- Repair pipe, replace piping
- Repair/replace apron
- Remove broken channel lining
- Grade & stabilize banks w/ veg
- Utilize natural grade control
- Re-align flow downstream & over ex. vane arm

Legend
- Sanitary Manhole
- Sanitary Structure
- Sanitary Line
- Drainage Manhole
- Drainage Structure
- Drainage Line
- Parcels

000109 Holmes Run
Into Holmes Run
Recommendation Map
Near City & Fairfax County Line, N. Chambliss St.
- Replace + Realign End Section
- Establish Stable R/c/w
- Stabilize Banks in Place
- Potential for the Wood Retention
- Identified 3x Headcuts Downstream

Legend
- Sanitary Manhole
- Sanitary Sewer
- Sanitary Line
- Drainage Manhole
- Drainage Structure
- Drainage Line
- Parcels

000166 Holmes Run
Into Holmes Run
Recommendation Map
Near Fox Chase Apartments
- Replace failing end section
- Install drop structure
- Pipe flow to stable outfall
- Fill over pipe + stab. banks Adj. to trails
- Stabilize Banks + Tribes
- Establish Rifle-Pool Complexes
- Re-align channel to stable run
- Connect to down-stream restoration

- Potential to reconnect to legacy flood plains
- Create wetlands in abandoned meanders
- Repair plunge pool
- Establish riffle-pool sequences
- Re-align channel to reduce stress on banks and utilities
- Utilize material in channel to stabilize and build re-direction structures
- Establish Riffle-Pool Sequences
- Multi-stage Channel
- Stabilize Banks
- Utilize on-site Reference Reach

Legend
- Streams For Evaluation
- Sanitary Manhole
- Sanitary Structure
- Sanitary Line
- Drainage Manhole
- Drainage Structure
- Drainage Line
- Dams/Weirs

Timber Branch
Recommendation Map

west side of image
- Shift stream alignment
- Create multi-stage channel
- Build floodplain/low terrace
- Establish riffle-pool sequences
- Utilize ex. downed trees as toe wood, log vanes, log rollers
- Ped bridge
- Stabilize banks in place
- Utilize ex. large downed tree as log vane
- Utilize downed trees as revetment and/or log rollers in riffles
- Grade in flood plain/low terrace
- Abandon meander, establish wetland cell
- Realign channel away from sewer line
- Pool
- People quaint location
- Stabilize outside meander bends
- Stabilize footpath down out to tributary
- 2nd roadway right of way from home owners
- 2nd roadway right of way from house owners
- Drainage line
- Drainage structure
- Pedestal
**Holmes Run Recommendation Map**

Legend:
- Streams For Evaluation
- Sanitary Manhole
- Sanitary Structure
- Sanitary Line
- Drainage Manhole
- Drainage Structure
- Drainage Line
- Pavement

**REALIGN + RE-SITUATE IN VALLEY CROSS-SECTION**

**DECREASE DROPS OVER SEWERS BY ADDING ROCK GRADE CONTROL**

**Typical X's**
- Shift Channel
  - Utilize cut from new channel to fill stabilize old channel + banks
  - Maintain 4 ft. between new channel
  - Maintain 2 ft. between new channel

**SEWER RISER**
- Sewer riser

**Sewer manhole**
- Sewer manhole

**Grade Control**
- Ramp, w/ planting pool (Typ.)

**Establish Pollard**
- Establish Pollard

**Repair Headout**
- Repair headout with 10" pipe

**Dual CMP Added**
- Dual CMP added

**Ascot CT**

**Beauraunda Ct.**
- Beauraunda Ct.

**Morgan St.**
- Morgan St.

**Anders CT**
- Anders Ct.

**Romack Dr.**
- Romack Dr.

**Jewell Ct.**
- Jewell Ct.

**Larson Dr.**
- Larson Dr.

**Holmes Run**
- Holmes Run

**Hawthorne**
- Hawthorne

**Bar Sealee Loc.**
- Bar Sealee Loc.

**Pebble Court Loc.**
- Pebble Court Loc.

**TYPICAL X'S**

**Shift Channel**
- Utilize cut from new channel to fill stabilize old channel + banks

**Maintain 4 ft. between new channel**
- Maintain 2 ft. between new channel

**SEWER RISER**
- Sewer riser

**Sewer manhole**
- Sewer manhole

Legend: