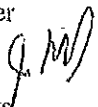




Howard County
Internal Memorandum

Subject: Resolution Adopting the 2017 Revisions to the Howard County Design Manual
Volume IV- Standard Specifications and Details for Construction

To: Lonnie Robbins
Chief Administrative Officer

From: James M. Irvin, Director 
Department of Public Works

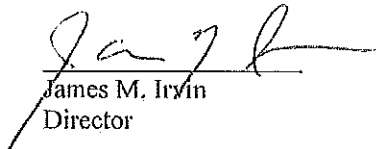
Date: September 14, 2017

We are presenting to the County Council for consideration and adoption of revision to the Howard County Design Manual Volume IV – Standard Specifications and Details for Construction. The last comprehensive revision to Volume IV was on May 7, 2007. This revision has been available to the public as a DRAFT since May of 2016. During this past year public meetings were held that invited the public including representatives from Association of Utility Contractors, Concrete Pre-Caster Associations, and Home Builders Associations to provide their comments. Input was received from various Bureaus within the Department of Public Works, Department of Planning and Zoning, and private engineering consulting firms affiliated with the Howard County Chapter of the Maryland Building Industry Association. The 2017 edition presented here, includes changes based on comments received.

Pursuant to the provisions of Section 18.210 of the Howard County Code, a public hearing was held before the Public Works Board on June 13, 2017, and all interested parties were given an opportunity to speak on the proposed revision. After consideration of the testimony presented at the public hearing, the Public Works Board recommended approval of the proposed revisions to the Howard County Design Manual Volume IV – Standard Specifications and Details for Construction on August 8, 2017.

In accordance with Section 18.210 of the Howard County Code, we are presenting the proposed revisions to the Howard County Design Manual Volume IV – Standard Specifications and Details for Construction to the County Council for adoption by resolution.

If you require any further information concerning this matter or have any additional questions, please do not hesitate to contact me at your convenience. Representatives from the Department of Public Works will be present at the public hearing to answer your questions.



James M. Irvin
Director

Cc: Thomas Butler
John Seefried



HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

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Date: September 14, 2017

To: County Council

Subject: Proposed revisions to the Howard County Volume IV Design Manual
Standard Specifications and Details for Construction

This 2017 edition of the HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION - Volume IV, was comprehensively revised last on May 7th, 2007. The revision has been available to the public as a DRAFT since May of 2016. During this past year public meetings were held that invited the public including representatives from Association of Utility Contractors, Concrete Pre-Caster Associations, and Home Builders Associations to provide their comments. The 2017 edition includes approved changes that resulted from public comments. This list highlights many of the interesting changes for the reference of the user. The changes are distinguished in two categories: "Significant Changes from 2007 Edition" and "Improvements, Updates and Clarifications from 2007 Edition."

The practice of accepting and amending the Maryland State Highway Administration's (SHA's) Standard Specification is continued in the current proposed revisions to Volume IV. Italics font text in this Standard Specification Design Manual instructs the user to amend the referenced SHA Specification by adding or deleting paragraphs, or other editing functions as necessary. However, please note that Category 300 & Category 500 now stand alone. This Design Manual incorporates all text of SHA's 2008 Hardcopy Standard Specifications as well as updates according to the SHA SUPPLEMENTAL SPECIFICATIONS AND PROVISIONS TO THE JULY 2008 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS BOOK SPECIAL PROVISION INSERTS (as published on SHA's website as of May of 2016). If this approach of completely publishing categories is appreciated by our stakeholders (vs referencing SHA's), in our future revisions, we will consider completely publishing other categories. Added text is in blue or gray in mono color prints.

Significant changes from the 2007 Edition

This category includes changes in requirements as well as imposing new requirements to improve the quality of the construction and consistency within the Design Manual. Additionally, this category includes New Construction Details or Existing Details that have been revised to clarify multiple ambiguities in the drawings.

A. Standard Specifications

- Page 92 (PDF 230) paragraph 502.01.02 (g) and Page 95 (PDF 233) paragraph 502.03.04, Remove the requirement of testing the compacted CMS for three, 7 and 28 days compressive strength.
Change the compaction requirement to 95% of maximum dry density as determined by the Modified Proctor ASTM D1557
- Page 99 (PDF 237) paragraph 504.03 Construction, Pre-Paving Meeting added to require a meeting on site before the paving operation. The Inspector, Paving Foreman, Paving Superintendent and a representative from testing agency shall be present in the meeting. The contractor shall submit the Plant name and location, Geotechnical lab name and location responsible for testing core samples, asphalt quantity and paving schedule, prior scheduling the meeting.
- Page 105 (PDF 243) paragraph 504.03.11 Sampling & Testing for Density Determination added to establish the quality control requirements of paving.
- Page 89 (PDF 227) paragraph 501.03.10 Compaction, statement added to require test rolling of the aggregate base course before paving.
- Page 45 (PDF 183) paragraph 204.03.04 Compaction, statement added to require test rolling of the embankment fills, and trench backfill within the road right of way prior to installation of aggregate base.
- Page 76 (PDF 214) SECTION 317- Stormwater Management (SWM) Filtration Facilities, added from SHA SUPPLEMENTAL SPECIFICATIONS AND PROVISIONS TO THE JULY 2008 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS BOOK SPECIAL PROVISION INSERT (herein after referred to as SPI) dated 4/11/2011 Section 316 Stormwater Management Filtration Facilities.
- Page 267 (PDF 405) paragraph 916.01 Borrow Excavation, the SHA soil characteristics were adopted from SPI dated 04/06/2009 Section- 916 Soil and Soil Aggregate Borrow. As a result, the Select Borrow gradation is specified and maximum Liquid Limit and Plasticity Index were reduced to 34 and 7 from 40 and 10 respectively.
- Page 110 (PDF 248) Minimum asphalt lift thickness increased to 1.5" for 9.5mm mix designation. The thickness is changed from 1" to 1.5" because based on the size of the aggregates, 1" paving thickness is not achievable for the 9.5mm mix designation.
- Page 442 (PDF 580) section 1101 – As-Built Construction Drawings added to provide more clarification to the current process of As-Built preparation and submittal to the County.

