



Surrey Water Balance Model Forum

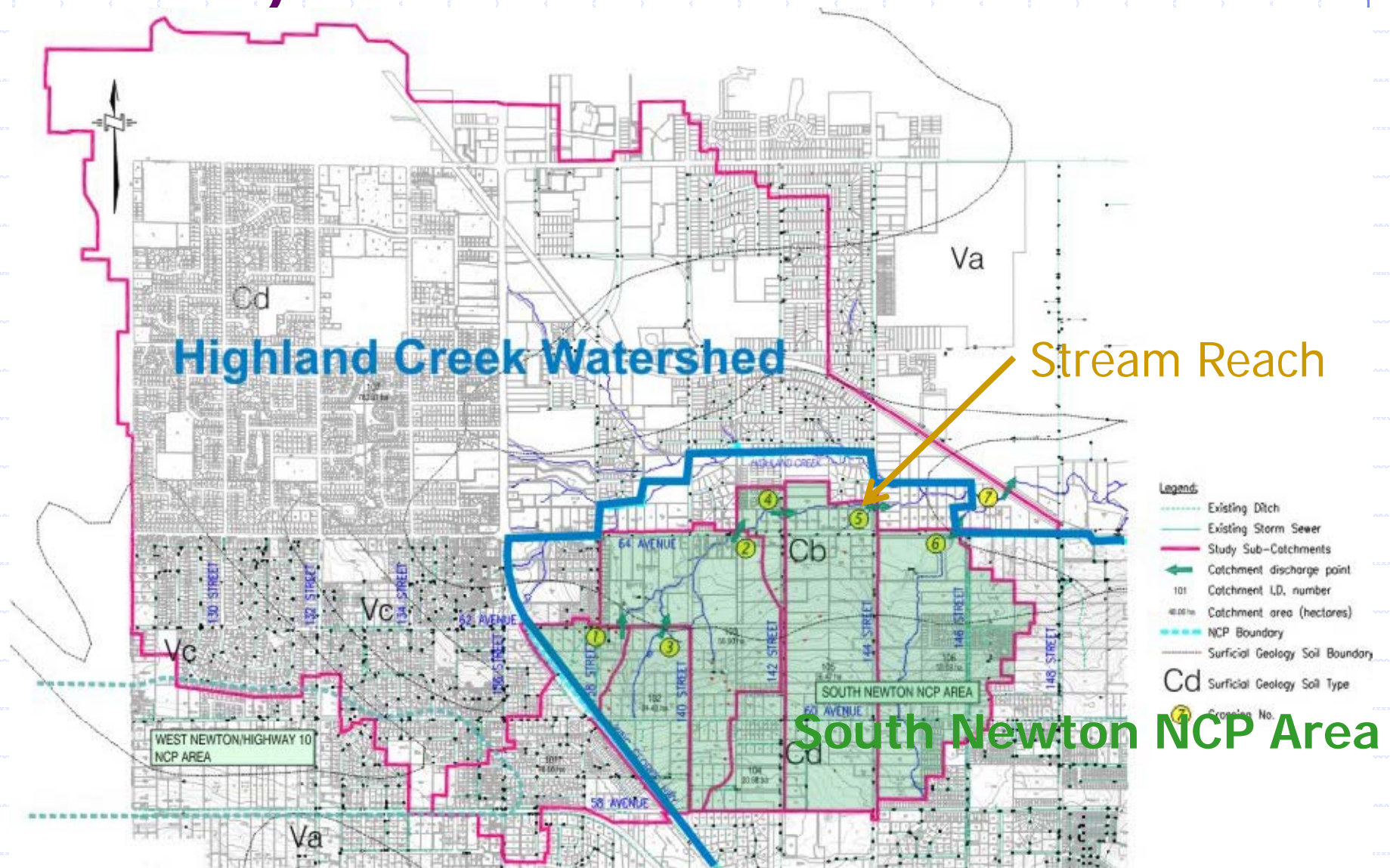
SOUTH NEWTON UPDATE

March 12, 2008

Program

- ◆ Study Area
- ◆ Wish List
- ◆ Analysis and Results
- ◆ Proposed Systems

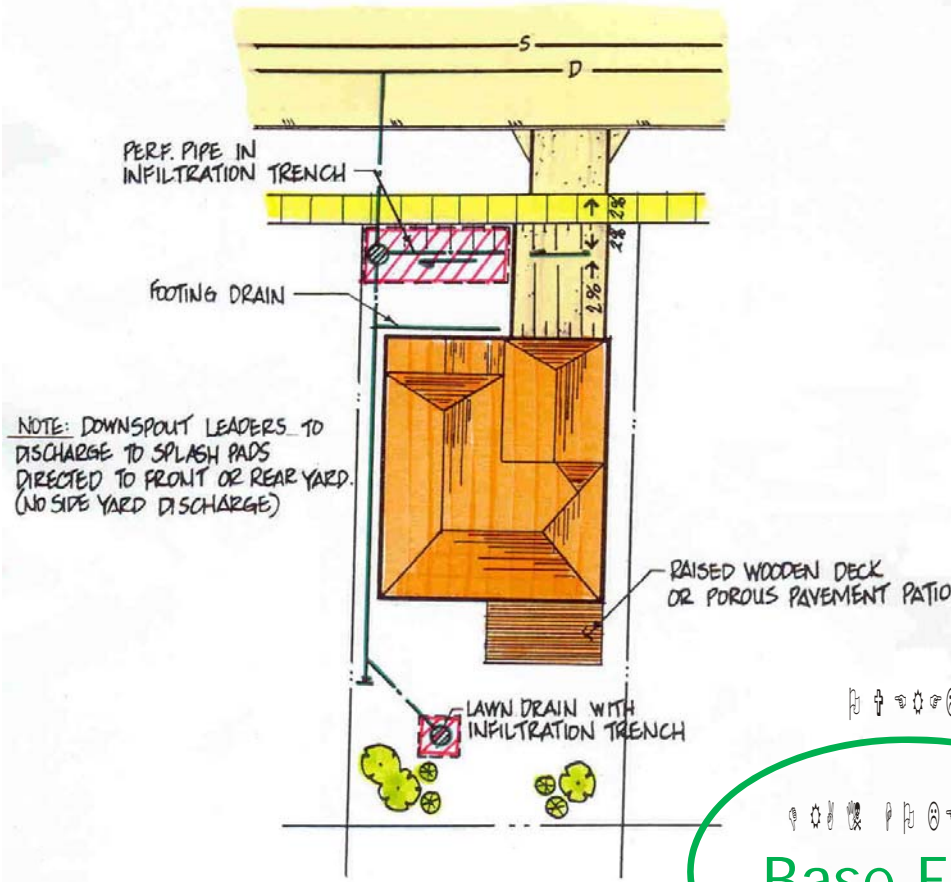
Study Area



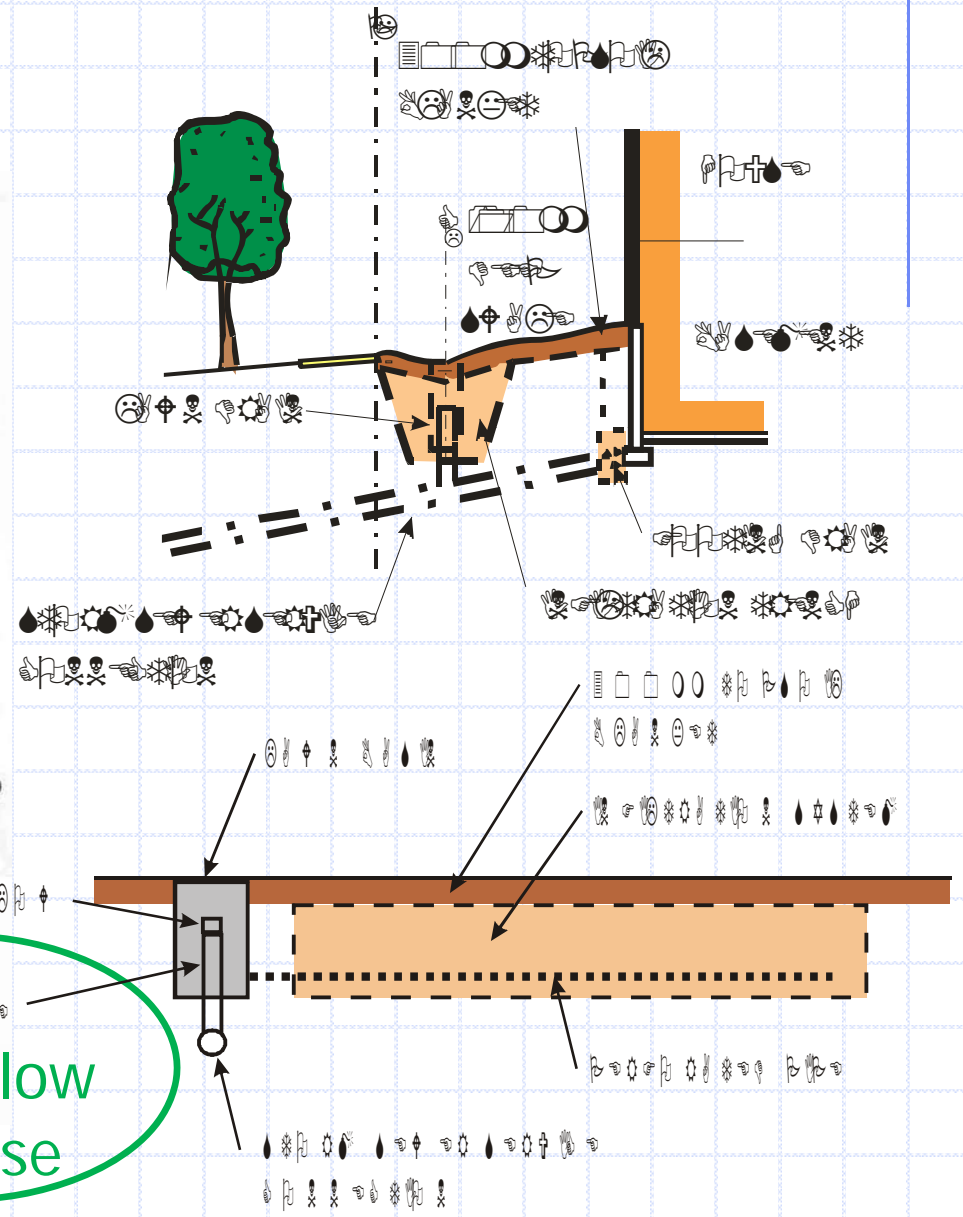
Wish List

- ◆ Build on knowledge from East Clayton
- ◆ Reduce cost
 - Area composed of small parcels
 - Difficult to consolidate and develop
- ◆ Question posed
 - Can we reduce or eliminate the ponds?

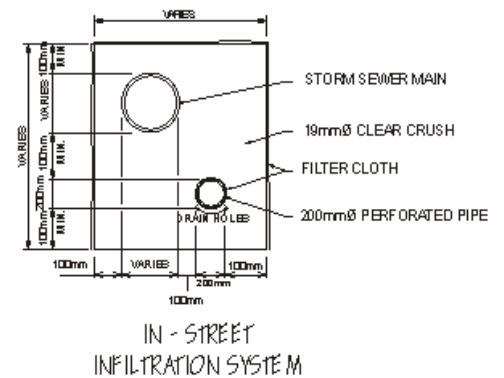
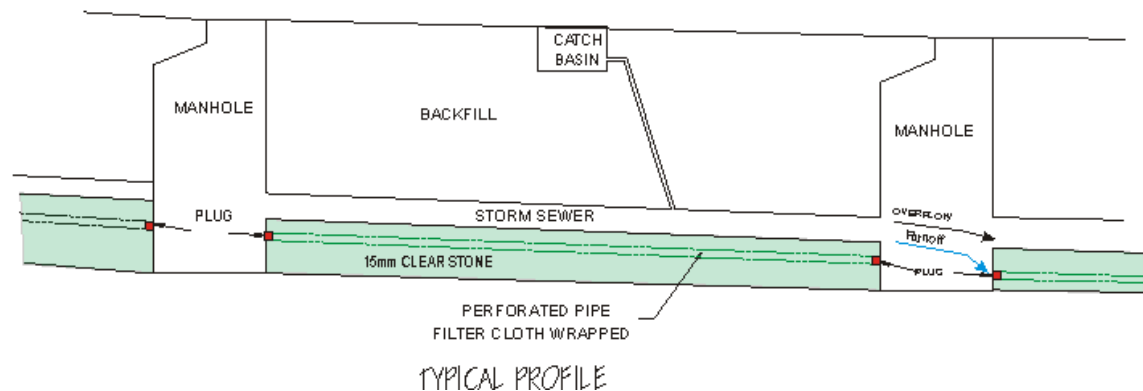
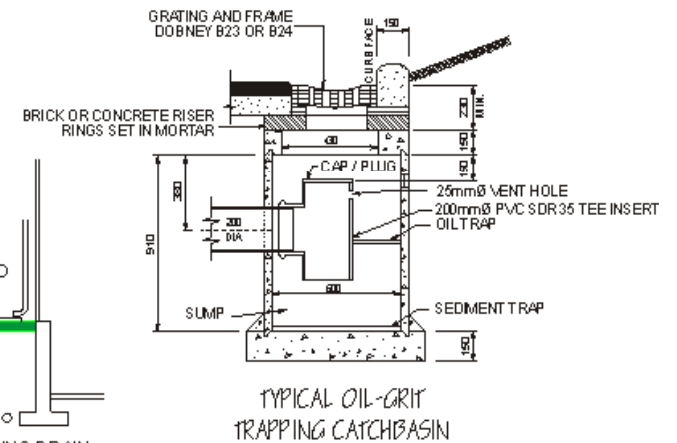
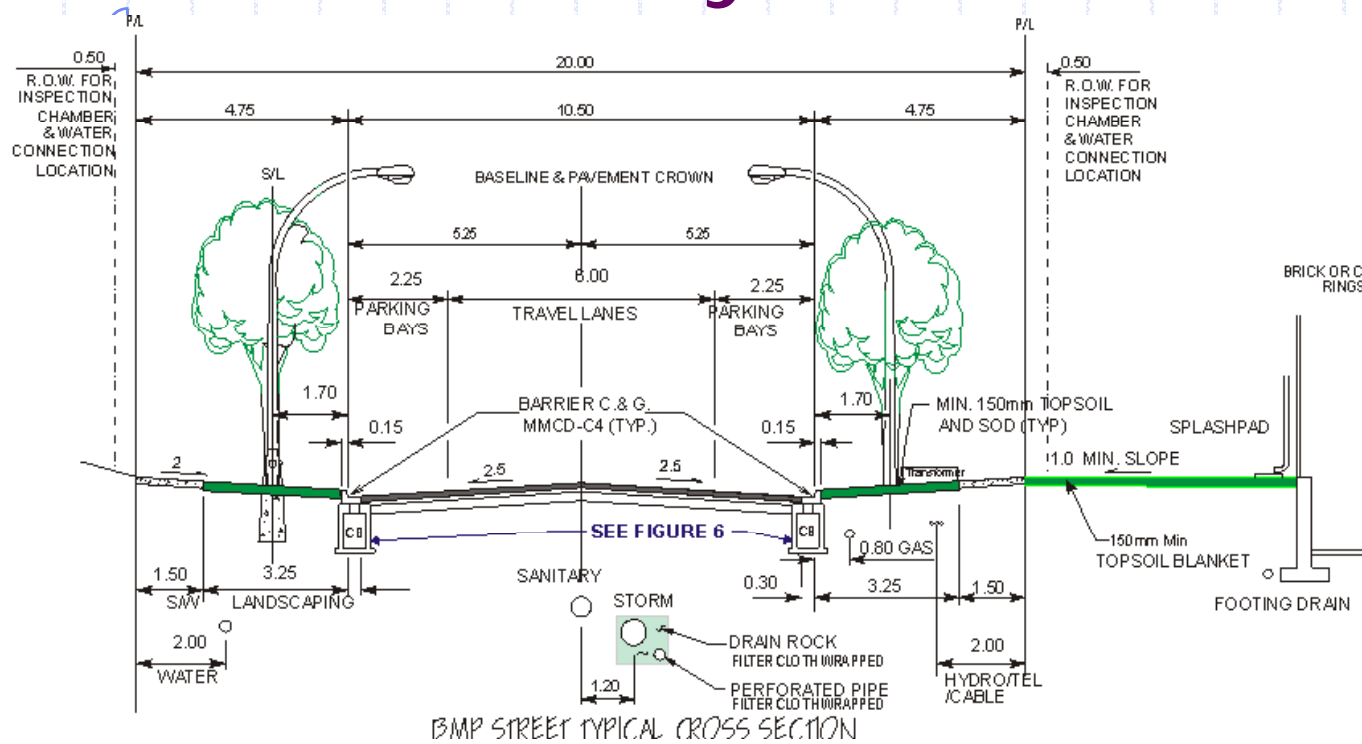
On Lot System



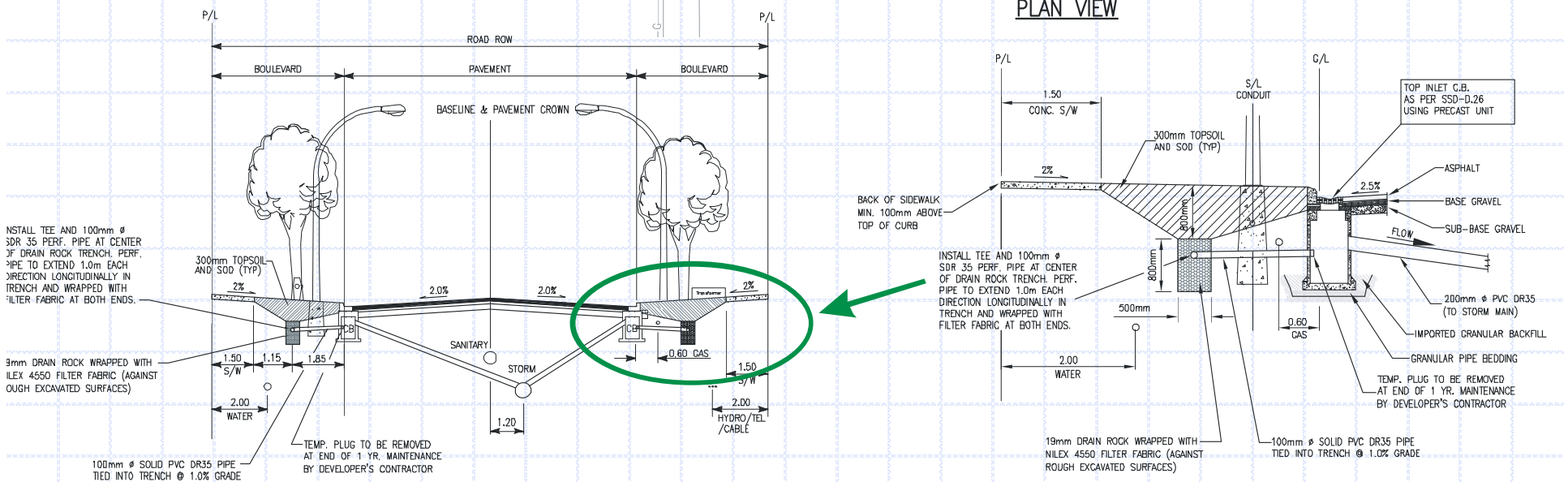
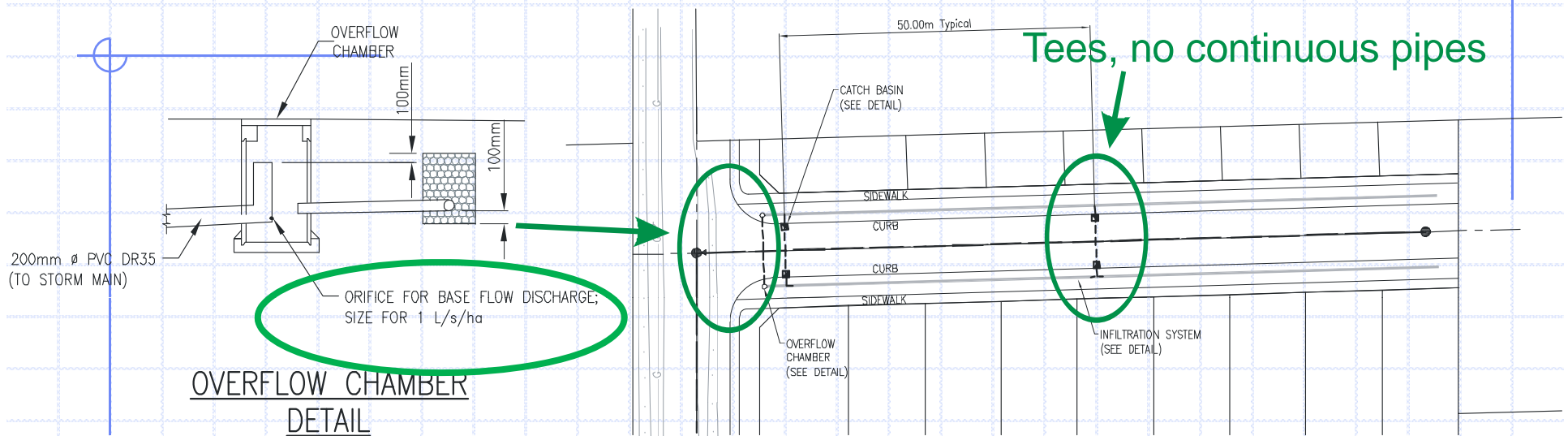
Base Flow Release



