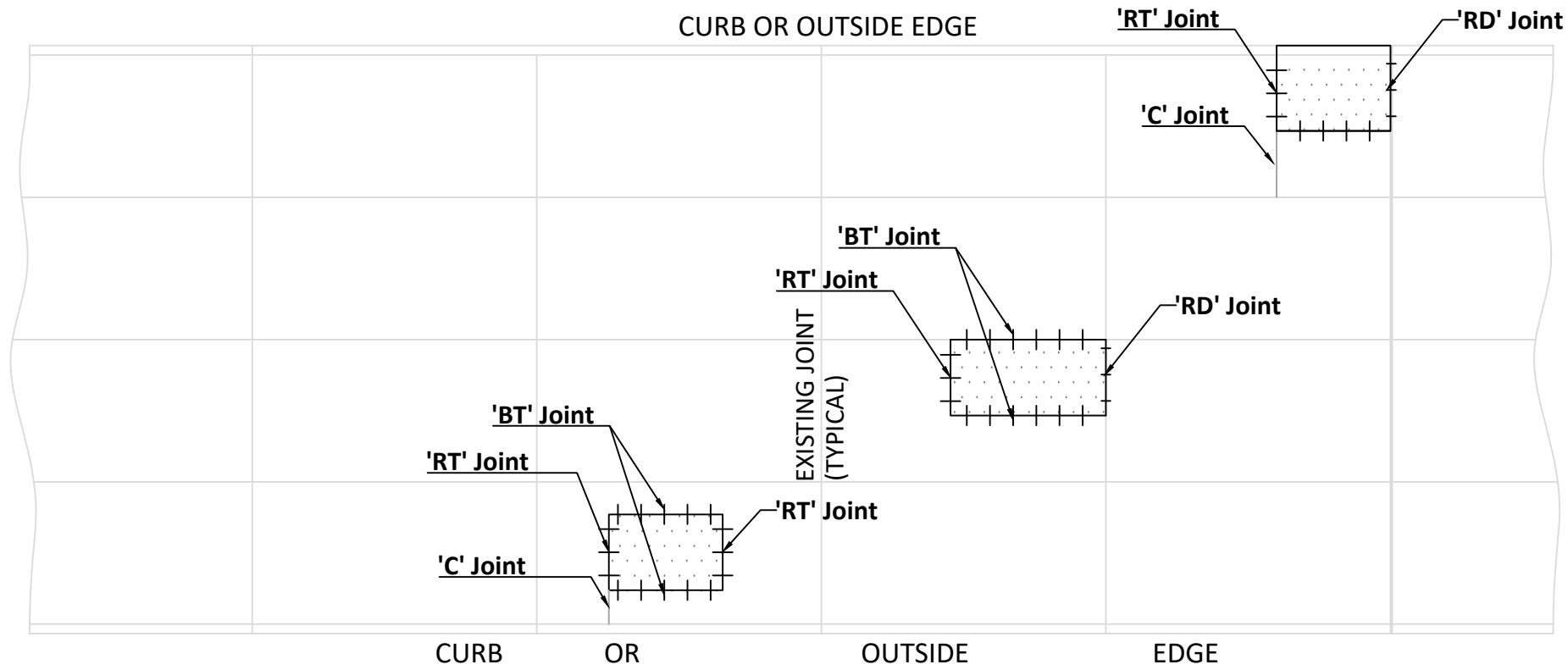
FIGURE DAV7040.106

3 OF 3

## Types of Patches

**EDGE PATCH**  
Extends to a joint or the edge of pavement.

**INTERIOR PATCH**  
Shall be a minimum of three (3) feet from a joint or pavement edge.



**PATCHES**  
All shall generally be squared up or as shown.

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<b>PCC FULL DEPTH REPAIR</b> <b>Repair Area Guidelines</b>		



ADD the following:

## **Section 7100 – Brick Streets**

### **PART 1 – GENERAL**

#### **1.01 Section Includes**

- A. Subgrade Preparation
- B. Placement of Aggregate
- C. Placement of Bedding Course
- D. Placement of Bricks
- E. Quality Control
- F. Protection of the Pavement

#### **1.02 Description of Work**

Rehabilitate and patch existing brick pavement. All brick streets identified as historic by the list maintained by the City Engineer shall be paved or patched only with historic bricks.

