Cecil County Department of Public Works

Guidance Manual for the Road Code and Standard Specifications
November 24, 2004

This guidance manual is intended for use by applicants for approval under the jurisdiction of the Cecil County Department of Public Works (Department) relative to the Road Code and Standard Specifications (April 25, 2002). The manual will be updated periodically to reflect new policy and guidance regarding applications for and compliance with design approvals. It is unreasonable to expect that the manual can address all circumstances and answer all design or compliance issues; however, updates over time will reflect the experience of the Department as new challenges are faced.

Introduction

The Cecil County Department of Public Works is charged with design & construction oversight as well as maintenance of all County public streets and associated stormdrainage systems. The Road Code and Standard Specifications provide direction for most design and construction matters. The Road Code applies to all County maintained streets, those streets intended for dedication to the County, and proposed private roads outside of the incorporated towns.

Prior Departmental Guidance, Policy, and Memoranda

Prior to the development of this manual, memoranda were issued with policy, guidance, and directives for design and compliance with the ordinance. All previously issued memoranda no longer apply except as incorporated within this manual.

Guidance Manual Structure

In general, the guidance manual is formatted with direct correlation (where possible) to applicable sections of the Road Code (Parts 1-19). For additional design and construction related policy, not specifically detailed within Parts 1-19, Sections 21-30 of the Manual are provided.

As always, should you have any questions or require additional information on interpretation or requirements, please contact the Cecil County Department of Public Works at (410) 996-5265.

Guidance Manual

1. GENERAL PROVISIONS

   See Part One of the Cecil County Road Code and Standard Specifications

2. RIGHT-OF-WAY

   2.13.E This subsection directs that a note be placed upon the plat for any private mini-road subdivision. The required note shall clearly indicate the responsibilities of the homeowners in the maintenance of the private road and storm drainage system. A standard note may be used as follows:

   "The proposed internal roads will not be dedicated for public ownership or maintenance. The Mini-Road Maintenance Association shall retain title to the road and all maintenance responsibilities."

3. GEOMETRICS

   3.07.6 Section 3.07.6 Deceleration/Right Turn Lane. A minimum 50' long lane (10' wide) is required where Table 3.07.01 warrants no specific right turn lane length. The 10' lane widening must extend across the curb or pavement returns of the proposed entrance design where no acceleration lane is required. This section does not affect Section 3.07.15 which sets forth minimum required frontage street improvements at proposed subdivision street access points.

   This requirement <u>may</u> be waived by the Department. Consulting engineers are encouraged to consider alternative entrance widening geometrics for minor roads and private mini-roads, where appropriate, but must provide the Department with adequate written justification for a waiver during each project's preliminary design stage. For minor & major residential collector streets, the minimum standards shall normally be met, except where additional deceleration lengths are required by Table 3.07.01. Industrial/commercial access locations shall be designed to accommodate the appropriate AASHTO design vehicle turning movements and lane width and length requirements.

   3.07.7 Section 3.07.07 Acceleration Lane. A minimum 50' long acceleration lane is required where Table 3.07.03 warrants no specific acceleration lane length. The 10' lane widening must extend across the curb or pavement returns of the proposed

entrance design where no deceleration lane is required. This section does not affect Section 3.07.15 which sets forth minimum required frontage street improvements at proposed subdivision street access points.

This requirement may be waived by the Department. Consulting engineers are encouraged to consider alternative entrance widening geometrics for minor roads and private mini-roads, where appropriate, but must provide the Department with adequate written justification for a waiver during each project's preliminary design stage. For minor & major residential collector streets, the minimum standards shall normally be met, except where additional acceleration lengths are required by Table 3.07.03. Industrial/commercial access locations shall be designed to accommodate the appropriate AASHTO design vehicle turning movements and lane width & length requirements.

3.07.11 Section 3.07.11. This section deals with pavement markings. A current acceptable marking specification is Epoplex LS50 or approved equal, with minimum application thickness of 15 mils. The paint/coating manufacturer's application instructions must be adhered to. Paint/coating specification must appear on the Traffic Marking Plan.