B. Construction Details

The changes are marked with a red triangle beside them. The following details have been significantly changed or newly added to the manual.

- Detail D – 4.01 (PDF 751) Storm Drain Inlet General Requirement, new detail.
- Detail D – 4.11 (PDF 755) Type D Inlet with Beehive Grate, new detail.
- Detail D - 4.12 (PDF 756) Yard Inlet, new detail.
- Detail D – 4.35 (PDF 768) Inlet Flow Through, new detail.
- Detail D-5.53 (PDF 782) Sediment Control Fence after Stabilization detail was added to provide option.
- Detail D – 9.02 (PDF 785) Rain Garden Private for Reference, blank spaces for As-Built information added to the detail so it can be used in SWM Certification.
- Detail D – 9.03 (PDF 786) Micro-Bioretention Facility Private for Reference, new detail.
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- Detail E – 2.03 (PDF 741) Grinder Pump, showing generic tank, pump and other components.

The following details were re-drawn and sketches added to the sheet to show the integration of the inlet and curb & gutter. The details clarify the location of expansion/contraction joints, maximum gutter slope at the inlet, slope transition, and underdrain knockout.

- Detail D – 4.02 (PDF 752) Type A-5 Inlet Precast
- Detail D – 4.03 (PDF 753) Type A-10 Inlet Precast

Improvements, updates and clarifications from 2007 Edition (Minor Changes)

A. Standard Specifications

The following sections were copied entirely from the SHA book or the latest SPI (published here instead of the Reader having to research the SHA website):

- Page 49 (PDF 187) Section 301- Class 3 Excavation for Incidental Construction
- Page 49 (PDF 187) Section 302- Selected Backfill
- Page 54 (PDF 192) Section 304- Structural Plate Pipe and Structural Plate Pipe for Arch Culverts
- Page 62 (PDF 200) Section 307- Prefabricated Edge Drains
- Page 63 (PDF 201) Section 309- Concrete Ditches
- Page 65 (PDF 203) Section 310- Concrete Slope and Channel Protection
- Page 66 (PDF 204) Section 311- Riprap Ditches
- Page 67 (PDF 205) Section 312- Riprap Slope and Channel Protection
- Page 69 (PDF 207) Section 313- Gabions
- Page 70 (PDF 208) Section 314- Flowable Backfill for Utility
- Page 71 (PDF 209) Section 315- Infiltration Trenches
- Page 87 (PDF 225) Section 501- Aggregate Base Course
- Page 96 (PDF 234) Section 503- Chip Seal Surface Treatment
- Page 107 (PDF 245) Section 505- Asphalt Patches
- Page 112 (PDF 250) Section 508- Milling Asphalt Pavement

The following section was added from Howard County Design Manual Volume III.

- Page 99 (PDF 237) paragraph 504.03 Construction, added Paving Section. This section clarifies the sub grade soil CBR requirement within the road right of the way. It gives the option to the contractor to specify the paving section after installation of the utilities, based on the new CBR value of the disturbed soil and weather there is a need for Cement Modified Soil or not.

The following sections have been updated per latest SHA Special Provision.

- Page 1 (PDF 139) Paragraph 101.03 Construction – Erosion and Sediment Control, updated per SPI Section 308 – Erosion and Sediment Control dated 1/5/2016.
- Page 219 (PDF 357) Section 901- Aggregates, updated per SPI Section 901 – Aggregate dated 2/9/16.

The following paragraph added to Preface and General Conditions to provide clarification.

- Page 2 of 6 Preface (PDF 6) paragraph Design Manual Waiver Requirement added to clarify the need for submission of Design Manual Waiver Request if the Construction Documents are different than Standards.
- General Condition Page 1 (PDF 15) paragraph (h) added definition of Engineer of Record.
- Page 260 (PDF 398) Paragraph 905.11 (a) Class 52 corrected to Class 54.

B. Construction Details

- Detail S – 1.32 (PDF 710) Manhole Drop Connection Type “A” and “B” improved the drawing, eliminated the use of concrete in Type “A” connection.

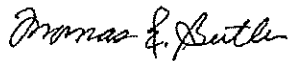
The following details were corrected and improved.

- Detail G – 5.11 (PDF 625) Precast Manhole
- Detail W – 3.27 (PDF 682) Water Meter ¾” Outside Meter Setting
- Detail E – 2.02 (PDF 740) Grinder Pump Backfill
- Detail D – 4.10 (PDF 754) Type D Inlet
- Detail R – 4.01 (PDF 807) Sidewalk Ramp Type A
- Detail R – 4.02 (PDF 808) Sidewalk Ramp Type B
- Detail R – 4.03 (PDF 809) Sidewalk Ramp Type C

If you have any questions please contact Deputy Chief, Construction Inspection Division in the Bureau of Engineering, Mr. Kamran Sadeghi at 410-313-1853.

The Design Manual is the culmination of several months of preparation by the County staff members and review by various County Departments and professional organizations. Our thanks go out to all who participated and contributed to this effort.

Very truly yours,



Thomas E. Butler, Deputy Director
Department of Public Works
Engineering, Development and Construction