#### **1.03 Submittals**

Comply with Division 1 – General provisions and Covenants.

#### **1.04 Substitutions**

Comply with Division 1 – General provisions and Covenants.

#### **1.05 Delivery, Storage and Handling**

Comply with Division 1 – General provisions and Covenants.

#### **1.06 Scheduling and Conflicts**

Comply with Division 1 – General provisions and Covenants.

#### **1.07 Special Requirements**

Comply with Section 7040, PCC Full Depth Patching, as applicable.

#### **1.08 Measurement and Payment**

- A. Class 10, Class 12 or Class 13 Excavation: Comply with Section 2010, 1.08, E.
- B. Below Grade Excavation (Core Out): Comply with Section 2010, 1.08, F.
- C. Subbase: Comply with Section 2010, 1.08, I.
- D. Brick Patching, Removal:
  - 1. Measurement: Measurement will be in square yards for the area of brick pavement removed. The area of manholes, intakes or other fixtures in the pavement will not be deducted from the measured area.
  - 2. Payment: Payment will be made at the unit price per square yard of removed bricks.
  - 3. Includes: Unit price includes, but is not limited to, removing, hauling and disposal of unneeded materials, such as HMA or PCC patches, cleaning salvaged bricks from both project site and Jurisdiction's stockpile,

transporting bricks to the Jurisdiction's stockpile and protecting bricks from theft or damage.

**E. Brick Patching, Placement:**

1. **Measurement:** Measurement will be in square yards for the area of brick pavement replaced. The area of manholes, intakes or other fixtures in the pavement will not be deducted from the measured area.
2. **Payment:** Payment will be made at the unit price per square yard of placed salvaged brick.
3. **Includes:** Unit price includes, but is not limited to, cleaning bricks from stockpile, transporting cleaned bricks from stockpile, placing cleaned bricks from either the Jurisdiction's stockpile or on-site stockpile, compaction, furnishing and installation of the sand surface and furnishing and installing sand-cement fill work.

## **PART 2 – PRODUCTS**

### **2.01 Brick**

- A. Clay or concrete brick
- B. Salvaged
- C. Historical

### **2.02 Sand**

- A. Natural, clean, free draining and well-graded, with the following gradation:

Sieve	Percent Passing
No. 4	100
No. 100	5

### **2.03 Aggregate**

- A. Unless otherwise specified in the contract documents, use a mixture of coarse and fine aggregate complying with Iowa DOT Section 4120, Gradation No. 11 in the Aggregate Gradation Table.

## **PART 3 – EXECUTION**

### **3.01 General**

- A.** Conduct all operations to minimize inconvenience to traffic. Confine operations to one traffic lane, unless the road is to be closed to traffic. Minor encroachment into the adjacent lane, will be acceptable with the use of a flagger according to MUTCD.
- B.** Construct brick patches to the dimensions specified in the contract documents or as marked by the Engineer in the field.
- C.** Remove and dispose of materials not designated for salvage.
- D.** Restore the area outside the pavement by placing and compacting backfill material, placing topsoil, and sodding or seeding as specified in the contract documents.
- E.** If patch area is located on a Historic Brick Street, use only historic/salvaged bricks.

**3.02 Pavement Removal**

- A. Remove all layers of existing pavement materials within the patch area.
- B. Carefully remove and store the existing brick pavers. Bricks broken by the contractor due to carelessness or lost due to theft will be replaced at the contractor's expense.
- C. If a sound PCC subbase is encountered, remove according to Section 7040. Unless otherwise specified in the contract documents, this item will be paid for as extra work.
- D. Protect pavement from heavy construction traffic, including trucks, skid steers, loaders, and all tracked vehicles. Replace any additional areas damaged by the contractor at no expense to the Jurisdiction.

