



URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

Post Construction BMPs and the Urban Storm Drainage Criteria Manual Volume 3 Update

Ken MacKenzie, P.E.
Manager, Master planning Program

UDFCD Annual Seminar – February 24, 2009



Post Construction BMPs and the USDCM Volume 3 Update

The process of updating the Volume 3 Criteria Manual began with an online survey of over 200 users of the current USDCM Volume 3.

The survey consisted of nine questions. Six were yes/no or multiple choice questions and three were essay questions.

The questions asked were...



Post Construction BMPs and the USDCM Volume 3 Update

1. What best describes your work in land development and stormwater management?
2. What describes your use of Volume 3?
3. Which of the components of Volume 3 do you use?
4. How frequently do your designs include techniques that minimize directly connected impervious area or integrate other volume reduction techniques?
5. Which BMPs do you typically include in site designs or see in designs you review?

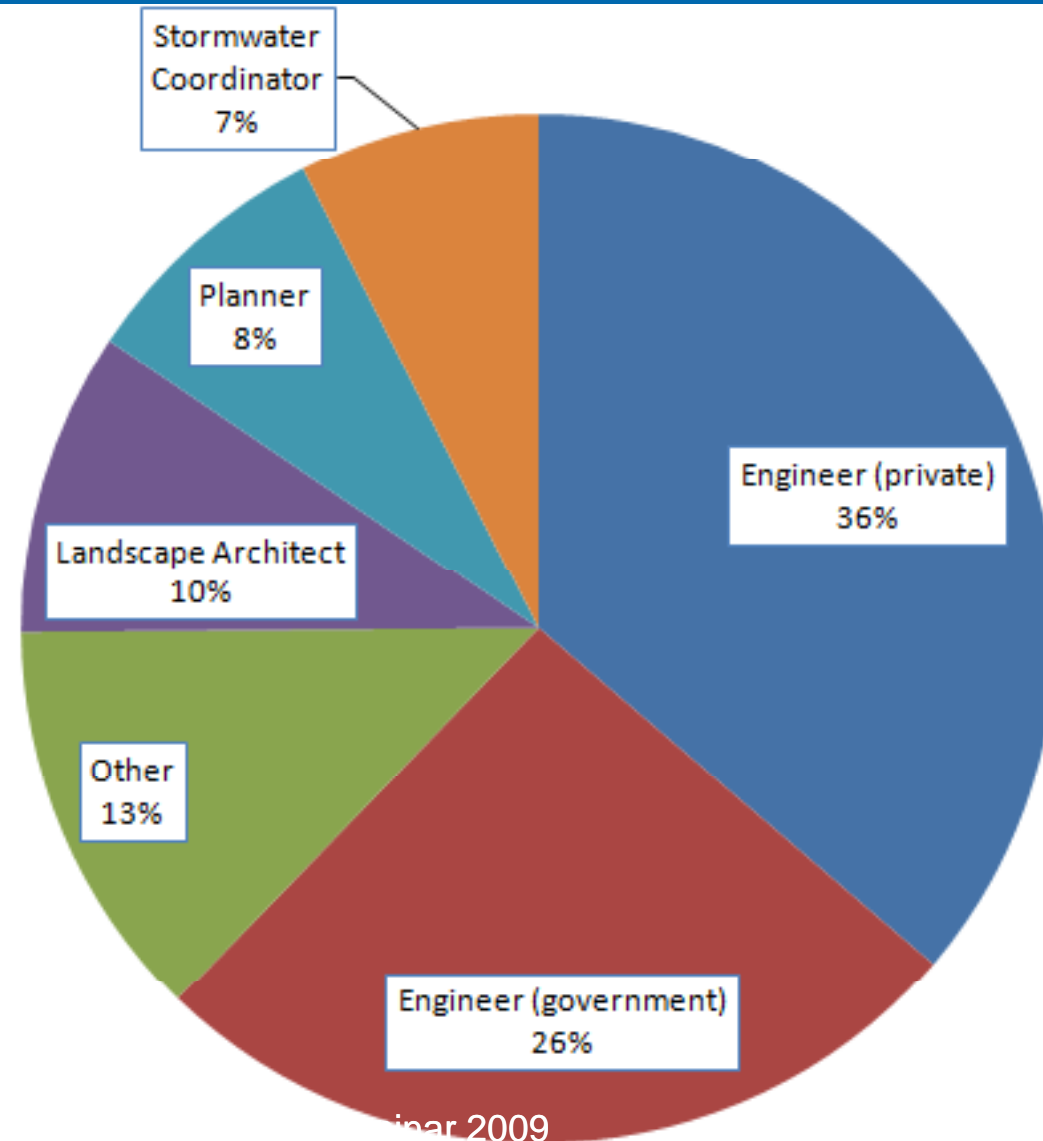


Post Construction BMPs and the USDCM Volume 3 Update

6. Do you encourage clients or applicants to use runoff reduction or Low Impact Development (LID) techniques in land development design? If so, which ones?
7. What would you change about the technical content in Volume 3 to increase its usefulness?
8. What would you change about the design and organization of information in Volume 3 to increase its user friendliness?
9. What could UDFCD do to promote LID?



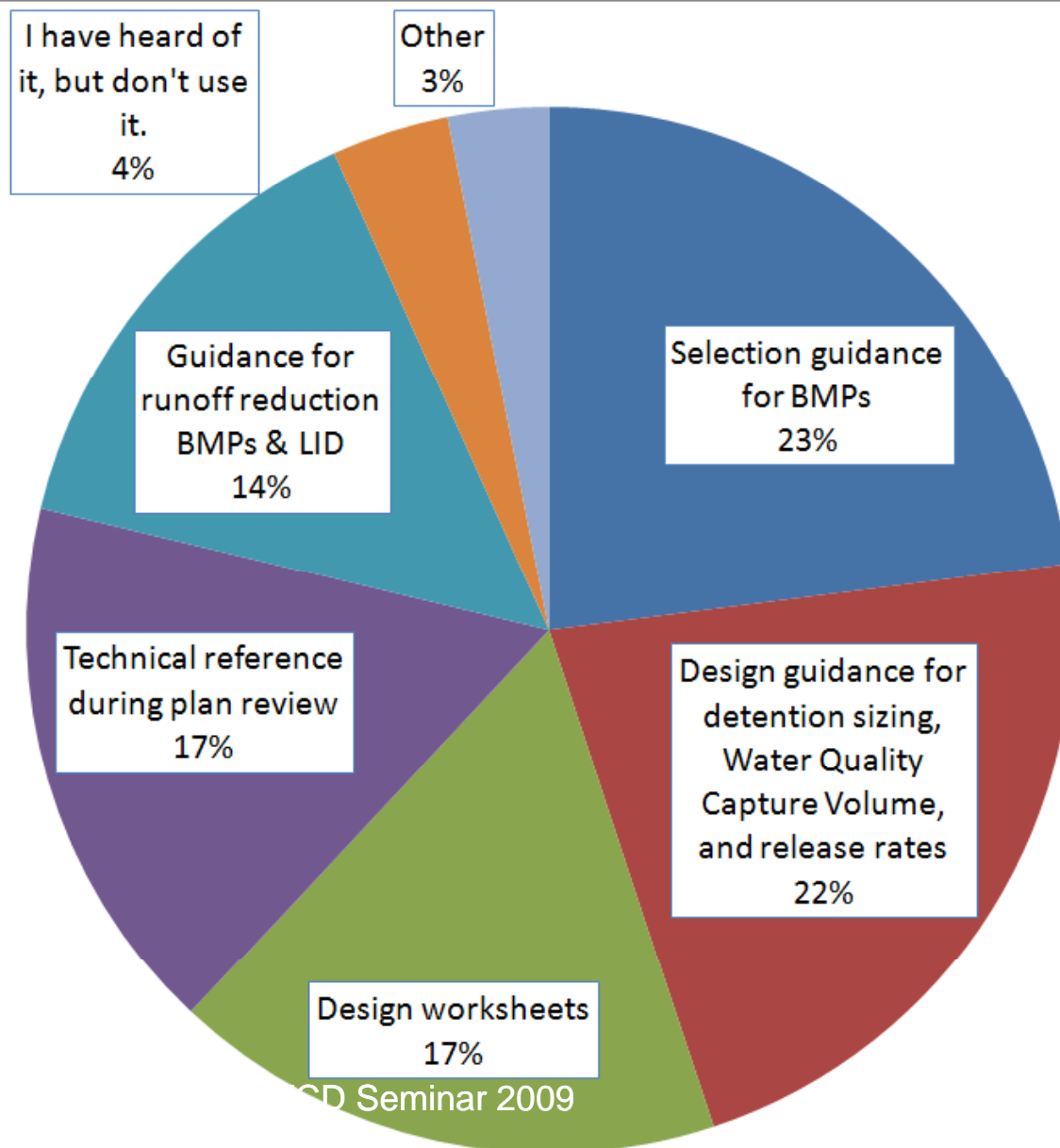
1. What best describes your work in land development and stormwater management?



