

# LID Implementation Challenges: Getting the Design in the Ground

## Select OWP Experiences

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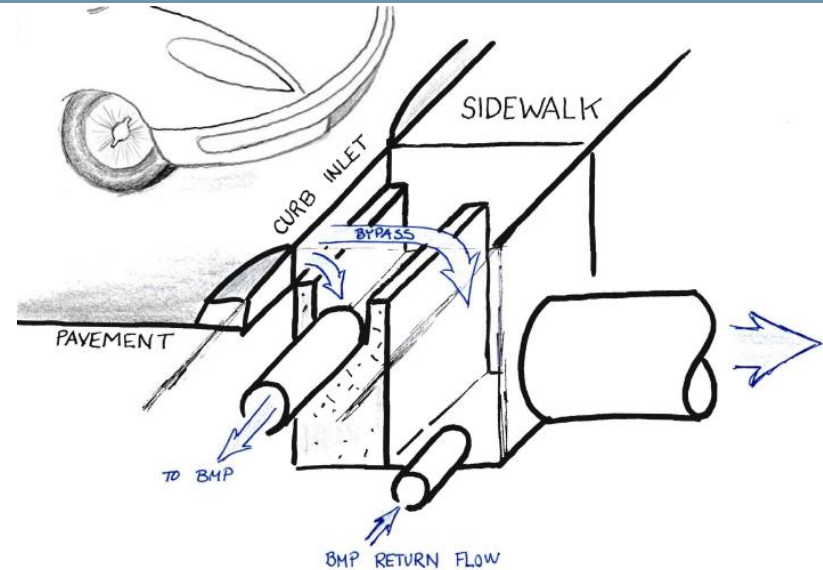
# Drainage Modifications

- ‘Grade-to-Drain’ Specs
- Tailgate Meetings
- Unique Design Aspects



# Off-line BMPs

- Water Profile Upstream
- Contractor - Weir extended to the top of the manhole.



# Mulch

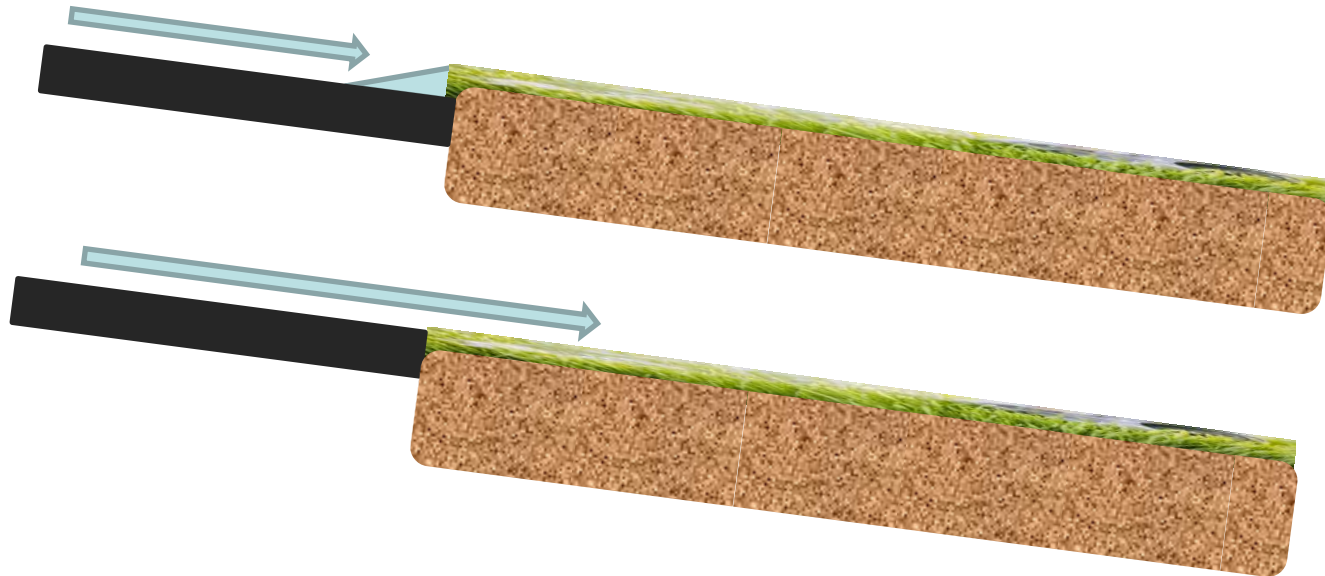
- Floating mulch... what to do?
  - Incorporate. Why does it need to be on top?
  - Contained in cells
  - Think about how it can float and where it can escape.



Photo credit: URS

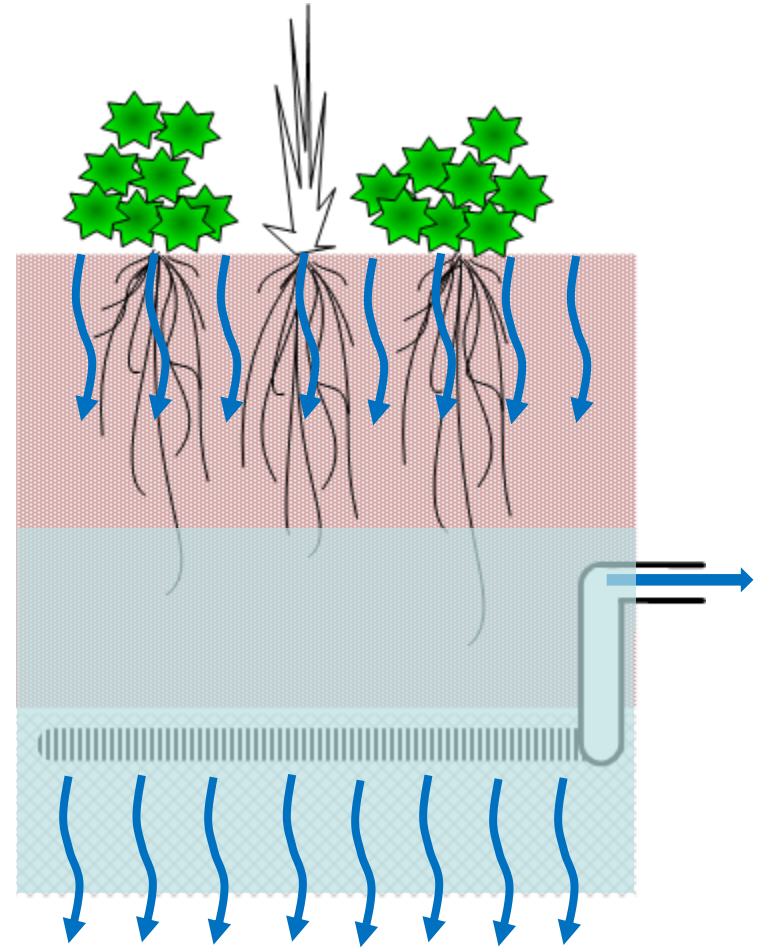
# Unintended Berms

- Rough grading should leave enough room for incorporation of soil amendments and plant material



# More drainage issues...

- Underdrains
  - Used to achieve high hydraulic capacity into the planting soil (e.g. 5 in/hr), but little volume reduction via infiltration into underlying soils
  - Elevated discharge pipes are beneficial for infiltration
  - Always install underdrain pipe on top of the underdrain rock



# Plant Alternatives for Basins

- Bioretention, Infiltration, and Detention Basins (ponding, prolonged-inundated BMPs)
  - Specified plants substitution
  - Depends on various factors

# Increased Water for Vegetation

Rainfall Depth



Impervious area

Adjacent pervious area

