Meeting Minutes
2023 Virginia Stormwater Handbook
Stakeholder Advisory Group (SAG) Meeting #2
Wednesday August 17, 2022

Location: DEQ Headquarters
1111 East Main Street
Richmond, VA 23219

Start – 9:30 AM

Attendees:

- SAG Members
  - Jared Webb, American Electric Power
  - Justin Curtis, AquaLaw
  - Fernando Pasquel, Arcadis
  - James Taylor, Balzer & Associates
  - Peggy Sanner, Chesapeake Bay Foundation (CBF)
  - Allison Lee, Center for Watershed Protection (CWP) – alternate
  - Mike Kitchen, Christopher Consultants
  - Jack Dawson, City of Charlottesville
  - Mike Huggins, City of Danville – alternate
  - Scott Smith, City of Hampton
  - Richard Jacobs, Culpeper Soil and Water Conservation District (SWCD)
  - Rene' Hypes, Virginia Department of Conservation and Recreation (DCR)
  - Hannah Zegler, Dominion – alternate
  - Jerry Stonefield, Fairfax County
  - Abigail Thompson, Gentry Locke
  - Doug Moseley, GKY & Associates
  - Scott Jackson, Henrico County
  - KC Filippino, Hampton Roads Planning District Commission (HRPDC)
  - Chris French, Hydro International
  - Anna Killius, James River Association
  - Melissa Burgh, JMT (Johnson, Mirmiran & Thompson, Inc)
  - Karl Martig, Kimley-Horn - alternate
  - John Burke, Montgomery County
  - Norm Goulet, Northern Virginia Regional Commission (NOVARC)
  - Raj Bidari, Prince William County
  - Dave Maxwell , Prince William County - alternate
  - Joseph Caterino, RES (Resource Environmental Solutions, LLC)
  - Kevin Conner, Shah Development LLC
  - Ashley Hall, Stantec
  - Brent Niemann, Strata Clean Energy
  - Richard Street, Street Development
  - Jacob Dorman, SW Manufacturers Assn
  - Liz Scheessele, Timmons Group

    - Patricia Colatosti, Town of Christiansburg
    - Speaker Pollard, Virginia Association for Commercial Real Estate (VACRE) - Alternate
    - Blair Blanchette, Virginia Conservation Assistance Program (VCAP)
    - Darrell Marshall, Virginia Department of Agriculture and Consumer Services (VDACS)
    - Nicholas Potter, Virginia Department of Transportation (VDOT) – alternate
    - Catherine Creasman, Virginia Department of Transportation (VDOT) - alternate
    - Frank Graziano, Wetland Studies and Solutions, Inc. (WSSI)
- Excused Absences
    - Mike Hogan, ACEC Virginia
    - Jason Papacosma, Arlington County
    - Rebecca Rochet, Chesterfield County
    - Melanie Mason, City of Alexandria
    - Matthew Huston, City of Harrisonburg
    - Logan Borror, City of Waynesboro
    - Joe Wilder, Frederick County
    - Benjamin Slaighter, Hazen and Sawyer
    - Dale Chestnut, JMU
    - Kateri Simon, Luck Ecosystems
    - Phil Abraham, VACRE
    - Alex Foraste, VDOT
    - Kevin Young, Virginia Tech
- DEQ Staff
    - Evan Branosky
    - Andrew Hammond
    - Nelson Daniel
    - Joe Crook
    - Scott Van Der Hyde

Welcome and Initial Meeting Recap

Evan Branosky (Chief Stormwater Policy Advisor, DEQ) welcomed the SAG members back for the second meeting. He introduced the DEQ staff members in attendance, provided an update on the status of the procurement process for a contractor to develop the handbook.

After the first SAG meeting, members provided a good response to the poll about which BMPs they were individually most familiar with. For the handbook, DEQ intends to prioritize those BMPs and also ask the contractor to review (with feedback from members) additional BMPs. Evan noted that many of the BMPs members are most familiar with did not exist 30 years ago. The poll and results were covered in more detail later in the meeting.

FOIA Information

Evan reminded SAG members that this is a public body, so it remains important to keep FOIA requirements at the forefront. Subcommittees are also public bodies and subject to FOIA.

Initial Meeting Content & Outcomes

In the initial meeting SAG members reviewed the different formats and specifications that have been used for BMPs in different manuals/handbooks. Based on this, Evan discussed potential focus areas the group had identified for the handbook, including:

- Updating/revising the 1992 Virginia Erosion and Sediment Control Handbook and stormwater management best management practices (BMPs);
- Climate resiliency and rainfall intensity;
- Manufactured treatment devices (MTDs), offsite compliance, and the Virginia Runoff Reduction Method (VRRM);
- Adaptive management and minimum standards;
- The Virginia Administrative Code (stormwater, erosion and sediment control, certification, and general permit regulations) and the Code of Virginia (including the Stormwater Management Act, Erosion and Sediment Control Law, and Chesapeake Bay Preservation Act (CBPA));
- CBPA performance criteria, enforcement, and karst features;
- Engineering calculations, hydrologic methods, and stormwater impacts; and/or
- Administrative processes and capital & operation and maintenance costs.

With respect to information about particular BMPs in the handbook, Evan summarized objectives and issues SAG members discussed at the prior meeting, including:

- The format and content of BMP specifications;
- "New" BMPs (i.e., approved variances, other approved practices);
- Revisions to existing BMP specifications;
- Locality approvals;
- Removals; and/or
- Revised "proprietary" and "nonproprietary" lists.

Evan suggested the SAG would recommend which and how many descriptive categories/specifications might be best for the BMPs in the handbook that DEQ is developing. Moreover, the list of proprietary and nonproprietary BMPs in the handbook will need to be revised and updated.

Evan said that as DEQ and SAG members identify issues and concerns throughout the handbook development process, if they are not priority issues, DEQ will keep track of them for consideration in the future. From the prior meeting, the following issues are in the "parking lot:"

- Include one-page flow charts to describe locality requirements;
- Identify grandfathering period/conditions;
- Consider impacts of revised BMP design specs on regional facilities & MS4 BMPs;
- Consider impact of updated handbook on DEQ training & certification exams;
- Establish "listing system" for Virginia Erosion and Sediment Control Handbook (VESCH) proprietary products;
- Determine whether to include limitations on use/disposal of dredged materials; and/or
- Expand rainwater harvesting design specification to apply to rural/agricultural contexts.

With respect to rainwater harvesting, members suggested that it would be worth considering, but it is also possible that providing this information within the proposed handbook would be too nuanced and fall beyond the scope of typical BMPs.

Since the handbook is proposed as guidance, some other issued identified by SAG members at the first meeting may need to be addressed through amendments to DEQ's regulations and/or through development of additional guidance.

- Define CIP programs & projects, retrofits, & stream restoration;
- Define "common plan of development";
- Define "sheet flow";
- Clarify Minimum Standard 19 (downstream impacts);
- Clarify restored channels for compliance with 9VAC25-870-66 (Water Quantity);
- Clarify methods to evaluate impacts of sheet flow on downgradient properties (to be consistent with 9VAC25-870-66); and/or
- Clarify enforcement conditions of a subdivision SWMP onto individual lot development under a common plan of development.

In addition, changes or modifications to local VSMP authority requirements and the construction / stormwater requirements fall outside the scope and purpose of the SAG.

SAG members offered suggestions for additional items to consider:

- Be sure the handbook is a "living document" so that DEQ can keep it up to date as BMPs evolve and improve, laws and regulations change, etc.
- The handbook should address conflicts between DEQ's guidance and the Virginia Department of Transportation's (VDOT) publications / standards and specifications, particularly in the context of erosion and sediment control requirements for linear transportation or utility projects
- Determining "what happens next?" with O&M issues, particularly dredging sediment and dealing with chemicals that have filtered into the sediment over time – is there a possible tie-in with solid waste regulations and the use of clean fill?
- Clarify who is responsible to maintain BMPs (on private property – e.g., subdivisions) and use a traditional BMP agreement with the completion of a homeowner's education program by one or two homeowners, or the use of restrictive covenants as an enforcement mechanism.

Poll Results

Evan provided an overview of the results from the poll members completed following the first meeting. The poll asked members to identify BMPs that they were most familiar with:

Are you or your colleagues familiar with the following BMPs?

- 39 VESCH BMP Categories
- 15 SWM BMP Categories
- 2 MTD BMP Categories (Hydrodynamic Devices & Filtering Devices)
- 67 Uncategorized, non-MTD proprietary BMPs, or non-VA state BMP categories

DEQ received 40 responses: 14 from localities, SWCDs, and/or PDCs (including 9 VSMP authorities); 12 engineering design/consulting firms; 8 utilities and/or industry advocacy groups; 2 NGOs; 2 universities; and 2 state agencies.

The results from the poll will help DEQ prioritize designs (BMPs) that need the most attention, consolidate specifications for some BMPs, and include additional items (e.g. green roofs or vegetative roofing). Evan reviewed two slides that showed the percentage of responses for each BMP category for

both the Virginia Erosion and Sediment Control Handbook (VESCH, 1992) and Stormwater Management Handbook (SWM, 1999). Members noted that not all of the VESCH minimum standards were shown in the poll results (e.g., 3.18 through 3.21 were missing). Evan said he would look into the missing standards to determine whether no one said they were familiar with them in the poll results, or if the data was missing from the slide.

VESCH & SWM BMP Analysis – BMP Organizational Chart

Evan discussed a series of slides that looked at which non-MTD proprietary BMPs could be used for one or more category under Chapter 3, State Minimum Standards and Specifications, of the VESCH. He suggested that some of the non-MTD proprietary BMPs could be used for more than one minimum standard, and that some of the minimum standards might be consolidated. As an example, ACF Environmental SMARTFence 36 and SMARTFence 42 can be used for minimum standard 3.01 (safety fence) and 3.04 (silt fence).

When reviewing VESCH & SWM BMPs, Evan asked the group if they thought it would be better to just update the 39 minimum standards or if consolidation should be the goal. Members suggested that it might make more sense to consider more outcomes rather than consolidation. They acknowledged that this may remove certain aspects of institutional familiarity and that VDOT standards may also need to be consolidated with DEQ terminology (whether or not that is even possible remains a question). Members thought there should be room to reorganize and combine parts of minimum standards 3.31 through 3.38, while also adding/developing a plants and characteristics category. It might also be possible to achieve the same specifications for some design requirements, e.g., straw bales, brush barriers, and silt fencing.

Other comments/feedback included:

- Images of geotextile fabric and straw bales used within the handbook need to be improved
- Address native vegetation vs non-native plants – consider removing use of invasive species as a means of vegetative control
- When reviewing the slope data, address the order in which minimum standards or other BMPs should be installed
- Looking at the number of non-MTD proprietary BMPs that have been approved by DEQ in the past 30 years, members suggested that storm drain inlet protection (3.07) should be a priority, and the focus should be in the upper right-hand corner of the graph (minimum standards 3.07, 3.08, 3.02, 3.05, 3.20, 3.01, 3.32, etc.).
- In Virginia, a practice or evaluation of performance of E&S control does not exist, while some other state do have performance standards. For further consideration – could “water quality” be used as an evaluation tool in this effort? How could staging issues be addressed? If the goal is to do X, then the handbook should tell you how to reach X... Moreover, a member suggested that downstream property owners will always need high water quality, while priority and time may limit the opportunity to evaluate the performance of certain BMPs .

From a handbook organizational standpoint, the following stages of a project include the following:

- Pre-construction
- Construction open
- Stabilization / bond release

- Post-construction

Evan reminded SAG members to consider the goals of what this handbook is trying to achieve versus what the reviewers are going to find when using this handbook. Moreover, the market remains an important proxy as the materials used today are so different from what was used 30 years ago (e.g. seed/mulch vs silt fencing). Based on comments from the members, Evan suggested additional priority review should be given to the following minimum standards and specifications (from the VESCH):

- 3.36 (soil stabilization blankets and matting)
- 3.35 (mulching)
- 3.30 (topsoiling)
- 3.31 and 3.32 (temporary and permanent seeding)
- 3.05 (silt fencing (and perimeter control))
    - These are high priority and the group will be polled about priority.
- 3.07 (storm drain inlet protection)
    - inlet protection as perimeter control should also be examined

Potential Additions & Revisions to BMP Categories

Evan posed the following questions to the members: When the site is ready for occupation or development, how should the facility or commission consider removing existing sediment? As this remains a major issue, and the regulated community needs more certainty about when the land has reached stabilization, and even more certainty when it has reached the "good enough" stage of stabilization. While "best professional judgement" is often pointed to as the standard, in certain cases, an inspector may say that more is needed, when the regulations are silent as to what exactly is needed. While the EPA may consider a measurable standard of "grass per square inch," is that the standard to be used in Virginia? Should stabilization for one year, pursuant to the regulations, and when can the developer be released?

Members expressed a desire for more certainty about when a contractor has achieved the regulatory standard – i.e., when they have achieved stabilization or some other point at which an inspector won't say, "do more."

Evan suggested DEQ will send another poll to members seeking their input on which BMPs / minimum standards are the most common, most problematic, most effective/commonly used for site stabilization and perimeter control

Contractor Background Assessment

Evan provided information about the background assessment to inform the handbook's outline. The RFP language includes highlighting every regulation that might be considered within the scope of BMPs as well as the Chesapeake Bay Regulations. Other regulations that should be considered may include the following:

- MS4 regulations / requirements for Phase I and II permittees
- Chesapeake Bay TMDL & Phase III WIP (watershed improvement plan) milestones
- VWP permits (Clean Water Act § 404)
- E&S field manual
- VDOT manual of practice