**3.03 Restoring Subgrade or Subbase**

- A. Where fill materials are required, compact materials to 95% of maximum Modified Proctor Density.
- B. Excavate 8 inches below the bottom of the sand layer. Place and compact new subbase material as required to bring the subbase to the bottom of the sand layer of the surrounding pavement. Correct unauthorized over-excavation at no additional cost to the Jurisdiction.
- C. Compact the exposed subgrade or subbase with a plate-type compactor to 95% Standard Proctor Density.
- D. When unstable material or excessive moisture is encountered, the Engineer may order removal and replacement of the unstable material.
  - 1. Remove existing unstable subgrade or subbase, or both, to the depth directed by the Engineer.
  - 2. Place and compact new subbase material as required to bring the subbase to the bottom of the sand layer of the surrounding pavement.
  - 3. If surrounding subbase is PCC, replace as directed by the Engineer.

**3.04 Placing Brick Patches**

- A. Fill and lightly re-grade any areas damaged by erosion, ponding or traffic compaction prior to placing the bricks.
- B. Place a 1 inch layer of sand evenly over the subbase material and screed to the proper grade. Do not compact, walk on, or otherwise disturb the sand after it has been screeded, and before the bricks are placed.
- C. Install the bricks  $\frac{1}{4}$  -  $\frac{1}{2}$  inch above finish grade. Place them closely together, without any tilt.
- D. Match the existing pattern and cut brick as required for edge fitting.
- E. Where gaps are less than 1-5/8 inch, fill with 3 parts sand, 1 part cement (dry) mixture.
- F. Vibrate with a minimum of three passes with a small plate vibrator with a minimum of 3,500 pounds centrifugal compaction force.
- G. Broom a 3-to-1 sand/cement mixture over the surface and vibrate the area with two additional passes.
- H. Remove excess mixture.

**3.05 Quality Control**

- A.** Ensure no greater than 1/8 inch difference in height between adjacent pavers.  
Remove and relay any brick out of compliance.
- B.** Maintain surface elevation within 1/4 - 1/2 inch above adjacent drainage inlets, gutters and other appurtenances.

**3.06 Curb and Gutter Removal**

Follow Section 7040 for curb and gutter removal.

END OF DIVISION

ADD the following:

**Section 7200 – Streetscape Improvements**

Latest edition, located under separate cover sheet on City of Davenport, Iowa website.

END OF DIVISION

## **DIVISION 8 – TRAFFIC CONTROL**

### **Section 8020 – Pavement Markings**

#### **PART 1 – GENERAL**

##### **1.01 Section Includes**

ADD the following:

- G. Thermoplastic Reflectorized Pavement Markings, Symbols and Legends

##### **1.03 Submittals**

ADD the following:

- C. Furnish a certificate from the thermoplastic manufacturer, certifying that such a contractor has functional, appropriate equipment to install thermoplastic pavement marking materials
- D. Provide proof of successful installation at least two years old, covering a minimum of 50,000 lineal feet with the thermoplastic material to be used on this project
- E. Submit manufacturer's certification with typical results of tests for all special requirements.

##### **1.08 Measurement and Payment**

ADD the following:

- A. General:

ADD the following:

- 1. Poured, extruded or sprayed lines will also be measured in stations based upon a single 4 inch width.
- O. Thermoplastic Pavement Markings:
  - 1. Measurement: Each type of thermoplastic pavement marking will be measured in stations.
  - 2. Payment: Payment will be made at the unit price for each type of thermoplastic pavement markings.
  - 3. Includes: Unit price includes, but is not limited to, layout, surface preparation and furnishing and placing thermoplastic pavement markings with drop-on glass beads and primer, if necessary. Removal of existing markings is included as a separate bid item in the plans and paid for at the contract unit price.
- P. Thermoplastic Pavement Markings, Symbols and Legends:
  - 1. Measurement: Each type of thermoplastic pavement marking will be counted.
  - 2. Payment: Payment will be made at the unit price for each type of thermoplastic pavement symbol and legend.
  - 3. Includes: Unit price includes, but is not limited to, layout, surface preparation and furnishing and placing thermoplastic pavement markings with drop-on glass beads and primer, if necessary. Removal of existing markings is included as a separate bid item in the plans and paid for at the contract unit price.

