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 <u>or</u> replace** impervious area
  - Small Projects (2,500-5,000 ft^2 impervious area)
  - Regulated Projects (≥5,000 ft^2 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 2nd year of Phase II Permit (by 6/30/2015)
- Condition new- and re-development projects to apply the post-construction standards within the 2nd year of the Phase II Permit
- "Grandfathered Projects"
  - Discretionary permit projects that have been deemed **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

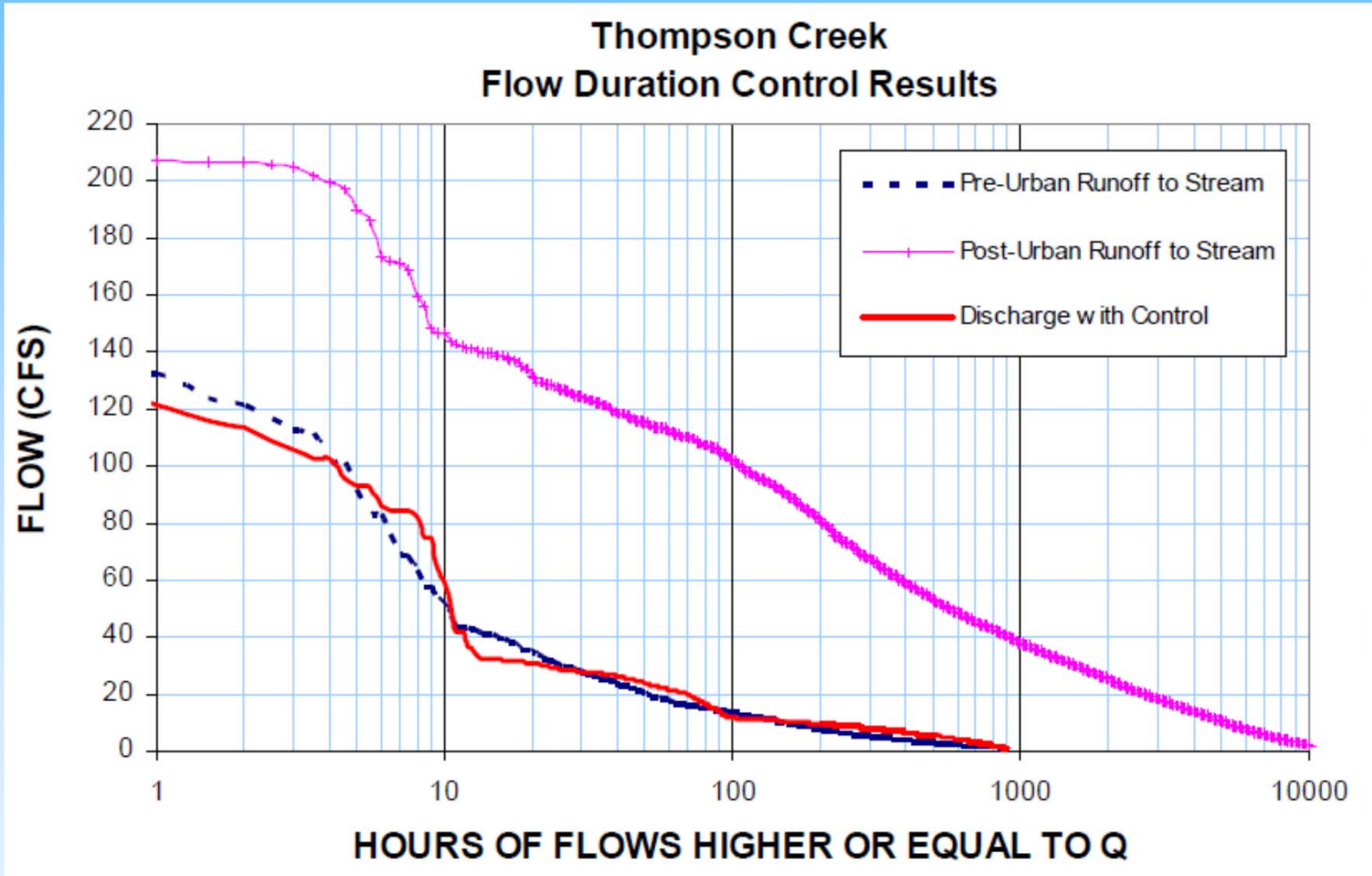
Phase II Permit Requirements

Measures	Small Projects	Regulated Projects	Hydromodification Projects
Site Design	X	X	X
Source Control		X	X
Low Impact Development/Treatment		X	X
Baseline Hydromodification		X	X
Full Hydromodification*			X
Operations & Maintenance		X	X
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?



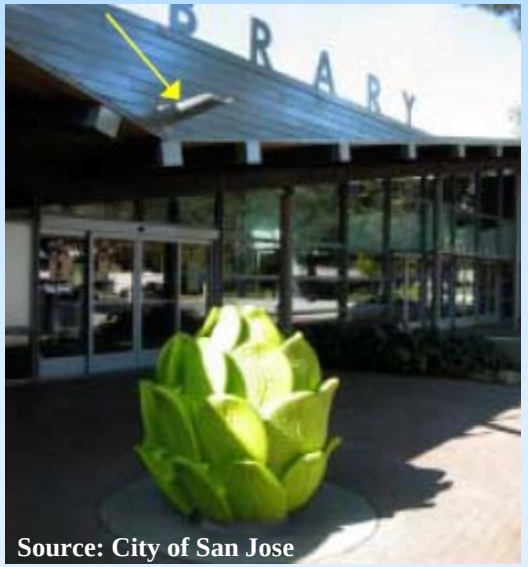
Source: Santa Clara Valley Urban Runoff Pollution Prevention Program

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
  - 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

Source: www.sjvswqp.org

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

Task	Target Date
1st Stakeholder Meetings	February 26, 2015
Comments on Draft Conceptual Outline	March 10, 2015
Draft Manual to Stakeholders	Mid-April 2015
2nd Stakeholder Meetings	April 23, 2015
Comments on Draft Manual due	Early May 2015
Revised Draft Manual to Stakeholders	Late May 2015
Comments on Revised Draft Manual due	Early June 2015
Final Manual	June 30, 2015

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
  - www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml
- Partners' websites

Questions/Comments/Feedback

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