3.07.15 Section 3.07.15. This section, which requires improvements along both lanes of the fronting county roadway and to its applicable standard 100' in both directions, is not intended to deprive development rights by creating, in effect, a veto power by adjoining land owners. In the event that the developer does not control and cannot gain control of sufficient right of way and/or easements to affect this requirement, a Variance may be requested under Section 1.06 of the Road Code. Generally, the written Variance request shall contain at least the following:

a. Plat or drawings that show all land ownership of the effected area, including any rights of way or easements that are currently recorded or are pending.

b. Correspondence with effected landowners explaining the need for an easement or right of way, an offer of compensation (monetary or otherwise) commensurate with fair market value, a reasonable timeframe for their consideration (at least 30 days), an offer to meet with them and discuss the particulars of the request, and other demonstrations of good faith effort to obtain the easements or rights of way.

c. A narrative describing all attempts made to obtain the necessary rights of way and easements.

d Conceptual drawings must show the improvements that are proposed within the rights of way and easements that are controlled.

e. A certification statement by the Owner/Developer and/or the design consultant that he/she has personal knowledge of the attempts described within the Variance to obtain the easements or rights of way and that he/she is certifying the truth of those attempts and the subsequent rejection by the effected landowners.

Certification

I certify under penalty of law that the attempts to gather rights of way and/or easements described above were done under my direction or supervision. To the best of my knowledge and belief, this information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly making false representations.

Signature: _____

If a substantial effort to obtain the easements and rights of way can be satisfactorily demonstrated, the Director will likely grant a Variance to some portion of the requirement of Section 3.07.15. The Department will generally then report at Planning Commission the details of the Variance, should anyone wish to dispute that the stated offers have been made.

3.08 Section 3.08 Residential Access.

Section 3.08 offers guidance to the designer of residential subdivision streets. All driveways must be paved within the County Road right-of-way in accordance with Standard Details R-21 and R-22 and Section 4.07. This requirement must be noted upon the construction drawings and within the engineer's construction cost estimate as a line item. Driveways must be shown upon the construction drawings with proposed final grading.

Where driveway slope to a County Road exceeds 5%, the driveway shall be paved to the crest. In such a case, the driveway and grading shall be shown on the street construction drawings to a suitable location beyond its crest and the engineer's estimate shall include grading, subbase and paving of the driveway to its crest.

At the time of internal roadway paving for subdivisions, the Developer will be required to pave all driveways to the limits of the proposed street right-of-way, or to the limits established on the construction plans, whichever is the greater. For lots not yet constructed, the Developer shall establish the driveway entrance(s) as shown on the approved lot grading plan. A note shall be added to the internal road construction plans indicating this requirement

Section 3.08.B. identifies the minimum intersection to driveway distance of 75'. This distance shall be measured from the nearest entrance road curb or pavement return point of curvature to the proposed single lot residential driveway's nearest edge.

4. PAVEMENTS, CURBS, SIDE PATH

4.01.1 Section 4.01 deals with Roadway Pavement Design. Generally, with no soils investigation program or geotechnical engineer design, all street designs must incorporate the minimum required pavement depths indicated on detail R-23 for 'poor' subgrades and Subsection 4.01.D.

5. DRAINAGE and EROSION & SEDIMENT CONTROL

5.01 Section 5.01 Design Standards.

The SHA Design Manual (incorporated by reference into the Road Code) provides the following design storm frequencies based upon street classification:

Collectors	Major Collectors	25 year
	Minor Collectors	25 year
Local Roads & Streets	Local Streets	10 year

For purposes of closed and open system street drainage design (roadside ditching and/or below grade stormdrain systems), the following correlation of county street type to SHA classification shall be made:

Residential Private Mini Road :	Local Street
Residential Minor Road:	Local Street
Residential Minor Collector Road:	Minor Collector
Residential Major Collector Road:	Major Collector
Commercial/Industrial Minor Collector:	Minor Collector
Commercial/Industrial Major Collector:	Major Collector

Drainage system capacities, along with closed system hydraulic gradient computations, shall meet the appropriate storm frequencies defined above.

Stream and/or Existing Drainage Channel Crossings.

