

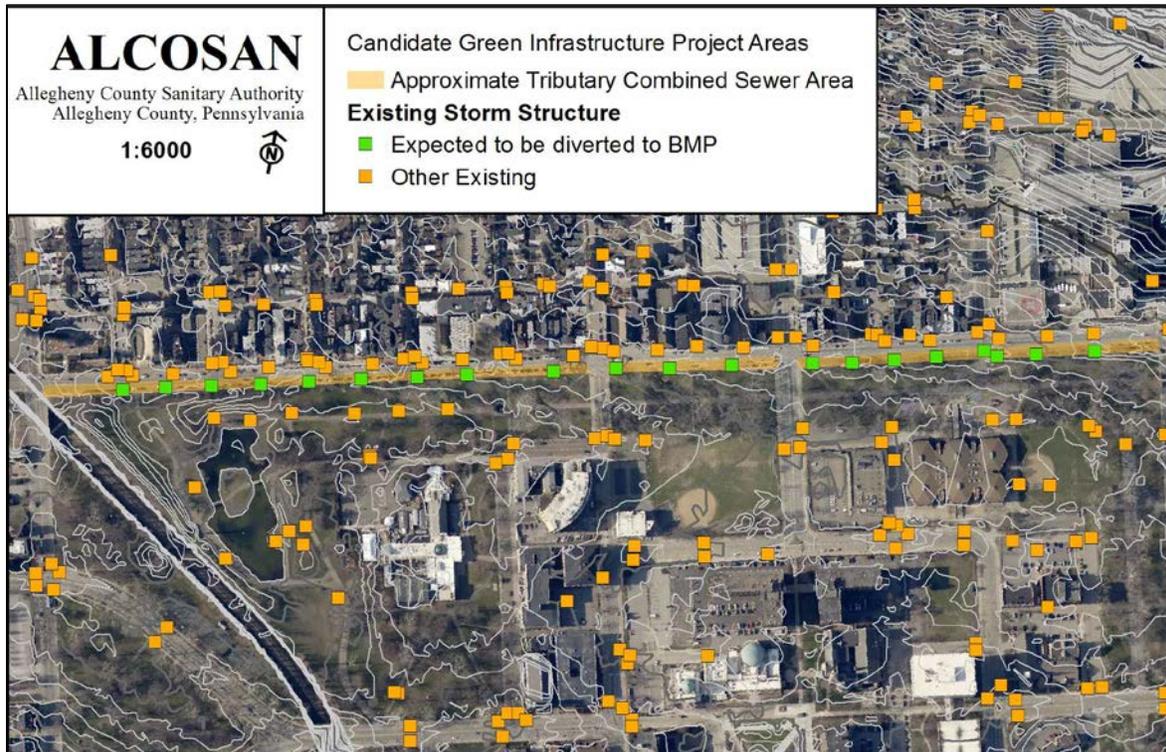


Starting at the Source:
How Our Region Can Work Together for Clean Water

Appendix H - Project Location Site Summaries

Appendix E-8 – Project Location Site Summaries

Potential Green Infrastructure Project Site
Site 32 - North Avenue along Allegheny Commons
City of Pittsburgh, Allegheny Center Neighborhood



Potential Partners: City of Pittsburgh, PWSA, Buhl Foundation, Allegheny Commons Foundation, Northside Leadership Conference

Potential GI Project: Opportunities to reroute stormwater from North Avenue between Brighton Road and Cedar Avenue, into GSI installations within Allegheny Commons Park.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Main Rivers/ A-48 |
| Approx. Tributary Combined Area (acres): | 2.33 (public right of way impervious) |
| Land Use: | Park; Commercial/Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | GSI installations to redirect stormwater runoff upstream of existing catch basins along North Ave. and drain into existing lawn areas which would be retrofit into GSI infiltration/bioretention trenches |
| Slow Release Outlet: | Develop opportunities to infiltrate into park lands with potential slow release to existing catch basins. |
| Required Storage Volume (gallons): | 95,000 |
| Approximate GI Footprint (sq ft): | 10,000 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Improve aesthetic of park entrances and streetscape; pedestrian safety |

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Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | |
|----------------------|--|-------------|
| ACSA Sewershed: A-48 | | Site ID: 32 |
|----------------------|--|-------------|

| | | |
|----------------|-----------------------------|--|
| Date: 9/5/2014 | Assessor(s) Kelly, Jedlicka | |
|----------------|-----------------------------|--|

Site Description

| | |
|-------------------------|--------------------|
| Name: Allegheny Commons | Municipality: PWSA |
|-------------------------|--------------------|

Address / Intersection: North Ave between Brighton Rd and Cedar Ave

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

North Avenue runs adjacent to Allegheny Commons from the intersections of Brighton Road to Cedar Avenue. There is a potential to convert existing green space within Allegheny Commons into a GI feature to capture runoff from North Avenue. A parking lane exists adjacent to Allegheny Commons from Brighton to Arch St. There are also numerous pedestrian entrances into the park that could be a potential location for a GI feature.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

Potential to capture runoff from public ROW along North Ave. Impervious area in public ROW includes sidewalk along North Ave, and half of North Ave. Multiple catch basins along North ave could be modified or incorporated into a GI design.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|----|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 19 |
|---|---|----|

Existing Maintenance Concerns (Provide Location, Take Photo)

Impervious area drains to a number of catch basins along North Ave. All basins appear to be well maintained. There are some portions of the sidewalk that are damaged and can be repaired as part of a GI project.

Curb Condition

The curb is in good condition. The curb east of Federal St has a shorter reveal than the rest of North Ave.

Sidewalk / Street Trees / Other ROW Landscaping

Mature trees within Allegheny Commons in close proximity to North Avenue sidewalk. Street trees on northern side of North Avenue across from Allegheny Commons.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

All buildings on the northern side of North Avenue appear to be directly connected.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential
- Commercial
- Institutional
- Transport-Related
- Industrial
- Undeveloped
- Park
- Other:

Describe Adjacent Land Use:

Allegheny Commons Park stretches from Brighton Rd to Cedar Ave on the southern side of Northern Avenue. Land use across from Allegheny Commons Park is a mix of institutional, residential, commercial, and undeveloped properties.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|-------------------------------------|---|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Sewer | Storm catch basins along Allegheny Commons, Storm Sewer location unknown |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> Water | Confirm utility locations with PA one call |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> Gas | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> Telecommunication | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> Electric | |
| <input type="checkbox"/> | <input type="checkbox"/> Overhead Wires | Overhead wires were not present |
| <input type="checkbox"/> | <input type="checkbox"/> Other | |

| Soils: | Comments: |
|--|---|
| Soil auger test holes: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Infiltration or soil testing can be completed within Allegheny Commons Park. Site has access for double ring tests. |
| Evidence of poor infiltration (clays, fines) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| Evidence of shallow bedrock: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| Evidence of high water table (gleying, saturation) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

The crown on North Ave shifts with the concrete median that starts at Arch St. The sidewalk along the park is often sloped toward the road. Portions of the park are at a greater elevation than North Ave. Some locations would need to be excavated if a GI feature were located there.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction
- Community Benefit
- Water Quality
- Channel Protection
- Demonstration / Education
- Parallel Infrastructure Repair
- Other:

Proposed GSI Option:

- Extended Detention
- Wet Pond
- Created Wetland
- Bioretention
- Filtering Practice
- Infiltration
- Swale
- Other

Demonstration Concept Description (Supplement with concept sketch as needed):

Opportunity for GI along sidewalk within Allegheny Commons Park. A regrading of the sidewalk and park space may be necessary to allow runoff into GI. Numerous pedestrian entrances along North Ave could be attractive locations to create a more welcoming entrance to the park. An infiltration trench or bioretention area within the park could be connected to a nearby catch basin and serve to capture runoff. Mature trees are present in close proximity to the sidewalk and siting of GI would need to accommodate existing trees.

Potential Green Infrastructure Project Site
Site 1 - Community Plaza within The Overlook Housing Redevelopment
Braddock Borough



Potential Partners: Braddock Borough, Trek Development, Mon Valley Initiative, Braddock Economic Development Corporation

Potential GI Project: Potential to construct bioretention/infiltration bumpouts and/or swales in the public right-of-way and within proposed community park along Braddock Ave between Fourth and Fifth Streets.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Upper Monongahela / M-53 & M-54 |
| Approx. Tributary Combined Area (acres): | 1.2 (total) / 0.57 (public right of way impervious) |
| Land Use: | Park, Commercial, Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Redevelopment, parcel donated to Borough |
| Suggested Location of GI Installation: | Within the right of way along Braddock Avenue, Fourth and Fifth streets. Option to connect green infrastructure features within community park being explored with Borough and developer. |
| Slow Release Outlet: | Pipe from each GSI installation to an existing catch basin |
| Required Storage Volume (gallons): | 23,000 |
| Approximate GI Footprint (sq ft): | 2,500 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefit: | Community amenity; streetscape improvements |

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Green Stormwater Infrastructure Field Evaluation (Part 1)

ACSA Sewershed: M-53 (4th Street), M-54 (East of 4th Street) Site ID: 1

Date: 8/7/2014 Assessor(s) Kelly, Jedlicka

Site Description

Name: Braddock Community Plaza at former UPMC site Municipality: Braddock Borough

Address / Intersection: Braddock Ave between 4th and 5th Street

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

Braddock Borough has been given a parcel of land along Braddock Ave as part of redevelopment of former Braddock Hospital site. Parcel is entire block along Braddock Ave between 4th and 5th Street. Braddock officials want to use parcel as a community park and incorporate GSI around site ROW and on site. Residential housing has already been constructed behind parcel along Overlook Way, and parking lot has been graded but not constructed. Borough officials have mentioned that parking lot will contain subsurface stormwater storage, and follow-up is needed with Borough and developer, Trek Development to determine how to integrate GSI into design.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

Potential to capture runoff from public ROW on 4th and 5th Street upstream of catch basins located at the corners of 4th & Braddock and 5th & Braddock. Impervious area in public ROW includes sidewalk and half of 4th, 5th, and Braddock Ave. Runoff from parking lot not anticipated to be included in design of GSI within community park, but runoff from community park will be designed to be managed on parcel. Need to confirm with developer whether residential area upstream of Overlook Way is partially or fully separate sewers, as it appeared to have new storm sewers in field observations.

Assessment of Existing Stormwater Features within Potential Drainage Area

Stormwater Catch Basins and Inlets *Number (Mark Locations on Maps):* 2

Existing Maintenance Concerns (Provide Location, Take Photo)

Impervious area drains to two catch basins at intersections of 4th & Braddock and 5th & Braddock. Some construction debris and silt contained in basins.

Curb Condition

New curbs along 5th and 4th near residential area. Very low curb on western side of 4th Street. Other curbs are adequate to direct street runoff. Need to discuss with developer whether new sidewalk will be incorporated within completion of project.

Sidewalk / Street Trees / Other ROW Landscaping

Street trees and large planter along Braddock Ave across street redevelopment site. New landscaping within residential area. No existing landscaping in area of proposed GSI. Sidewalk very wide along 4th (>10'), need to understand whether some will be removed as part of final site plans. Street trees have iron covers.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

New homes along Overlook Way are directly connected. Confirm with developer whether these are connections to a new storm sewer. Based on field observations it appears a new storm sewer exists.

