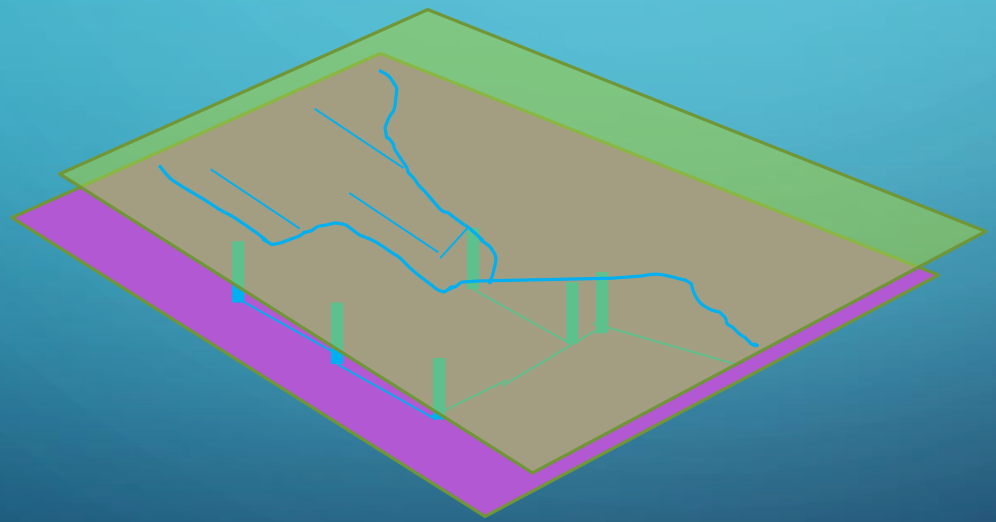
CE 3372 WATER SYSTEMS DESIGN

LESSON 20: DUAL DRAINAGE SYSTEM FALL 2020

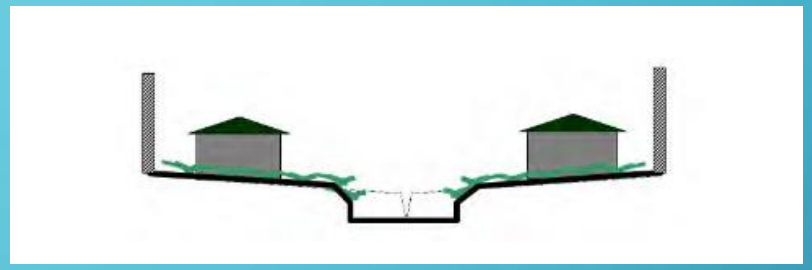
DUAL DRAINAGE CONCEPT

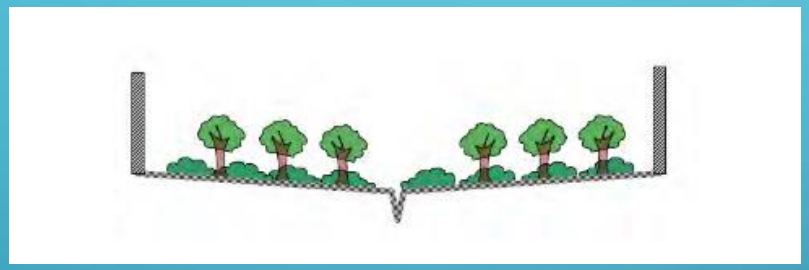
- Simulating surface and sub-surface (sewer) flow
  - “Two” drainage networks connecting to same outfall.
  - Occupy same physical space

