

Hillcrest/Upland Options with Pros/Cons
11/30/09

Objectives

- Address erosion in the greenway
- Address aging sanitary sewer
- Allow for maintenance of sanitary sewer
- Minimize land disturbance
- Minimize tree loss

Challenges

- Inaccessible, wooded area
- Proximity to neighbors
- Steep terrain
- Existing overhead power in fixed easement location
- Significant stormwater flows
- Existing shallow depth of (lack of adequate cover over) sanitary sewer due to ongoing erosion – potential for freezing or damage.

Common to All Options

- Create access to easternmost sanitary structure (behind 210 S. Owen/4309 Hillcrest) only.
- Rehabilitate (line) 2 sanitary sewer legs coming in from south (Upland Dr., Falles Ct. area).

Option 1

- Replace sanitary sewer via open cut, lower eastern portion
- Replace sanitary laterals in easement/city property (except where existing ret. wall, etc. exists over top)
- Install storm sewer pipe
- Most expensive option

Pros

- Least potential for needed future repairs/maintenance
- Best potential for later access if needed (for repair of storm sewer or san sewer, etc.)
- Cost share from City for replacement of privately owned laterals in City-owned property and easement. Benefit to homeowners.
- Minimizes erosion
- Provides new sanitary sewer with adequate cover

Cons

- Negative public/regulatory perception of undergrounding the storm flows
- Neighbors' security concerns if area is more accessible to public
- Preliminary tree loss estimate 65 trees (out of 302 inventoried). Condition of trees to be removed: 28 good, 12 fair, 13 poor, 10 dead, 2 not reported. 55 along storm/san align, 10 for laterals.
- Most expensive

Option 2

- Replace sanitary sewer via open cut, lower eastern portion
- Replace sanitary laterals in easement/city property (except where existing ret. wall, etc. exists over top)
- Rebuild channel, line with riprap (limestone or field stone)
- Less expensive than Option 1, more expensive than Option 3

Pros

- Positive public/regulatory perception of keeping storm daylighted and out of pipe.
- Cost share from City for replacement of privately owned laterals in City-owned property and easement. Benefit to homeowners.
- Significantly reduces erosion.
- Provides new sanitary sewer with adequate cover.
- Potential perceived security benefit– reduced potential for access by public.
- Riprap is relatively robust – stones can move/settle a little and channel still remains stable.

Cons

- Poor potential for later access if needed (for repair of san sewer or channel, etc).
- Preliminary tree loss estimate 66 trees (27 good, 13 fair, 14 poor, 10 dead, 2 not reported). 56 along san/ditch align, 10 for laterals.
- If future replacement of laterals under ditch by open cut by homeowner, homeowner would have to restore ditch over lateral after replacement.

Option 3

- Rehabilitate (Line) Existing Sanitary
- Leave channel as-is, possible trial of cross vanes (v-shaped rock check dams across channel) at east end of channel.
- Little, if any, work on laterals.
- Least expensive.

Pros

- Positive perception of keeping storm daylighted
- Least amount of disturbance/change from existing condition
- Very little tree loss
- Least expensive

Cons

- Inadequate cover over sanitary sewer remains an issue. Potential of damage to existing san during and after construction remains.
- Potential freezing of laterals (inadequate cover)
- 2 (or more) spot repairs of san still needed prior to lining, access difficult.
- Potential for failure of channel in large events, then inadequate access for repair.
- Continued erosion in ditch.

- Difficult to achieve any meaningful repair on ditch without lowering (replacing) san. If fill/armor ditch, fills in much of channel area, which redirects flow and could cause erosion/tree loss elsewhere.
- No cost share from City for any needed future replacement of laterals in City-owned property or easement
- Cross vanes -uncertainty of success, difficult access to install.
- Poor potential for later access if needed (for repair of san or ditch, etc.)
- If future replacement of laterals under ditch by open cut, homeowner would have to restore ditch over lateral after replacement.