Members also suggested considering the following

- Looking at other states – NC, TN, GA, CT, CA, MN, DC, NY City (from NY – green roofs, bio-retention; a member said to be aware of climate change provisions – determine whether or not standards are based on state law that is more stringent than VA laws)
- Comment – Clarify what is "land-disturbing activity" – issue with agriculture (member said building a road on his farm triggers regulation in some interpretations, not in others)
- Internationally – UK, New Zealand have some good standards to consider
- Consider geography-specific issues: karst, coastal plain, development in wetlands (example from Virginia Beach – building roads through forested wetlands – adding width requires increased height, more wetlands)
- Redevelopment of former mine sites – mine site soil conditions will be very different from surrounding, undisturbed land… include sites affected by acid mine drainage, brownfield sites (item for the "parking lot")
- Sites with high propensity for soil colloids – they will require extra effort for staging and stabilization (on the front end, more awareness and planning will lead to fewer issues once construction begins…)
- With respect to climate resiliency – revision to model storms/rainfall intensity; IDF (intensity-duration-frequency) curves, Comment that some localities have adopted design standards for storm frequency, intensity… a member noted that there is an IDF specified in the regulations (NOAA Atlas 14) that is being debated for change/revision (9VAC25-870-72 A)

Strawman BMP Formats

Evan presented slides from the first SAG meeting that listed formats for BMP specifications. The VESCH and SWM used seven topics for each – 1. Definition, 2. Purpose, 3. Conditions where practice applies, 4. Planning considerations, 5. Design criteria, 6. Construction specifications, and 7. Maintenance. The 2011 and 2013 Design Specifications have 11 topics, adding (among others) a description, design table, regional & special case design adaptions, and community & environmental concerns. Evan said that one of the tasks of the SAG will be to recommend what topics and how many are appropriate for the handbook. He asked members what additional topics might be included, continuing the discussion from the first SAG meeting:

Brainstorm: Additional Content for Background Assessment
Additional content for background assessment may include:

- Change of custody and a BMP lifespan
- Construction
- Inspection
- Design examples
- Drainage area thresholds
- Inspection requirements
- Lifecycle – costs
- Limitations of soil / costs / see also karst examples
- Material specifications
- Maintenance schedule / conversion requirements (temporary BMPs to permanent BMPs)
- Pollution removal efficiency

- Testing

Public Comment

Evan invited members of the public that were at the meeting to provide comments. No one commented.

Wrap-up

DEQ expects to announce its intended contractor for the handbook around the end of August. After public notice is completed, DEQ will finalize the contract and begin working with the contractor. Evan is working on identifying SAG members with expertise in specific areas to form subcommittees that will review BMPs and other handbook materials as the contractor develops them. He is also working on how to facilitate subgroup meetings.

Evan thanked SAG members for their participation and said the presentation, meeting minutes, and dates for future meetings will be sent to all SAG members soon.

The meeting ended at 1:45 p.m.

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

2023 Virginia Stormwater Handbook

Stakeholder Advisory Group

Meeting #2 (August 17, 2022)

Agenda

• Welcome & Initial Meeting Recap ✓ FOIA Information ✓ Initial Meeting Content & Outcomes ✓ Poll Results	Evan Branosky Joseph Crook
• VESCH & SWM BMP Analysis ✓ BMP Categories	
Break	
• VESCH & SWM BMP Analysis (cont'd) ✓ Potential Prioritization ✓ Consensus Check	Evan Branosky
Lunch Break	
• Contractor Background Assessment ✓ Purpose & Key Items ✓ Strawman BMP Formats ✓ Brainstorm: Additional Content for Background Assessment	Evan Branosky Drew Hammond
Break	
• Public Comment	All
• Wrap-Up	Evan Branosky

DEQ

Welcome & Initial Meeting Recap

FOIA Information

1. The SAG is a public body subject to the Freedom of Information Act (FOIA). As such, all business of the group must be conducted in a public forum that has been noticed in accordance with the Act and minutes must be prepared.

2. Emails may be considered as the conduct of business. Thus, individual members of the SAG should not use "reply to all" when receiving emails from DEQ. Also, any member of the SAG that wants to provide information to the group should send it to the DEQ Project Manager for distribution.

3. If more than two members of the SAG serve on a subcommittee, those subcommittees are also public bodies and thus subject to FOIA rules.

NOTE

- Subcommittees seeking to meet virtually will be subject to § 2.2-3708.2. (Meetings held through electronic communication means), of the *Code of Virginia*.

DEQ

Welcome & Initial Meeting Recap

Initial Meeting Content & Outcomes

- Potential Focus Areas

  - ✓ VESCH & SWM BMPs
  - ✓ Climate Resiliency & Rainfall Intensity
  - ✓ Manufactured Treatment Devices, Offsite Compliance, & VA Runoff Reduction Method
  - ✓ Adaptive Management & Minimum Standards
  - ✓ Administrative Code & Code of Virginia
  - ✓ CBPA Performance Criteria, Enforcement, & Karst Features
  - ✓ Engineering Calculations, Hydrologic Methods, & SW Impacts
  - ✓ Administrative Processes & Capital & O&M Costs

- BMP Content

  - ✓ Format of Specifications
  - ✓ Content of Specifications
    - ✓ “New” BMPs (i.e., approved variances, other approved practices)
    - ✓ Revisions to existing BMP specifications
    - ✓ Locality approvals
    - ✓ Removals
  - ✓ Revised “proprietary” and “nonproprietary” lists

DEQ

Welcome & Initial Meeting Recap

Initial Meeting Content & Outcomes (cont'd)

- Parking Lot

  - ✓ Include one-page flow charts to describe locality requirements
  - ✓ Identify grandfathering period/conditions
  - ✓ Consider impacts of revised BMP design specs on regional facilities & MS4 BMPs
  - ✓ Consider impact of updated handbook on DEQ training & certification exams
  - ✓ Establish "listing system" for VESCH proprietary products
  - ✓ Determine whether to include limitations on use/disposal of dredged materials
  - ✓ Expand rainwater harvesting design specification to apply to rural/agricultural contexts

  - ✓ Regulations and/or guidance to

    - ✓ Define CIP programs & projects, retrofits, & stream restoration
    - ✓ Define common plan of development
    - ✓ Define sheet flow
    - ✓ Clarify Minimum Standard 19 (Downstream impacts)
    - ✓ Clarify restored channels for compliance with 9VAC25-870-66 (Water Quantity)
    - ✓ Clarify methods to evaluate impacts of sheet flow on downgradient properties per 9VAC25-870-66
    - ✓ Clarify enforcement conditions of a subdivision SWMP onto individual lot development under a common plan of development

