



METRO

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September 20, 1991

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Dear Brian:

At the Smith and Bybee Lakes Technical Advisory Committee meeting held September 4, 1991, the Port presented its proposed Leadbetter Stormwater Treatment Facility for the second time. The Technical Advisory Committee made the following recommendations to the Management Committee:

1. The Port should proceed in developing designs for the preferred Alternative #3 (Treatment Pond with Polishing Swale).
2. Permits for the facility should have clear conditions for operation, maintenance, and monitoring.
3. The urgent need for recommendation #2 above should be conveyed to City of Portland Bureau of Environmental Services.
4. Source reduction of stormwater runoff should accompany any stormwater management strategy, especially for newly developed areas.

In the Port's stormwater facility proposal, there is no mention of operations, maintenance, or monitoring. In designing a treatment facility, consideration must be given during the design phase for O&M, such as access for machinery or personnel to remove sediments. Although the City will assume responsibility for O&M after the facility's construction, the performance of the facility is considered in the design phase, therefore the designer should recommend the maintenance procedures and schedule to ensure that performance level.

Monitoring is almost always overlooked during the design and permit process. We are asked to accept performance assumptions on these new passive treatment systems based on

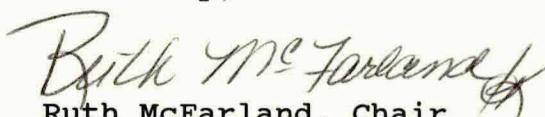
a paucity of data. With the construction of these new kinds of stormwater treatment facilities, we are presented with an opportunity to monitor them for their efficacy. This is especially important when this type of passive stormwater treatment system is being proposed throughout the region. Monitoring includes not only "end-of-pipe" performance, but the impact of stormwater discharges on the system (i.e. hydroperiod effect on vegetation, impact of contaminants on sediments and vegetation).

In the Port's proposal, focus is entirely on "end-of-pipe" treatment. **Source reduction of stormwater runoff** will most likely be more effective and less capital and labor intensive than increased treatment in minimizing the impact of stormwater on the environment. During the development of Port properties in the Leadbetter area, the Port could propose that all development should strive to maintain, to the maximum extent possible, the pre-development hydrodynamics and water quality. In the existing Leadbetter area that isn't already covered with impervious surfaces, the runoff from the dredged sands is minimal to non-existent. Guidelines for minimizing runoff could include:

1. Maximize natural water storage reservoirs, drainage corridors, and swales on-site.
2. Increase potential for infiltration on-site using seepage basins integrated between paved areas, porous pavement, Dutch drains, lattice blocks, and tile fields. Oil/water separators and shutoffs can be incorporated in areas where there are spill risks.
3. Maintain buffer strips that both treat runoff and increase evapotranspiration loss.

These recommendations have been reviewed and endorsed by the Management Committee at the September 19, 1991, meeting. We anticipate an opportunity to review the design of the preferred option once it is developed. Please keep us informed.

Sincerely,



Ruth McFarland, Chair
Smith and Bybee Lakes Management Committee



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October 2, 1991

Jeff Bauman
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Dear Jeff:

Two proposals for stormwater treatment facilities that will discharge to Smith and Bybee Lakes were recently presented to the Smith and Bybee Lakes Technical Advisory and the Management Committees. Both proposals, the City's Marine Drive Extension and the Port of Portland's Leadbetter Stormwater Treatment Facilities, incorporate wetlands in their treatment design. It is our understanding that these facilities will be operated and managed by the City after initial construction. A number of issues were raised regarding these proposals that will affect or be affected by your Bureau's responsibilities.

Foremost, we are encouraged that the proposed stormwater treatment facilities incorporate multi-objective, passive treatment into their design. We want to see them function successfully. It is in this context that the comments below are presented.

1. Incorporating Maintenance Into Design

Accommodating activities necessary to maintain viable wetlands should be incorporated into the initial design of the facility. For example, access for periodic removal of sediments or maintaining hydroperiod for vegetation by augmenting flow should be considered in the initial design.

2. Specify Operations and Maintenance Requirements in Design

The designer should be most aware of the O&M necessary to ensure the treatment facility functions as designed. The entity responsible for maintaining the facility can then plan O&M procedures and schedule.

A revokable permit could be issued to the applicant developing the facility that would ensure BES is not given a system designed for failure. If the entity

responsible for design and construction of the facility specifies the O&M necessary to meet performance standards, and there is adherence to the O&M plan, then failure of the system to effectively treat stormwater would result in revoking the permit.

3. Monitoring

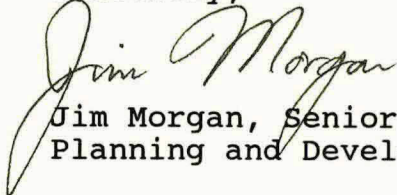
Using existing or constructed biofilters (i.e. swales, wetlands) for stormwater treatment has become increasingly popular but with a lack of data available to evaluate their effectiveness. Since these two proposals incorporate constructed wetlands and swales for stormwater treatment, this is an opportunity for BES to monitor their performance. This information will be useful for both future designs of similar facilities and for determining the impact of the discharges in Smith and Bybee Lakes.

What may be above and beyond the responsibilities of BES, but certainly in their interest, is the encouragement of **source reduction of stormwater**. Traditionally, engineering practices have focused on end-of-pipe treatment after runoff has been collected. Part of the long-term solution for minimizing stormwater impact on receiving waters is to reduce the stormwater volume and its constituents. BES's implementation of Erosion Control Standards is a positive step in that direction.

Additional planning can help developers incorporate techniques for minimizing runoff after development as well. For example, on-site infiltration can be accommodated using Dutch drains, lattice blocks, porous pavement, seepage basins, and tile fields. For areas where aquifer protection is a priority, modifications can be made to prevent contamination of recharge water.

Reduction and treatment of stormwater will require creativity from all of us. I look forward to working cooperatively with the City in reducing our nonpoint source pollution problems.

Sincerely,



Jim Morgan, Senior Regional Planner
Planning and Development Department



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January 23, 1992

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Dear Brian:

The Port of Portland proposes to construct the Leadbetter Stormwater Treatment Facility in the Rivergate Industrial Park. Since the facility is located adjacent to and within the Smith and Bybee Lakes Management Area and the stormwater will be discharged to Bybee Lake, the Smith and Bybee Lakes Management Committee reviewed the proposal to evaluate potential impacts on the resource area. In its December 19, 1991 meeting, the Management Committee approved the proposed facility in its current design. The Committee wishes to be informed of any changes in design prior to construction.

The proposed facility was initially reviewed by the Smith and Bybee Technical Advisory Committee and conditionally approved. A copy of the approval letter dated September 20, 1991, is attached. Also attached is the letter to Jeff Bauman of Portland Bureau of Environmental Services commenting on this and other proposed stormwater treatment facilities.

Do not hesitate to contact me if additional input is needed during your permitting process.

Sincerely,

Ruth McFarland, Chair
Smith and Bybee Lakes Management Committee

c: Tom McGuire, Portland Bureau of Planning