**PART 2 – PRODUCTS****2.01 Materials**

B. Pavement marking materials include:

ADD the following:

11. White and Yellow Reflectorized Thermoplastic:

- a. Ensure the material is free from all skins, dirt and foreign objects
- b. Use binder with either hydrocarbon-based resin or alkyd-based resin, as shown in the contract documents.
- c. Uniformly disperse the pigment, beads and filler in the binder resin.
- d. Composition Requirements:

<u>Component</u>	<u>% by Weight</u>	
	<u>White</u>	<u>Yellow</u>
Binder	17.0 Min.	17.0 Min.
Titanium Dioxide	10.0 Min.	-
Glass Beads	20.0 Min.	20.0 Min.
Calcium Carbonate & Inert Fillers	49.0 Min.	**
Yellow Pigments	---	**

\*\* Amount and type of yellow pigment, calcium carbonate and inert fillers shall be at the option of the manufacturer, providing the other composition requirements of this specification are met.

Note: Components specifically formulated for application at temperatures greater than 400 degrees F true\*; and show no significant breakdown, or deterioration at a true temperature of 475 degrees Fahrenheit.

(\*True temperature as referenced above is measured with high precision laboratory grade equipment.)

e. Physical Properties:

- 1) Colors to follow MUTCD and contract documents.
- 2) Drying Time: When installed on pavement at air temperature of 70 degrees F, and in thickness between 1/8 inch and 3/16 inch, the thermoplastic material shall be completely solid and shall show no damaging effect from traffic after 10 minutes.
- 3) Color Retention: The thermoplastic material shall not change color during the warranty period.
- 4) Yellowness Index: White thermoplastic material shall not

- exceed a yellowness index of 0.12 when tested in accordance with AASHTO Designation T 250.
- 5) Softening Point: The thermoplastic material shall have a softening point of not less than 194 degrees Fahrenheit true when tested in accordance with ASTM E 28.
  - 6) Specific Gravity: The specific gravity of the thermoplastic material as determined by a water displacement method at 25 degrees Celsius shall be between 1.8 and 2.2 (referred to water at 25 degrees Celsius true).
  - 7) Fumes: The thermoplastic material shall not exude fumes, which are toxic or obnoxious or injurious to persons or property when it is heated during applications.
- f. Label each package with the color of the material, name of the manufacturer, date of manufacture, batch number, type of material (alkyd or hydrocarbon), net weight of contents, and the temperature to which the material will be heated for application.
12. Glass beads (Pre-mix and Drop-on)
    - a. Provide glass beads that comply with Iowa DOT Section 4184.
  13. Primer, if required.
    - a. Recommended by the manufacturer.

## **PART 3 – EXECUTION**

### **3.01 Equipment**

#### **B. Pavement Marking Equipment:**

ADD the following:

7. Melting kettle capable of heating the thermoplastic material to its recommended application temperature without scorching and capable of maintaining that temperature.
  - a. A heat transfer medium with a flame that does not come in direct contact with the material container surface.
  - b. A temperature gauge visible on the outside of the kettle to indicate the temperature of the thermoplastic material.
  - c. A continuous mixer or agitator capable of thoroughly mixing the material at such a rate as to maintain homogeneity of material and uniformity of temperature throughout
8. Thermoplastic Dispensing Devices capable of applying molten thermoplastic material at the temperature recommended by the thermoplastic manufacturer in lines from 4 inches to 12 inches wide at a 125 mils minimum thickness.
  - a. Extrusion type dispensing devices which deposit a mass of molten thermoplastic on the pavement surface where it is immediately shaped to the specified width and thickness.
  - b. A visible temperature gauge to allow monitoring of the thermoplastic material near the point of deposition.



9. Glass Beads Dispenser equipped with a drop-on glass bead dispenser capable of dispensing beads immediately after the molten material is applied.