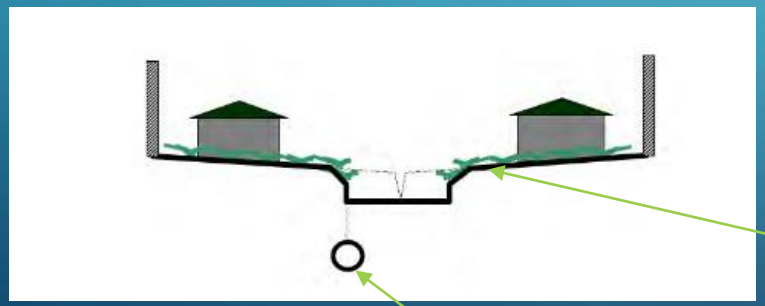


DUAL DRAINAGE CONCEPT

- Cross sections





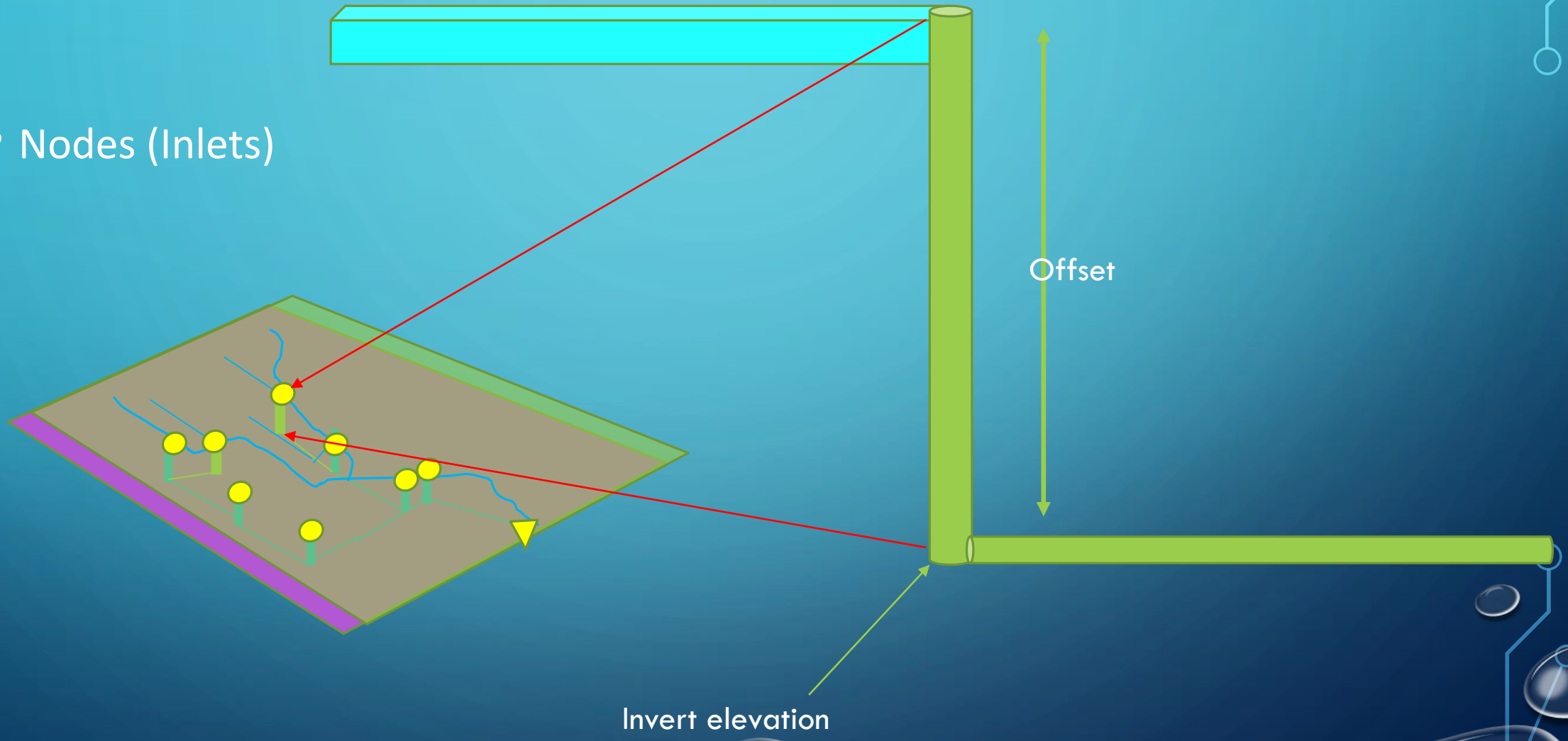


Street Cross Section: Street is a “conduit” in our hydraulics model

Storm Sewer Pipe

DUAL DRAINAGE CONCEPT

- Nodes (Inlets)