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Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- | | | | |
|---|--|--|--|
| <input checked="" type="checkbox"/> Residential | <input checked="" type="checkbox"/> Commercial | <input type="checkbox"/> Institutional | <input type="checkbox"/> Transport-Related |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Undeveloped | <input type="checkbox"/> Park | <input type="checkbox"/> Other: |

Describe Adjacent Land Use:

New construction of commercial areas on either side of park parcel along Braddock. New residential behind park parcel. Part of ongoing redevelopment of former Braddock Hospital, this block of Braddock is one of the most active of Braddock's revitalization efforts and the proposed community park would be a focal point of this effort.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | | Location |
|-------------------------------------|-------------------------------------|-------------------|---|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Sewer | Center of Braddock Ave |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Water | Markings along 4th Ave and 5th Ave sidewalks |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Gas | Markings along 4th Ave and 5th Ave sidewalks |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Telecommunication | Buried lines nearest new construction |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Electric | New street lighting along Braddock Ave appear to have buried electric |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Overhead Wires | Along 4th, Braddock and 5th. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Other | Bus Stop along Braddock |

| Soils: | | Yes | No | Comments: |
|--|--------------------------|-----|--|---|
| Soil auger test holes: | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> No | Infiltration or soil testing may have been completed as part of the redevelopment project. Inquire with developer. Site has access for double ring tests. |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> No | |
| Evidence of shallow bedrock: | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> No | |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> No | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

4th and 5th street slope fairly steeply down to Braddock Ave. Braddock Avenue is relatively flat. Braddock officials have expressed concerns of basement flooding of daycare center at 4th and Braddock and general back-up concerns of catch basins. Existing side walks are between 6-15' wide, anticipated to be sufficient space in ROW for GSI. Areas where GSI proposed do not have new sidewalk.

Proposed Retrofit

Purpose of Retrofit:

- | | | | |
|--|---|--|---|
| <input checked="" type="checkbox"/> Source control / CSO reduction | <input checked="" type="checkbox"/> Community Benefit | <input type="checkbox"/> Water Quality | <input type="checkbox"/> Channel Protection |
| <input checked="" type="checkbox"/> Demonstration / Education | <input type="checkbox"/> Parallel Infrastructure Repair | <input type="checkbox"/> Other: | |

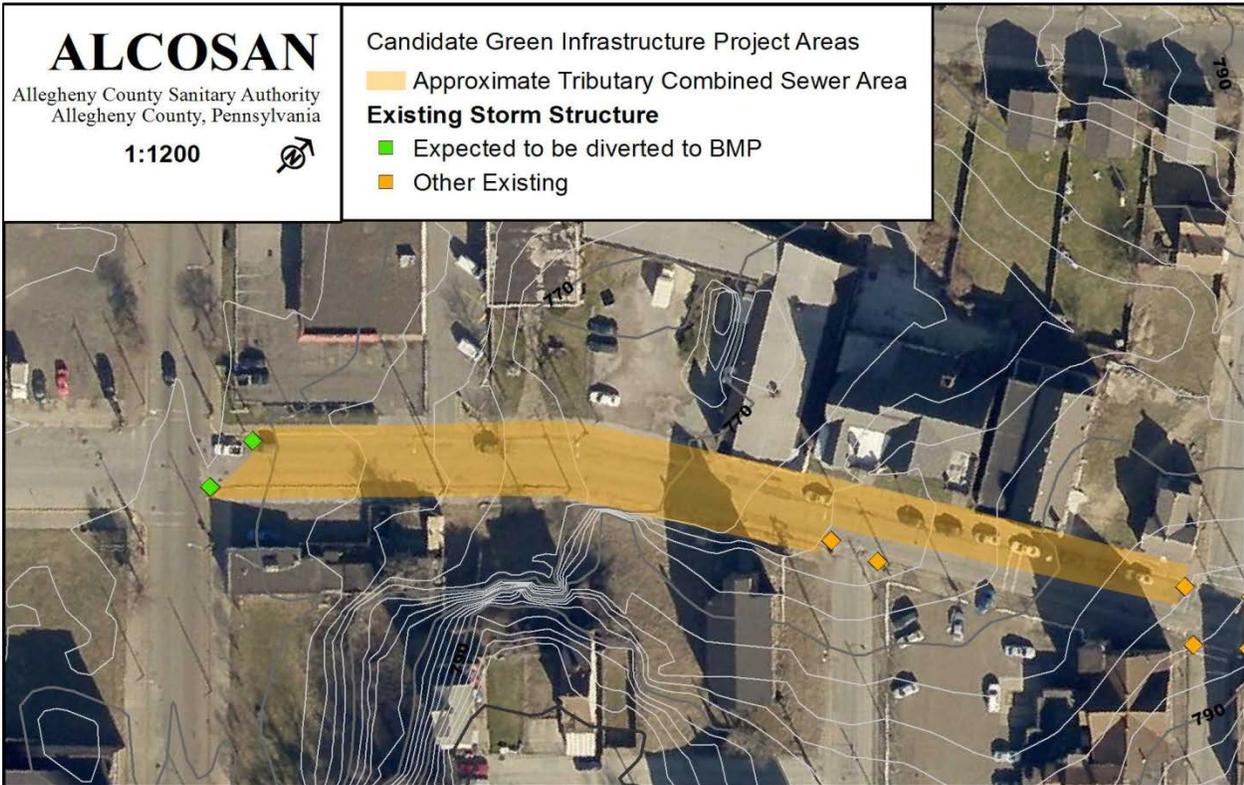
Proposed GSI Option:

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Extended Detention | <input type="checkbox"/> Wet Pond | <input type="checkbox"/> Created Wetland | <input checked="" type="checkbox"/> Bioretention |
| <input type="checkbox"/> Filtering Practice | <input checked="" type="checkbox"/> Infiltration | <input checked="" type="checkbox"/> Swale | <input type="checkbox"/> Other |

Demonstration Concept Description (Supplement with concept sketch as needed):

Opportunity for GSI on corners of 4th & Braddock and/or 5th & Braddock. GSI could be placed and connected to existing inlets in the public ROW. Additional area along Braddock Avenue would have the potential for GSI but would be contingent on finalized redevelopment plans. Discussion with developers and borough officials regarding plans for community center need to be arranged to understand potential GSI configuration.

Potential Green Infrastructure Project Site
Site 2 - 6th Street intersection
Braddock Borough



Potential Partners: Braddock Borough, Braddock Economic Development Corporation

Potential GI Project: Potential to construct bioretention/infiltration bumpouts and/or swales in the public right-of-way and within existing sidewalk along 6th Avenue upstream of catch basins.

| Project Characteristic | Description |
|--|--|
| Planning Basin and POC Shed: | Upper Monongahela / M-55 |
| Approx. Tributary Combined Area (acres): | 0.45 (public right of way impervious) |
| Land Use: | Commercial, Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Within the right of way along Braddock Avenue, Sixth St. |
| Slow Release Outlet: | Pipe from each GI installation to an existing catch basin. |
| Required Storage Volume (gallons): | 18,000 |
| Approximate GI Footprint (sq ft): | 2,000 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Streetscape improvements along Braddock Ave. and 6 th Ave., improved pedestrian safety at intersection. |

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Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | | |
|----------------------|--|------------|--|
| ACSA Sewershed: M-54 | | Site ID: 2 | |
|----------------------|--|------------|--|

| | | | |
|----------------|-----------------------------|--|--|
| Date: 9/5/2014 | Assessor(s) Kelly, Jedlicka | | |
|----------------|-----------------------------|--|--|

Site Description

| | |
|--------------|--------------------------------|
| Name: 6th St | Municipality: Braddock Borough |
|--------------|--------------------------------|

Address / Intersection: North Ave between Brighton Rd and Cedar Ave

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

Braddock Borough has interest in redeveloping the commercial area along Braddock Ave. This site is located two blocks from redevelopment of the former Braddock Hospital site. 6th street was evaluated for potential GI projects that could be grouped in with other redevelopment efforts along Braddock Avenue. The Braddock Municipal building is also located on 6th street.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.
 Potential to capture runoff from 6th street upstream of catch basins located at the corner of Braddock Ave & 6th. Impervious area in public ROW includes sidewalk and 6th street.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|----------|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 8 |
|---|---|----------|

Existing Maintenance Concerns (Provide Location, Take Photo)
 The basins on the corner of Braddock Ave and 6th appear to be well maintained. There are two basins located upstream of Braddock Ave at the corner of Lillie and 6th. There are four basins further upstream at the intersection of Margareta St & 6th.

Curb Condition

The curb is in poor condition. The sidewalk is cracked and the curb has a low reveal.

Sidewalk / Street Trees / Other ROW Landscaping

There is a large planter on the corner of 6th & Braddock in front of the Family Dollar. Some landscaping exists between the Family Dollar parking lot and sidewalk along 6th. It is most likely maintained by Family Dollar but some of the green space bordering Braddock and 6th could be in the public ROW.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

The mixed use buildings along 6th street appear to be directly connected.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential
- Commercial
- Institutional
- Transport-Related
- Industrial
- Undeveloped
- Park
- Other:

Describe Adjacent Land Use:

Family dollar and other commercial buildings along Braddock Ave. The Braddock Municipal building is located on 6th St in addition to other business and residential properties. The corner of 6th & Margareta St appears to be vacant land.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|----------------------------------|--|---|
| <input checked="" type="radio"/> | <input type="checkbox"/> Sewer | Exact location of utilities would need to be determined via PA one call |
| <input checked="" type="radio"/> | <input type="checkbox"/> Water | |
| <input checked="" type="radio"/> | <input type="checkbox"/> Gas | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Telecommunication | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Electric | |
| <input checked="" type="radio"/> | <input type="checkbox"/> Overhead Wires | Overhead wires present |
| <input type="checkbox"/> | <input type="checkbox"/> Other | |

Soils:

- Soil auger test holes: Yes No
- Evidence of poor infiltration (clays, fines) Yes No
- Evidence of shallow bedrock: Yes No
- Evidence of high water table (gleying, saturation) Yes No

Comments:

Site has limited access for double ring infiltration tests.

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

The Braddock Municipal building may be a potential site to capture flow along 6th street. 6th street is sloped downward toward Braddock Ave. Additional opportunities exist along Margareta St between 6th and Corey Ave where a catch basin is located at a low point adjacent to vacant land.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction
- Community Benefit
- Water Quality
- Channel Protection
- Demonstration / Education
- Parallel Infrastructure Repair
- Other:

Proposed GSI Option:

- Extended Detention
- Wet Pond
- Created Wetland
- Bioretention
- Filtering Practice
- Infiltration
- Swale
- Other

Demonstration Concept Description (Supplement with concept sketch as needed):

Opportunity to place GI upstream of catch basins on Braddock Ave. Public ROW on corners could allow sufficient space to site GI and capture runoff. Another potential location is adjacent to an open overgrown area along 6th across from the Braddock Municipal Building. There is potential to construct an infiltration trench with a curb cut to capture runoff flowing down 6th west of Lillie Ave.

