SAN DIEGO COPERMITTEES
LID Sizing Calculator Workshop
San Diego HMP Overview

Presented by Eric Mosolgo, PE
Brown and Caldwell
May 28, 2009
San Diego, California

Introductions

- Sara Agahi – County of San Diego
- Nancy Gardiner – Brown and Caldwell
- Dan Cloak – Dan Cloak Consulting
- Tony Dubin – Brown and Caldwell
- Eric Mosolgo – Brown and Caldwell

REVIEW OF MAY 1, 2009 DRAFT HMP SUBMITTAL TO RWQCB

EXECUTIVE SUMMARY AND SECTIONS 1 - 3

- Section 1 - Introduction
- Section 2 – Copermittee Process
- Section 3 – Technical Advisory Committee (TAC)
- Refer to Appendix A for TAC members

SECTION 4 – LITERATURE REVIEW

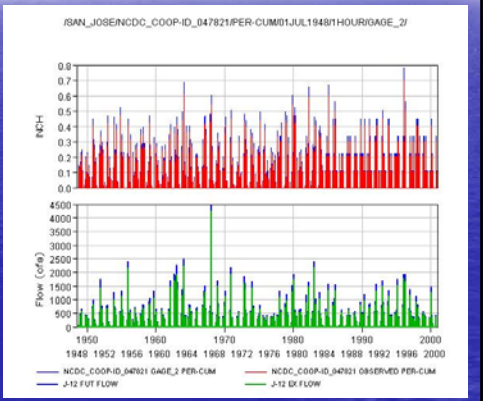
- Flow control Approach
- Rainfall Data
- Rainfall Loss / Infiltration Data
- Rainfall Loss / Evaporation Data

Section 4.1 – Flow Control Approach

- Review of Santa Clara HMP
- Review of Contra Costa HMP
- Selection of consultant team for San Diego HMP
- Interim HMP flow control criteria

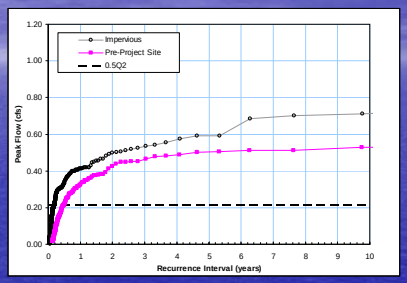
Section 4.2 – Rainfall Data

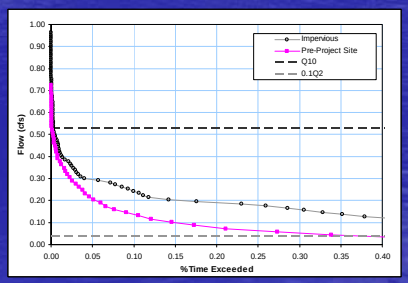
- Continuous simulation of local rainfall
- Sizing to a design storm is not sufficient
- Rainfall record preparation
- Partial duration calculator



Section 4.2 – Rainfall Data

- Peak Flow Frequency Analysis
- Flow Duration Statistics
- Refer to Appendices B and E for Additional Information





Section 4.3 – Rainfall Loss / Infiltration Data

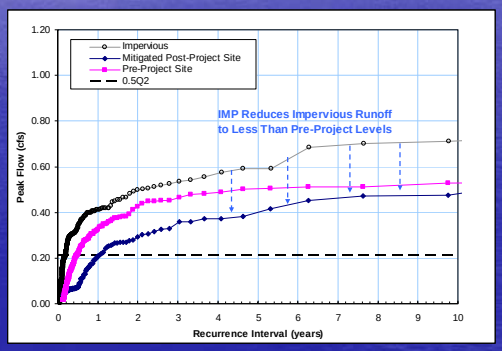
- HSPF study reviews for Southern California
- San Diego RWQCB TMDL studies
- SCCWRP studies
- Ventura County watershed studies
- Refer to Appendix C for additional information

Section 4.4 – Rainfall Loss / Evaporation Data

- Evapotranspiration station review
- Evaporation data from City of San Diego reservoirs
- Historical evaporation data from Lake Heneshaw and Lake Cuyamaca
- Refer to Appendix D for additional information