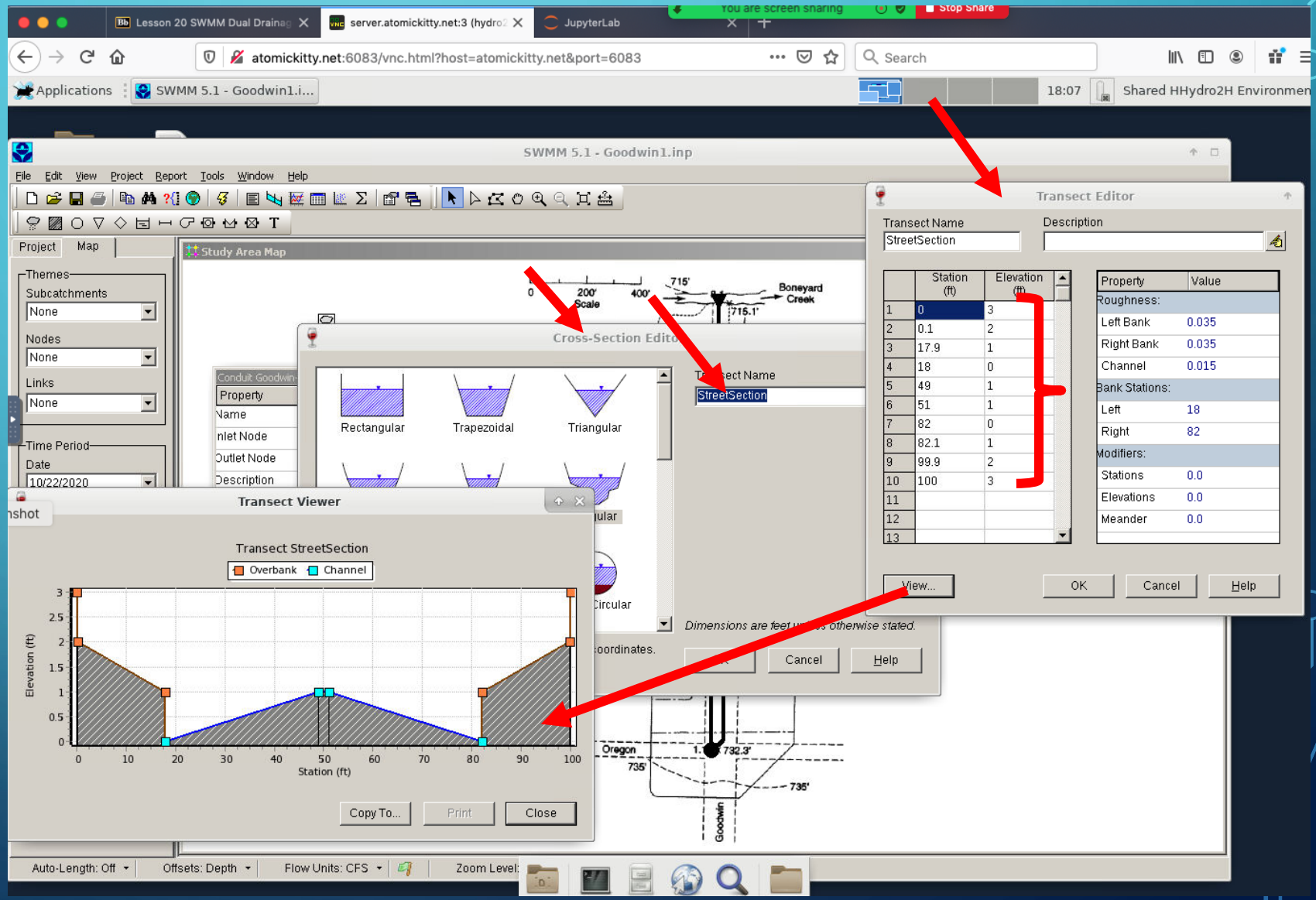


GOODWIN STREET EXAMPLE (CONTINUED)

- Add to our SWMM model a surface drainage system
  - Using simplistic cross sectional geometry
  - Add street section along Goodwin

GOODWIN STREET CROSS SECTION

- Glass wall
- Sidewalk
- Street
- Use IRREGULAR cross section



GOODWIN STREET DUAL DRAINAGE

- Run simulation
- Profiles
  - Manual to get the surface flow
- Invert elevations same both drawings
- Upper elevations (green lines) are same both drawings
- HGL is dark blue line both drawings