Mission: To promote communication, innovation, and cooperation between GDOT and consultant firms on issues affecting design decisions, criteria, processes, and implementation as well as plan and document presentation.

Subcommittee members in attendance (comprehensive attendance sheet attached):
- ☒ Alex Stone – Mulkey Engineers
- ☒ Bill Rountree – Parsons
- ☒ Brent Story, Co-chair – GDOT
- ☒ Brian O’Connor – T.Y. Lin International
- ☒ Chris Marsengill, Co-chair – Moffatt & Nichol
- ☒ Kevin Ergle – Kimley Horn
- ☐ Mario Macrina – Wolverton & Associates
- ☐ Steve Linley – Parsons Brinckerhoff

1. The subcommittee will continue to focus on the same Top 5 Focus Areas to promote efficiency in project delivery in 2016:
   - Accessibility
   - Awareness
     - The Office of Design Policy has implemented a standard procedure for communicating policy updates internally, to contractors, and to the consultant community
   - Clarity
   - Flexibility
   - Proficiency
     - A focus for 2016 will be to reinstate side-by-side training for GDOT and consultants
     - The subcommittee members will seek the assistance of the Transportation Forum in generating a list of core classes for review at the next subcommittee meeting

2. Approved 2015 minutes for forwarding to CRC

3. Traffic Forecasting Task Force update
   - Draft Chapter 13 revisions were sent to the Task Force members for review before final edits
   - The next step for the task force will be to finalize the document and present it to the CRC

4. Lighting design
   - GDOT accepted Illuminating Engineering Society (IES) Roadway Lighting ANSI/IES RP-8-14 in March 2015
   - The attached Lighting Design Process Flowchart was revised in November 2015
   - AASHTO revisions are near completion, and review and approval is anticipated within the next year
   - GDOT process changes are not anticipated as a result of the AASHTO revisions
   - LED lighting is increasingly becoming the preferred technology on GDOT projects
• GDOT typically requires lighting of nontraditional intersections and interchanges (roundabout, CFI, DDI)
  o TIA roundabouts must be lighted
  o TIA budget should dictate the feasibility of lighting other types

5. Policy updates discussed
• January 1, 2016 – Implementation of AASHTO-MASH criteria for Roadside Safety Hardware (attached)
  o DPM updates are in progress including Chapters 5, 6 & 11
  o GDOT recently completed guardrail design and installation training courses for GDOT staff

6. Training opportunities
• Strategy to reinstate side-by-side training
  o GDOT subcommittee members will investigate funding availability and coordinate with Jeff Conrad, GDOT Training & Development Administrator
  o Consultant subcommittee members will continue to explore professional organization sponsorship idea
  o FHWA Resource Center is in Atlanta, so FHWA trainers are readily available
  o Next step: coordinate with Transportation Forum to identify desired course offerings

• Guardrail design and installation
  o Training will be offered annually in response to FHWA taskforce
  o Training is a 2-day class including a lab for the installation portion

7. GDOT Ditch Lining software guidance to consultants
• The ditch lining software should be considered a tool for guiding appropriate ditch design and stabilization methodology
• As part of a forthcoming Drainage Manual update, GDOT will publish guidance and sample designs utilizing this tool
• FHWA also has a ditch lining tool
• It was suggested that GDOT prepare a template spreadsheet for reporting ditch design parameters and calculation results

8. New business
• The attached Pavement Design & Approval Flowchart was released in October 2015
  o The flowchart outlines the current policy; no policy changes were implemented with this release
  o The flowchart clarifies when an Initial Pavement Evaluation Summary (PES) is required
    □ It was intended for the Initial PES to be completed with readily available data (i.e. no corings required during conceptual design)
    □ A sample Initial PES package was requested to clarify requirements and expectations
• A major update of DPM Chapter 9. Complete Streets Design Policy was recently completed
  o Improved, expanded and clarified discussion of ADA compliance
  o Generally improved chapter overall
  o No changes made to warrants
• MS4 Updates as presented at Transportation Summit
  o PDP will be revised in the first quarter of 2016 to incorporate MS4 process changes
    □ Revise PDP Process Chart
    □ Add guidance to Chapter 5, 6 & 7
    □ Revise Section 8.2.7 to address as-built plans
    □ Add MS4 guidance for completing concept report study
    □ PFPR and FFPR checklists
  o Permeability-specific soil testing will be required along with soil survey