Generally, crossings for minor and private mini-roads must be shown to convey the 25-year return frequency storm without overtopping the roadway sump or low point. In the case of minor collector and major collector roads, intermittent stream crossings and drainage channel crossings serving more than ten (10) acres of drainage area shall be designed to convey the 50-year return frequency storm with no overtopping of the roadway sump or low point[1]. Perennial stream crossings for all collector roads shall pass the 100 year storm event without overtopping[2]. Where detailed information of the crossing's effect on stream corridor storm events is required by the Department, the consulting engineer shall provide 10-, 25-, 50- and 100-year storm event mapping (including headwater and tailwater elevations) upstream and downstream of the proposed structure. All crossings shall be designed for MD 378 Pond Code conformity where the standard applies. For all proposed County streets, concrete headwalls and wingwalls (where applicable) shall normally be required where cross culvert diameter exceeds two (2) feet and/or where the road shoulder to ditch invert vertical dimension exceeds four (4) feet at the sump. Flared end sections for street cross culverts exceeding two (2) feet in diameter will be considered on a case-by-case basis. Flared end sections for street cross culverts two (2) feet in diameter and less shall be the standard minimum inlet and outlet culvert end treatment.

5.03 Section 5.03 CAPACITY DESIGN STANDARDS

C. This subsection deals with allowable spread for storm event conveyance along curb lines of closed-section County streets. For minor residential streets, a 12' wide dry travel way is desired. For residential minor and major collector streets, 24' wide and 28' wide dry travel ways are required, respectively. The dry travel way need not be centered, as suggested by Section 5.03.C.

Generally, past computational checks (both preceding and following the April 25, 2002 Road Code rewrite) have analyzed

[1] Where internal street layout within a proposed subdivision offers alternate access availability by means of a loop road, second access, etc., the Department may waive this requirement on a case-by-case basis. Supporting documentation with engineering computations from the design consultant shall be submitted with any waiver request.

[2] Where internal street layout within a proposed subdivision offers alternate access availability by means of a loop road, second access, etc., the Department may waive this requirement on a case-by-case basis. Supporting documentation with engineering computations from the design consultant shall be submitted with any waiver request.

the spread requirement only for the 10 year storm event, conforming to a ten-year underground and inlet system capacity design. Spread computations; however, are intended to confirm minimum unsubmerged travel way widths along closed-section streets, with conveyance being secondary, albeit recognized as part, to that purpose. As such, it is appropriate for the design engineer to investigate the more frequent storm events, which are critical to characterizing suitable storm event spread within a curbed street section. The Road Code offers no detail on which storm event should be analyzed nor is there a correlation between street classification and the storm event required for spread analyses. For closed section minor and minor collector residential streets, storm event spread computations shall be provided for a minimum 2-year peak event storm frequency. For all other closed section County streets, spread computations shall be provided for a minimum 10-year peak event storm frequency.

On a case-by-case basis, the Department has previously approved the use of 3% pavement cross slopes for subdivision streets (2% is the standard) where the design engineer has substantiated that a better design will result. In all cases, a thicker asphalt application has been required for the 3% cross slope. A variance to the standard cross slope must be requested and justified by the design engineer for cross slopes exceeding 2%.

6. UTILITIES

See Part 6 of the Cecil County Road Code & Standard Specifications

7. SIGNS AND PAVEMENT MARKINGS

This part deals with street signage and pavement markings. A reminder, here, is appropriate and addresses the road construction process. For proposed county streets, the public works agreement estimate must include provisions for one private (color blue) and one public (color green) street name sign for each location required. During construction and prior to occupancy of the first house, the blue street name sign will be placed. Upon final county acceptance of the street, the blue will be replaced with a green sign.

8 - 9 PARTS 8-9

See Parts 8-9 of the Cecil County Road Code & Standard Specifications

10. CONSTRUCTION PLANS

10.02 This section deals with the designer's responsibility to provide an administratively complete submittal. In the case that a submittal must be returned to the designer with the classification of "Administratively Incomplete", the original submittal date shall have no meaning in terms of review scheduling. The subsequent re-submittal will be scheduled for review as a first submittal.

11. PART 11

See Part 11 of the Cecil County Road Code & Standard Specifications

12. PART 12

Part 12, CONSTRUCTION PERMITS, deals with construction permitting and approval signatures required to perform work.

Section 12.D. identifies the signature of the Director of Public Works on construction drawings as constituting 'a permit to perform all items appearing on the plan'. To date, this statement has continued to be misinterpreted as satisfying the grading permit requirement of County Code Chapters 248 and 251, *Soil Erosion and Sediment Control* and *Stormwater Management*. Where required by Chapters 248 and/or 251, a **separate** grading permit must be applied for, regardless of the approval status of the street and utility construction drawings. Additionally, permits required by the County Roads Division for utility cuts and work within existing County rights-of-way are not effected by the Director's signature upon construction plans.