DEQ

Welcome & Initial Meeting Recap

Poll Results

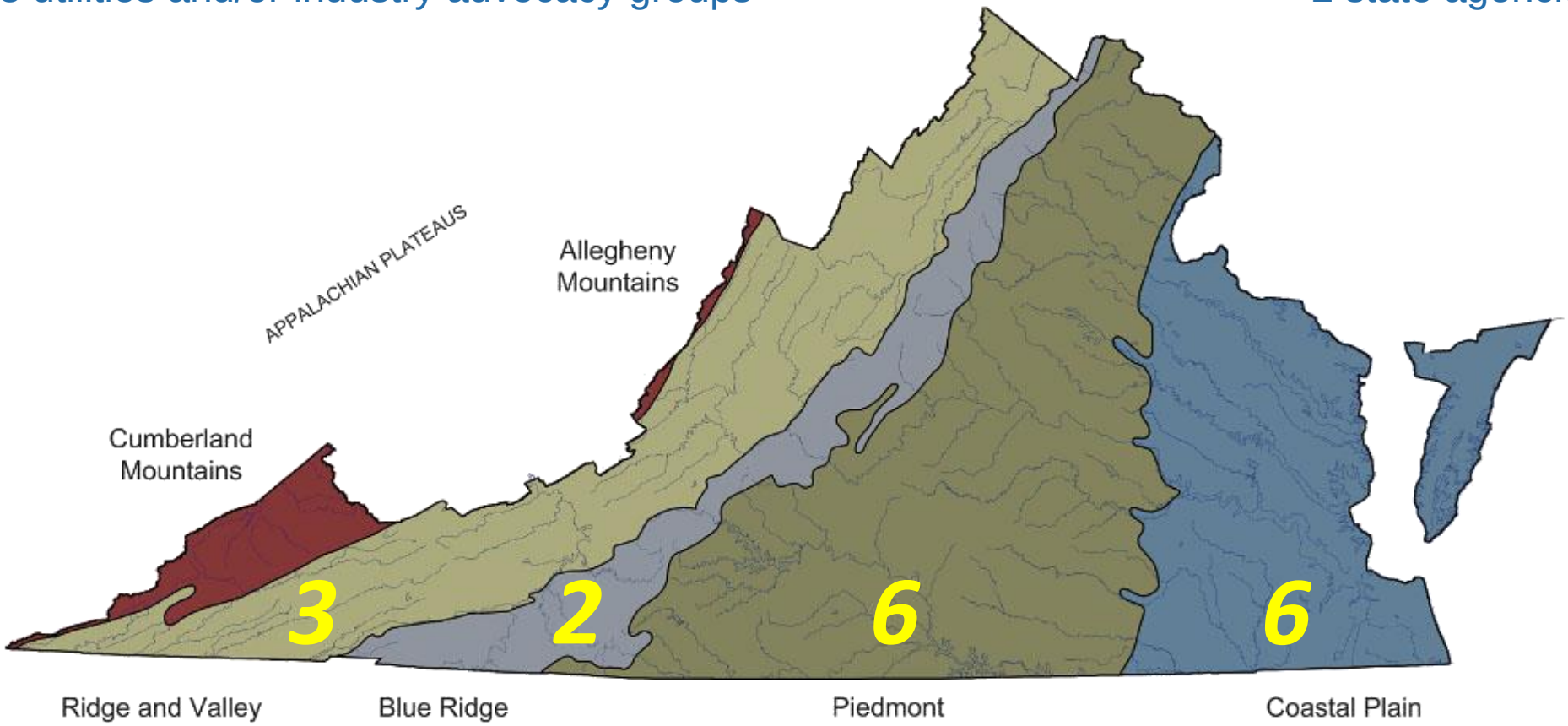
- Are you or your colleagues familiar with the following BMPs?
  - ✓ 39 VESCH BMP Categories
  - ✓ 15 SWM BMP Categories
  - ✓ 2 MTD BMP Categories (Hydrodynamic Devices & Filtering Devices)
  - ✓ 67 Uncategorized, non-MTD proprietary BMPs, or non-VA state BMP categories

DEQ

Welcome & Initial Meeting Recap

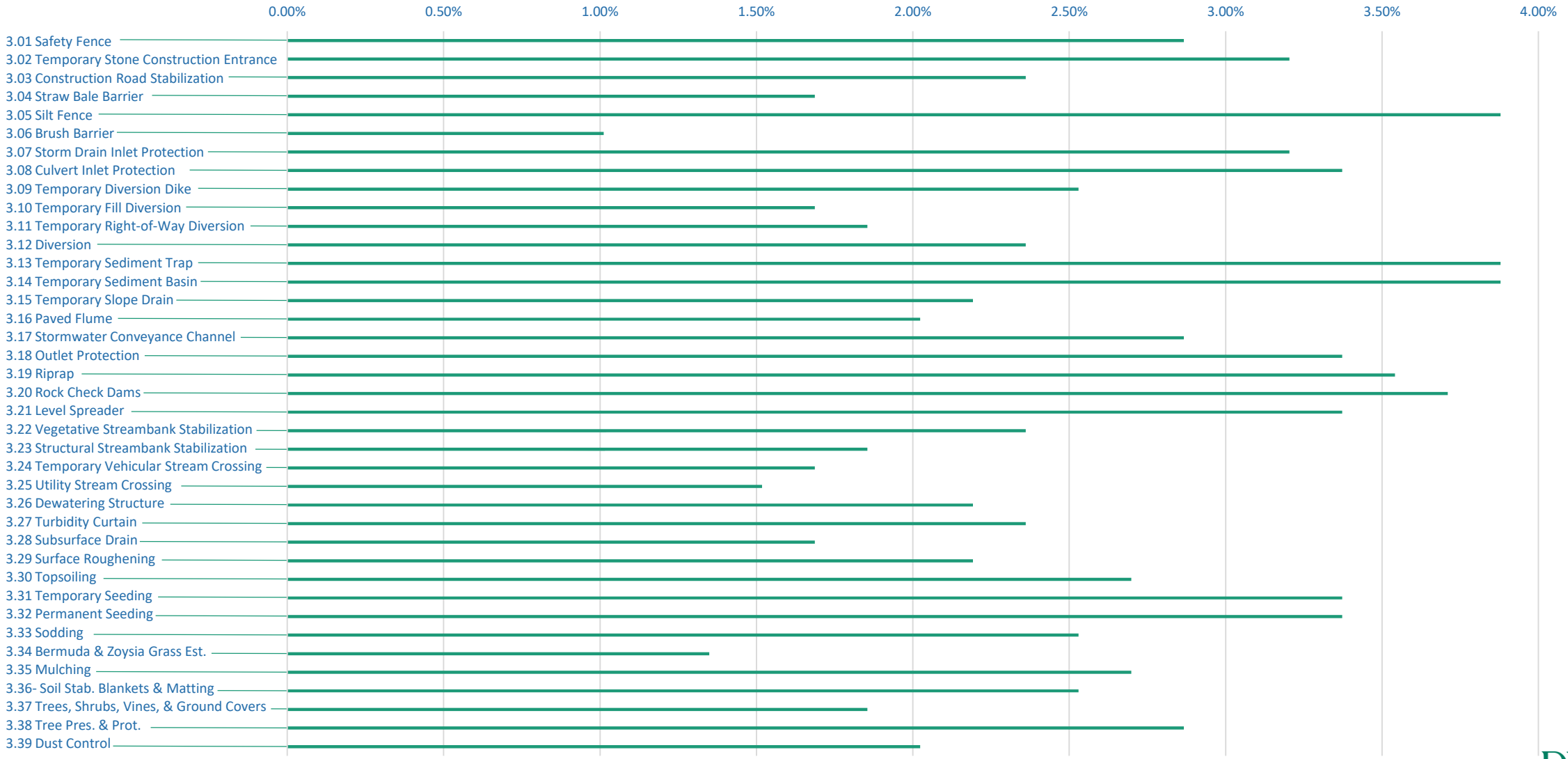
Poll Results (cont'd)

