<table>
<thead>
<tr>
<th>Plan No.</th>
<th>Plan Title</th>
<th>Current Plan Date</th>
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<tbody>
<tr>
<td>W-101</td>
<td>Roadway Crowns</td>
<td>1/09</td>
</tr>
<tr>
<td>W-101A</td>
<td>Pavement Sections</td>
<td>2/18</td>
</tr>
<tr>
<td>W-102</td>
<td>Roadway Excavation – Payment Limits</td>
<td>4/12</td>
</tr>
<tr>
<td>W-103</td>
<td>Alley Section</td>
<td>4/12</td>
</tr>
<tr>
<td>W-104</td>
<td>Alley Return – Adjacent Sidewalk</td>
<td>4/12</td>
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<tr>
<td>W-105</td>
<td>Alley Return – Separated Sidewalk</td>
<td>4/12</td>
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<tr>
<td>W-106</td>
<td>Gutter Details for Catch Basin Type 2</td>
<td>4/04</td>
</tr>
<tr>
<td>W-107</td>
<td>Asphalt Concrete Thickened Edge</td>
<td>2/86</td>
</tr>
<tr>
<td>W-108</td>
<td>Asphalt Patches</td>
<td>4/12</td>
</tr>
<tr>
<td>W-108A</td>
<td>Asphalt Patches with Subgrade Failure</td>
<td>4/12</td>
</tr>
<tr>
<td>W-109</td>
<td>Concrete Patches</td>
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</tr>
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<td>W-110</td>
<td>See Std. Plan A-4</td>
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<tr>
<td>W-111</td>
<td>See Std. Plan A-5</td>
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<td>W-113</td>
<td>See Std. Plan A-7</td>
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<tr>
<td>W-114</td>
<td>Cul-de-sacs – Public Streets and Alleys</td>
<td>5/07</td>
</tr>
<tr>
<td>W-115</td>
<td>Cul-de-sacs – Public and Private Streets</td>
<td>4/21</td>
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</table>
### Table 1: Roadway Crowns

<table>
<thead>
<tr>
<th>WIDTH (FT)</th>
<th>HIGH CURB TO 1/4 CROWN: ELEV DIFF (FT)</th>
<th>HIGH Curb TO C/L ROAD: ELEV DIFF (FT)</th>
<th>HIGH TO LOW CURB: MAX ELEV DIFF (FT)</th>
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<tbody>
<tr>
<td></td>
<td>CROWN TYPE</td>
<td>1/4 Curb</td>
<td>CTR</td>
</tr>
<tr>
<td>30</td>
<td>-0.275</td>
<td>-0.050</td>
<td>-0.50</td>
</tr>
<tr>
<td>32</td>
<td>-0.260</td>
<td>-0.020</td>
<td>-0.50</td>
</tr>
<tr>
<td>36</td>
<td>-0.230</td>
<td>+0.040</td>
<td>-0.50</td>
</tr>
<tr>
<td>40</td>
<td>-0.200</td>
<td>+0.100</td>
<td>-0.50</td>
</tr>
<tr>
<td>44</td>
<td>-0.170</td>
<td>+0.160</td>
<td>-0.50</td>
</tr>
<tr>
<td>48</td>
<td>-0.140</td>
<td>+0.220</td>
<td>-0.50</td>
</tr>
<tr>
<td>54</td>
<td>-0.095</td>
<td>+0.310</td>
<td>-0.50</td>
</tr>
<tr>
<td>58</td>
<td>-0.065</td>
<td>+0.370</td>
<td>-0.50</td>
</tr>
<tr>
<td>60</td>
<td>-0.050</td>
<td>+0.400</td>
<td>-0.50</td>
</tr>
<tr>
<td>70</td>
<td>-0.025</td>
<td>+0.550</td>
<td>-0.50</td>
</tr>
<tr>
<td>75</td>
<td>-0.0625</td>
<td>+0.625</td>
<td>-0.50</td>
</tr>
</tbody>
</table>

### Diagrams

1. **Center Crown**
   - W/2
   - 3% + 3% - 5%

2. **Quarter Crown**
   - W/4 + W/4
   - 3% + 3% - 5%

3. **Curb Crown**
   - W/2
   - 3% + 3% - 5%

### Notes:
1. See Std Plan W-101A for Pavement Section Req'Mts.
2. See Std Plan F-102B for Sidewalk Section Req'Mts.
3. The Curb/Gutter Section Shall Be Rotated to Match the Roadway Transverse Slope. See Std Plan F-106.
4. Table Values May Be Interpolated for Add'nl Roadway Widths.
5. Table Values Represent a 0.5 FT Curb Exposure.