### 3.02 Construction

#### A. General:

3. ADD the following:
  - a-e: apply to thermoplastic pavement markings as well.

#### B. Surface Preparation:

ADD the following:

5. For thermoplastic markings,
  - a. Even if the pavement is visibly dry, subsurface moisture may be present in amounts sufficient to affect bonding. To test for dryness, lay a 3 to 6 foot section of tar paper on the pavement and apply molten thermoplastic on top. After 30 seconds, lift the paper and check for moisture on the bottom of the paper. If the paper is dripping wet, wait until the pavement has dried before applying the thermoplastic. If the paper shows only a damp spot, proceed with the thermoplastic application.
  - b. Remove existing pavement markings, whether permanent or temporary, that would prevent a mechanical bond between the thermoplastic and the pavement.
    - 1) Sand blast or use another method that is approved by the Engineer.

#### I. ADD the following:

4. Maintain permanent pavement markings in good condition prior to the completion of the project, and for 90 calendar days after placement, and reconstruct, if necessary. The condition of the marking will be evaluated by the Engineer at that time.
5. If more than 10 percent of any 2,000-foot section of marking fails during this 90-day period for any reason except abrasion at private entrances or within intersections, repair or replace those sections, at the Contractor's expense, prior to final acceptance. Transverse lines and symbols will be evaluated individually.
  - a. Failure of the marking will be rated on the basis of the percentage of material remaining on the pavement at the end of the 90-day period. This will be the percentage of the area in which the substrate is not exposed.

ADD the Following:

#### L. Thermoplastic Markings:

1. Extrude or hot-spray the thermoplastic marking material onto the pavement surface.
  - a. Ensure that the pavement marking have well defined edges and are free of waviness,

- b. Check that they have a minimum thickness of 90 mils if extruded or 60 mils if hot-sprayed
  - 1) The thickness will be measured as a wet film, except the Engineer may measure cured film by placing a tape or other bond breaker prior to placing the thermoplastic material then removing a section of cured line and measuring thickness.
2. Temperature Limitations.
  - a. Place the thermoplastic markings when the pavement surface is at least 55°F and the ambient temperature is 49°F and rising. Determine the pavement surface temperature and air temperature before the start of each day of marking operation and at any other time deemed necessary by the Engineer.
  - b. Apply the thermoplastic at a temperature of 400-425°F, depending on the manufacturer's recommendation.
  - c. Check the temperature of the thermoplastic material at the point of deposition with a calibrated thermometer at:
    - 1) the beginning of each day's marking,
    - 2) after material is added to the dispensing device,
    - 3) after delays in the marking operation, and
    - 4) any time deemed necessary by the Engineer.
  - d. Do not heat alkyd thermoplastic material above 435°F.
  - e. Do not heat hydrocarbon thermoplastic material above 450°F.
  - f. Only heat the quantity of thermoplastic that can be used within 4 hours.
  - g. Do not heat any thermoplastic material for more than 4 hours at the maximum application temperature, including initial heating.
  - h. Do not reheat more than two times.
  - i. Materials subjected to the above conditions will be rejected.
3. Check adhesion to the pavement surface with a stiff putty knife or similar instrument. The marking should not be removed from a concrete surface. The marking may be removed from a bituminous surface; however, the bituminous substrate will be stuck to the thermoplastic material.
4. If the thermoplastic line does not provide initial nighttime reflectivity, or if the marking does not have the required minimum thickness,
  - a. Grind away the surface of the deficient portion of the marking to reduce the average thickness to 50 mils or less.
  - b. Apply additional thermoplastic material to a thickness of at least 125 mils and provide a uniformly reflective surface.
  - c. If the markings do not comply with the specifications for any other reason, the Engineer may require complete removal or correction at the Contractor's expense. Corrective work will be at Contractor's expense.
5. Primer Application.

- a. Apply a primer to bituminous surfaces over 2 months old and all concrete surfaces. Primer is not required on bituminous surfaces less than 2 months old unless recommended by the manufacturer of the thermoplastic material.
  - b. Apply and cure in accordance with the recommendations of the manufacturer of the thermoplastic material.
6. Glass Bead Application.
- a. Mechanically deposit the drop on glass beads on the molten thermoplastic line immediately after placement of the thermoplastic at a rate of 8 to 10 pounds per 100 square feet of line.
  - b. Embed the beads into the strip surface to a depth of 50% - 60% of the bead diameter.
  - c. Ensure the beads are applied uniformly across the entire line.
  - d. Ensure that the beads adhere to the cured thermoplastic or all marking operations shall cease until corrections are made.