- 40 respondents representing
  - ✓ 14 localities, SWCDs, and/or PDCs (includes 9 VSMP authorities)
  - ✓ 12 engineering design/consulting firms
  - ✓ 8 utilities and/or industry advocacy groups
  - ✓ 2 NGOs
  - ✓ 2 universities
  - ✓ 2 state agencies



Welcome & Initial Meeting Recap

Poll Results (cont'd): VESCH BMP Categories



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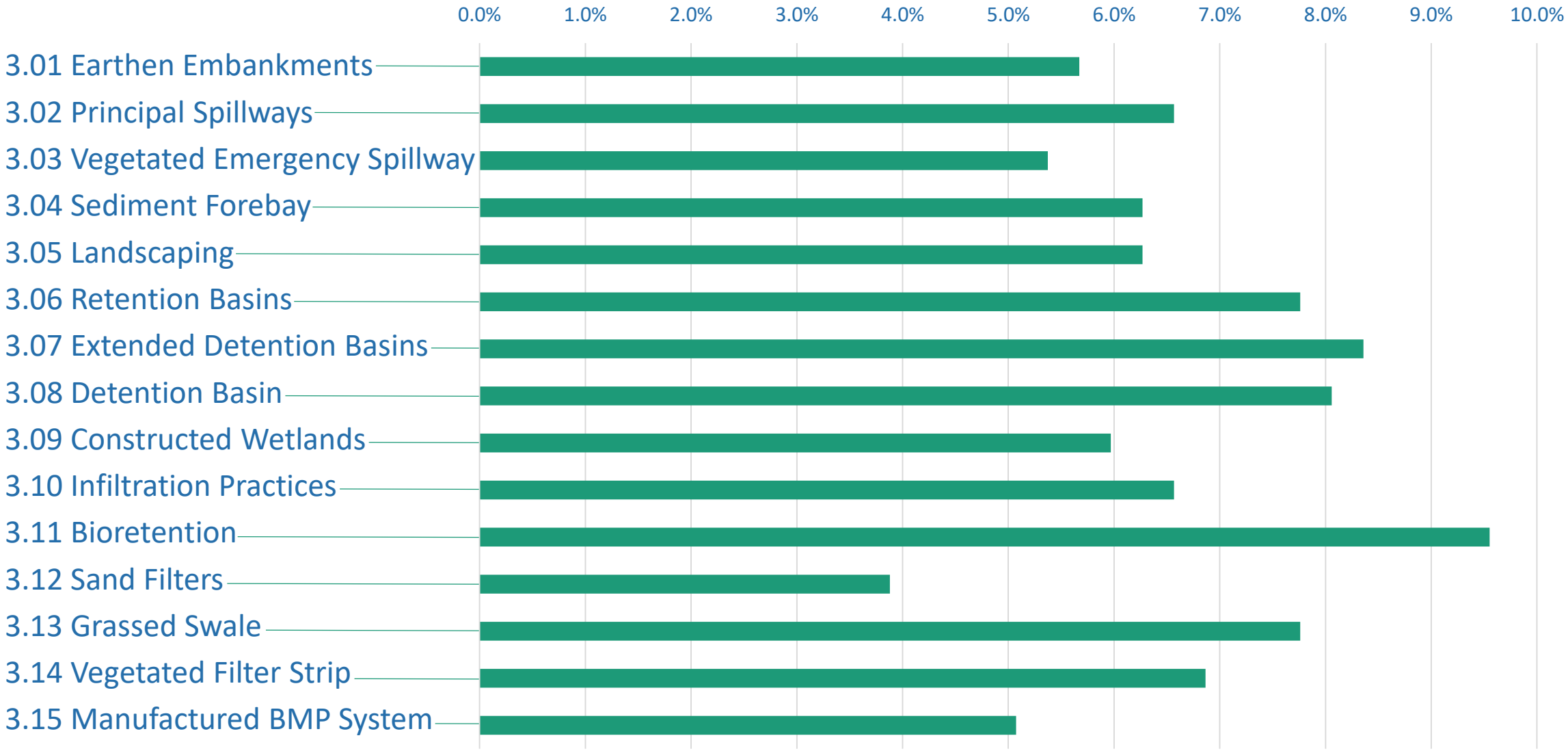
Welcome & Initial Meeting Recap

Poll Results (cont'd): SWM BMP Categories



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Break

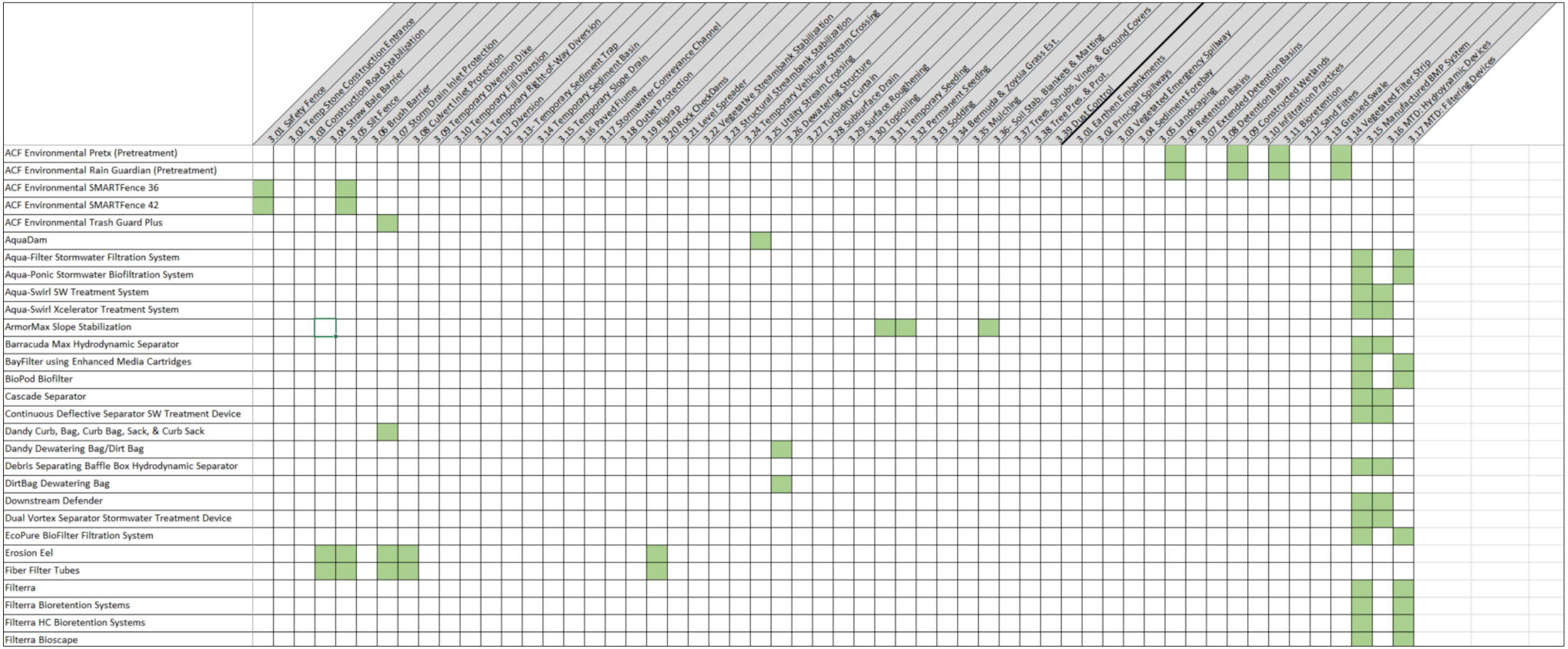
VESCH & SWM BMP Analysis

- Goals
  - ✓ Categorize non-MTD proprietary BMPs from Annual Standards & Specifications & SAG feedback
  - ✓ Prioritize BMP categories for updated design specifications
  - ✓ Identify potential BMP categories to merge, remove, or add

DEQ

VESCH & SWM BMP Analysis

BMP Categories



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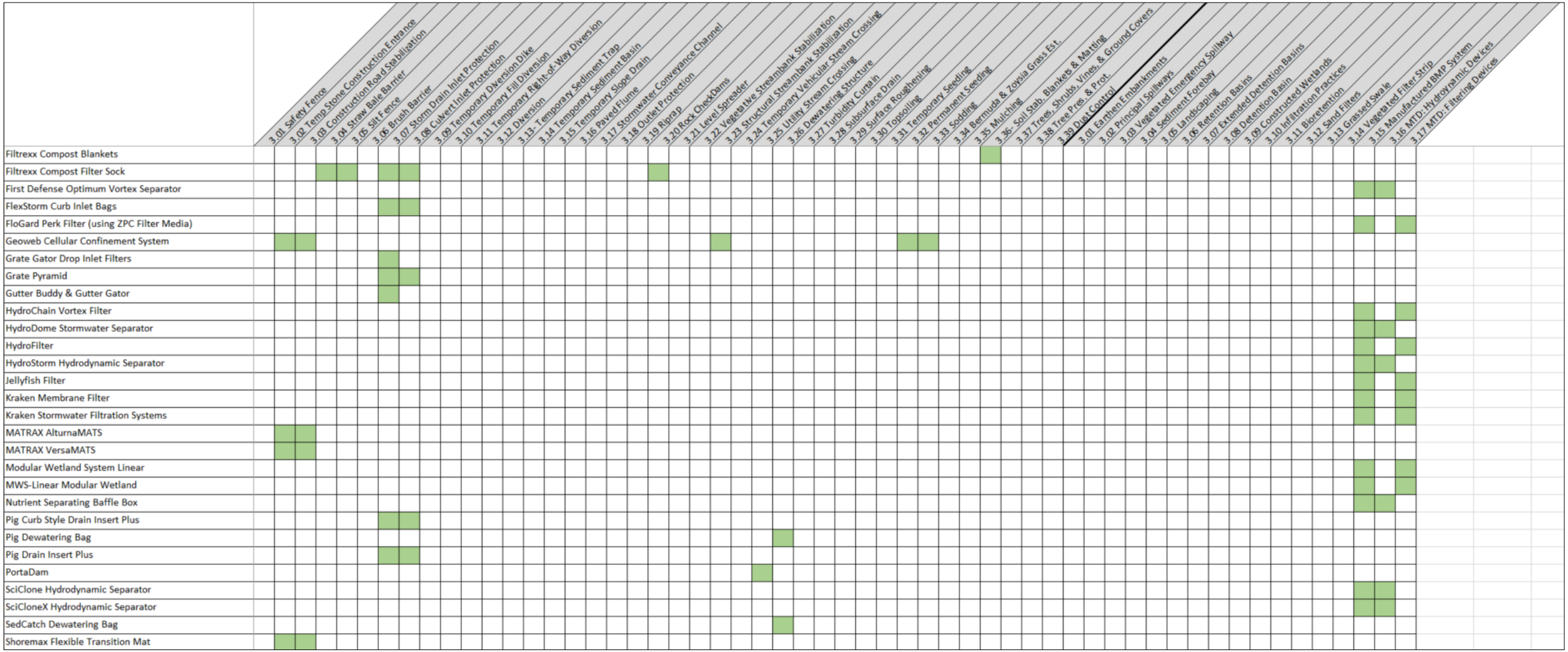
VESCH & SWM BMP Analysis

BMP Categories (cont'd)



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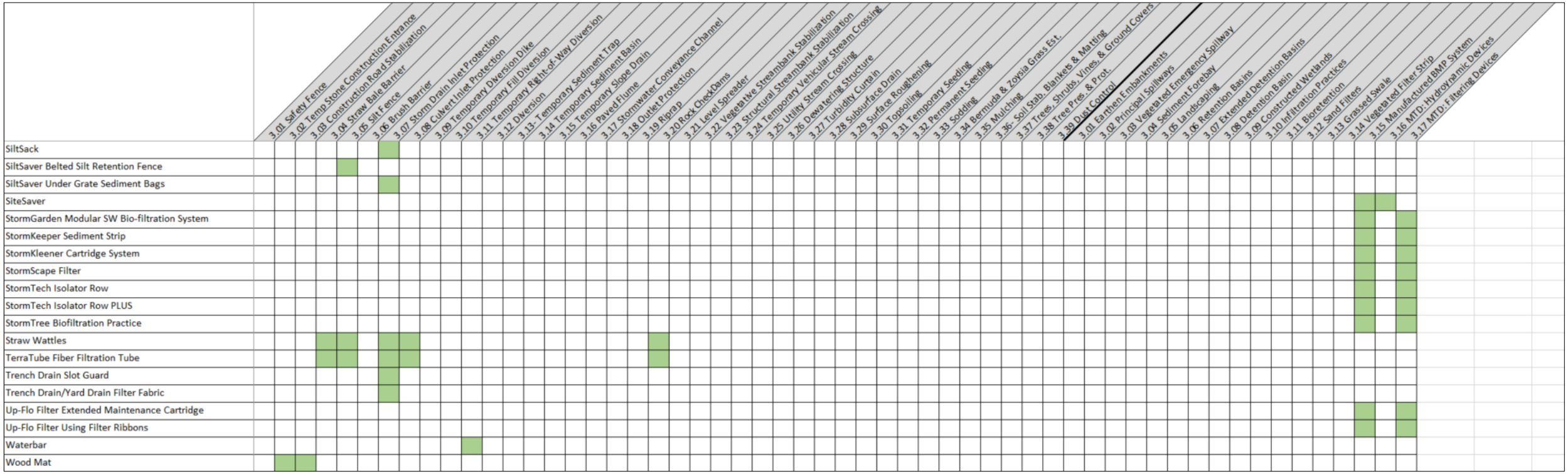
VESCH & SWM BMP Analysis