### Approved:
- Director, Engineering Services: Perry M. Taylor, P.E.
- Principal Engineer, Design: Gary S. Nelson, P.E.

### Standard Plan No.:
- ROADWAY CROWNS
- DWG/REV. BY: DG/SRM
- ENGINEERING SERVICES
- CITY OF SPOKANE, WASHINGTON
- ADOPTED: 12/1998
- REVISED: 01/2009
- SUPERSEDES: 1/2008
- CHECKED BY: JAG
- SCALE: NTS

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Back to Section W - TOC
NOTES:

1. THE CITY ENGINEERING SERVICES DEPT MAY REQUIRE A PAVEMENT DESIGN FOR LOCAL ACCESS STREETS PER DESIGN STANDARD 3.3—22.

2. ARTERIAL STREETS REQUIRE A PAVEMENT DESIGN PER DESIGN STD 3.3—21. THE TOTAL MINIMUM ALLOWABLE MATERIAL THICKNESS WILL BE 5" OF HMA AND 7" OF CSBC EVEN WHEN PAVEMENT DESIGN CALCULATIONS YIELD LESSER VALUES OF HMA OR CSBC.

3. PROVIDE 6" MIN CRUSHED ROCK ATOP A SOLID ROCK SUB-GRADE. CSTC MAY BE SUBSTITUTED FOR CSBC, BUT NO ADDITIONAL PAYMENT WILL BE MADE FOR SUBSTITUTION, AS FOLLOWS:
   • IF CRUSHED SECTION DEPTH IS GREATER THAN 6" OR MORE, THE ALLOWABLE CSTC THICKNESS IS THE TOP 50% OF SECTION.
   • IF CRUSHED SECTION DEPTH IS LESS THAN 6", THE ALLOWABLE CSTC THICKNESS IS 100% OF SECTION.
   • IF CRUSHED SECTION DEPTH IS OVER ASPHALT GRINDINGS, THE ALLOWABLE CSTC THICKNESS IS THE TOP 50% OF SECTION OR A 2" MIN, WHICHEVER IS GREATER.

4. FOR LOCAL ACCESS STREETS USE HMA CL ½", 3" THICK WHICH MAY BE PLACED IN ONE LIFT. A 4" THICKNESS SHALL BE PLACED IN TWO 2-INCH LIFTS.

5. IF UNSUITABLE SUB-GRADE IS PRESENT REFER TO COS DESIGN STANDARDS SECTION 3.3—22.
NOTES:

1. SEE STD PLAN F-1028 FOR SIDEWALK SECTION REQ’MTS.

2. SEE STD PLAN F-106 FOR CURB/GUTTER REQ’MTS. PROVIDE COMPACTED CRUSHED ROCK UNDERNEATH CURB/GUTTER TO THE PAYMENT LIMITS AS SHOWN. CRUSHED ROCK THICKNESS UNDERNEATH CURB/GUTTER IS DEPENDENT UPON THE STREET SECTION THICKNESS.

3. SEE STD PLAN W-101 FOR ROADWAY CROWN REQ’MTS.

4. SEE STD PLAN W-101A FOR PAVEMENT SECTION REQ’MTS.

5. 4:1 MAX SLOPES ARE DESIRABLE WHEN ADJACENT TO A DEVELOPED LOT.

6. PROVIDE 6" MIN OF CRUSHED ROCK ATOP A SOLID ROCK SUB-GRADE. CSTC MAY BE SUBSTITUTED FOR CSBC, BUT NO ADDITIONAL PAYMENT WILL BE MADE FOR SUBSTITUTION, AS FOLLOWS:
   - IF CRUSHED SECTION DEPTH IS 6" OR MORE, THE ALLOWABLE CSTC THICKNESS IS THE TOP 50% OF SECTION.
   - IF CRUSHED SECTION DEPTH IS LESS THAN 6", THE ALLOWABLE CSTC THICKNESS IS 100% OF SECTION.
   - IF CRUSHED SECTION DEPTH IS OVER ASPHALT GRINDINGS, THE ALLOWABLE CSTC THICKNESS IS THE TOP 50% OF SECTION OR A 2" MIN, WHICHEVER IS GREATER.
NOTES:

1. ALLEY SECTION FOR RESIDENTIAL AREAS:
   3” HOT MIX ASPHALT (HMA), CLASS \( \frac{1}{2} \), OVER NATIVE SOIL.

2. ALLEY SECTION FOR NON-RESIDENTIAL AREAS:
   3” HOT MIX ASPHALT (HMA), CLASS \( \frac{1}{2} \), OVER 4’ COMPACTED CRUSHED SURFACING TOP COURSE.