January 2009



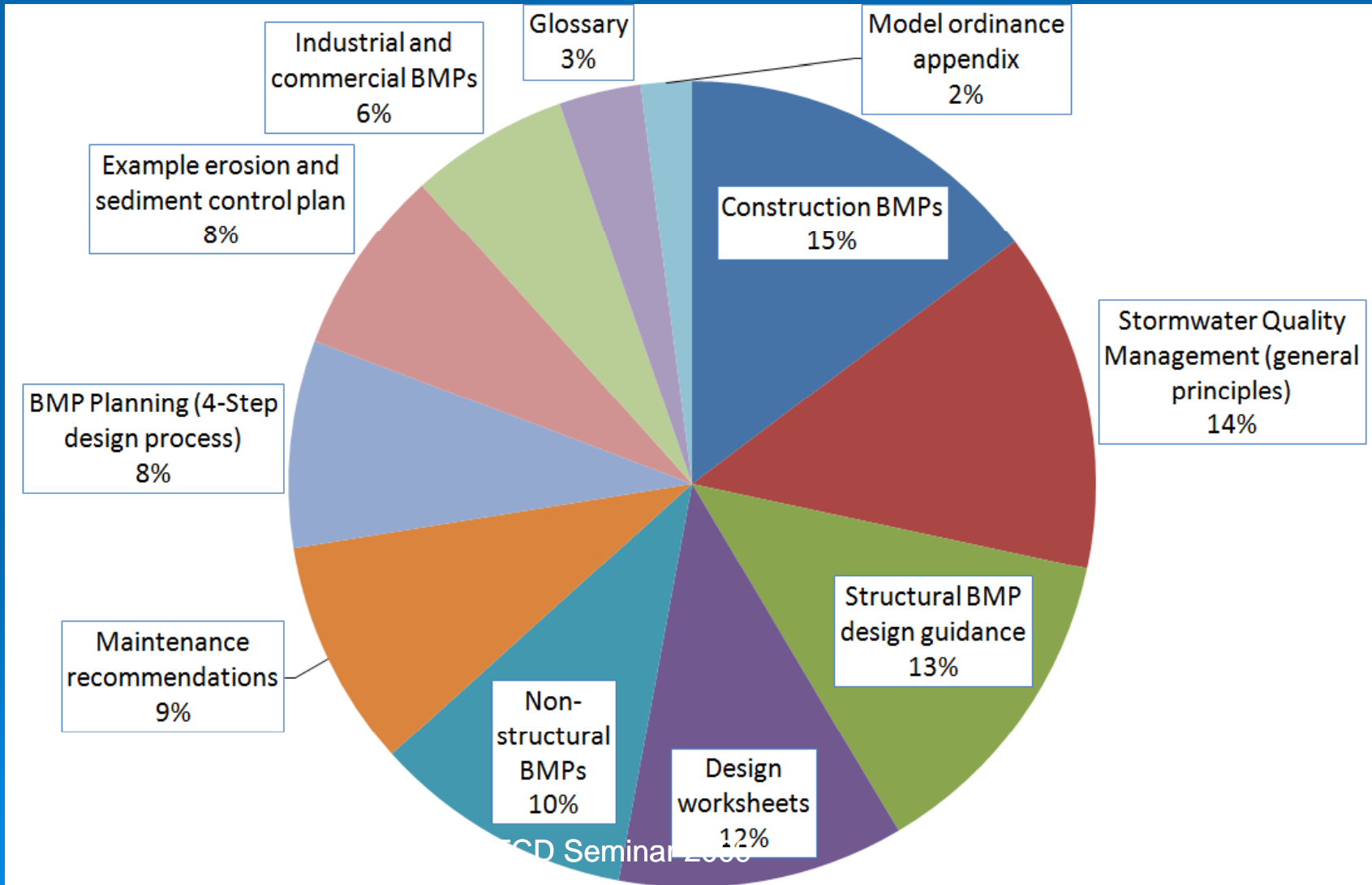
2. What describes your use of Volume 3?