Potential Green Infrastructure Project Site
Site 74 - Carnegie Library and Music Hall
300 Beechwood Ave, Carnegie, PA



Potential Partner: Carnegie Borough & Carnegie Library

Potential GI Project: Reroute stormwater runoff from library building and parking lot area to on-site GI. Existing stormwater management on-site to be discussed with library. There is potential for additional phases of GI retrofit within ROW along Home Street and Beechwood Ave to capture runoff from these streets.

| Project Characteristic | Description |
|--|--|
| Planning Basin and POC Shed: | Chartiers Creek / C-34A |
| Approx. Tributary Combined Area (acres): | 1.1 (total) / 0.66 (building & parking impervious) |
| Land Use: | Institutional |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Infiltration area could be retrofit in existing landscaping. Existing parking spaces could be replaced with porous surfaces to slow release into lawn area |
| Slow Release Outlet: | Develop opportunities to slow release into lawn area and/or connect to existing catch basins in parking area |
| Required Storage Volume (gallons): | 27,000 |
| Approximate GI Footprint (sq ft): | 2,900 |
| Assumed Loading Ratio: | 10:1 |

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Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | | |
|-----------------|-----------------------------|----------|----|
| ACSA Sewershed: | Subshed: | Site ID: | 74 |
| Date 8/5/2014 | Assessor(s) Jedlicka, Kelly | | |

Site Description

| | |
|---|--------------------------------|
| Name: Carnegie Library and Music Hall | Municipality: Carnegie Borough |
| Address / Intersection: Beechwood Ave & Home Street | |
| GPS ID | LAT: LONG: |

Description of Proposed Retrofit Location (Include ownership and land use):

As presented in the 2013 GreenScan of Carnegie Borough by Western PA Conservancy, the library has expressed interest in creating a more inviting space through the use of green infrastructure. The library sits on a site surrounded by mature trees and lawn area on three sides which could allow for potential to capture and infiltrate stormwater on site. Adjoining neighborhood streets (Library Ave, Home Street, Park Lane and Beechwood Ave) offer potential opportunities for draining runoff to public ROW along the perimeter of the library property.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

There are 4 inlets located at the North end of the property that capture runoff from the library driveway and parking spaces. Much of the existing parking is a hard packed gravel surface with additional gravel around much of the perimeter of the building. There may be a French drain configuration along the building perimeter as there are two storm pipes which appear to be coming from the library property and drain onto Beechwood Ave. These storm drains are 8" and 6" in diameter. Additional catch basins along Beechwood Ave capturing runoff running down the hill are noted on the map, these catch basins could be modified to take additional runoff from surrounding streets and into GSI installed in ROW adjacent to library property.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|----------|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 7 |
|---|---|----------|

Existing Maintenance Concerns (Provide Location, Take Photo)

4 inlets along northern end of property appear to be well maintained, but some do not appear to be capturing all runoff due to existing grading. Additional catch basins along Beechwood Ave are well maintained.

Curb Condition

Smaller asphalt berms are used to direct flow toward on site inlets. Curbs along Beechwood Ave, Home St and Library Ave are in good condition. Some sediment build-up along Library Ave.

Sidewalk / Street Trees / Other ROW Landscaping

Existing landscaping on site is well maintained. Sidewalk on site is in good condition. There are several mature trees on site, and more on their root structure would need to be known to assess whether GSI in the ROW would interfere.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

Multiple downspouts from the library appear to be directly connected, but whether connected to potential French drain system is unknown. If directly connected, there would be some potential to disconnect into a stormwater feature.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- | | | | |
|--|--------------------------------------|--|--|
| <input checked="" type="radio"/> Residential | <input type="checkbox"/> Commercial | <input checked="" type="radio"/> Institutional | <input type="checkbox"/> Transport-Related |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Undeveloped | <input type="checkbox"/> Park | <input type="checkbox"/> Other: |

Describe Adjacent Land Use:

Library sits atop a hill as you descend Beechwood. Surrounding streets are residential and existing landscape provides quite and shady tree lined hill and transition from Carnegie business district.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | | Location |
|----------------------------------|----------------------------------|-------------------|--|
| <input checked="" type="radio"/> | <input type="checkbox"/> | Sewer | Need stormwater management plans of library site |
| <input type="checkbox"/> | <input type="checkbox"/> | Water | No surface markers observed |
| <input type="checkbox"/> | <input type="checkbox"/> | Gas | No surface markers observed |
| <input type="checkbox"/> | <input checked="" type="radio"/> | Telecommunication | Overhead wires; no surface markers observed |
| <input type="checkbox"/> | <input checked="" type="radio"/> | Electric | Overhead wires; no surface markers observed |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Overhead Wires | Rear of library site |
| <input type="checkbox"/> | <input type="checkbox"/> | Other | |

Soils:

- | | | |
|--|------------------------------|-----------------------------|
| Soil auger test holes: | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Comments:

Ample space for testing

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

It appears some flow from parking area flows over the green space down the hill. Sediment buildup at corner of Home St and Library Ave observed. May be limited space to adequately manage runoff from Beechwood due to slope.

Proposed Retrofit

Purpose of Retrofit:

- | | | | |
|---|---|--|---|
| <input checked="" type="radio"/> Source control / CSO reduction | <input checked="" type="radio"/> Community Benefit | <input type="checkbox"/> Water Quality | <input type="checkbox"/> Channel Protection |
| <input checked="" type="radio"/> Demonstration / Education | <input type="checkbox"/> Parallel Infrastructure Repair | <input type="checkbox"/> Other: | |

Proposed GSI Option:

- | | | | |
|--|---|--|---|
| <input type="checkbox"/> Extended Detention | <input checked="" type="radio"/> Wet Pond | <input type="checkbox"/> Created Wetland | <input checked="" type="radio"/> Bioretention |
| <input checked="" type="radio"/> Porous Pavement | <input checked="" type="radio"/> Infiltration | <input checked="" type="radio"/> Swale | <input type="checkbox"/> Other |

Demonstration Concept Description (Supplement with concept sketch as needed):

Existing stormwater management plans on site must be obtained from library. Potential areas to include GSI in the parking lot and surrounding driveway, enhancing existing landscaping to manage stormwater via disconnection of downspouts, and the potential for swales along the ROW of Beechwood Ave and Home Street. Opportunities for a porous pavement parking lot exist if desired, but existing gravel drainage offers some infiltration. Modification of on site inlet structures and curb grading may be necessary. Opportunity to work with Carnegie Library system to educate community about GSI in Carnegie.

Potential Green Infrastructure Project Site
Site 106 - Walnut Street Block Etna 225
Etna Borough



Potential Partner: Etna Borough

Potential GI Project: Borough has analyzed drainage area bounded by Walnut, Prospect, High and School Streets and seeking concept for GI storage along Walnut Street. Stormwater structures surrounding drainage area also analyzed to compare to municipal drainage area analysis. Possible GI installations along Walnut Street include eliminating street parking for stormwater bumpouts or integrating pervious paving materials for parking lane and/or driving lane for infiltration.

| Project Characteristic | Description |
|--|--|
| Planning Basin and POC Shed: | Upper Allegheny / A-68 |
| Approx. Tributary Combined Area (acres): | 3.2 (total) / 0.85 (public right of way impervious) |
| Land Use: | Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Within existing parking lane and/or driving lane |
| Slow Release Outlet: | Pipe from each GI installation to an existing catch basin. |
| Required Storage Volume (gallons): | 35,000 |
| Approximate GI Footprint (sq ft): | 3,700 |
| Assumed Loading Ratio: | 10:1 |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | |
|----------------------|-----------------------------|--------------|
| ACSA Sewershed: A-68 | Subshed: | Site ID: 104 |
| Date 8/5/2014 | Assessor(s) Jedlicka, Kelly | |

Site Description

| | |
|---|----------------------------|
| Name: Etna GI Study Project 225 | Municipality: Etna Borough |
| Address / Intersection: Walnut and School St. | |
| GPS ID | LAT: LONG: |

Description of Proposed Retrofit Location (Include ownership and land use):

Site is defined as a sewershed bound by four blocks: School Street, Walnut Street, Prospect Street and High Street. This sewershed, defined as Site 225 in Etna's *Green Infrastructure Master Plan*, Phase 2 GSI Facilities. Within sewershed, GSI facilities have been installed at Municipal Parking Lot No. 2, at intersection of Walnut St. and School Street. Per Etna's report, full capture would involve installation of an additional 4500 CF GSI facility in the Walnut Street ROW.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.
 Assessed area includes one city block within Etna. The area is mostly residential with some one way streets, street parking, and mostly narrow sidewalks. There are numerous catch basins on High St. capturing flow from the steep inclines west of Prospect and off of Elm Ln. Etna's consultant identified a slightly different drainage area, which would need to be discussed with Borough to ensure accuracy.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|--|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 6 |
| <i>Existing Maintenance Concerns (Provide Location, Take Photo)</i> | | |
| There are 6 catch basins which define the sewershed surrounding the four streets assessed. This sewershed appears consistent with Etna's report. However, runoff from Elm and an additional block of High Street may enter this sewershed based on what was observed in field. All inlets are well maintained. | | |

Curb Condition

Low curb on eastern side of prospect. School St is an alley with no sidewalks or curbs.

Sidewalk / Street Trees / Other ROW Landscaping

Walnut Street Sidewalks are fairly narrow (4-6' width). Buildings have very short set-back from sidewalk, making it potentially difficult to build in ROW without eliminating parking. Younger street trees located on High St. east of School St.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

It appears most residential downspouts have been disconnected.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential
- Commercial
- Institutional
- Transport-Related
- Industrial
- Undeveloped
- Park
- Other:

Describe Adjacent Land Use:

Surrounding area is residential with a nearby church and a funeral home. Potential conflict with street parking as there is a narrow ROW and no observed driveways or garages, only residential on-street parking. It was difficult to conceptualize where in the ROW of Walnut Street GSI could fit based on the existing land use.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | | Location |
|----------------------------------|--------------------------|-------------------|---|
| <input checked="" type="radio"/> | <input type="checkbox"/> | Sewer | Markings in sidewalks along Walnut, Prospect and High Streets |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Water | Markings in sidewalks along Walnut, Prospect and High Streets |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Gas | Markings in sidewalks along Walnut, Prospect and High Streets |
| <input type="checkbox"/> | <input type="checkbox"/> | Telecommunication | No observed surface markings; overhead lines |
| <input type="checkbox"/> | <input type="checkbox"/> | Electric | No observed surface markings; overhead lines |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Overhead Wires | Lines along north side of Walnut |
| <input type="checkbox"/> | <input type="checkbox"/> | Other | |

| Soils: | | Comments: |
|--|--|--|
| Soil auger test holes: | <input type="checkbox"/> Yes <input type="checkbox"/> No | Soil tests for GSI in parking lot need to be obtained. Soil testing in this block would need to be auger bore drill tests due to lack of open space. |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> Yes <input type="checkbox"/> No | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Small green space on School St, unsure of who maintains it. It would be necessary to communicate with borough on ability to take out parking spaces or create a bumpout on a corner where parking is currently prohibited. Narrow sidewalks create a challenge for GSI in ROW. Existing GSI looks well designed and maintained.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction
- Demonstration / Education
- Community Benefit
- Parallel Infrastructure Repair
- Water Quality
- Channel Protection
- Other:

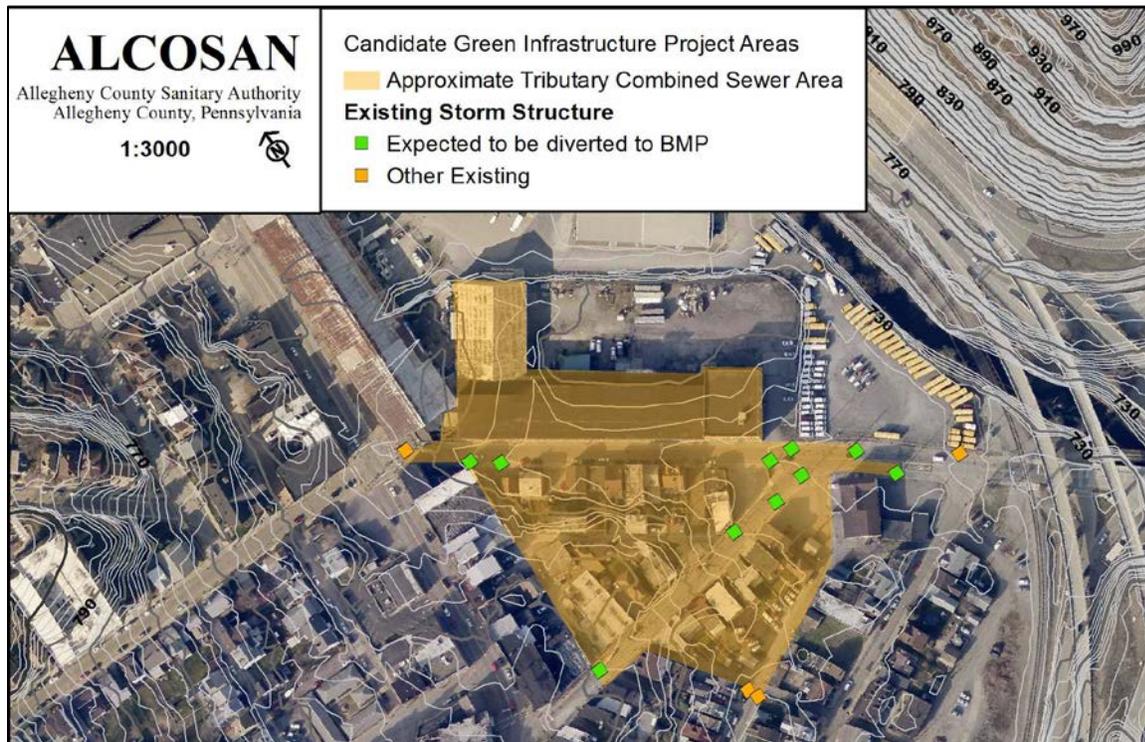
Proposed GSI Option:

- Extended Detention
- Porous Pavement
- Wet Pond
- Infiltration
- Created Wetland
- Swale
- Bioretention
- Other

Demonstration Concept Description (Supplement with concept sketch as needed):

Current width of ROW on Walnut, Prospect and School Streets appears to make GSI retrofits difficult. Potential to place infiltration/bioretention bumpouts on Walnut street if Borough willing to eliminate street parking spaces. Potential to use porous pavement in existing parking lanes as a potential technology as well. The ability to repurpose parking for GSI or potential for porous paving would need to be discussed with the borough.

Potential Green Infrastructure Project Site
Site 104, 107, 108 - Bridge Street Block Etna 056, 056A, 057
Etna Borough



Potential Partner: Etna Borough

Potential GI Project: Borough has analyzed drainage area bounded by Bridge St, Garden Alley, Freeport St, and Cherry St. A large rooftop was also identified by the borough as an area that can be removed from the combined system. There is limited space within the downtown Etna area for siting of GI. GI feature and/or underground storage could be sited at the corner of Freeport and Bridge St.

| Project Characteristic | Description |
|--|--|
| Planning Basin and POC Shed: | Upper Allegheny / A-68 |
| Approx. Tributary Combined Area (acres): | 5.3 (total) / 1.4 (public right of way impervious) |
| Land Use: | Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Within existing parking lane and/or driving lane |
| Slow Release Outlet: | Pipe from each GI installation to an existing catch basin. |
| Required Storage Volume (gallons): | 57,000 |
| Approximate GI Footprint (sq ft): | 6,100 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Enhance existing street landscaping |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | |
|----------------------|----------|----------|
| ACSA Sewershed: A-68 | Subshed: | Site ID: |
|----------------------|----------|----------|

| | |
|---------------|--------------------------------------|
| Date 8/5/2014 | Assessor(s) Feath, Swansinger, Kelly |
|---------------|--------------------------------------|

Site Description

| | |
|---|----------------------------|
| Name: Etna GI Study Projects 056, 057, 056a | Municipality: Etna Borough |
|---|----------------------------|

Address / Intersection: Freeport and Bridge Street

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

Area included in field evaluation was determined by Etna Green Study. The area is mostly residential with some commercial buildings and one large industrial site along Bridge St. The borough had identified this area as an expansion of their green efforts. 057 was identified as a candidate downspout disconnection with underground storage. Pine creek runs along the back of the industrial site under Rt. 28.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.
 057 is a large industrial building with multiple directly connected downspouts along bridge street. 056 and 056a are areas where runoff flows to a number of catch basins ultimately toward pine creek.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | |
|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> |
|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)

Multiple catch basins were fully buried and are not functioning as intended. Maintenance of catch basins within the area is a concern.

Curb Condition

The curb was low and/or deteriorated along many streets in the area of interest.

Sidewalk / Street Trees / Other ROW Landscaping

There is a streetscape along Butler Street which appears to part of Etna's phase one green infrastructure efforts. There is no other ROW landscaping.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

Most buildings appear to be disconnected few exceptions. The downspouts coming from the 057 industrial building appear to be contributing significant flow.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential Commercial Institutional Transport-Related
- Industrial Undeveloped Park Other:

Describe Adjacent Land Use:

The area is mostly residential with a few commercial locations scattered within the area. 057 is a large industrial building with a gravel lot. The area appears to be used for storage and parking.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location | |
|----------------------------------|----------------------------------|-------------------|--|
| <input checked="" type="radio"/> | <input type="checkbox"/> | Sewer | PA one call to determine exact location of utilities |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Water | |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Gas | |
| <input type="checkbox"/> | <input checked="" type="radio"/> | Telecommunication | |
| <input type="checkbox"/> | <input checked="" type="radio"/> | Electric | |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Overhead Wires | |
| <input type="checkbox"/> | <input type="checkbox"/> | Other | |

Soils:

Comments:

- Soil auger test holes: Yes No
- Evidence of poor infiltration (clays, fines) Yes No
- Evidence of shallow bedrock: Yes No
- Evidence of high water table (gleying, saturation) Yes No

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Pine creek in close proximity to sites. A larger effort could be to restore riparian buffer along pine creek and separate some of the larger contributors such as the 057 building. The public ROW is very tight within the 056 and 056a areas. It may be difficult to site GI without significant efforts. There are two or three pervious pavement lots on private property along Garden Alley.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction Community Benefit Water Quality Channel Protection
- Demonstration / Education Parallel Infrastructure Repair Other:

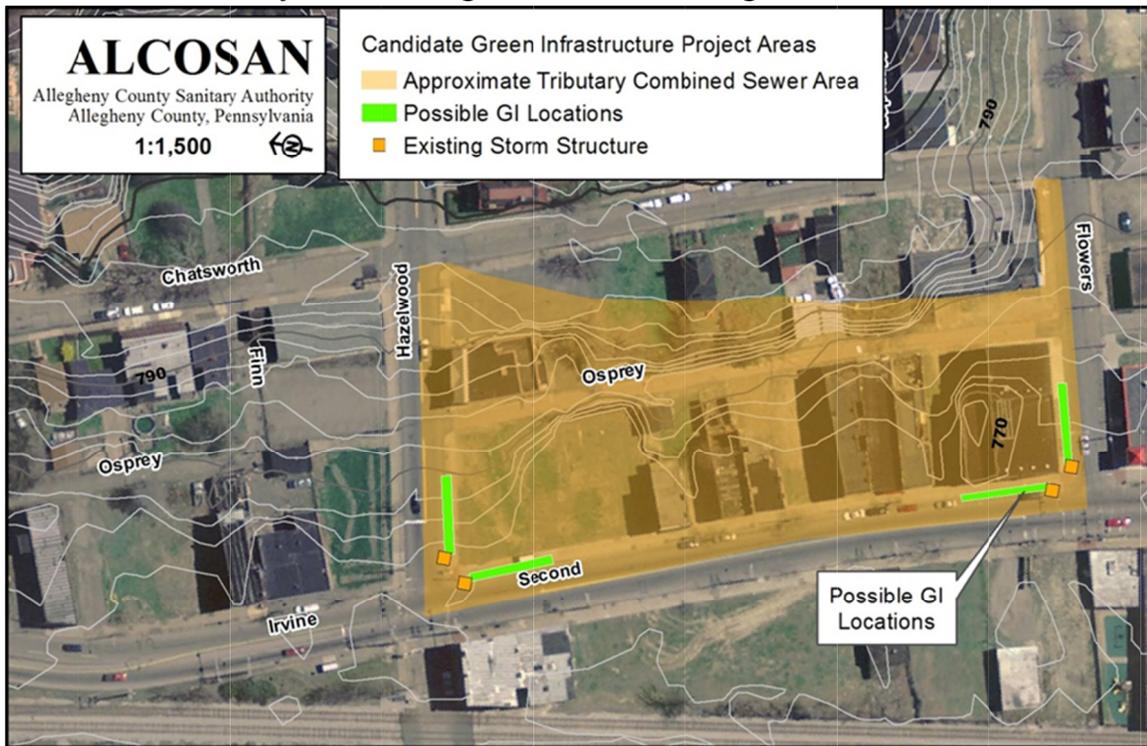
Proposed GSI Option:

- Extended Detention Wet Pond Created Wetland Bioretention
- Porous Pavement Infiltration Swale Other

Demonstration Concept Description (Supplement with concept sketch as needed):

There is limited space within the area to site GI projects. The Welcome to Etna sign at the corner of Bridge and Freeport could be the center piece of a GI installation. A rain garden may be able to be sited at this location and the Etna sign could be more vibrant with the addition of GI. Another gravel lot inbetween Strawberry and Freeport appears to be underused. Underground storage facility could potentially be implemented. The adjacent land owner would need to be contacted in both cases. The 057 building is a prime candidate for downspout disconnection. A more ambitious goal would be to restore some of the riparian buffer along pine creek and use GI as a polishing step before flowing into the creek.

**Potential Green Infrastructure Project Site
Site 5 - 4800 Block of 2nd Avenue Redevelopment
City of Pittsburgh, Hazelwood Neighborhood**



Potential Partners: City of Pittsburgh, PWSA, Action Housing, PennDOT

Potential GI Project: Construct bioretention/infiltration trenches within existing right of way upstream of catch basins along Flowers Ave, Hazelwood Ave, and Second Ave.

| Project Characteristic | Description |
|--|--|
| Planning Basin and POC Shed: | Upper Monongahela / M-35 & M-36 |
| Approx. Tributary Combined Area (acres): | 2.4 (total) / 0.71 (public right of way impervious) |
| Land Use: | Commercial/Institutional, Single-family Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit, concurrent with Action Housing redevelopment of vacant parcels along 4800 block of 2 nd Ave |
| Suggested Location of GI Installations: | Right of way (narrow strip between sidewalk and streets) Plans of private property stormwater management need to be discussed with developer, Action Housing. |
| Slow Release Outlet: | Pipe from each GI installation to an existing catch basin. |
| Required Storage Volume (gallons) | 29,000 (sum of entire drainage area) |
| Approximate GI footprint (sq ft): | 3,100 (sum of 4 GI locations) |
| Assumed Loading Ratio: | 10:1 (average of 4 GI installations) |
| Potential Community Co-Benefits: | Incorporate GI to enhance 2 nd Ave redevelopment |

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Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | | |
|-----------------------------|-------------|------------------------|---|
| ACSA Sewershed: M-35 / M-36 | Subshed: | Site ID: | 5 |
| Date: 8/1/2014 | Assessor(s) | Fedor, Jedlicka, Kelly | |

Site Description

| | |
|--|----------------------------------|
| Name: Action Housing Redevelopment | Municipality: City of Pittsburgh |
| Address / Intersection: 4800 Block Hazelwood, bounded by intersection with Hazelwood Ave and Flowers Ave | |
| GPS ID | LAT: LONG: |

Description of Proposed Retrofit Location (Include ownership and land use):

4800 block of 2nd Ave is a mostly vacant parcel of land on the north side the street. Area owned by URA being developed by Action Housing. Goal of the project is to link 2nd Ave redevelopment with the Almono projects for redevelopment. There is interest to see if GSI can be retrofit into the public ROW parallel to the site redevelopment project and developer is also considering potential for GSI to be incorporated within the storm water plan for the site. There is potential for URA to develop the vacant land across 2nd Ave as well as one block north along Chatsworth Ave.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.
 This field analysis only considered potential to capture runoff from public streets and sidewalks and incorporate into public ROW. Runoff from 2nd Ave, Hazelwood Ave, Flowers Ave, Chatsworth Ave and Osprey Way could be captured by GSI integrated within the public ROW. See drainage area map for catch basin and inlet locations. 3 buildings which appear abandoned are between vacant lots, need to discuss plans with developer.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 4 |
|---|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)
 4 catch basins at intersections of 2nd Ave & Hazelwood Ave and 2nd Ave and Flowers Street capture runoff downstream of Chatsworth, Hazelwood Ave, Flowers Ave, Osprey Way, and 2nd Ave. All catch basins appear to be functioning properly and well maintained.

Curb Condition
 Generally good condition along 2nd Ave., western side has lower curb due to paving build-up. Osprey Way has poor curbing and areas of no curb along parts adjacent to 4800 block parcels. Northern side of Flowers Ave has lower curb due to paving. Curbs on both sides of Hazelwood seem to be in good condition.

Sidewalk / Street Trees / Other ROW Landscaping
 Sidewalk in fairly good condition on both sides of 2nd Ave, >10' width on both sides of street. Mix of mature and younger street trees on Hazelwood Ave, Flowers Ave, and 2nd Ave. Street trees along 2nd Ave have small drainage catchment. No existing streetscape or landscaping along 4800 block.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)
 Building 4847 on the corner of Flowers and 2nd has three external downspouts two of which have been stolen/broken. Building on corner of Hazelwood and Osprey has two external broken downspouts. See photos.

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- | | | | |
|--|--|--|--|
| <input checked="" type="radio"/> Residential | <input checked="" type="radio"/> Commercial | <input type="checkbox"/> Institutional | <input type="checkbox"/> Transport-Related |
| <input type="checkbox"/> Industrial | <input checked="" type="radio"/> Undeveloped | <input type="checkbox"/> Park | <input type="checkbox"/> Other: |

Describe Adjacent Land Use:

Most adjacent land is vacant and buildings appear to be abandoned. Community has set up a farm stand on vacant parcel across street.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|----------------------------------|----------------------------------|--|
| <input checked="" type="radio"/> | <input type="checkbox"/> | Sewer Sewer within Osprey Way may be rerouted as part of redevelopment? |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Water One call markings in sidewalk |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Gas One call markings in sidewalk |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Telecommunication Underground manholes |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Electric Overhead wires, no buried markings |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Overhead Wires Along west side of 2nd Ave, abandoned utility poles along east side. |
| <input type="checkbox"/> | <input checked="" type="radio"/> | Other Bus Station shelter along 2nd Ave near Hazelwood Ave. |

| Soils: | Comments: |
|---|--|
| Soil auger test holes: <input type="checkbox"/> Yes <input checked="" type="radio"/> No | Potential for soil testing information to be |
| Evidence of poor infiltration (clays, fines) <input type="checkbox"/> Yes <input checked="" type="radio"/> No | acquired from developers. Space for double |
| Evidence of shallow bedrock: <input type="checkbox"/> Yes <input checked="" type="radio"/> No | ring analysis at multiple sites in parcel. Tests |
| Evidence of high water table (gleying, saturation) <input type="checkbox"/> Yes <input checked="" type="radio"/> No | in sidewalk would require auger boring |
| | method. |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

2nd Ave is a very busy road, also a state road, maintained by PennDOT (PA-885)? Also need to understand whether ALMONO development will expand 2nd Ave. Hazelwood has more traffic than Flowers. Steep Slope on Hazelwood Ave down to Second Ave, more shallow slope from Flowers Ave to Second Ave. Potential to modify inlet along Chatsworth and Flowers Ave and collect more public impervious runoff from Monongahela St.

Proposed Retrofit

Purpose of Retrofit:

- | | | | |
|---|---|--|---|
| <input checked="" type="radio"/> Source control / CSO reduction | <input checked="" type="radio"/> Community Benefit | <input checked="" type="radio"/> Water Quality | <input type="checkbox"/> Channel Protection |
| <input type="checkbox"/> Demonstration / Education | <input type="checkbox"/> Parallel Infrastructure Repair | <input type="checkbox"/> Other: | |

Proposed GSI Option:

- | | | | |
|---|---|--|--|
| <input type="checkbox"/> Extended Detention | <input type="checkbox"/> Wet Pond | <input type="checkbox"/> Created Wetland | <input checked="" type="radio"/> Bioretention |
| <input type="checkbox"/> Filtering Practice | <input checked="" type="radio"/> Infiltration | <input checked="" type="radio"/> Swale | <input checked="" type="radio"/> Other: Street trees |

Demonstration Concept Description (Supplement with concept sketch as needed):

Placing GSI upstream of each of 4 catch basins in delineated area. GSI applications could include curb cuts to either swales or street tree bioretention along 2nd Ave, Hazelwood Ave and Flowers Ave. Osprey Way is an existing brick street, whether this will be reset as part of redevelopment needs to be determined; potential exists to have this alley allow for infiltration with subsurface storage (i.e. a green alley).

Need to discuss stormwater management plans with developer to understand whether they intend to meet City of Pgh stormwater ordinance for publicly funded redevelopment. Need to discuss with developer whether we can consider draining public ROW runoff onto private redevelopment property? For now, assumption is to remain that public ROW runoff will be collected in public ROW.

Potential Green Infrastructure Project Site
Site 13 – Chislett Street upstream of Heths Run
City of Pittsburgh, Morningside Neighborhood



Potential Partners: PWSA

Potential GI Project: There is a potential to construct bioretention/infiltration trench and/or swales in the public right-of-way. Additional opportunities exist to construct a more extensive project in order to capture and release stormwater into a Heths Run stormwater feature.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Upper Allegheny / A-41 |
| Approx. Tributary Combined Area (acres): | 1.89 (public right of way impervious) |
| Land Use: | Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Within the right of way along Bryant and Vetter streets. Existing wide grassy areas could be transformed into swales to capture runoff. |
| Slow Release Outlet: | Pipe from each GSI installation to an existing catch basin. |
| Required Storage Volume (gallons): | 77,000 |
| Approximate GI Footprint (sq ft): | 8,200 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefit: | Community amenity; Heths Run water quality |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | | |
|------------------|-------------|----------|--|
| ACSA Sewershed: | | Site ID: | |
| Date: 10/28/2014 | Assessor(s) | JK,SS | |

Site Description

| | | | |
|-------------------------|-------------|---------------|------|
| Name: | Heths Run | Municipality: | PWSA |
| Address / Intersection: | Chislett St | | |
| GPS ID | LAT: | LONG: | |

Description of Proposed Retrofit Location (Include ownership and land use):

The area of interest is the intersection of Vetter St and Chislett St. The sidewalk along Chislett St is adjacent to Heths Run. A ravine exists at the intersection of Vetter and Chislett St in close proximity to a catch basin. A plan is in the works to restore the Heths Run watershed. The area is a residential neighborhood and Chislett is a one way street.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.
 Water flows eastward from Morningside Woods toward Heths Run. The streets running North South are much flatter but are generally sloped North toward the Allegheny River.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | |
|--|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> |
| <i>Existing Maintenance Concerns (Provide Location, Take Photo)</i> | |
| Inlets appear to be well maintained. It appears PWSA is doing some construction on the inlets located at Vilsack and Chislett. | |

Curb Condition
 Curb is in good condition along Chislett. There is little to no curb along Vetter Vilsack and Bryant.

Sidewalk / Street Trees / Other ROW Landscaping
 The sidewalk is in good condition. There are very few areas where it is damaged/cracked. There are a few locations where mature trees exist in the public ROW. Street trees are more common on the eastern side of Chislett.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)
 Most homes appear to be directly connected.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential Commercial Institutional Transport-Related
 Industrial Undeveloped Park Other:

Describe Adjacent Land Use:

The are is made up entirely of residential homes. To the east of Chislett St is Heths Run.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|----------------------------------|--|---|
| <input checked="" type="radio"/> | <input type="checkbox"/> Sewer | Sewer manholes found in the sidewalk along Chislett St. |
| <input type="checkbox"/> | <input checked="" type="radio"/> Water | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Gas | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Telecommunication | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Electric | |
| <input checked="" type="radio"/> | <input type="checkbox"/> Overhead Wires | |
| <input type="checkbox"/> | <input type="checkbox"/> Other | |

Soils:

- Soil auger test holes: Yes No
 Evidence of poor infiltration (clays, fines) Yes No
 Evidence of shallow bedrock: Yes No
 Evidence of high water table (gleying, saturation) Yes No

Comments:

Double ring infiltration tests could be conducted within the area without boring through pavement.