3. PROVIDE 6” MIN CRUSHED ROCK ATOP A SOLID ROCK SUB-GRADE. CSTC MAY BE SUBSTITUTED FOR CSBC PER RESTRICTIONS BELOW, BUT NO ADDITIONAL PAYMENT WILL BE MADE FOR SUBSTITUTION:
   - IF CRUSHED SECTION DEPTH IS 6” OR MORE, THE ALLOWABLE CSTC THICKNESS IS THE TOP 50% OF SECTION.
   - IF CRUSHED SECTION DEPTH IS LESS THAN 6”, THE ALLOWABLE CSTC THICKNESS IS 100% OF SECTION.
   - IF CRUSHED SECTION DEPTH IS OVER ASPHALT GRINDINGS, THE ALLOWABLE CSTC THICKNESS IS THE TOP 50% OF SECTION OR A 2” MIN, WHICHEVER IS GREATER.
PLAN VIEW

NOTE: INSTALL GUTTER PER SECTION BB ACROSS ALLEY ENTRANCE WHEN STREET GUTTER GRADES ARE LESS THAN 0.005.

MATCH EXISTING CURB EXPOSURE

SECTION A-A

SECTION B-B

USE ONLY WHEN GUTTER GRADES ARE < 0.005

NOTE(S):
1. SEE CITY STD. PLAN W-103 FOR ALLEY CROSS-SECTION.
2. SEE CITY STD. PLAN W-102 FOR CRUSHED ROCK REQ’MTS FOR STREETS.

APPROVED BY

ADOPTED: 08/1991
REvised: 04/2012
SUPERSEDES: 09/2010
CHECKED BY: JAG
SCALE: NTS
DWG/REV. BY: DGB/SRM

ENCEERING SERVICES
CITY OF SPOKANE, WASHINGTON

ALLEY RETURN
ADJACENT SIDEWALK

STANDARD
PLAN No. W-104
SECTION A-A

NOTE(S):
1. SEE CITY STD. PLAN W-103 FOR ALLEY CROSS-SECTION
2. SEE CITY STD. PLAN W-102 FOR CRUSHED ROCK REQMTS FOR STREETS.

SECTION B-B
USE ONLY WHEN GUTTER GRADES ARE < 0.005
FACE OF CURB

CUT OPENING ON C.B. CONE

PAVEMENT SLOPE BREAK LINE

PLAN VIEW

TOP OF PAVEMENT

TOP OF SILL BLOCK

SECTION A-A

SECTION B-B

SECTION C-C

GUTTER DETAILS
FOR CATCH BASIN TYPE 2

ADAPTED: 2/86
REVISED: 4/2004
SUPERSEDES: 6/02
SCALE: NTS

ENGINEERING SERVICES
CITY OF SPOKANE, WASHINGTON

STANDARD PLAN No. W-106
NOTE:
THICKENED EDGE TO BE TURNED UP WHERE UNDERCUTTING OF FENCES AND BUILDINGS OCCUR, WHERE CALLED FOR ON PLANS OR AS DIRECTED BY THE ENGINEER.
ASPHALT PATCH

TYPICAL PATCH
MATCHES EXISTING ASPHALT THICKNESS

ALTERNATE PATCH
SEE NOTES 1 OR 2

ASPHALT PATCH W/ OVERLAY

TYPICAL PATCH
MATCHES EXISTING ASPHALT THICKNESS

ALTERNATE PATCH
SEE NOTES 1 OR 2

PATCH SECTION:
A. TOP COURSE: 1.5" MIN TO 2" MAX THICKNESS. SEE STD PLAN W–101A FOR ASPHALT CLASS & THICKNESS REQ’MTS.
B. BASE COURSE: SEE STD PLAN W–101A FOR ASPHALT CLASS & THICKNESS REQ’MTS.
C. AGGREGATE: MATCH EXISTING AGGREGATE THICKNESS OR USE A MIN 4" THICKNESS, WHICHEREVER IS GREATER. PROVIDE 6" MIN CRUSHED ROCK ATOP A SOLID ROCK SUB–GRADE. SEE CITY STD. PLAN W–102 FOR CRUSHED ROCK REQ’MTS.

NOTES:
1. ARTERIAL STREETS: PATCH SHALL MATCH EXISTING PAVEMENT THICKNESS WHEN PAVEMENT IS 8" OR LESS. WHEN EXISTING PAVEMENT THICKNESS EXCEEDS 8", A REDUCTION OF THE PATCH THICKNESS MAY BE ALLOWED TO AN 8" MIN, IF A PAVEMENT DESIGN IS PERFORMED BY A LICENSED ENGINEER & APPROVED BY THE CITY ENGINEER.

2. LOCAL ACCESS STREETS: PATCH SHALL MATCH EXISTING PAVEMENT THICKNESS WHEN PAVEMENT IS 4" OR LESS. WHEN EXISTING PAVEMENT THICKNESS EXCEEDS 4", A REDUCTION OF THE PATCH THICKNESS MAY BE ALLOWED TO A 4" MIN, IF A PAVEMENT DESIGN IS PERFORMED BY A LICENSED ENGINEER & APPROVED BY THE CITY ENGINEER.

3. SEE CITY OF SPOKANE PAVEMENT CUT POLICY FOR ADD’NL REQ’MTS.
ASPHALT PATCH WITH SUBGRADE FAILURE

TYPICAL PATCH
MATCHES EXISTING ASPHALT THICKNESS

ALTERNATE PATCH
SEE NOTES 1 OR 2

PATCH SECTION:

A. HMA CL 1/2" TOP COURSE: 1.5" MIN TO 3" MAX THICKNESS. SEE STD PLAN W–101A FOR THICKNESS REQUIREMENTS.

B. HMA CL 1/2" BASE COURSE: SEE STD PLAN W–101A FOR THICKNESS REQUIREMENTS.

C. AGGREGATE: MATCH EXISTING AGGREGATE THICKNESS OR USE A MIN 4" THICKNESS, WHICHEVER IS GREATER. PROVIDE 6" CRUSHED ROCK ATOP A SOLID ROCK SUB-GRADE. SEE CITY STD. PLAN W–102 FOR CRUSHED ROCK REQ’MTS.

D. STRUCTURAL FILL: GRAVEL BORROW MEETING THE REQUIREMENTS OF WSDOT 9–03.14(1) OR WELL GRADED 6" MINUS CRUSHED ROCK, PARTIALLY CRUSHED ROCK, SHOT ROCK OR NATURALLY OCCURRING GRANULAR MATERIAL IF APPROVED BY THE ENGINEER.

E. GEOTEXTILE: GEOTEXTILE FABRIC CONFORMING TO WSDOT 9–33 SHALL BE USED TO PROVIDE SEPARATION BETWEEN UNSUITABLE SOIL AND BALLAST (SEE NOTE 3).

NOTES:

1. ARTERIAL STREETS: PATCH SHALL MATCH EXISTING PAVEMENT THICKNESS WHEN PAVEMENT IS 8" OR LESS. WHEN EXISTING PAVEMENT THICKNESS EXCEEDS 8", A REDUCTION OF THE PATCH THICKNESS MAY BE ALLOWED TO AN 8" MIN, IF A PAVEMENT DESIGN IS PERFORMED BY A LICENSED ENGINEER & APPROVED BY THE CITY ENGINEER.

2. LOCAL ACCESS STREETS: PATCH SHALL MATCH EXISTING PAVEMENT THICKNESS WHEN PAVEMENT IS 4" OR LESS. WHEN EXISTING PAVEMENT THICKNESS EXCEEDS 4", A REDUCTION OF THE PATCH THICKNESS MAY BE ALLOWED TO A 4" MIN, IF A PAVEMENT DESIGN IS PERFORMED BY A LICENSED ENGINEER & APPROVED BY THE CITY ENGINEER.

3. WHERE SETTLEMENT HAS OCCURRED, SOIL SHALL BE OVEREXCAVATED TO FIRM BEARING OR TO A DEPTH OF 2 FEET, WHICHEVER IS LESS & BE REPLACED WITH STRUCTURAL FILL COMPACTED TO 95 PERCENT OF THE MAXIMUM DRY DENSITY BASED ON AASHTO T–180 OR AS PER WSDOT 2–03.3(14). FABRIC MAY BE REQUIRED BETWEEN THE BALLAST & THE CRUSHED ROCK AS DIRECTED BY THE ENGINEER.

4. SEE CITY OF SPOKANE PAVEMENT CUT POLICY FOR ADD’NL REQ’MTS.

5. IF UNSUITABLE SUB-GRADE IS PRESENT REFER TO COS DESIGN STANDARDS SECTION 3.3–22.
EXISTING CONCRETE

TYPICAL PATCH
MATCHES EXISTING CONCRETE THICKNESS

CONCRETE PATCH W/ OVERLAY

EXISTING ASPHALT
EXISTING CONCRETE

TYPICAL PATCH
MATCHES EXISTING HMA/CONCRETE THICKNESS

PATCH SECTION:
A. ASPHALT COURSE: HOT MIX ASPHALT (HMA) CLASS 1/2", MATCH EXISTING THICKNESS.
B. CONCRETE COURSE: SEE SEC 5–01.3.
C. AGGREGATE: MATCH EXISTING AGGREGATE THICKNESS OR USE A MIN 2" THICKNESS, WHICHEVER IS GREATER. PROVIDE 6" MIN CRUSHED ROCK ATOP A SOLID ROCK SUB-GRADE. SEE CITY STD. PLAN W–102 FOR CRUSHED ROCK REQ’MTS.

NOTES:
1. PATCH SHALL MATCH EXISTING PAVEMENT THICKNESS. WHEN EXISTING PAVEMENT THICKNESS IS EXCESSIVE AS DETERMINED BY THE CITY ENGINEER, A REDUCTION OF THE PATCH THICKNESS MAY BE ALLOWED, IF A PAVEMENT DESIGN IS PERFORMED BY A LICENSED ENGINEER & APPROVED BY THE PRINCIPAL DESIGN ENGINEER.
2. SEE CITY OF SPOKANE PAVEMENT CUT POLICY FOR ADD’NL REQ’MTS.
LOCAL ACCESS DEAD END STREETS

CIRCULAR (STANDARD)

CIRCULAR (OFFSET)

HAMMERHEAD BRANCH

HAMMERHEAD 'T'

NOTES:

1. R1 = 50' MINIMUM FOR CURB RADIUS PLUS THE RADIUS OF A CENTER ISLAND, IF USED.

2. MINIMUM ROW RADIUS FOR THE BULB SHALL BE 56' PLUS THE RADIUS OF A CENTER ISLAND, IF USED.

3. MINIMUM ROW RADIUS FOR THE BULB SHALL BE 51' IF THE SIDEWALK IS LOCATED ON AN EASEMENT.

4. LOCAL ACCESS STANDARDS APPLY FOR ALL CUL-DE-SACS.

5. CUL-DE-SACS SHALL BE DESIGNED TO DRAIN OUT TO THE ADJACENT STREET. TWO PERCENT MINIMUM GRADES SHALL BE PROVIDED AT ALL PLACES ALONG THE GUTTER LINES.

RESIDENTIAL DEAD END ALLEYS
NOTES:

1. STREETS 28' WIDE OR LESS REQUIRE "NO PARKING" ON BOTH SIDES. STREETS GREATER THAN 28' & LESS THAN 36' WIDE REQUIRE "NO PARKING" ON ONE SIDE. STREETS 36' WIDE OR GREATER ARE ALLOWED PARKING ON BOTH SIDES.

2. MAXIMUM STREET SLOPE IS 10%.

3. MAXIMUM DEAD END LENGTH WITHOUT A TURN AROUND IS 150'.

4. FIRE TRUCKS MUST BE CAPABLE OF ACCESSING WITHIN 150' OF ANY POINT AROUND THE FIRST FLOOR OF ANY BUILDING.

5. ACCESS STREETS SHALL BE OF ALL-WEATHER SURFACE.

FIRE UTILITY/WASTE WATER MAINTENANCE ACCESS FOR PUBLIC AND PRIVATE STREETS