CD Seminar 2009

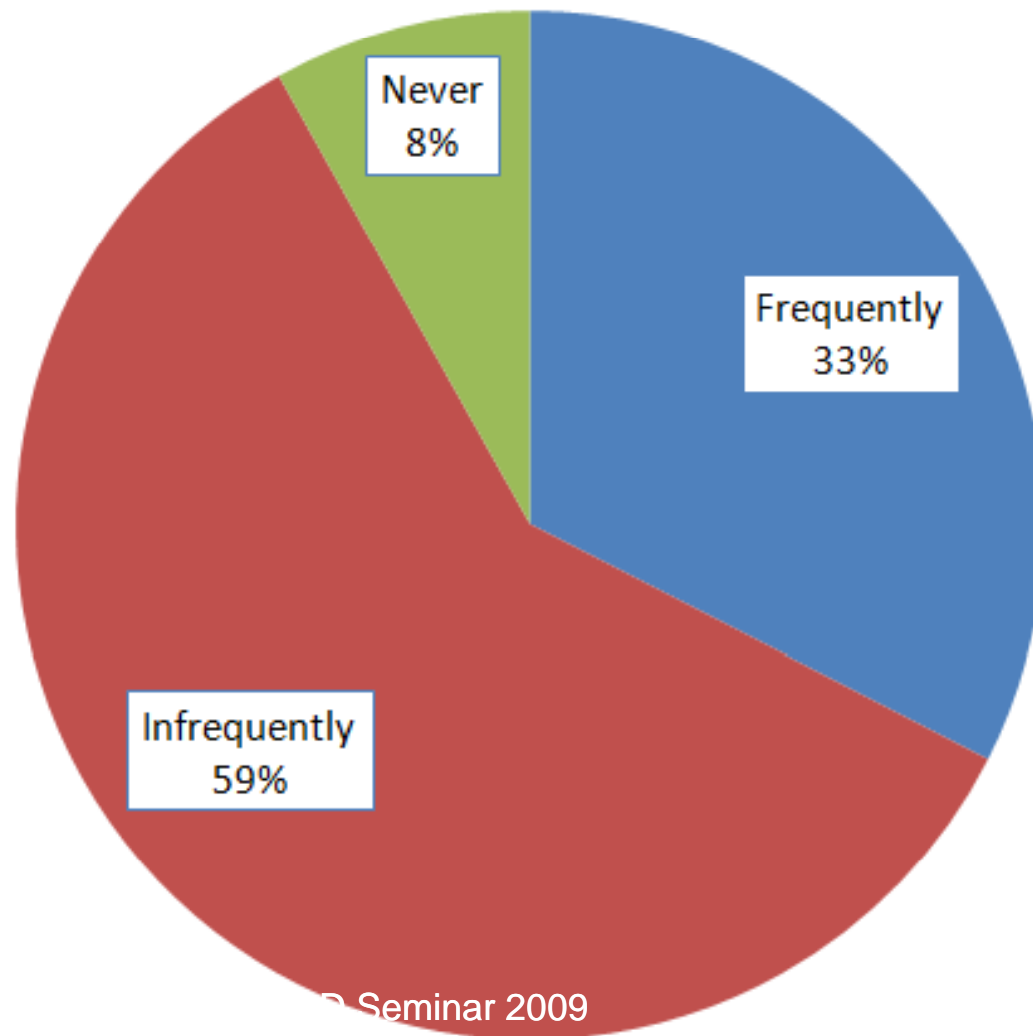


3. Which of the components of Volume 3 do you use?



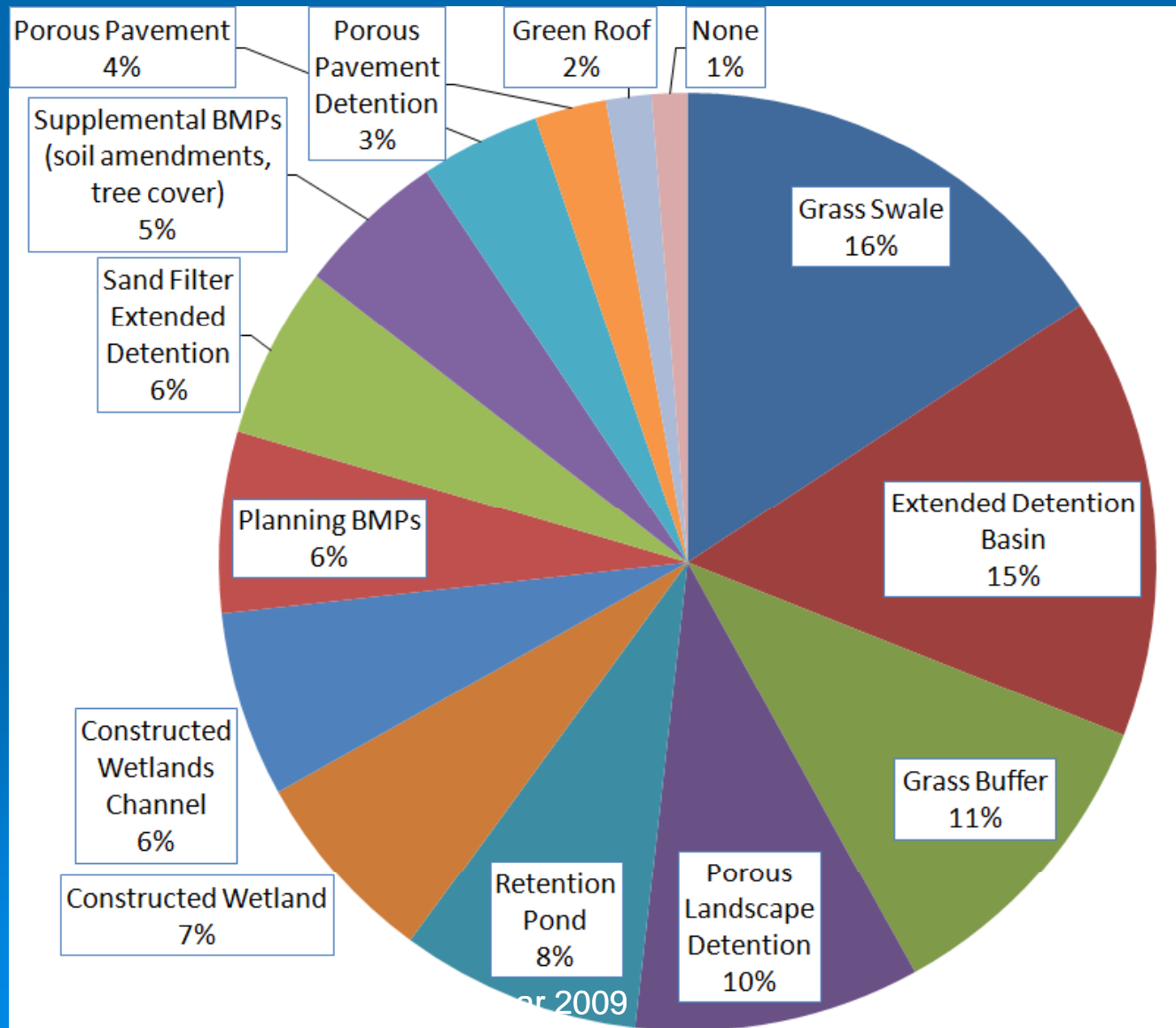


4. How frequently do your designs include techniques that minimize directly connected impervious area or integrate other volume reduction techniques?



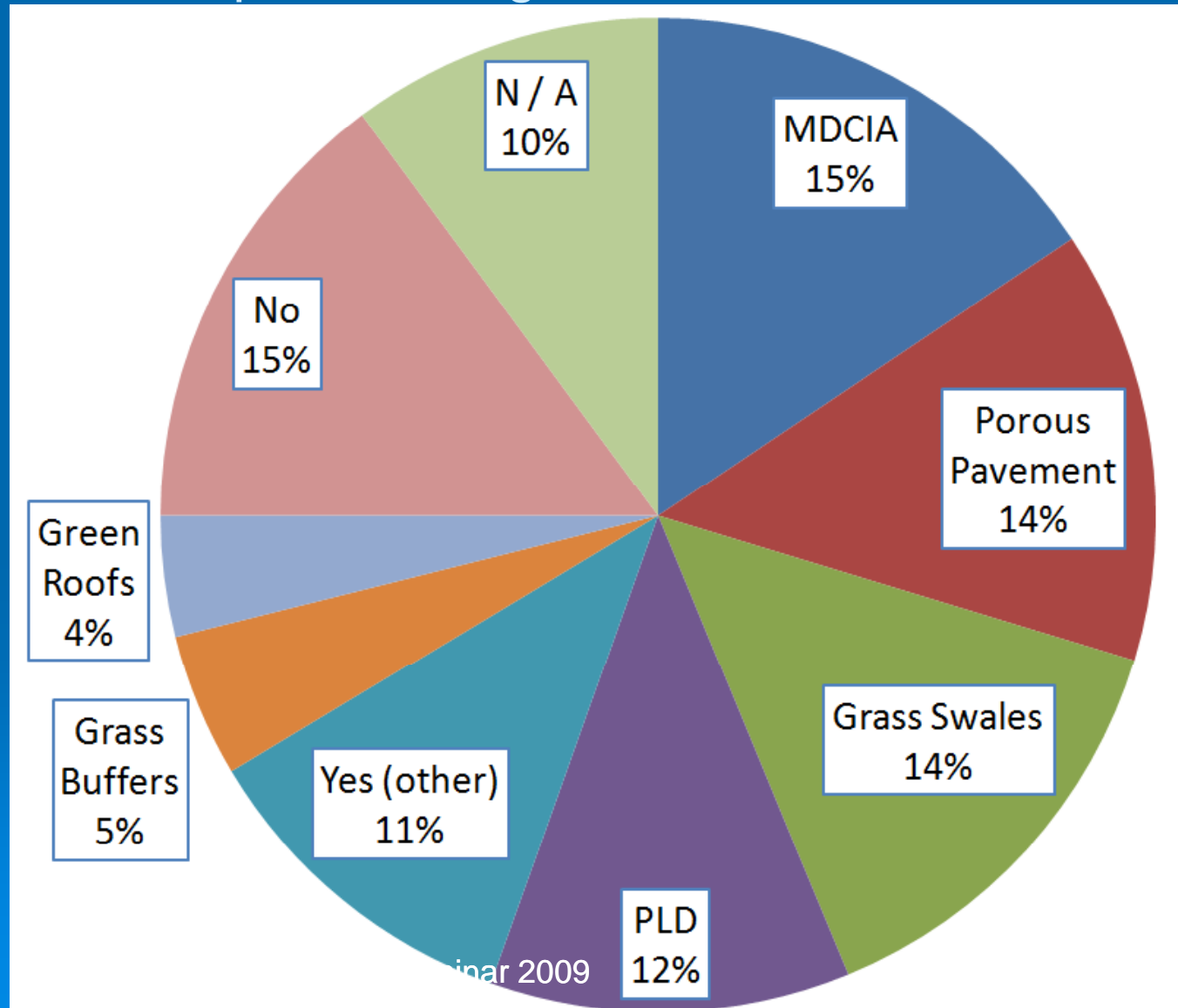


5. Which BMPs do you typically include in site designs or see in designs you review?





6. Do you encourage clients or applicants to use runoff reduction or LID techniques in land development design? If so, which ones?





7. What would you change about the technical content in Volume 3 to increase its usefulness?

64 people supplied detailed answers.
37% said no changes are necessary.
Common themes included:

- ✓ Include more photos, including images of good and bad installations.
- ✓ Include more examples.
- ✓ Consolidate structural BMP sections so all the information is in one place.
- ✓ In the beginning of each section incorporate a chart that details what the BMP is best suited for, benefits and limiting factors.



8. What would you change about the design and organization of information in Volume 3 to increase its user friendliness?

88 people supplied detailed answers.
15% said no changes are necessary.
Common themes included:

- ✓ Recognize proprietary BMPs. Discuss the pros and cons of each type and provide guidance for their use.
- ✓ Improve and expand BMP construction details.
- ✓ Provide specific details for large vs. small BMPs.
- ✓ Less emphasis on extended detention, more emphasis on LID and runoff reduction BMPs.



8. What would you change about the design and organization of information in Volume 3 to increase its user friendliness?

Common themes (continued):

- ✓ More examples, especially examples or references to BMPs that are working well.
- ✓ Include linear BMPs (roadway and trail).
- ✓ Provide guidance to give credit / incentives for LID and runoff reduction BMPs.
- ✓ Quantify performance expectations with regard to pollutant load reduction.



9. What could UDFCD do to promote Low Impact Development?

Common themes:

- ✓ Education and training to a broad range of participants from public and private sectors.
- ✓ Incentives including limiting liability for failures, decreased imperviousness or decreased WQCV and / or detention requirements when LID BMPs are implemented.