21.0 OTHER DESIGN GUIDANCE

21.1 Road Condition Surveys, Initial Road Improvements Proposals, and Road Improvements Plans

Where required by the Department of Public Works, the applicant for a residential major subdivision preliminary plat shall provide an initial Road Improvements Proposal (RIP) to the Department covering offsite road access. The initial RIP need not include field-run topographic evidence of the offsite road access configuration(s), except where circumstances necessitate topographic profiles, elevations, locations, etc. to substantiate street geometric suitability or improvements limits. To avoid potential conflict over data collection, we suggest that the applicant's consulting engineer meet with the Department of Public Works to identify any topographic survey work required for the initial report.

Additionally, the Department recognizes that a Road Condition Survey (RCS) is an integral and necessary part to the initial Road Improvements Proposal. Except where waived by the Department, a RCS shall be submitted with (and part to) the initial Road Improvements Report and prior to the applicant's submittal for preliminary plat review by the Cecil County Planning Commission. Below, the Department has developed three standard protocols for the Road Condition Survey, where required. Selection and/or modification of any of these protocols requires approval of the Department.

PROTOCOL ONE

A Protocol One Road Condition Survey calls for the following information to be collected and included in a consulting engineer's initial RIP report to the CCDPW:

Item:	Measurement Frequency:
Street Paved Width Measurement	50' intervals
Condition Description of Pavement	50' intervals
Left and Right Side Shoulder Widths	50' intervals
Left and Right Side Drainage Ditches/Facilities*	50' intervals
Roadside Drainage Structures	As encountered
2' min. depth Corings @ centerline**	50' intervals
2' min. depth Corings @ 1' offset from pave edges**	50' intervals (2 per)
Vertical and horizontal geometry survey***	As required by DPW

* shall include channel depth, width, condition, approximate slope, etc. where none exist reporter should denote "no streetside drainage observed"
**coring logs must report on profile change, material thickness and characteristics, groundwater encountered, and include AASHTO subgrade classification(s).
*** consulting engineer is responsible to review areas of initial survey with the Department prior to proceeding with Roads Condition Survey and report on posted speed limit.

PROTOCOL TWO

A Protocol Two Road Condition Survey calls for the following information to be collected and included in a consulting engineer's initial RIP report to the CCDPW:

Item:	Measurement Frequency:
Street Paved Width Measurement	50' intervals
Condition Description of Pavement	50' intervals
Left and Right Side Shoulder Widths	50' intervals
Left and Right Side Drainage Ditches/Facilities*	50' intervals
Roadside Drainage Structures	As encountered
2' min. depth Corings @ centerline**	250' intervals
2' min. depth Corings @ 1' offset from pave edges**	250' intervals (2 per)
Vertical and horizontal geometry survey***	As required by DPW

* shall include channel depth, width, condition, approximate slope, etc. where none exist reporter should denote "no streetside drainage observed"
**coring logs must report on profile change, material thickness and characteristics, groundwater encountered, and include AASHTO subgrade classification(s).
*** consulting engineer is responsible to review areas of initial survey with the Department prior to proceeding with Roads Condition Survey and report on posted speed limit.

PROTOCOL THREE

A Protocol Three Road Condition Survey calls for the following information to be collected and included in a consulting engineer's initial RIP report to the CCDPW:

Item:	Measurement Frequency:
Street Paved Width Measurement	250' intervals
Condition Description of Pavement	250' intervals
Left and Right Side Shoulder Widths	250' intervals
Left and Right Side Drainage Ditches/Facilities*	250' intervals
Roadside Drainage Structures	As encountered
Vertical and horizontal geometry survey**	As required by DPW

* shall include channel depth, width, condition, approximate slope, etc. where none exist reporter should denote "no streetside drainage observed"
** consulting engineer is responsible to review areas of initial survey with the Department prior to proceeding with Roads Condition Survey and report on posted speed limit.

Following departmental review and discussion upon the initial Road Improvements Proposal, the applicant may proceed with their request of preliminary plat approval, reporting to the Cecil County Planning Commission on the initial Road Improvements Proposal. Following preliminary plat approval, the applicant's consulting engineer will be required to formalize the Road Improvements Proposal by designing a final Road

Improvements Plan. The Road Improvements Plan shall meet the minimum plan/design preparation requirements established within Parts 1-19 of the Road Code and Standard Specifications (topography, existing plan and profile views, proposed plan and profile views, existing & proposed right-of-way and/or easement areas, existing and proposed drainage etc.). The offsite Roads Improvements Plan, once accepted by the Department, shall have a construction cost assigned based upon the consulting engineer's estimate and shall be included within a Public Works Agreement. Inspection & review fees and financial assurance requirements shall apply.

