



# CITY OF COLUMBIA, MISSOURI

## COMMUNITY DEVELOPMENT

DEPARTMENT OF PLANNING AND DEVELOPMENT

(573) 874-7239

BUILDING AND SITE DEVELOPMENT

(573) 874-7474

OFFICE OF NEIGHBORHOOD SERVICES

(573) 817-5050

February 9, 2017

Re: Permanent Stormwater BMP As-Built Plans and Certification –  
Clarification of City of Columbia Requirements

To Whom It May Concern:

Over the last several months, the Building and Site Development Division has been working on refining the requirements of as-built plans for permanent stormwater management facilities, or BMP's. As-built construction plans and certification are required per the following city ordinance:

*Sec. 12A-92. - As built drawings.*

*As built construction drawings that show the final design specifications and are certified by a professional engineer are required on all permanent stormwater management facilities.*

*The as built drawings must be submitted before city approval or acceptance of the facilities.*

Because the specific requirements are not spelled out in this ordinance, the level of detail of such plans as submitted to the city has varied. In an effort to clearly define the scope and content of the as-built plans and certification that the city is requiring, BSD is providing clarification and a Stormwater BMP As-Built Checklist.

In 2016, a proposed checklist was presented to the local engineering community for comment. The one response we received asked the question whether this is intended to be an "as-built" plan (gathering information and presenting it) versus a "certification". The respondent pointed out issues from the designer's viewpoint with certification. They point out that small deviations from the plan (like 0.1 foot lower outlet structure) would require full re-calculation to determine exactly how this change affects detention, peak flows, etc. In this scenario, the designer either has to recalculate stormwater detention at significant cost, or has to make a judgment call whether this 0.1' difference is significant or not, and fears being open to legislation for any future downstream flooding. Also, by the time of the as-built survey, the BMP is usually completed, vegetation established, and excavation equipment likely has left the site, making any modifications to the BMP difficult and costly.

BSD recognizes the complexity and uncertainty of hydrological modeling and numerical methods used for detention calculations. However, the intent of the ordinance is clear - that a Professional Engineer is to certify that the BMP is functioning as intended. (The term "certified" is used in the ordinance). Certification of a BMP shall mean that the BMP is constructed per the approved construction plans and meets the requirements of the Stormwater Management and Water Quality Manual. This includes, but is not limited to,

certifying that the BMP has full storage capacity, all inlet and outlet structures are fully functional, vegetated per the approved plans, etc.

It is BSD's position that, while minor deviations between the design and the constructed product are not uncommon, significant deviations will necessitate submittal of revised detention and/or water quality calculations to demonstrate compliance with stormwater management requirements. For smaller deviations, we will rely on judgment and will need to consider it case by case. Ultimately, it would be up to the certifying engineer to satisfy themselves that the as-built system meets requirements, whether revised calculations are needed, or if construction modifications are necessary, since they are doing the certifying. Obviously, having the BMP built per the approved site plans is the best course of action. It is possible that the design and construction communities decide that intermediate inspections by the certifying engineer is the prudent course of action going forward.

The attached checklist has been created in order to provide clarification on the requirements for BMP as-built plans. Submitters should use this checklist to ensure the as-built plan is complete and contains the information that the City of Columbia needs to verify compliance and perform future BMP inspections.

As before, the as-built drawings and certification should be submitted to the attention of Building and Site Development Division at the Service Center on the 3rd Floor of City Hall. These must be reviewed and approved prior to the issuance of a Certificate of Occupancy, closure of the permit, and/or return of the bond. BSD's response goal for this review shall be 5 working days. Developers, engineers and contractors should plan this into their project schedules accordingly.

Sincerely,



Shane S. Creech, P.E.  
Building and Site Development Manager

Cc: Tim Teddy  
Erin Keys, P.E.