Orange Village Drainage Improvement Project:

- Linear bioretention swale system within the right-of-way of a residential street.
- Designed to distribute, reduce, and treat storm water runoff before connecting to a storm sewer system.

**Sterncrest Road Original Conveyance Channel**

**Original System**
- Built in late 1950’s
- Road runoff drains to open swales then to channels that run through rear yards on private property.
- No storm sewer connection.
- No access easements.
- System not properly maintained resulting in:
  - Little to no gradient in channels
  - Standing water
  - Chronic street and yard flooding

**Design Considerations**
- Fixing original system would have required:
  - Easements from multiple property owners.
  - Clearing heavy brush/trees along property lines
  - Re-grading hundreds of feet of channel/ditch.
  - Removing and replacing undersized piping.
- New retrofit swale system required:
  - No brush/tree removal.
  - Connection to Lander Rd. storm sewer.
  - Reducing flow to storm sewer connection.
  - Detaining storm sewer flow from Sterncrest Road to new connection.
  - Construction within existing right-of-way.

Funding provided by: Lake Erie Protection Fund
• Open grass swale with perforated storm sewer pipe below soil mix.
• 70% sand, 30% peat/leaf compost soil mix.
• Soil mix acts as a filter system to remove pollutants.
• Nine landscaped rain garden areas around catch basins receive surface flow.
• Rain garden areas fill to a maximum of 6” around catch basin.
• Catch basins overflow during storm events to prevent flooding.
• Pooled water filters through soil mix within 48hrs.