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

The cross streets of Bryant, Vetter and Vilsack have wide grassy areas that appear to be public ROW. The homes are set back some feet from the property line. Some of these roads have asphalt channels that convey stormwater to toward Heths Run. These areas are a potential GI location.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction Community Benefit Water Quality Channel Protection
 Demonstration / Education Parallel Infrastructure Repair Other:

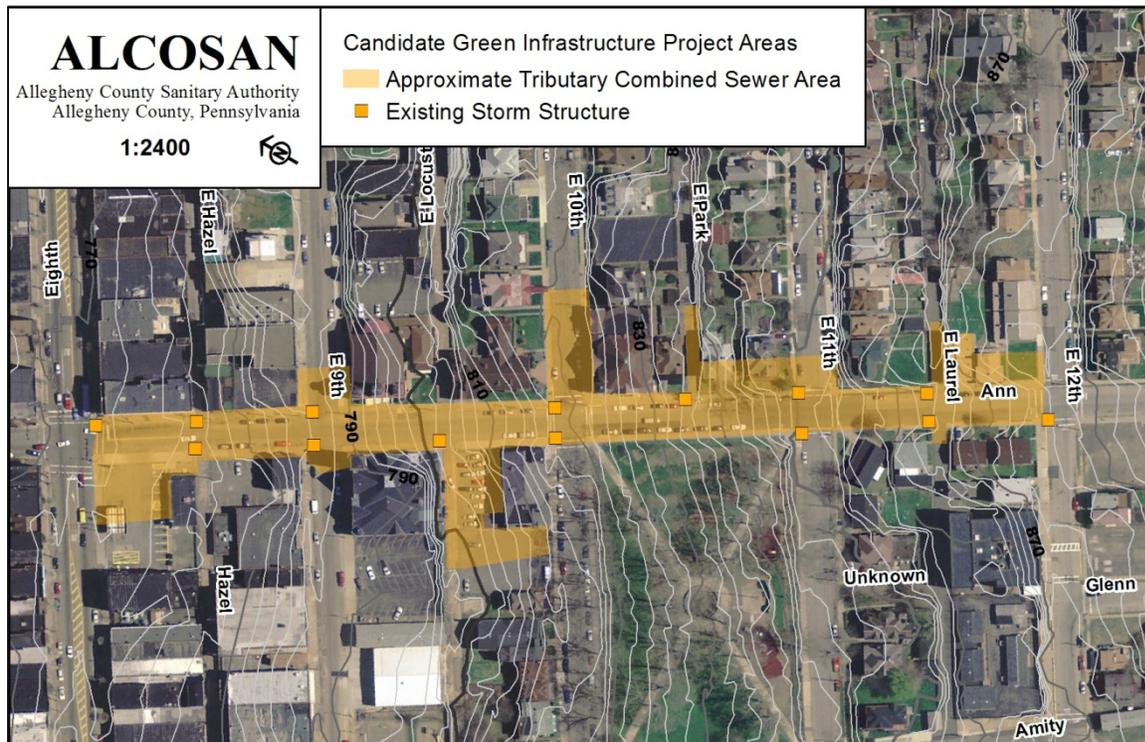
Proposed GSI Option:

- Extended Detention Wet Pond Created Wetland Bioretention
 Filtering Practice Infiltration Swale Other

Demonstration Concept Description (Supplement with concept sketch as needed):

One group of projects would be to install infiltration trenches/rain gardens within the public ROW along Vetter, Vilsack and Bryant. The existing grassy areas in the public ROW could be retrofit to capture stormwater flowing toward Heths Run. Another opportunity would be to modify existing inlets and route stormwater through a channel into the ravine at the intersection of Vetter St and Chislett St. The existing ravine could be used to channel stormwater into a GI feature within Heths Run. This project could be ancillary to the on going restoration plans for Heths Run.

Potential Green Infrastructure Project Site
Site 59 - Ann Street between E 8th Avenue and E 12th Avenue
Homestead Borough



Potential Partner: Homestead Borough

Potential GI Project: Construct bioretention/infiltration bumpouts in existing street parking areas and/or sidewalk upstream of 13 catch basins and one inlet structure along Ann Street. There is also potential to reroute stormwater runoff into an infiltration area along Frick Park between 10th and 11th Avenue.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Upper Monongahela / M-45 |
| Approx. Tributary Combined Area (acres): | 2.5 (total) / 2.0 (public right of way impervious) |
| Land Use: | Commercial/Institutional, Park, Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | In the street parking areas and/or sidewalk using bumpouts upstream of catch basins. Frick Park is a potential location for an infiltration area. |
| Slow Release Outlet: | Pipe from each bumpout to an existing catch basin. |
| Required Storage Volume (gallons): | 80,000 (sum of entire drainage area) |
| Approximate GI Footprint (sq ft): | 8,600(sum of all GI locations) |
| Assumed Loading Ratio: | 10:1 (average of all GI installations) |
| Potential Community Co-Benefits: | Enhanced streetscape aesthetics |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | |
|----------------------|------------------------------------|-------------|
| ACSA Sewershed: M-45 | Subshed: | Site ID: 59 |
| Date 7/28/2014 | Assessor(s) Fedor, Jedlicka, Kelly | |

Site Description

| | |
|---|--------------------------------|
| Name: Ann Street Bumpouts | Municipality Homestead Borough |
| Address / Intersection: Ann Street between 8th Ave and 12th Ave | |
| GPS ID | LAT: LONG: |

Description of Proposed Retrofit Location (Include ownership and land use):

Borough officials expressed interest of including stormwater bumpouts within municipal right-of-way, upstream of catch basins along the length of Ann Street between 8th Ave and 12th Ave. Ann St. is two-way traffic with two parking lanes. Borough was interested in determining the approximate footprint of GSI bumpouts manage this portion of Ann Street to determine whether bumpouts and/or other right of way GSI would be a viable solution while retaining some parking. Street is owned and maintained by Homestead Borough, and land use is commercial on lower block up to 9th Ave, with residences and churches from 9th to 12th Ave. Homestead's Frick Park is between 10th and 11th Ave on the west side of Ann.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

- * 14 Drainage areas were field delineated for the areas tributary to 13 catch basins and one inlet along Ann Street. See attached map for sketch of approximate drainage areas. *[GIS map of these delineations is currently in development]*
- * Ann Street and sidewalks drain to catch basins along the extent of Ann Street at intersections between 8th to 12th Avenue. 15 catch basins and 1 inlet were observed in field along this portion of Ann between 8th and 12th Avenue and shown in sketch.
- * Building roof downspouts would need closer examination to refine drainage area.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|--------------|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 16 (see map) |
| <i>Existing Maintenance Concerns (Provide Location, Take Photo)</i> | | |

Inlet at Ann and Locust Way, west side may have limited capacity due to repaving, photo taken. Catch basins appeared mostly clean with little surface debris - noteworthy as the night prior to field visit the region received significant rain.

Curb Condition

Areas of low and deteriorating curb, Ann between 9th and 10th, west side. Rest of area has relatively good to excellent curb condition and frontage along Ann St.

Sidewalk / Street Trees / Other ROW Landscaping

Frick Park is significant existing green space between 10th and 11th, has potential to reroute stormwater flow with curb cutouts into park. Three mature street trees along residential blocks between Park Way and 12th. Grass Strips between road and sidewalk along Ann between park and 11th, 11th and Laurel and Laurel and 12th.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

Roof downspouts between 8th and 11th Ave appear to be directly connected to the sewers, including large churches (photos taken). A large apartment building is disconnected to Laurel Way. Residences between Park Way and 12th did not show any visible downspouts disconnections, but not able to access property to check.

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Potential Site Constraints

Adjacent Land Use:

- | | | | |
|---|--|---|--|
| <input checked="" type="checkbox"/> Residential | <input checked="" type="checkbox"/> Commercial | <input checked="" type="checkbox"/> Institutional | <input type="checkbox"/> Transport-Related |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Undeveloped | <input checked="" type="checkbox"/> Park | <input type="checkbox"/> Other: |

Describe Possible Conflicts Due to Adjacent Land Use:

Borough has recognized that a bumpout may remove a parking space, and exiting parking meters and permit parking may need to be altered if GSI bumpouts are to be installed.

Four churches are located along Ann, parking could be an important issue to these properties.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location | |
|-------------------------------------|--|--|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> Sewer | Confirm with muni: Sewers run perpendicular through Ann along Hazel, Locust and 11th Ave | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Water | Fire hydrants along east side of street at 9th, 10th, 11th | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Gas | Gas markers noticed in parking lanes Ann Street | |
| <input type="checkbox"/> | <input type="checkbox"/> Telecommunication | Elevated lines, no surface markings observed | |
| <input type="checkbox"/> | <input type="checkbox"/> Electric | Elevated lines, no surface markings observed | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Overhead Wires | Along East Side of Anne, poles noted in photos | |
| <input type="checkbox"/> | <input type="checkbox"/> Other | | |

| Soils: | Observed? | | Comments: |
|--|------------------------------|--|---|
| Soil auger test holes: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Double Ring infiltration tests possible at Frick Park |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Site. |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Site received rainfall night prior to field visit. |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Catch basins did not have a lot of surface debris, were mostly clean. Region experienced a rain event the night before, but no noticeable silting or debris deposits. Slight ponding on Hazel Way.

Proposed Retrofit

Purpose of Retrofit:

- | | | | |
|--|---|--|---|
| <input checked="" type="checkbox"/> Source control / CSO reduction | <input checked="" type="checkbox"/> Community Benefit | <input type="checkbox"/> Water Quality | <input type="checkbox"/> Channel Protection |
| <input type="checkbox"/> Demonstration / Education | <input type="checkbox"/> Parallel Infrastructure Repair | <input type="checkbox"/> Other: | |

Proposed GSI Option:

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Extended Detention | <input type="checkbox"/> Wet Pond | <input type="checkbox"/> Created Wetland | <input checked="" type="checkbox"/> Bioretention |
| <input type="checkbox"/> Filtering Practice | <input checked="" type="checkbox"/> Infiltration | <input type="checkbox"/> Swale | <input type="checkbox"/> Other |

Demonstration Concept Description (Supplement with concept sketch as needed):

Bumpouts would be designed to intercept a certain precipitation event of stormwater runoff from streets, and infiltrate/evapotranspire. Slow release to each catch basin would be required for stored surface flows and design would need to allow for larger storm events to flow into catch basin once bumpout is at capacity. A determination of the required footprint of the bumpouts would need to be calculated for each catch basin based on potential to capture a design storm volume. Additionally, consideration as to the configuration of each bumpout will need to be refined per the existing land use along Ann Street. A complete sketch was not done in the field due to the high number of catch basins, but to be developed in GIS.

Community benefit options exist if Frick Park is used for stormwater management feature.

Potential Green Infrastructure Project Site
Site 34 - Upper Lawrenceville Shopping Center
City of Pittsburgh, Lawrenceville Neighborhood



Potential Partner: City of Pittsburgh & PWSA, Property Owner (TBD)

Potential GI Project: Right-of-way space along Butler Street, 55th and 56th Streets could serve as a bioretention/infiltration swales to collect runoff from streets and sidewalks along Butler, 55th and 56th. Coordination needed with property owner for parallel opportunities to build GI on private land to capture runoff from tributary private impervious area.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Main Rivers / A-34 |
| Approx. Tributary Combined Area (acres): | 0.87 (total) / 0.87 (public right of way impervious) |
| Land Use: | Commercial, Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Right of way along Butler, 55 th and 56 th streets |
| Slow Release Outlet: | Pipe from each GI installation to an existing catch basin. |
| Required Storage Volume (gallons): | 35,000 |
| Approximate GI Footprint (sq ft): | 3,800 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Enhanced street aesthetics. Potential to increase pedestrian/cyclist safety along Butler, 55 th & 56 th . |

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Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | |
|----------------------|-----------------------------|-------------|
| ACSA Sewershed: A-34 | Subshed: | Site ID: 33 |
| Date 8/5/2014 | Assessor(s) Jedlicka, Kelly | |

Site Description

| | |
|--|----------------------------------|
| Name: Lawrenceville Shop'n Save | Municipality: City of Pittsburgh |
| Address / Intersection: Butler St. between 55th & 56th St. | |
| GPS ID | LAT: LONG: |

Description of Proposed Retrofit Location (Include ownership and land use):

The proposed site location is within the ROW along three blocks of Upper Lawrenceville neighborhood: 55th, 56th and Butler Street. These three blocks surround a shopping center which is built into the hillside and has a large open grass lawn area along Butler Street. Green space in front of shopping center along Butler St. is below road and has large mature street trees and other existing landscaping. Stormwater management for this site is not known, and will need to be discussed with property owner.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.
 56th & 55th Streets both drain down significant slope to catch basins at intersections with Butler St. Runoff from crown of road to sidewalk is anticipated to be able to drain into ROW along 55th, Butler and 56th, with a small amount of runoff form a driveway within the shopping center along 55th. Numerous catch basins located within the parking lot, difficult to determine private property stormwater management.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 6 |
|---|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)
 There are six catch basins that capture runoff from the three block area along 55th, Butler and 56th Streets. One catch basin along the hillside on 55th street is 100% clogged with sediment, it is unclear whether this is intentional or not. Significant sediment and erosion collects in rear of shopping center property and on 55th street and Keystone Street, due to a steep sloped forest area.