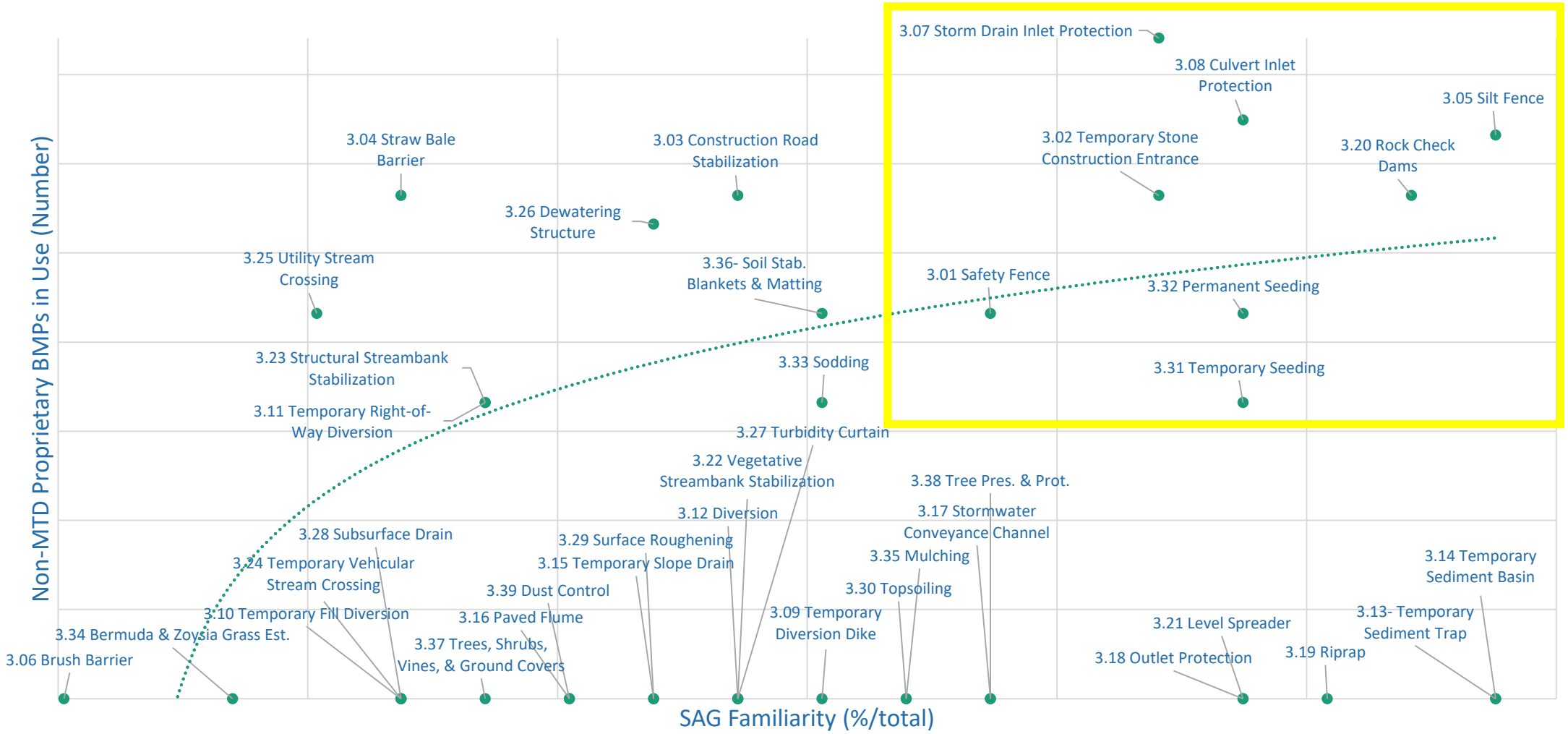
BMP Categories (cont'd)



DEQ

VESCH & SWM BMP Analysis

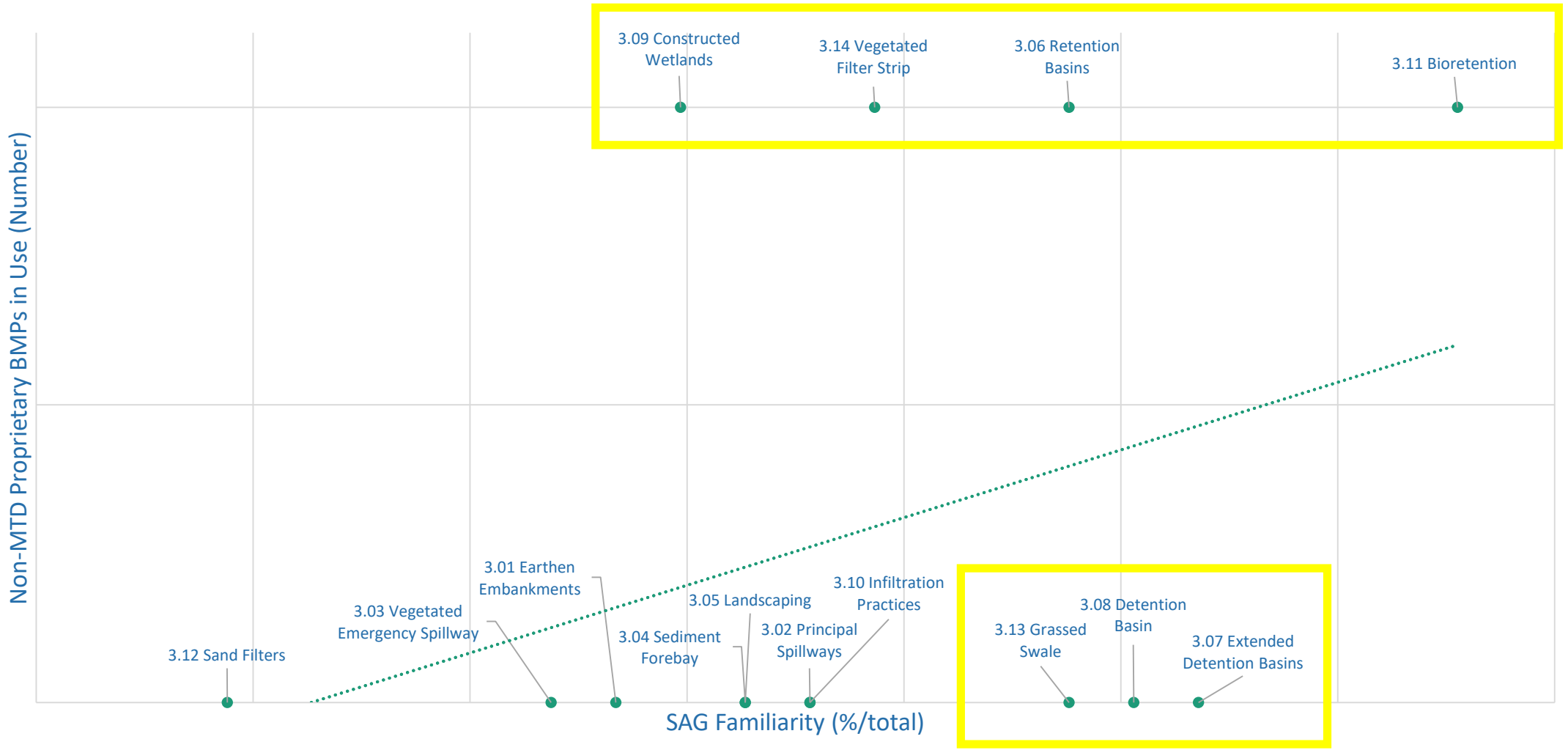
Potential Prioritization: VESCH BMP Design Specs



DEQ

VESCH & SWM BMP Analysis

Potential Prioritization (cont'd): SWM BMP Design Specs



DEQ

VESCH & SWM BMP Analysis

Consensus Check

- Consensus & Dispute Resolution

  ✓ The DEQ Project Manager may check consensus periodically on certain issues.