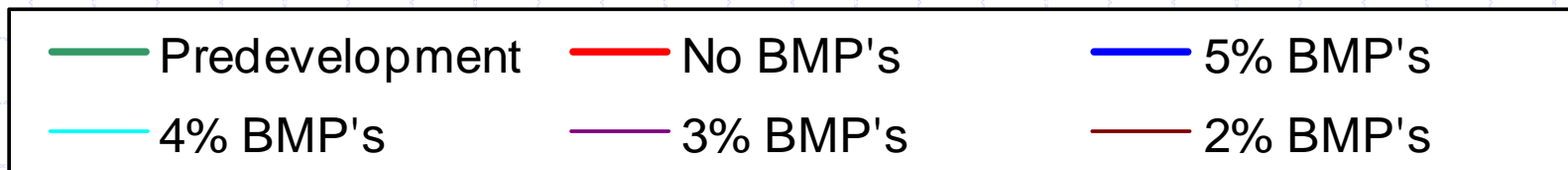
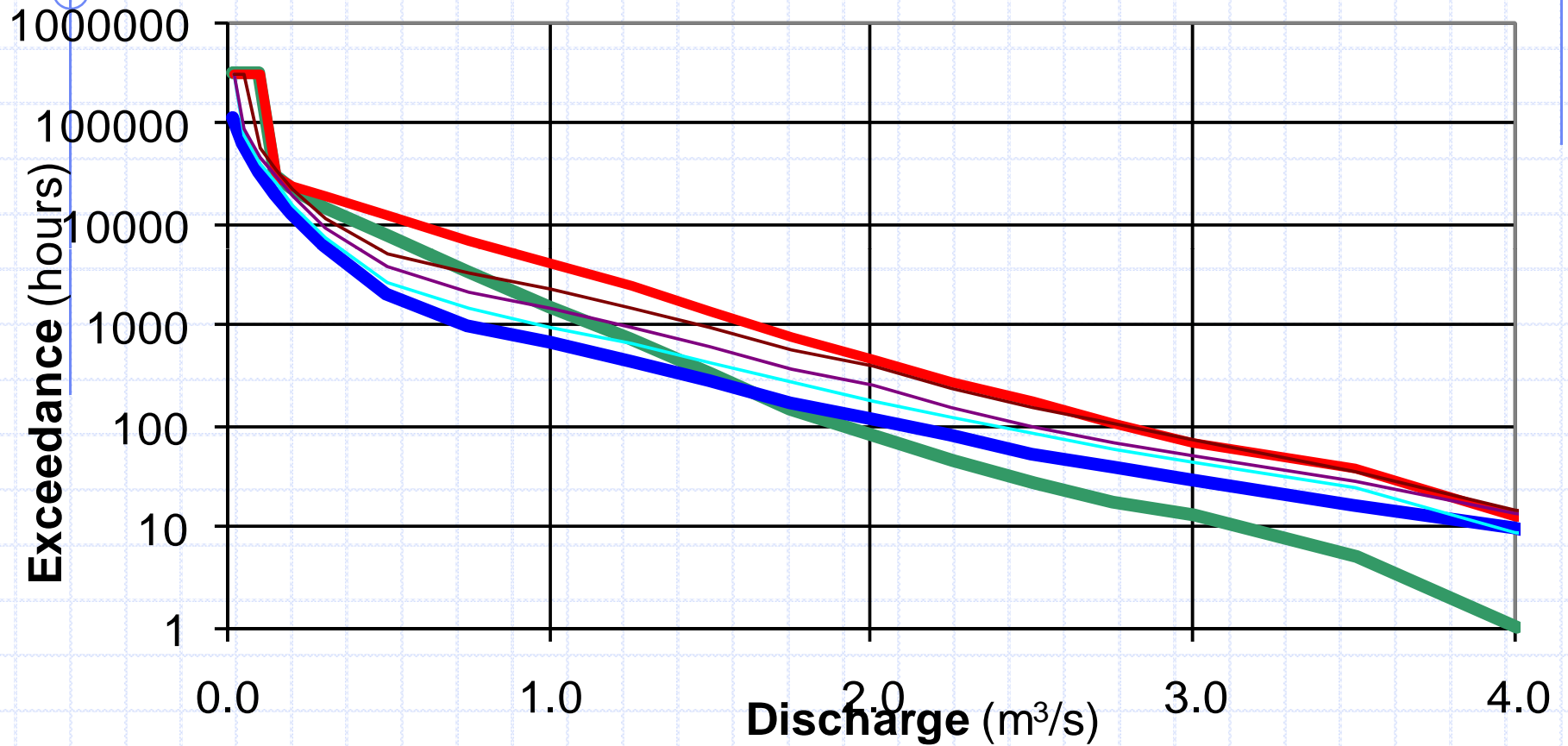
In Street System