Curb Condition

Low curb on the both sides of Butler St. Some deteriorated and low curb along 55th street.

Sidewalk / Street Trees / Other ROW Landscaping

Younger street trees located on northern side of Butler St. Large mature trees on southern side of Butler St. Landscaping on perimeter of Shop'n Save. All well maintained. Sidewalk along Butler Street is wider then 55th and 56th, but all three seem capable of incorporating GSI.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

No residential buildings connected to site drainage area. It is undetermined how shopping center stormwater is maintained.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential Commercial Institutional Transport-Related
- Industrial Undeveloped Park Other:

Describe Adjacent Land Use:

Site surrounded by commercial shopping center. 55th and 56th are residential roads, and potential to incorporate GSI into streetscapes as future phases. Need to coordinate with shopping center and determine extent of public ownership along public roads.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | | Location |
|----------------------------------|----------------------------------|-------------------|---|
| <input type="checkbox"/> | <input checked="" type="radio"/> | Sewer | Sewers marked in center of street |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Water | Surface markings in sidewalk along Butler |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Gas | Surface markings in sidewalk along Butler |
| <input type="checkbox"/> | <input type="checkbox"/> | Telecommunication | No buried markings, overhead lines |
| <input type="checkbox"/> | <input checked="" type="radio"/> | Electric | No buried markings in public ROW, overhead lines. |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Overhead Wires | Along Butler Street, one pole on 56th street. |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Other | Bus station along Butler Street. |

Soils:

| | Yes | No | Comments: |
|--|--------------------------|----------------------------------|--|
| Soil auger test holes: | <input type="checkbox"/> | <input checked="" type="radio"/> | Room for double ring tests along lawn area of Butler Street. |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> | <input checked="" type="radio"/> | |
| Evidence of shallow bedrock: | <input type="checkbox"/> | <input checked="" type="radio"/> | |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> | <input checked="" type="radio"/> | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Significant slope along both 55th and 56th Streets as well, some erosion and sediment buildup due to runoff noticed. Erosion from runoff seen at 56th and Carnegie; special catch basin configuration on private property observed. Bike traffic on Butler Street may be part of longer term plans for City as bike infrastructure has been a priority in recent Bloomfield/Lawrenceville redevelopments.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction Community Benefit Water Quality Channel Protection
- Demonstration / Education Parallel Infrastructure Repair Other:

Proposed GSI Option:

- Extended Detention Wet Pond Created Wetland Bioretention
- Filtering Practice Infiltration Swale Other

Demonstration Concept Description (Supplement with concept sketch as needed):

Baseline assumption that GSI to be constructed in public ROW to collect public runoff. It appears as if the site does have potential to reroute stormwater from streets via curb cuts to bioretention/infiltration swales. Potential expansion of GSI to include private shopping center lawn area along Butler Street will need to be discussed with property owner once private stormwater sewer configuration is known. Upon disusing stormwater management with property owner, a separate analysis will need to determine whether grassy lawn area can also incorporate GSI runoff from private property.

Potential Green Infrastructure Project Site
Site 39 – Chartiers Ave
Mckees Rocks



Potential Partners: PWSA, PennDOT, Western Pennsylvania Conservancy

Potential GI Project: Potential to construct bioretention/infiltration bumpouts and/or swales in the public right-of-way upstream of catch basin next to WPA Conservancy landscaping.

| Project Characteristic | Description |
|--|--|
| Planning Basin and POC Shed: | Main Rivers/ C-04, C-06, C-08 |
| Approx. Tributary Combined Area (acres): | 1.2 (public right of way impervious) |
| Land Use: | Commercial, Institutional |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | GI bumpout in front of PNC bank upstream of catch basin could be used to calm traffic near crosswalk and capture runoff. |
| Slow Release Outlet: | Pipe from each GI installation to an existing catch basin. |
| Required Storage Volume (gallons): | 48,000 |
| Approximate GI Footprint (sq ft): | 5,100 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Improved aesthetics in business district. Pedestrian safety crossing Chartiers Ave. |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | | |
|-----------------|--|----------|----|
| ACSA Sewershed: | | Site ID: | 39 |
|-----------------|--|----------|----|

| | | |
|-----------------|-------------|-----------------|
| Date: 9/10/2014 | Assessor(s) | Kelly, Jedlicka |
|-----------------|-------------|-----------------|

Site Description

| | |
|--------------------------------|----------------------------|
| Name: Chartiers Ave Renovation | Municipality: Mckees Rocks |
|--------------------------------|----------------------------|

Address / Intersection: Chartiers Ave from Island Ave to Furnace Street Extension

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

Chartiers Avenue is an area of redevelopment. Currently there is work being conducted to change the one way portion of Chartiers Avenue to a two road between Union Way and Furnace Street Extension. Chartiers Ave is being repaved. There is also an interest in renovating the Roxian Theatre on Chartiers Avenue.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

The site is in the process of being repaved which could change the current delineation. There are 10 catch basins on along Chartiers which drain various portions of Chartiers. There is a potential to drain a portion of Chartiers upstream of a catch basin in front of the PNC bank. A crosswalk is located right in front of a no parking zone in front of PNC. There is a potential to place a bumpout without removing street parking in order to capture runoff.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 4 |
|---|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)

Inlets appear to be new as part of the Chartiers Avenue reconstruction.

Curb Condition

Curb appears to be in good condition

Sidewalk / Street Trees / Other ROW Landscaping

Street Trees along Chartiers Ave. Some vacant lots/ green space along Chartiers Ave.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

Downspouts appear to be directly connected.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential Commercial Institutional Transport-Related
- Industrial Undeveloped Park Other:

Describe Adjacent Land Use:

Land use along Chartiers is a mix of commercial, abandoned and vacant land. One lot appears to have some landscaping and trees, but doesn't appear to be maintained.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|----------------------------------|--|---|
| <input type="checkbox"/> | <input checked="" type="radio"/> Sewer | Exact location of utilities would need to be determined via PA one call |
| <input type="checkbox"/> | <input checked="" type="radio"/> Water | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Gas | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Telecommunication | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Electric | |
| <input checked="" type="radio"/> | <input type="checkbox"/> Overhead Wires | |
| <input type="checkbox"/> | <input type="checkbox"/> Other | |

| Soils: | | | Comments: |
|--|------------------------------|-------------------------------------|--|
| Soil auger test holes: | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No | Double ring infiltration tests could be conducted in nearby vacant lots. |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No | |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No | |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Rail line over Chartiers Ave. Chartiers Ave slopes in different directions throughout the interest area but may change after paving is completed. There is one green area in between two buildings along Chartiers Ave. Appears to be a moderately maintained area that could potentially accept runoff.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction Community Benefit Water Quality Channel Protection
- Demonstration / Education Parallel Infrastructure Repair Other:

Proposed GSI Option:

- Extended Detention Wet Pond Created Wetland Bioretention
- Filtering Practice Infiltration Swale Other

Demonstration Concept Description (Supplement with concept sketch as needed):

There is potential to construct a bumpout in front of the PNC Bank along Chartiers Ave. A crosswalk is located just upstream of a catch basin. Parking is not permitted between the crosswalk and basin. It would be possible to construct a bump out to calm traffic between the crosswalk and basin tying the GI feature into the basin for heavy flow conditions. A storage basin could also be retrofit underneath the existing sidewalk to take in runoff from Chartiers Ave.

Potential Green Infrastructure Project Site
Site 129 - Sproul Street
McKees Rocks Borough



Potential Partner: McKees Rocks Borough

Potential GI Project: Borough-initiated project idea to incorporate GI within municipal-owned Rangers Park to collect runoff from entire width of Sproul Street and portion of adjacent parking lot for park. Part of a road reconstruction of Sproul Street, Borough has shared preliminary concept with ALCOSAN.

| Project Characteristic | Description |
|--|--|
| Planning Basin and POC Shed: | Chartiers Creek / O-06 |
| Approx. Tributary Combined Area (acres): | 0.69 (total) / 0.42 (public right of way impervious) |
| Land Use: | Residential, Park |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Redevelopment (road reconstruction) |
| Suggested Location of GI Installation: | Borough has identified area for swale adjacent to Sproul Street and bioretention triangle at the corner of Sproul and Shingiss Street. |
| Slow Release Outlet: | Connection from bioretention triangle to nearby catch basin |
| Required Storage Volume (gallons): | 17,000 |
| Approximate GI Footprint (sq ft): | 1,800 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits | Enhanced community aesthetics, street flooding relief |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | | |
|----------------------|----------|----------|-----|
| ACSA Sewershed: O-06 | Subshed: | Site ID: | 131 |
|----------------------|----------|----------|-----|

| | | |
|----------------|-------------|----------------------------|
| Date: 8/4/2014 | Assessor(s) | Jedlicka, Lenhart, Prevost |
|----------------|-------------|----------------------------|

Site Description

| | |
|------------------------------------|------------------------------------|
| Name: Sproul Street Reconstruction | Municipality: McKees Rocks Borough |
|------------------------------------|------------------------------------|

Address / Intersection: Intersection of Sproul Street and Shingiss Street, adjacent to Rangers Field

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

McKees Rocks Borough is planning to reconstruct Sproul Street adjacent to Ranger field and is seeking to regrade the road to have runoff routed to proposed GSI within existing lawn area of Rangers Field Complex. The Borough owns the field and performs maintenance. Borough engineer has shared street reconstruction plans and proposed layout of GSI areas with ALCOSAN.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

Drainage from the one block of Sproul Street scheduled for reconstruction will be regraded to drain into park. In addition, approximately half of the impervious parking area for Rangers Park drains via gravity to the site as does a portion of impervious area near the park entrance and a concession and pavilion area within the park. Runoff from the field generally slopes toward the entrance and would need to be determined in detail at a future site visit. Upon speaking to a resident on Sproul Street at site visit, significant standing water collects on Sproul and the field after rain events. The resident also discussed the need to push standing water to catch basins at the intersection of Sproul and Shingiss and of knowledge of slow infiltration on portions of the field.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 3 |
|---|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)

There are two catch basins at the eastern side of the intersection of Sproul and Shingiss Street which currently collect the runoff from Sproul. Additional catch basin is located within park, as noted on map. Extend of ponding issues noted from discussion and photos shared by nearby resident.