  3: Strongly support
  2: Some reservations, but can live with it and will not oppose it
  1: Serious concerns make it impossible to support and may actively oppose it

NOTE

- Consensus is achieved when all members present indicate a level of interest of “3” or “2”.

- No consensus is reached if any one member expresses a level of interest of “1”.

- Lack of consensus will be noted in meeting minutes, but consensus is not required for decisions.

DEQ

VESCH & SWM BMP Analysis

Consensus Check (cont'd)

1. DEQ has identified the most important, non-MTD proprietary BMPs.

2. The list of VESCH BMP priorities is appropriate.

3. The list of SWM BMP priorities is appropriate.

DEQ

Lunch Break

Contractor Background Assessment

Purpose & Key Items

- Conduct a background assessment to develop a draft outline for the Stormwater Handbook. The assessment should identify content that is
  - Relevant to construction stormwater design professionals;
  - Reflective of current stormwater management principles, and
  - Consistent with
    - Virginia's Erosion and Sediment Control Regulations (9VAC25-840);
    - Erosion and Sediment Control and Stormwater Management Certification Regulations (9VAC25-850);
    - Virginia Stormwater Management Program Regulation (9VAC25-870);
    - General Virginia Pollutant Discharge Elimination System (VPDES) Permit for Discharges of Stormwater from Construction Activities (9VAC25-880); and
    - Certification of Nonpoint Source Nutrient Credits Regulation (9VAC25-900)

DEQ

Contractor Background Assessment

Purpose & Key Items (cont'd)

- Consider
  - Virginia's diverse geography, including variations in precipitation, distribution of land cover and land use, soils, topography, Karst features, and stream/floodplain characteristics, among other conditions. All content in the Stormwater Handbook shall be applicable throughout Virginia and any regional differences shall be noted.
  - State-of-the-practice to identify modern BMPs and their design specifications and/or determine required revisions to existing design specifications. This effort should consider the technical criteria and thresholds that are necessary to protect surface water quality, public health, and safety and property, while also considering the economic impact of revisions.
  - Climate resiliency and the effect of more intense rainfall events on BMPs' ability to manage water quantity and quality. Both rainfall events and stationarity principles have changed since publication of the preceding handbooks and the new Stormwater Handbook should reflect current conditions.

Contractor Background Assessment

Purpose & Key Items (cont'd)

- Include
  - Include a review of similar handbooks across the United States and other countries with similar surface water protection programs to determine the current "Best in Class" programs and apply any publicly-reported information to produce an even more effective Stormwater Handbook.

DEQ

Contractor Background Assessment

Strawman BMP Formats

1992 VESCH & 1999 SWM	2011 & 2013 Design Specs	2011 & 2013 Design Specs (cont'd)
1. Definition	1. Description	1. Description of Practice
2. Purpose	2. Performance	2. Performance Criteria
3. Conditions Where Practice Applies	3. Design Table	3. Practice Applications & Feasibility
4. Planning Considerations	4. Typical Details	4. Environmental & Community Considerations
5. Design Criteria	5. Physical Feasibility & Design Applications	5. Design Applications & Variations
6. Construction Specifications	6. Design Criteria	6. Sizing & Testing Guidelines
7. Maintenance	7. Regional & Special Case Design Adaptations	7. Design Criteria
	8. Construction	8. Regional & Climate Design Variations
	9. Maintenance	9. Typical Graphical Details
	10. Community & Environmental Concerns	10. Material Specifications
	11. References	11. Construction Sequence & Inspection
		12. Operations & Maintenance
		13. References

DEQ

Contractor Background Assessment

Strawman BMP Formats (cont'd)

2000 (2009) MD	2020 NC	2016 PA	2006 (2016) WV
1. Feasibility Criteria	1. Design Objective	1. Description	1. Introduction
2. Conveyance Criteria	2. Design Volume	2. Variations	2. Conditions Where Practice Applies
3. Pretreatment Criteria	3. Important Links	3. Applications	3. Conditions Where Practice Applies
4. Treatment Criteria	4. Guidance on the Minimum Design Criteria	4. Detailed SW Functions	4. Planning Considerations
5. Landscaping Criteria	5. Recommendations	5. Construction Sequence	5. Design Criteria
6. Maintenance Criteria	6. Design Variants	6. Maintenance & Inspection Issues	6. Construction Specifications
	7. Maintenance		7. Maintenance

DEQ

Contractor Background Assessment

Strawman BMP Formats (cont'd)

- BMP Design Specifications:
  - Chain of custody
  - Construction (e.g., sequencing, inspection, as-built requirements)
  - Description
  - Design Criteria (e.g., GeoTech/soil requirements, sizing criteria, pre-treat, pollution remediation)
  - Design Examples
  - Drainage area thresholds (i.e., landcover & thresholds)
  - Inspection requirements & corrective actions
  - Life Cycle
  - Limitations (i.e., location, size, drainage area, suitable soil characteristics)
  - Material specification
  - Maintenance schedule & requirements
  - Necessary site applicability/characteristics/feasibility information
  - Conversion requirements (i.e., temporary to permanent)
  - Pollution removal efficiency
  - Resting requirements (pre-design)

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Contractor Background Assessment

Brainstorm: Additional Content for Background Assessment

- BMP Design Specifications:
  - Chain of custody
  - Construction (e.g., sequencing, inspection, as-built requirements)
  - Description
  - Design Criteria (e.g., GeoTech/soil requirements, sizing criteria, pre-treat, pollution remediation)
  - Design Examples
  - Drainage area thresholds (i.e., landcover & thresholds)
  - Inspection requirements & corrective actions
  - Life Cycle
  - Limitations (i.e., location, size, drainage area, suitable soil characteristics)
  - Material specification
  - Maintenance schedule & requirements
  - Necessary site applicability/characteristics/feasibility information
  - Conversion requirements (i.e., temporary to permanent)
  - Pollution removal efficiency
  - Resting requirements (pre-design)

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Public Comment

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Wrap-Up

- Key Dates
  - ✓ End of August: Notice of Intent to Award
  - ✓ Tentative SAG and/or Sub-Cmte meeting dates

2022	2023	
Wednesday, September 14, 2022	Friday, January 20, 2023	2023 General Assembly Session
Wednesday, October 12, 2022	Friday, February 17, 2023	
Wednesday, November 16, 2022	Friday, March 17, 2023	
Wednesday, December 14, 2022	Wednesday, April 12, 2023	
	Wednesday, May 17, 2023	
	Wednesday, June 14, 2023	
	Wednesday, July 12, 2023	

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2023 Virginia Stormwater Handbook

Stakeholder Advisory Group

Meeting #2 (August 17, 2022)

The meeting is adjourned.

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