Multi-Agency Post-Construction Standards Manual

1st Stakeholder Meeting
February 26, 2015
Introductions

- Project Partners (Representatives)
  - City of Lathrop (Dameon Flores)
  - City of Lodi (Kathryn Garcia)
  - City of Manteca (Bret Swain)
  - City of Patterson (Sonia Delgado)
  - City of Tracy (Stephanie Reyna-Hiestand)
  - County of San Joaquin (Gerardo Dominguez)

- Project Team
  - Gorman Lau, Larry Walker Associates
  - Sandy Mathews, Larry Walker Associates

- Stakeholders
  - You
Project Introduction

- Phase II Stormwater Permit
  - State Water Resources Control Board Order No. 2013-0001-DWQ
    “General Permit for Waste Discharge Requirements for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems”

- Phase II Permit requires Partners regulate development (Provision E.12)
  - Extension of similar requirements for larger communities subject to Phase I Stormwater Permits
Meeting Objectives

- Provide background of requirements
  - Permit requirements
  - Applicable projects
  - Low Impact Development (LID)
  - Hydromodification

- Present Draft Conceptual Outline
- Describe process and schedule for project
- Solicit initial feedback from stakeholders
BACKGROUND OF REQUIREMENTS
Key Phase II Permit Requirements
that will be Addressed by the Project

- Site Design Measures (Provision E.12.b)
  - Identifies practices that reduce runoff using site
design; small projects

- Regulated Projects (Provision E.12.c.)
  - Identifies projects that will be subject to development
    standards, and when the requirements take effect

- Source Control Measures (Provision E.12.d)
  - Identifies practices that reduce pollutants in runoff

- LID Design Standards (Provision E.12.e)
  - Identifies numeric sizing criteria and design process
Key Phase II Permit Requirements that will be Addressed by the Project

- Treatment Control Measures (Provision E.12.e)
  - Key section of this provision that identifies bioretention as the preferred treatment measure

- Hydromodification Management (Provision E.12.f)
  - Identifies design standard for larger project to mitigate potential hydromodification

- Operation & Maintenance (O&M) (Provision E.12.h)
  - Specifies the need for a O&M plan for the ongoing maintenance of the treatment systems
Project Applicability

- New Development and Redevelopment Projects (public and private) that create or replace impervious area
  - Small Projects (2,500-5,000 ft² impervious area)
  - Regulated Projects (≥5,000 ft² impervious area)
    - Excludes:
      - Detached single-family homes not part of a larger development
      - Interior remodels
      - Routine maintenance or repair
      - Some Linear Underground/Overhead Utility Projects (LUPs)
  - Hydromodification Projects (≥1 acre impervious area, with a net increase in impervious area)
Effective Date of Requirements

- Develop post-construction standards within 2\textsuperscript{nd} year of Phase II Permit (by 6/30/2015)
- Condition new- and re-development projects to apply the post-construction standards within the 2\textsuperscript{nd} year of the Phase II Permit
- “Grandfathered Projects”
  - Discretionary permit projects that have been deemed \textbf{complete} before 6/30/2015
  - Public projects for which the governing body has approved design before 6/30/2015
Effective Date of Requirements

- Standards must be applied to discretionary permit projects that
  - have not been deemed complete for processing by 6/30/2015
  - without vesting tentative maps that have not requested and received an extension of previously granted approvals

- Standards must be applied public projects that for which design is approved after 6/30/2015
## Phase II Permit Requirements

<table>
<thead>
<tr>
<th>Measures</th>
<th>Small Projects</th>
<th>Regulated Projects</th>
<th>Hydromodification Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Design</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Source Control</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Low Impact Development/Treatment</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Baseline Hydromodification</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Full Hydromodification*</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Operations &amp; Maintenance</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Full hydromodification is required by 6/30/2016
Applicability for Redevelopment Projects

- Redevelopment Projects
  - Increase ≥50% of impervious area of a previously existing development
    - Manage stormwater runoff from entire project (existing, new, replaced impervious area)
  - Increase <50% of impervious area of a previously existing development
    - Manage stormwater runoff from only new/replaced impervious area
Why is stormwater management important?

Source: Santa Clara Valley Urban Runoff Pollution Prevention Program
Source: Berntsen, 2008
What is LID?

- An alternative method of land development
- Seeks to mimic the natural hydrologic character of the site
- Retains stormwater where it falls by promoting infiltration, evapotranspiration, and harvest/use

Source: Fall Creek Engineering/Santa Cruz Co

Source: City of San Jose
Benefits of LID

- “Greener” form of development
- Contributes to groundwater recharge
- Improves water quality
- Reduces peak flow volume and velocity
- Increases aesthetics
- Increases marketability of lots and projects
What is Hydromodification?

- Development (increased impervious area and compacted soils) can increase runoff volumes and flow rates
- Increased runoff (higher velocity) can result in channel erosion/degradation in the receiving water
- Channel erosion can degrade water quality, riparian and in-stream habitat, and impact adjacent properties and infrastructure
DRAFT CONCEPTUAL OUTLINE
Assess Project Site

- **Goal:** Incorporate methods for capturing and treating stormwater runoff during project design

- **Evaluate project site conditions**
  - General characteristics – identify project area size
  - Soil/groundwater – identify potential areas for infiltration
  - Vegetation – preserve significant vegetation
  - Flow paths – identify Drainage Management Areas (DMAs)
  - Waterbodies – identify waterbodies and provide setbacks/buffers
Implement Site Design Measures