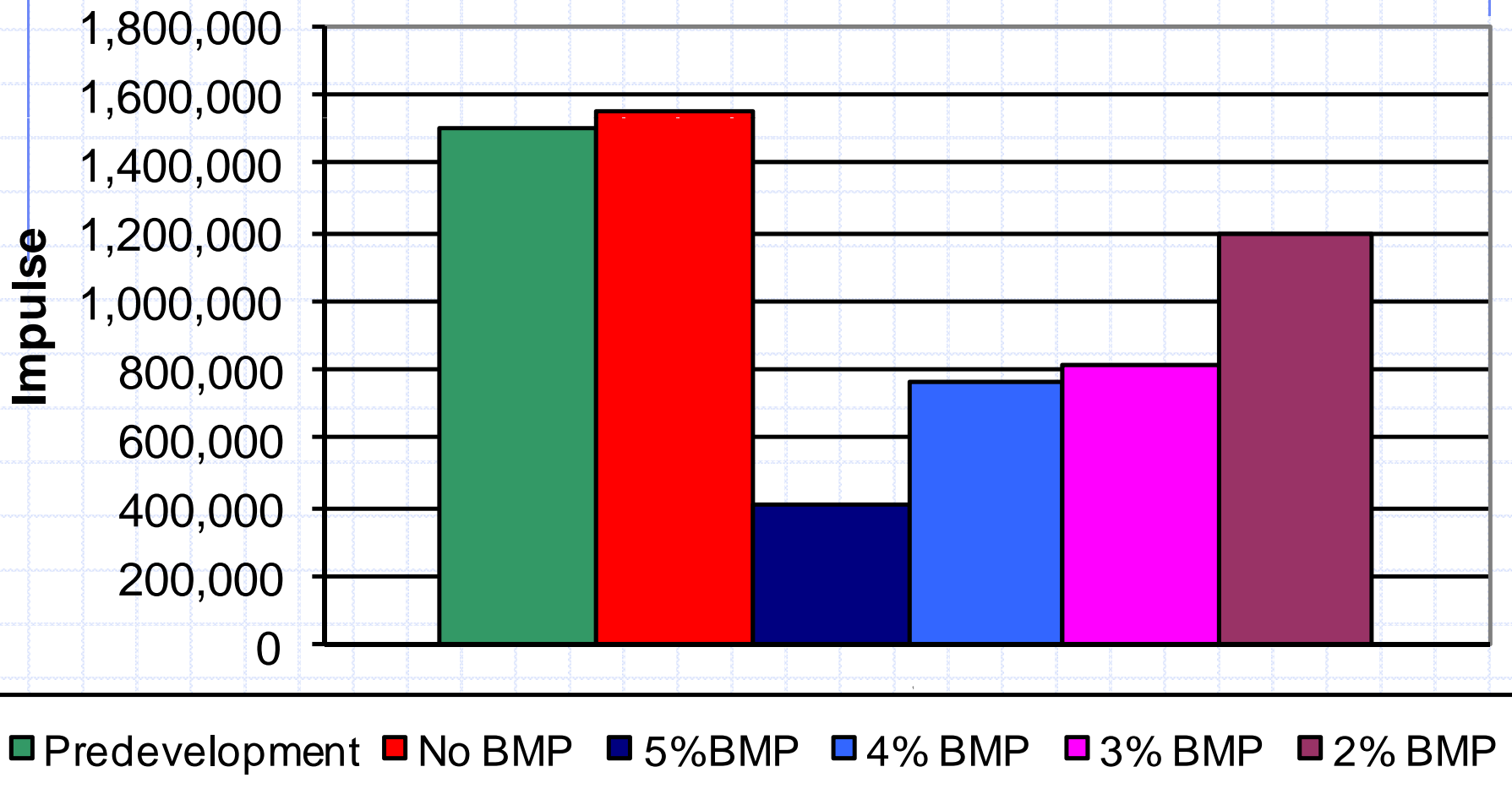
Alternative Street System



Exceedance - Section 5



Erosion Reduction – Section 5



Discharges and Flood Risk

| Scenario | 100 Year Return Period Discharge (m ³ /s) | | | | | | |
|-----------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| | Section 1 | Section 2 | Section 3 | Section 4 | Section 5 | Section 6 | Section 7 |
| Existing | 1.03 | 2.91 | 0.57 | 3.46 | 4.36 | 1.39 | 19.26 |
| No BMP's | 1.44 | 4.47 | 1.33 | 5.51 | 7.25 | 1.39 | 20.56 |
| 5% BMP's | 1.67 | 3.12 | 0.95 | 3.86 | 5.08 | 1.11 | 20.13 |

| | 100 Year Return Period Contained in Channel | | | | | | |
|-----------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| | Section 1 | Section 2 | Section 3 | Section 4 | Section 5 | Section 6 | Section 7 |
| Existing | yes | yes | yes | no | yes | yes | yes |
| No BMP's | yes | yes | yes | no | yes | yes | yes |
| 5% BMP's | yes | yes | yes | no | yes | yes | yes |

Results shown are without detention ponds

Flood Prone Reach



Photo 1, Channel Approaching 142nd Street



Photo 2, Culvert Inlet at 142nd Street

Findings

- ◆ Cost reduction – no ponds
 - Potential DCC Fund saving \$6,130,5000
- ◆ **Erosion Reduction**
- ◆ Discharges not altered significantly
 - No increase in flooding
 - Flooding at one location (unchanged)

Next

Sam Lau will discuss the City process

- ◆ Non-standard infrastructure
- ◆ How to approve and construct



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