SECTION 5 – METHODOLOGY AND TECHNICAL APPROACH

- Flow Control Limits
- Categorization of Streams
- Cumulative Watershed Impacts



Section 5.1 – Flow Control Limits

- Final criteria for rates and durations
- Lower flow threshold determination
- Minimum flow threshold
- Pending TAC approval
- Refer to Appendix G for additional information

Section 5.1 – Summary of Preliminary Flow Threshold Analysis

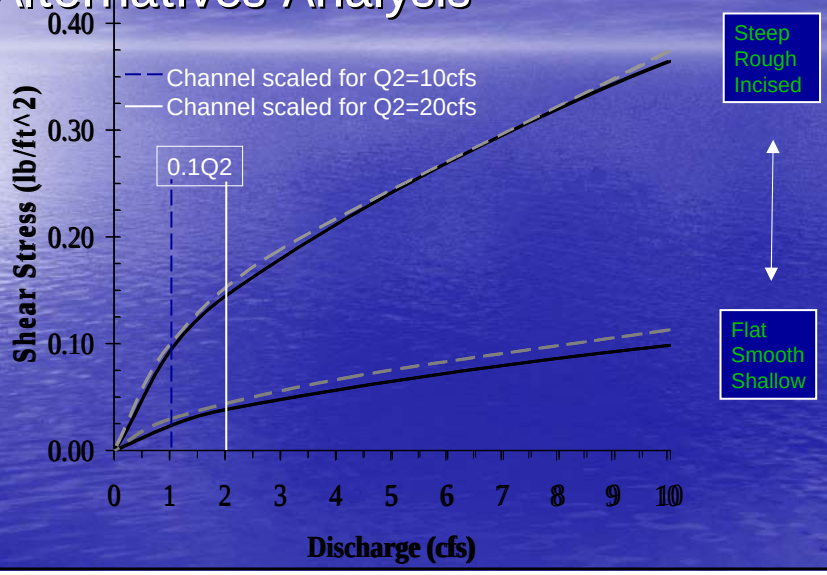
- Synthetic modeling approach
- Hydrologic analysis
- Sediment transport modeling
- Third party review
- Sensitivity analysis
- Refer to Appendix F for additional information

- *PWA ANALYSIS SHOWED LOWER FLOW LIMIT CONVERGING TO 0.1Q_2*

Section 5.1 – Lower Flow Threshold Alternatives Analysis

- Identification of alternate lower flow thresholds for erosion-resistant channels
- Identification of a minimum flow rate as an alternate lower flow threshold
- Alternate lower flow threshold based on watershed position

Section 5.1 – Lower Flow Threshold Alternatives Analysis

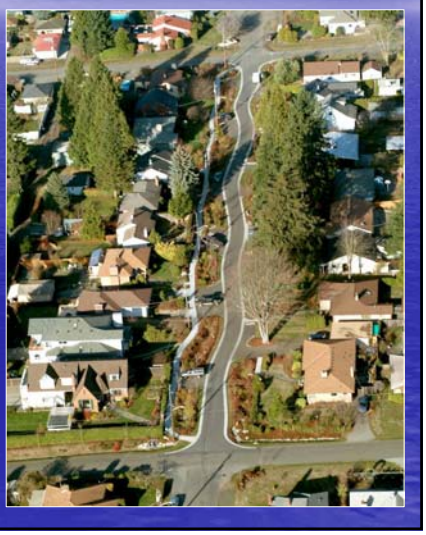


Section 5.2 – Analysis and Categorization of Streams

- Work being prepared by SCCWRP
- Development of rapid assessment channel screening tools to identify channel susceptibility
- Receiving streams to be classified as having a High, Medium or Low susceptibility ratings