In all cases, the applicant shall be responsible for the preparation of all offsite road improvement proposals, plans, and road condition surveys. The default standards for all such offsite road improvement proposals and plans shall be the Road Code standards and specifications. However, design engineers are encouraged to consult AASHTO for responsible alternative design considerations that will meet the intended criteria (road speed, ADT, etc.). In the case of suitable deviations from the Road Code, the design engineer is responsible for requesting and substantiating a Road Code Variance (Road Code Section 1.06) to the Director prior to finalizing the designed plan.

Any right-of-way acquisition required, shall be the applicant's responsibility to obtain prior to requesting final plat approval from the Cecil County Planning Commission. The applicant shall be responsible for constructing any required offsite street improvements at their cost.

21.2 Plan As-built and Geotechnical Certification Blocks

The standard geotechnical and as-built certification blocks found below shall be required, where applicable, on all plans for public infrastructure.

Water Mains & Sewer Mains - Geotechnical Certification

In place testing shall be done by a Maryland registered soils engineer or equivalent to determine suitability of fill material and to certify compaction in accordance with the Cecil County Standard Specifications and Details for Water Mains & Sewer Mains.

"I _____, of _____
(Print name) (Company name)
certify that the soil(s) used as backfill at this site is of the type(s) _____

_____ as listed in the Unified Soil Classification System and is/are appropriate for use as backfill material.

Signature Registration Number Seal

Water Mains & Sewer Mains – As-Built Certification

"I hereby certify that the work shown on these plans has been constructed as shown in red hereon. I also certify that this work, as constructed, is in compliance with the approved plans and meets the requirements of the Cecil County Standard Specifications and Details for Water Mains & Sewer Mains. I cannot certify to the materials used or the construction methods and specifications utilized during construction which were inspected by the Geotechnical Engineer."

_____
Signature Date

Name (Printed) Professional License Number

Address: _____ License Type:_____

_____Professional Seal:

Road and Storm Drain - Geotechnical Certification

In place testing shall be done by a Maryland registered soils engineer or equivalent to determine suitability of fill material and to certify compaction in accordance with the Cecil County Road Code and Standard Specifications.

"I _____, of _____
(Print name) (Company name)

certify that the soil(s) used as backfill at this site of the type(s) _____

_____ as listed in the Unified Soil Classification System and is/are appropriate for use as backfill material.

Signature Registration Number Seal

Road and Storm Drain – As-Built Certification

"I hereby certify that the work shown on these plans has been constructed as shown in red hereon. I also certify that this work, as constructed, is in compliance with the plans and meets the requirements of the Cecil County Road Code and Standard Specifications. I cannot certify to the materials used or the construction methods and specifications utilized during construction which were inspected by the Geotechnical Engineer."

_____

Signature Date

Name (Printed) Professional License Number

Address: _____ License Type:_____

_____Professional Seal:

21.3 Road Widening Easements for Subdivisions of Land covered by a MALPF Easement

Section 7.2.12.A.2 of the Cecil County Subdivision Regulations identifies that

"***Properties that have sold their development rights to the Maryland Agricultural Land Preservation Foundation (MALPF) shall not be required to provide fee simple dedication or easement if they are creating a lot, to the extent that said dedication shall cause the property owner to be in violation of the***

owner's MALPF agreement, but the owner shall agree to provide said dedication upon termination of the MALPF agreement."

Generally, in order to create a new lot, the property owner of a parcel covered by a MALPF easement is required to seek exemption from the agreement easement to do so. In such a case, the new lot created would not be encumbered by the MALPF easement restrictions by virtue of the exemption; and, therefore, must provide the required fee simple strip dedication for road widening along the fronting County Road consistent with the provisions of 7.2.12.A.2. Where a written statement from MALPF (or its local board/represenatice) can be provided by the owner that identifies a road widening strip dedication **for the newly created lot** as violating the MALPF easement provisions, no widening strip dedication is required.

For remaining lands fronting a County Road on property covered by a MALPF easement, a written statement from MALPF (or its local board/representative) must be provided to the Department that identifies a road widening strip or road widening easement dedication on remaining lands to be in violation of the MALPF easement provisions. With this written documentation, no widening easement on remaining lands will be required.