• Guardrail implementation change
  o The 2011 Road Design Guide adopted research that stated that guardrail posts should not be driven through asphalt of certain thickness
  o AASHTO recommends coring asphalt before driving posts
  o Until further notice, GDOT will not drive guardrail through asphalt of any thickness
  o Crash testing is planned to evaluate the performance of guardrail installations where posts were driven through asphalt in accordance with current GDOT Construction Details
# GPTQ CRC SUBCOMMITTEE
## ROADWAY DESIGN POLICY
**January 6, 2016 @ 10:00 am**
*One Georgia Center – GDOT Design Policy Conference Room - 26th Floor*

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<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill Rountree</td>
<td>PARSONS</td>
<td><a href="mailto:william.routline@parsons.com">william.routline@parsons.com</a></td>
<td>678-969-2451</td>
</tr>
<tr>
<td>Brad McManus</td>
<td>GDOT DPS</td>
<td><a href="mailto:bmcmanus@dot.ga.gov">bmcmanus@dot.ga.gov</a></td>
<td>404-631-1130</td>
</tr>
<tr>
<td>Lima Vargas</td>
<td>GDOT DPS</td>
<td><a href="mailto:hagerty@dot.ga.gov">hagerty@dot.ga.gov</a></td>
<td>919-431-1633</td>
</tr>
<tr>
<td>Alton Stone</td>
<td>ANAKINI</td>
<td><a href="mailto:onstone@anakini.com">onstone@anakini.com</a></td>
<td>678-795-3615</td>
</tr>
<tr>
<td>Kevin Eagle</td>
<td>Kinley-Herrn</td>
<td><a href="mailto:kevin.eagle@kinley-herrn.com">kevin.eagle@kinley-herrn.com</a></td>
<td>678-533-3930</td>
</tr>
<tr>
<td>Daniel Pass</td>
<td>GDOT</td>
<td><a href="mailto:dbarrera@dot.ga.gov">dbarrera@dot.ga.gov</a></td>
<td>404-631-1605</td>
</tr>
<tr>
<td>Brent Story</td>
<td>GDOT</td>
<td><a href="mailto:bstory@dot.ga.gov">bstory@dot.ga.gov</a></td>
<td>404-631-1600</td>
</tr>
<tr>
<td>Brian O'Brien</td>
<td>TBL International</td>
<td><a href="mailto:brian.obern@tbl.com">brian.obern@tbl.com</a></td>
<td>404-235-3636</td>
</tr>
<tr>
<td>Walt Taylor</td>
<td>GDOT</td>
<td><a href="mailto:wtaylor@dot.ga.gov">wtaylor@dot.ga.gov</a></td>
<td>404-631-1922</td>
</tr>
<tr>
<td>Susan Williams</td>
<td>GDOT</td>
<td><a href="mailto:smwilliams@dot.ga.gov">smwilliams@dot.ga.gov</a></td>
<td>404-631-1522</td>
</tr>
<tr>
<td>Chris Marder</td>
<td>Moffatt &amp; Nielson</td>
<td><a href="mailto:cmarder@email.com">cmarder@email.com</a></td>
<td>912-231-0044</td>
</tr>
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FROM Brent A. Story, P.E., State Design Policy Engineer

TO Program Delivery, IPD, TIA, Engineering, Operations, Construction, and Field Districts


The major changes to the 2016 Edition of the Manual include:

- a new process for inclusion and removal from the Equivalent BMP List;
- revised and combined practices from that defined in the 5th and 6th Editions of the Manual;
- clarification for Type A, B, and C silt fences in non-sensitive and sensitive areas; and
- updated guidance for ESPCPs.