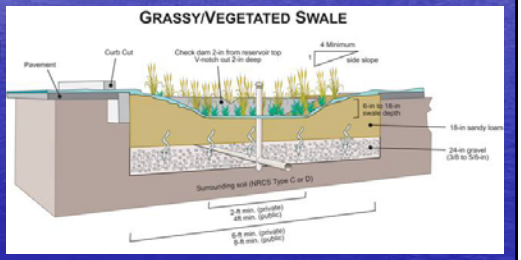
Section 5.3 – Cumulative Watershed Impacts

- Work being prepared by SCCWRP
- Quantification of the domain of assessment downstream of project
- Related to watershed position concept referred to in lower flow threshold alternatives analysis



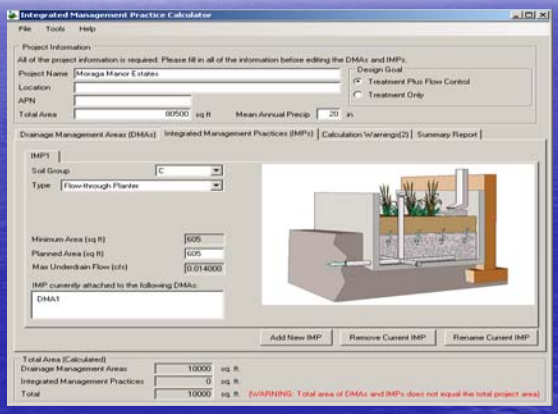
SECTION 6 – REQUIREMENTS / STANDARDS FOR PROJECTS

- No increase in impervious cover
- LID/HMP sizing using sizing calculator
- Continuous flow duration control modeling
- Geomorphic analysis
- Pending TAC approval



Contra Costa Clean Water Program – IMP Sizing Tool

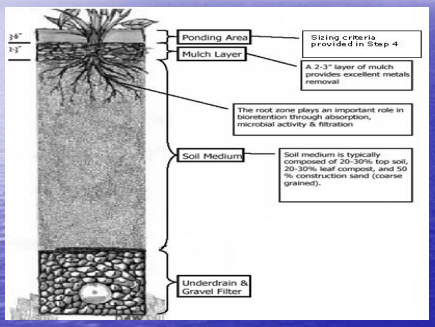
- Continuous hydrology, flow duration analysis
- User-friendly
- Pre-determined sizing factors

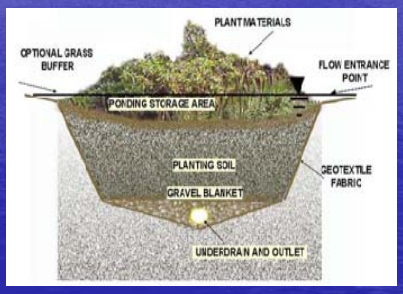


SECTION 6 - Exceptions

- Discharge to hardened conveyance systems
- Projects in highly urbanized watersheds downstream to stable waterway
- Geomorphic analysis to prove channel stability considering flow increase and sediment reductions

SECTION 7 – SELECTION AND IMPLEMENTATION OF BMPs



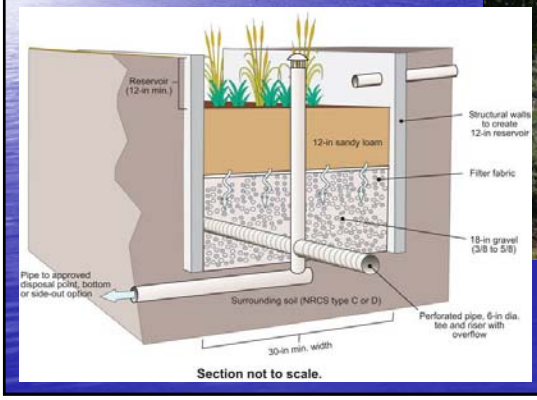


SECTION 7 – DECISION MATRIX

- Used to determine HMP criteria applicability
- Used to determine appropriate lower flow threshold
- Used to determine appropriate method of analysis
- Used to determine recommended mitigation options
- Pending TAC approval

SECTION 8 – MONITORING AND BMP EVALUATION

SECTIONS 9 AND 10 – CONCLUSIONS AND LIMITATIONS



Questions and Contact Information

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