- Goal: Reduce stormwater runoff from project site
- Must be applied to all projects >2,500 ft\(^2\)
- Use SMARTS Post-Construction Calculator
  - [http://smarts.waterboards.ca.gov](http://smarts.waterboards.ca.gov)
  - Calculates stormwater runoff mitigated using site design measures at project site
  - Provides credit to reduce LID/treatment control measure sizing
- Site Design Measure fact sheets to be included in Manual
Example Site Design Measures

- Stream setbacks and buffers
- Soil quality improvement and maintenance
- Tree planting and preservation
- Rooftop and impervious area disconnection
- Porous pavement
- Green roofs
- Vegetated swales
- Rain barrels and/or cisterns

Source: MA Smart Growth Toolkit
Implement Source Control Measures

- Goal: Reduce potential mobilization of pollutants in stormwater runoff from activities and sources
- Must be applied for regulated projects
- Design project to minimize impacts from pollutant sources
- Source Control Measure fact sheets to be included in Manual
Stormwater Runoff Volume/Flow

- **Volumetric criteria**
  - 85th percentile, 24-hour storm runoff event (WEF)
  - Volume of annual runoff to achieve ≥80% capture (CASQA)

- **Flow-based criteria**
  - Flow of stormwater runoff produced from an event ≥0.2 in/hr intensity
  - Flow from stormwater runoff equal to 2 times the 85th percentile hourly rainfall intensity

- These criteria do not address flood control requirements
Implement LID Control Measures

- Goal: Maximize infiltration, evapotranspiration, and bioretention of stormwater runoff and help meet baseline hydromodification requirements
- Must be used for remaining stormwater runoff from impervious DMA(s) to the extent technically feasible
- Reduces volume needed to be handled by other treatment control measures
Implement LID Control Measures

- Bioretention system is preferred treatment option
- Alternative facilities may be implemented if demonstrated to be at least as effective as a bioretention with specific design parameters
Alternative Design Demonstration Standards

- ≥ amount of stormwater runoff infiltrated or evapotranspired
- ≤ pollutant concentration in stormwater runoff that is discharged after biotreatment
- ≥ protection against shock loading and spills
- ≥ accessibility and ease of inspection and maintenance

Source: CASQA
Special Site Considerations

- Bioretention design parameters may be adjusted for the following situations:
  - Control measures within 10 ft of structures or other potential geotechnical hazards
  - High concentrations of pollutants in underlying soil or groundwater
  - Control measures in areas of high groundwater, highly infiltrative soils, or connection to the underdrain to surface/subsurface drain is technically infeasible
  - Control measures in high-risk areas (e.g., fueling stations, heavy industry)
Exception to Bioretention

- Use other biotreatment or media filters
  - Projects creating/replacing ≤ 1 ac of impervious area, located in designated pedestrian-oriented commercial district, and at least 85% of project site is covered by permanent structures
  - Facilities receiving runoff solely from existing (pre-project) impervious areas
  - Historic sites, structures, or landscapes that cannot alter configuration
Implement Hydromodification Management

- Applies to Regulated Projects that create/replace ≥1 ac of impervious surface
  - Post-project runoff cannot exceed pre-project flow rate for a 2-year, 24-hour storm
- Not applicable for projects that do not increase impervious surface area over the pre-project condition
Develop O&M Plan

- Protect against failure of control measure(s)
- Provide for long-term maintenance of control measure(s) – Maintenance Plan
  - Develop maintenance and cleaning schedule
  - Identify responsible parties for O&M
  - Identify equipment and resource needs
- Implement Maintenance Agreement
  - Legally-binding
  - Assessment
  - Annual self-certification
Project Plan Submittals

- Manual may include checklists and/or worksheets
- Partners’ submittal and review processes will be included as appendices in the Manual
PROJECT SCHEDULE AND NEXT STEPS
# Project Schedule

<table>
<thead>
<tr>
<th>Task</th>
<th>Target Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(^{st}) Stakeholder Meetings</td>
<td>February 26, 2015</td>
</tr>
<tr>
<td>Comments on Draft Conceptual Outline</td>
<td>March 10, 2015</td>
</tr>
<tr>
<td>Draft Manual to Stakeholders</td>
<td>Mid-April 2015</td>
</tr>
<tr>
<td>2(^{nd}) Stakeholder Meetings</td>
<td>April 23, 2015</td>
</tr>
<tr>
<td>Comments on Draft Manual due</td>
<td>Early May 2015</td>
</tr>
<tr>
<td>Revised Draft Manual to Stakeholders</td>
<td>Late May 2015</td>
</tr>
<tr>
<td>Comments on Revised Draft Manual due</td>
<td>Early June 2015</td>
</tr>
<tr>
<td>Final Manual</td>
<td>June 30, 2015</td>
</tr>
</tbody>
</table>
Your input is important

- Your comments will help identify potential challenges and alternatives
- There will be a formal response to comments for the Draft and Revised Draft Manuals
- Identifying elements you like and do not like will help the Partners create a Manual that meets the needs of the stakeholders and the Phase II Permit requirements
Stakeholder input is a key to a successful project

- Send written comments and feedback specific to the Draft Conceptual Outline to Gorman Lau by email (MultiAgencyManual@LWA.com)
- Comments on Draft Conceptual Outline due March 10, 2015
- 2nd Stakeholder Meetings to be held April 23, 2015 to present and discuss Draft Manual
  - Stockton (AM)
  - Tracy (PM)
Future Communications

- Information about future stakeholder meetings and draft Manuals will be sent by email
  - Please make sure we have your current email address
Where to get more information

- 2013 Phase II Permit
- Partners’ websites
Questions/Comments/Feedback

- Grandfathering language
- Drainage Management Areas
- Site Design Measures
- Treatment Control Measures