- ✓ Partner with local governments to showcase demonstration projects.



Direction From the Survey Results:

- ✓ Make it easier to find what you're looking for.
- ✓ Make a substantial stylistic and format change in the organization and layout.
- ✓ Encourage use and readability for engineers, planners and landscape architects.
- ✓ Add more examples, more construction details, and more pictures.
- ✓ Emphasize runoff volume and pollutant load reduction at the source (Low Impact Development).



Direction From the Survey Results (continued):

- ✓ Include a model LID ordinance for communities to adopt into their local land use code.
- ✓ Provide a way to decide which BMPs are best suited for a particular site.
- ✓ Provide a way to quantify the runoff reduction from BMPs and give guidance on giving credit for that reduction.
- ✓ Suggest alternative incentives to give credit where credit is due.



Direction From the Survey Results (continued):

- ✓ Expand the current menu of available BMPs.
- ✓ Address proprietary devices - how they work, when they are appropriate choices.
- ✓ Update the current details with the most current recommendations for BMP design and construction.
- ✓ Update BMP maintenance recommendations.
- ✓ Include economic analysis guidelines and lifecycle cost information.



The update process is guided by two committees – the stakeholder’s group and the technical advisory committee. The technical advisory committee consists of the following core workgroups:

- ✓ Source Control/LID
- ✓ Credits & Incentives
- ✓ BMP Decision Support System
- ✓ Detention/Retention/Constructed Wetland Ponds and Channels
- ✓ Porous Pavement/Porous Pavement Detention
- ✓ Porous Landscape Detention/ Sand Filters/Grass Swales/Grass Buffers/Green Roofs
- ✓ Proprietary BMPs

All interested parties will have the opportunity to review and comment on the manual as it develops. To find out more, please visit: <http://www.udfcd.org>.