SMCWPPP C.3 Workshop
August 18, 2021

City of Berkeley:
Precast Pervious Concrete Slab Project

Peter Schultze-Allen, CPSWQ
EOA, Inc.

SAN MATEO COUNTYWIDE Water Pollution Prevention Program

EOA inc.

Presentation Overview

- Background on the Ward Street project
- Key elements
- Green Infrastructure aspects of the project
- Lessons Learned

Project Background

- T1 Bond Measure - Voters approved $100 million for CIP
- City of Berkeley has several GI projects in the pipeline using these funds
- Ward St. is a Complete Street project with GI as an element
- Precast pervious concrete slabs installed along curb

SAN MATEO COUNTYWIDE Water Pollution Prevention Program

EOA inc.


SIDEWALK
CLOSED


TOYOTA TUNDRA
V8
6V24622

Before

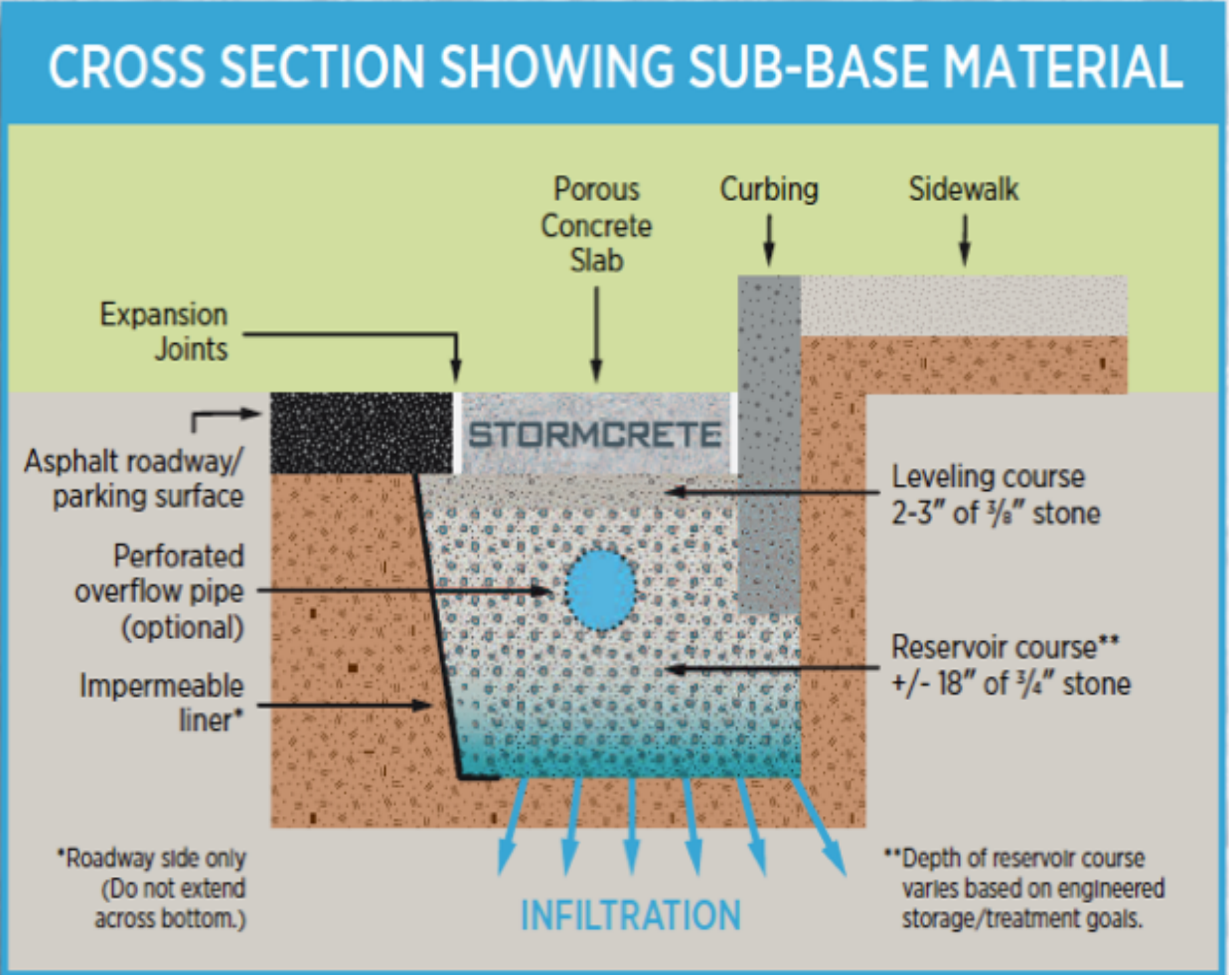
After

SAN MATEO COUNTYWIDE
Water Pollution
Prevention Program

EOA inc.

Key Elements

- Cost: $400,000 ($200/ft^2 - but new bid is $100/ft^2)
- No additional cost for regular maintenance
- Slabs: 2,000 sq.ft. (5 ft x 4 ft x 6 in thick slabs)
- Material: Precast pervious concrete slabs
- Manufacturing location: Northern California
- First installation of the system in the Bay Area



Details

- Pervious concrete slab
- Leveling course
- Underdrain
- Reservoir course

GI Aspects of the Project

- Catchment area: 0.25 acres of roadway
- Treatment area: 2,000 sq.ft. (5 ft by 4 ft slabs)
- Cost per acre treated: $1.6 million (may be 50% less in next project)
- Underdrain: typically requires an underdrain with connection to a storm drain with the slab small footprint
- Sizing:
  - 12-foot roadway width drains to 4-ft-wide pervious pavement (3:1 ratio)
  - To meet C.3.d sizing, need to check volume of storage and soil infiltration rate


SIDEWALK
CLOSED
CAUTION
ROSAS BROTHERS
510 377 1977


SIDEWALK
CLOSED
ROSAS BROTHERS
CONSTRUCTION
ROSAS BROS.
530-534-1077


PODS
Moving & Storage
ROSAS BROTHERS
CONSTRUCTION
310-534-1077
DETOUR
VANGUARD

Lessons Learned

- The bottom of the slabs was not level/smooth which caused leveling delays (this has since been corrected in the manufacturing process)
- Once the construction contractor gained experience installing the slabs it went faster
- Street sweepers are not using metal sweeping brushes to avoid abrasion and wear on slabs
- Regular sweeping is the main form of maintenance - vacuum cleaning can be done biannually or as needed

Comparisons to Other GI Measures

- Maintenance cost may be lower than biotreatment
- Costs may continue to decline as contractors gain experience with the product
- Compared to poured-in-place pervious concrete, the pre-cast product has more consistency in strength and porosity
- Slabs can be lifted and replaced by using the bolt holes in the slabs
- The system is not as deep as bioretention so there may be fewer conflicts with subsurface utilities

Questions?

Peter Schultze-Allen, CPSWQ
EOA, Inc.
pschultze-allen@eoainc.com

SAN MATEO COUNTYWIDE Water Pollution Prevention Program

EOA inc.