The GSWCC also defined and published on their website a “Transition Period” (January 1, 2016 – June 30, 2016) for full implementation of the 2016 Edition of the Manual. See attachment to this letter.

Therefore, this is notice that all GDOT projects Let on or after July 1, 2016, shall comply with the 2016 Edition of the Manual.

The Office of Design Policy and Support is updating the Erosion Control Legend Sheets (Section 52); MicroStation linestyles and cells; and erosion control related Construction Details and Standards to be in compliance with the 2016 Edition of the Manual. These items will be published by February 5, 2016 and will be announced as they become available. GDOT project managers and engineers should refer to the GDOT R.O.A.D.S. webpage for the latest updates.

Should you have any questions specifically related to GDOT ESPCP guidelines and the 2016 Edition of the Manual, please email the Office of Design Policy and Support, Roadway Hydraulics Group at ESPCP@dot.ga.gov.

Attachment: GSWCC Transition Period
BAS:DGP:MBM:dle

The 2016 Edition of the Manual for Erosion and Sediment Control in Georgia Transition Period

The Manual for Erosion and Sediment Control in Georgia has been revised and revisions will become effective January 1, 2016. Revisions include the addition of new Best Management Practices (BMPs), as well as a process to include new BMP’s in the Manual for Erosion and Sediment Control. This process for joining the Equivalent BMP List is found in Appendix A-2 of the Manual.

The GSWCC recognizes the need for a transition period to allow individuals time to understand and begin implementing the new requirements. As part of this transition period, for a 6 month period, beginning January 1, 2016 and ending June 30, 2016, GSWCC will recognize the Fifth and Sixth Edition of the Manual along with the 2016 edition.

All plans which were completed and sealed prior to July 1st 2016 may utilize the products and practices as specified in the Manual (Fifth and Sixth Editions). These may include previously approved plans with revisions, plans which had not been previously approved but were in the review process, or new plan submittals created prior to July 1st 2016. Any plans received on or after July 1st 2016, are to utilize the new Manual (2016 Edition).

During this 6 month transition period plans should not be denied solely for minor inconsistencies, such as incorrect codes (i.e. Mb instead of Ss or PM instead of Tac or Fl-Co). However, the reviewer should note all inconsistencies on the plan review sheet. If the Plan is deficient in other areas, the minor inconsistencies should be included in the reasons for denial.

If you have any questions please contact Ben Ruzowicz or Brady Hart at 706-552-4474.
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  

INTER-DEPARTMENT CORRESPONDENCE

DATE: January 1, 2016

FROM: Meg B. Pirkle, P.E., Chief Engineer

TO: Divisions of Engineering, Operations, Field Districts, Construction and P3/Program Delivery

SUBJECT: Roadside Safety Hardware (Implementation of MASH)

In 1993, NCHRP Report 350 was adopted by FHWA and GDOT as the standard for safety performance of guardrail and other roadside safety hardware. In 2009, the AASHTO Manual on Assessing Safety Hardware (MASH) was published to incorporate changes in vehicle fleet characteristics that occurred over the previous two decades. The MASH updated and replaced NCHRP Report 350, revising testing standards to include heavier and higher center-of-gravity pickup trucks and SUVs, increasing the impact angle for most small cars, and generally more stringent performance standards.

In May 2010, FHWA sent a memorandum to all states with updated guidance for new installations of guardrail on the National Highway System (NHS). Specifically, the minimum installation height recommended under NCHRP Report 350 was revised from 27 to 27 ¾ inches. Also, the recommended height under MASH was stated as 31 inches, which includes a construction tolerance of plus or minus 1 inch. The memorandum also stated that:

- Highway safety hardware accepted prior to MASH using Report 350 may remain in place;
- Safety hardware accepted using Report 350 does not require retesting under MASH; and
- Any new safety hardware not previously evaluated shall utilize MASH evaluation and testing techniques.