ADD the following:

### **3.03 Sampling and Testing**

- A. General: The Engineer shall have free access to the material and be extended every facility for the purpose of inspection. The Engineer reserves the right to sample at the point of manufacture, at intermediate points of storage, or at destination.
- B. Thickness: Perform periodic spot checks of thermoplastic material to verify that the required thickness has been attained. Random spot checks of the thermoplastic thickness will be made by the Engineer to ensure conformance with the required criteria. Suggested spot check procedures include the following:
  1. Wet: Thickness can be field tested immediately after the thermoplastic marking is applied by inserting a thin, graduated machinist rule or similar instrument into the molten thermoplastic to the depth of the pavement surface. The thickness is then determined visually by noting on the scale the depth of the penetration or coating of the instrument.
  2. Dried: Thickness can be field tested by placing a small flat of metal with a known thickness immediately ahead of the striping apparatus. After striping, remove the sample and use a suitable measuring device, such as a caliper or micrometer, to determine the thickness of the dried marking
- C. Thermoplastic Material: The Engineer reserves the right to test materials in accordance with ASTM D4960 Test Method for Evaluation of Color for Thermoplastic Traffic Marking Materials, AASHTO T250 Standard Method of Test for Thermoplastic Traffic Line Material, and AASHTO M 249-98 White and Yellow Reflective Thermoplastic Striping Material (Solid Form). Cost for these tests will be paid for by the Jurisdiction; however, if any of them fail, the Contractor is liable for the cost.

- D. Glass beads: Test glass beads in accordance with the procedures listed in standard specification 4184.03. The Engineer will determine the location and frequency of sampling.

END OF DIVISION

## **DIVISION 9 – SITE WORK AND LANDSCAPING**

### **Section 9010 – Seeding**

#### **PART 3 – EXECUTION**

##### **3.04 Conventional Seeding**

###### **C. Seedbed Preparation, Permanent**

###### **2. DELETE and REPLACE with the following:**

Work areas accessible to field equipment to a depth governed by the Davenport Stormwater Manual. Use mechanical rotary tillage equipment for the preparation of seedbed on earth shoulders, urban or raised medians and rest areas. Prepare by hand, areas inaccessible to field machinery, to a depth governed by the Davenport Stormwater Manual. Use care that the entire width of the shoulder and areas around headwalls, wingwalls, flumes and other structures are prepared in the manner specified. Where weed growth has developed extensively, they may be disked into the ground. If weed growth develops sufficiently to interfere with proper seedbed preparation, mow the weeds and remove them from the project at no additional cost to the Contracting Authority.

## **Section 9070 – Landscaping Retaining Wall**

### **PART 2 – PRODUCTS**

#### **2.01 Materials**

##### **A. Modular Block Walls:**

##### **1. Dry-cast Concrete Wall Units:**

##### **d. DELETE and REPLACE with the following:**

In lieu of furnishing blocks from an approved supplier, provide blocks from an approved system or submit for approval by the Engineer.

##### **2. Wet-cast Concrete Wall Units:**

##### **b. DELETE and REPLACE with the following:**

In lieu of furnishing blocks from an approved supplier, provide blocks from an approved system or submit for approval by the Engineer.

## **Section 9080 – Concrete Steps, Handrail and Safety Rail**

### **PART 1 – GENERAL**

#### **1.07 Special Requirements**

ADD the following:

- C. Follow Davenport City Code.
- D. Railing post poured below frost line – 42 inches.

END OF DIVISION

## **DIVISION 10 – Demolition**

### **Section 10,010 – Demolition of Building Structures**

DELETE entire section and REPLACE with the following:

Refer to Davenport City Code.

Abandon all services at the main.

Remove driveway and re-pour curb & gutter.

END OF DIVISION