Furthermore, the memorandum advised that State transportation agencies implement the revised NCHRP Report 350 minimum installation height of 27¾ inches, and requested they consider adopting the 31-inch height. Accordingly, on July 1, 2012, GDOT adopted the 31-inch W-beam guardrail height as the standard for new installations on state routes and roadways on the NHS in Georgia.

On November 12, 2015 FHWA issued another memorandum stating the following:

In an effort to encourage installation of MASH crash tested devices, after December 31, 2015, FHWA will not accept requests for Federal-aid eligibility determinations for any modification based on previous crash testing performed using NCHRP 350 criteria. All modifications to an NCHRP 350-tested device will require testing under MASH in order to receive a Federal-aid reimbursement eligibility letter from FHWA. Going forward, modifications to NCHRP 350-tested devices that have, in the past, been based on engineering analysis, finite element modeling, or through other analysis will no longer receive FHWA eligibility letters.

On December 22, 2015, AASHTO published a news release recommending a schedule for implementing MASH requirements for new and replacement installations of roadside safety hardware on the NHS. These recommendations have been adopted by the Department and incorporated into the attached GDOT document, Implementation of AASHTO-MASH Criteria for Roadside Safety Hardware.

This letter and the attachment will be posted on the R.O.A.D.S. webpage under the category “Policy Announcements”, and Chapters 5 and 11 of the GDOT Design Policy Manual will be updated accordingly. If you have any questions contact Brent Story, Office of Design Policy & Support at (404) 631-1978.

MBP:HP:BAS
Attachment
Implementation of AASHTO-MASH criteria for Roadside Safety Hardware

The implementation dates below apply to the installation of roadside safety hardware on state routes and roadways on the National Highway System in Georgia. All references to the AASHTO Manual on Assessing Safety Hardware (MASH) refer to the latest edition unless otherwise noted.

**January 1, 2016:** 31-inch height W-beam guardrail and either NCHRP 350 or MASH accepted end-treatments on GDOT QPL shall be installed as outlined below:

1. **New construction, widening and/or reconstruction:** For new permanent installations and full replacements.
2. **Resurfacing, Restoration, Rehabilitation (3R) and Pavement Reconstruction:** Where the existing guardrail height is less than 27 ¼ inches.
3. **Preventative Maintenance (PM) activities:** Where the existing guardrail height is less than 27 ¼ inches. PM activities will either address needed upgrades during the course of work or identify and schedule the needed upgrades with one of the following:
   a. Future scheduled 3R project,
   b. Future scheduled pavement reconstruction work,
   c. Future standalone guardrail project,
   d. Future programmed roadway project, or
   e. District Maintenance Contract.
4. **Repairs:**
   a. The repair of more than 25 ft (> 25 ft) of damaged W-beam guardrail where the height is less than 27 ¼ inches shall be replaced at 31-inch height.
   b. If an existing end-treatment is connected to >25 ft of damaged W-beam guardrail that is less than 27 ¼ inches in height, then the end-treatment shall be replaced at 31-inch height along with the W-beam guardrail.
   c. The repair of 25 ft or less (≤ 25 ft) of W-beam guardrail may match existing guardrail height. This (25 ft) represents two 12 ½-ft W-beam panels or one 25-ft W-beam panel.
   d. Damaged end-treatments shall be replaced with NCHRP 350 or MASH accepted products according to the manufacturers installation manual.
   e. A decision to replace a whole run of guardrail during a repair will be the discretion of the Department’s engineer in the field.

**June 30, 2018:** All new permanent installations and full replacements of W-beam end-treatments shall meet MASH testing standards.

**December 31, 2018:** All new permanent installations and full replacements of cable barrier, cable barrier terminals, and crash cushions shall meet MASH testing standards.

**December 31, 2019:**
1. All new permanent installations and full replacements of bridge rail, transitions, longitudinal barrier (including portable barriers installed permanently), all other terminals, sign supports, and all other breakaway hardware shall meet MASH testing standards.
2. Temporary work zone devices, including portable barriers, manufactured after December 31, 2019, must have been successfully tested under MASH requirements. Such devices manufactured on or before this date, and successfully tested under either NCHRP Report 350 or the 2009 edition of MASH, may continue to be used throughout their normal service lives.

**NOTE:** If the Department determines that a reasonable number of MASH accepted products are available between January 1, 2016, and any of the implementation dates listed above, then these implementation dates may be revised to earlier dates and notice provided.

References:
- GDOT Design Policy Manual
  Chapter 11 for examples of 3R and Pavement Reconstruction projects, and PM activities.
- GDOT Construction Standards
  guardrail and end treatments, 4380 – 4391.
Early coordination with LG should be performed to obtain agreement regarding the type of luminaires and poles to be used, or any other preference from the LG. Normally, this coordination should be performed until after an LG-LPA has been executed from the LG and the layout and vertical geometrics of the roadway have been finalized.

13. The PM will be responsible to ensure that required coordination with other members of the project team occurs (e.g., roadway design phase, utilities, structural, etc.). Lighting Design consultant will inform PM of any ROW required for the roadway system. Coordination with the GDOT DPL office should be performed ASAP if lighting system components are to be attached to a bridge or wall.

14. Coordination is required where a lighting structure is: (a) greater than 200’ in height above ground level; (b) closer than 5 miles to a public use or military airport; (c) within 1 mile of a public use helipad or on a roadway, regardless of height or location. Refer to the FAA waiver sheet web page for more information.

15. Must file Form FAA 7400-1 Notice of Proposed Construction or Alteration. FAA will perform an aeronautical study. Forward pdf copy of completed FAA Form 7400-1 to Alan Hosh (school@dot.ga.gov) of the GDOT Intermodal Office.

16. Must receive a determination by notification of FAA. Forward determination to Alan Hosh (school@dot.ga.gov) of the GDOT Intermodal Office.

17. Submit photometrics to GDOT Lighting Design Group for review and concurrence, ASAP after ROW plan approval.

18. Lighting system layout should be provided to PM for inclusion in second "suites" submittal.

19. PM will provide copy of utility relocation plans to Lighting Design Consultant – for coordination purposes.

20. Approval letters from Old and New Bridge Design must be provided to the GDOT Lighting Group with submittal of final lighting plans for review and concurrence.

21. Submit such that final lighting plans (i.e., received from LG) can be provided to the PM at least two weeks before the FFPR is requested. Suggest submitting draft lighting plans no less than three months before expected FFPR.

22. Submit to PM two weeks before let schedule date. Letting Schedule includes Correted FFPR Plans at 16 weeks before let date and Final Plans to Contractors at 15 weeks. Respond to any FFPR comments and requests from OBA.

23. Contractor shall submit photometrics along with the materials shop drawings.

24. After installation, contractor shall survey the base plate of each high mast tower and provide the surveyed location to GDOT in the project coordinate system and datum. A General Note should be included in final lighting plans with this requirement. The note should include a provision that the price of this work will be included in the overall price bid for the high mast system.

25. After completion of the lighting structure is complete and top of structure is surveyed, submit Form FAA 7400-2 Supplemental Notice. Send copy to PM and GDOT Lighting Group. Use FAA Notice Certificate Tool 2 to verify whether or not criteria is met to enforcement to submit FAA 7400-2. FAA Tool is located at: https://www.faa.gov/airports/services/notice_certification_tool_2/
**Pavement Design & Approval Process**

**GDOT Office of Design Policy and Support**

**Concept Development**

**INITIAL ASSESSMENT**

- Request initial PES
- PES as Yes

**Preliminary Design**

- Prepare PES report
- PES report is sent to PM, PM forwards to DPL
- Yes PES

- Prepare PTS report
- PTS report is sent to PM, PM forwards to DPL
- No PTS

**Final Design**

- Approve PDC
- PDC will complete review
- No PDC

Notes:

1. An initial PES report should be prepared where the DPL determines that existing pavement must be retained as part of the permanent pavement structure due to a planned sequence of staged construction. The PM will request the initial PES. See PDP 5.9
2. OMAT evaluates suitability for overlay (affects staging and cost estimates) and prepares report. No field work is performed at this time. Initial PES is based on visual distresses and other existing data. Does not provide overlay recommendations. See PDP 5.9
3. An initial PTS report should be requested by the PM for the following roadway type & project conditions:
   - alignments on new location
   - interstate roadways (including maintenance resurfacing)
   - alignments requiring full-depth pavement reconstruction
   - widening with new lanes physically separated from existing lanes
   See PDP 5.10
4. OMAT prepares initial PES report identifying feasible pavement types. Report identifies factors, if any, that preclude the use of either HMA or concrete pavement. Report identifying if an initial PES was performed. No life cycle cost analysis will be performed at this point. See PDP 5.10
5. Initial pavement design will be prepared by the DPL. These designs should incorporate findings from initial PES and initial PTS if these reports were required. See PDP 5.11
6. For projects where pavement is being retained and an initial PES did not preclude retaining pavement, the PM should request a PES be performed. This report will be prepared by OMAT. Pavement evaluation summary with field work occurs at this point. See PDP 6.3.3 for conditions where a PES may be required.
7. PES can be requested at the same time as the PTS.
8. For projects where an initial PES has not identified a specific pavement type, PM will request a PTS. The PTS report is prepared by OMAT. This occurs on clearly defined project conditions as defined in note 3. See PDP 6.4.2
9. OMAT presents the PTS to the PM and the DPL. This step allows the PM and DPL to confirm staging, construction, etc. assumptions before submission to the PDC. See PDP 6.4.2 & Policy 5560-1
10. PTS submitted to PDC two weeks prior to the meeting. PM submits for consultant projects. Roadway Design submits for in-house design. Policy 5560-1 PDC held on the 4th Wednesday in the months of January, March, May, July, September and November
11. Pavement design(s) will be prepared by the DPL. These designs should incorporate findings from PTS and PES if these reports were required. The pavement design package is completed by the DPL. Policy 5560-1
12. GDOT DPL will submit pavement design(s) to the SRDE after completing QC checks. This will occur at least 4 weeks prior to the next scheduled PDC meeting. The SRDE will complete QA checks. The Roadway Design PDC member will submit copies of the final submittal to the PDC at least 2 weeks prior to the scheduled PDC meeting. The roadway Design PDC member will present the pavement design package to the PDC. Policy 5560-1
13. Consultant DPL will submit pavement design(s) to the PM after completing reviews in accordance with their approved QC/QA policy. The PM will forward the consultant submittal to the SRDE for QA review no later than 10 weeks prior to PDC meeting. After this complete and necessary corrections are made. The PM or consultant DPL will provide copies of the submittal to the PDC. The PM (or consultant DPL) will present the pavement design to the PDC. PDP 6.4.2 & Policy 5560-1
14. Pavement design package should be received by the PDC two weeks prior to the PDC meeting, held on the 4th Wednesday in the months of January, March, May, July, September and November. PDP 6.4.2
15. The PDC approves the pavement design package or returns the pavement design for correction and re-submission. Once approval is given, a signed pavement design package will be forwarded to the PM. Policy 5560-1
16. If applicable, the DPL incorporates ABOQ provisions into the plans.
17. PDC will complete review. Examples of reasons for changes are updated traffic, soil survey not required until final design, updated PES reports, & Design or Policy Change. See PDP 7.3.2
18. The PM will make the determination to define minor changes or submit to the PDC. A complete pavement design package must be submitted for minor changes.
19. The PM or SRDE will submit any new revised designs to the PDC. PM submits for consultant projects. Roadway Design submits for in-house design. Follow notes 12,13,14,15 & 16. See PDP 7.3.2
20. The PM will submit plans for letting.