Curb Condition

Curb to be part of reconstruction. Existing curb is in fair to poor condition on both sides of Sproul.

Sidewalk / Street Trees / Other ROW Landscaping

No existing sidewalk or proposed sidewalk. No existing street trees or ROW landscaping. Resident would like to see some trees integrated into park GSI design.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

Building on field has no downspout. May be a rain barrel candidate. Sproul Street houses all appear directly connected except one house.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential
- Commercial
- Institutional
- Transport-Related
- Industrial
- Undeveloped
- Park
- Other:

Describe Adjacent Land Use:

Residential on northern side of Sproul, industrial/commercial along adjacent sides of Rangers Park, however, no runoff from these parcels would likely influence proposed project.

Native American burial ground historical marker is located near eastern portion of Rangers Park, near existing woods. Need to discuss with Borough officials whether special permitting is needed for excavation.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | | Location |
|-------------------------------------|-------------------------------------|-------------------|---|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Sewer | Sewers located in center of street. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Water | West View Water marking within area of proposed GSI. |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Gas | Marker in Shingiss, eastern side of street |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Telecommunication | Overhead wires, no buried markings |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Electric | Overhead wires, no buried markings |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Overhead Wires | Along eastern side of Shingiss, northern side of Sproul |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other | Resident expressed concern of gas utility regrade along Shingiss adding to ponding issue. |

| Soils: | | Comments: |
|--|---|--|
| Soil auger test holes: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Standing/saturated water in parts of field. |
| Evidence of poor infiltration (clays, fines) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Resident mentioned witnessing recent double ring infiltrometer tests, need to consult with |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes <input type="checkbox"/> No | Borough engineer about results. |
| Evidence of high water table (gleying, saturation) | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Field is in highest use in Summer and Fall with several activities a week.
 Neighbor mentioned potential French drains along eastern portion of field, nearby hillside, and mentioned finding lots of clay and saturation being an ongoing issue on the field.
 Maintenance of field is done by borough, is lacking in completeness as seen by overgrown infields.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction
- Demonstration / Education
- Community Benefit
- Parallel Infrastructure Repair
- Water Quality
- Channel Protection
- Other:

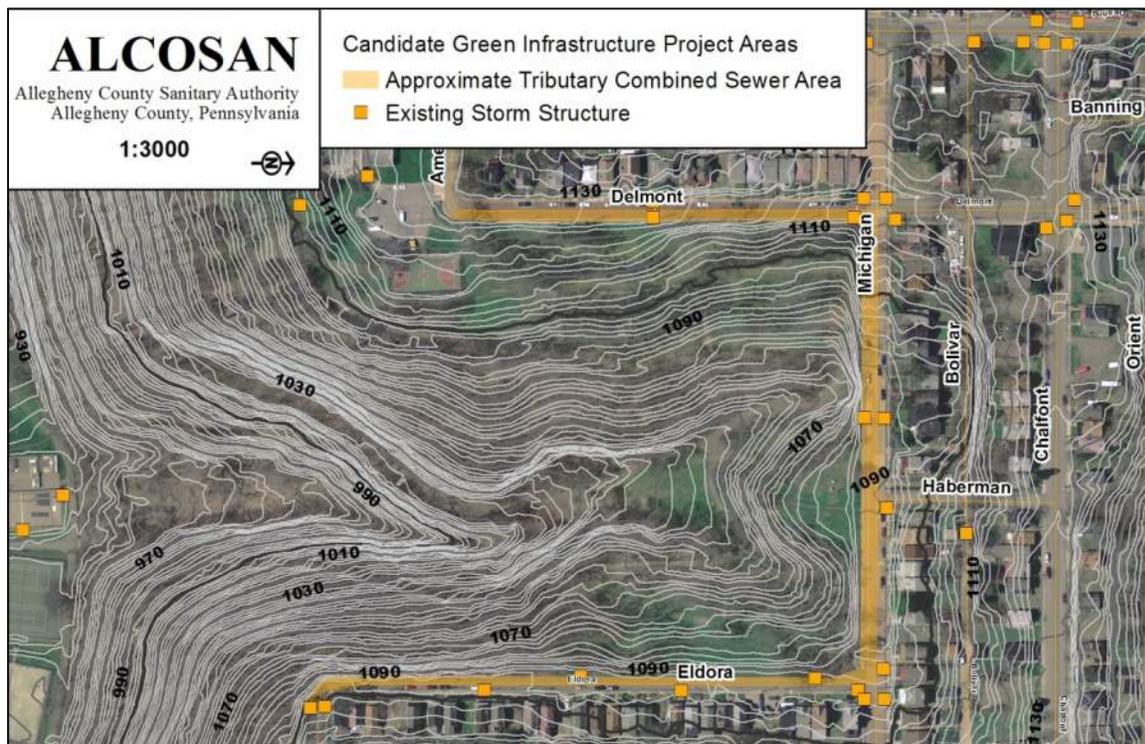
Proposed GSI Option:

- Extended Detention
- Filtering Practice
- Wet Pond
- Infiltration
- Created Wetland
- Swale
- Bioretention
- Other:

Demonstration Concept Description (Supplement with concept sketch as needed):

ALCOSAN to coordinate with Borough officials on existing concept development. From field visit, it appears as if the proposed GSI improvements were well sited and have potential to control area of tributary runoff.

Potential Green Infrastructure Project Site
Site 83 – Delmont Ave, Michigan St, and Eldora Place along McKinley Park
City of Pittsburgh, Beltzhoover Neighborhood



Potential Partner: City of Pittsburgh, PWSA, Pittsburgh Parks Conservancy, Beltzhoover Civic Association

Potential GI Project: Opportunities to reroute stormwater via curb cuts along Delmont Ave, Michigan Street and Eldora Place to GI retrofit installations within McKinley Park and/or public right-of-way.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Saw Mill Run / S-29 |
| Approx. Tributary Combined Area (acres): | 0.86 (total) / 0.86 (public right of way impervious) |
| Land Use: | Institutional |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Integrating GI within McKinley Park or within Public ROW along Delmont, Michigan or Eldora. |
| Slow Release Outlet: | Develop opportunities to slow release into park and/or connect to existing catch basins |
| Required Storage Volume (gallons): | 35,000 |
| Approximate GI Footprint (sq ft): | 3,700 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Improved park access & aesthetics |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | |
|----------------------|-----------------------------|-------------|
| ACSA Sewershed: S-29 | Subshed: | Site ID: 81 |
| Date 8/5/2014 | Assessor(s) Jedlicka, Kelly | |

Site Description

| | |
|---|----------------------------------|
| Name: McKinley Park | Municipality: City of Pittsburgh |
| Address / Intersection: Delmont Ave, Michigan St & Eldora Place | |
| GPS ID | LAT: LONG: |

Description of Proposed Retrofit Location (Include ownership and land use):

The focus of this field visit was the portion of McKinley Park adjacent to the Beltzhoover neighborhood of Pittsburgh. McKinley Park has interest from both Beltzhoover Civic Association and Pittsburgh Parks Conservancy to rehabilitate and reconnect the park to the surrounding neighborhood. Three streets border McKinley park with entrance points at the corners of Eldora Place & Michigan Street, Michigan Street& Delmont Avenue, and at the corner of Delmont Ave & Amesbury St. GSI has been installed at community building at Amesbury and Delmont. It is the interest of this project to modify the existing ROW along Delmont, Michigan and Eldora and drain stormwater runoff from these roads to existing green space within McKinley Park.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

In total, there are 6 catch basins located along the Delmont, Michigan and Eldora which are directly adjacent to the park and drain runoff from the crown of their respective street to the curb of the sidewalk along the perimeter of the park. Catch basins are marked on GIS map. To capture runoff from the other half of the road would require modifications and piping flow under the road to bring to the park, however given the significant amount of green space available for GSI within McKinley, this could be an idea to explore as potential phases of green infrastructure installations.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 6 |
|---|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)

Inlet on northern corner of Michigan and Delmont is collapsing. Sediment deposits at the low point of Michigan St. Inlet on western side of Eldora bordering McKinley Park in poor condition. Inlet on corner of Michigan St and Haberman Ave in poor condition.

Curb Condition

No curb existing along western side of Eldora. Curb reveal seems adequate on other roads. Curbs in good condition, however street sweeping does not seem to occur regularly due to sediment deposits and litter on street.

Sidewalk / Street Trees / Other ROW Landscaping

Rain gardens at community center on Amesbury St. Park is mostly lawn area with perimeter sidewalk. Mature trees are set back from road within park, would not likely interfere with GSI in ROW.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

There are no buildings directly connected to proposed area of GSI



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential Commercial Institutional Transport-Related
 Industrial Undeveloped Park Other:

Describe Adjacent Land Use:

Neighborhood surrounding park has some vacancy and blight issues. Park is open to allow direct access to neighborhood. Community center near Delmont seems to be well maintained and used often. Newly installed GSI in parking lot appears to be well maintained.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | | Location |
|----------------------------------|----------------------------------|-------------------|--|
| <input type="checkbox"/> | <input checked="" type="radio"/> | Sewer | Potential need to upgrade deteriorating catch basins |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Water | Fire Hydrant at Michigan and Eldora, markers in sidewalk |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Gas | Markers in sidewalk |
| <input type="checkbox"/> | <input type="checkbox"/> | Telecommunication | No surface markings observed; overhead lines |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Electric | Street lights along Park side of Delmont |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Overhead Wires | Along Delmont |
| <input type="checkbox"/> | <input type="checkbox"/> | Other | |

Soils:

| | Yes | No | Comments: |
|--|--------------------------|----------------------------------|-------------------------|
| Soil auger test holes: | <input type="checkbox"/> | <input checked="" type="radio"/> | Ample space for testing |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> | <input checked="" type="radio"/> | |
| Evidence of shallow bedrock: | <input type="checkbox"/> | <input checked="" type="radio"/> | |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> | <input checked="" type="radio"/> | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Haberman Ave is a steep slope and potentially drains significant water onto Michigan in front of McKinley Park. Erosion likely caused by runoff from Haberman into park noted in photos. Sidewalk in the area of the two inlets of Michigan is being eroded by apparent heavy flow into the park. Overall drainage of park runoff into hillside is unknown, has been investigated by ALCOSAN. Illegal dumping an existing issue within park.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction Community Benefit Water Quality Channel Protection
 Demonstration / Education Parallel Infrastructure Repair Other:

Proposed GSI Option:

- Extended Detention Wet Pond Created Wetland Bioretention
 Filtering Practice Infiltration Swale Other

Demonstration Concept Description (Supplement with concept sketch as needed):

Multiple opportunities to capture and direct runoff into park via curb cuts. Inlets in the near corner entrances on Michigan & Eldora and Michigan & Delmont could be connected to GSI project as part of a gateway to the park. Entrance opposite of Haberman Ave could be improved and capture flow off of Michigan St. Need to coordinate with community group and PPC to better understand vision for the park. Potential for multi-phased GSI projects within the large green spaces of McKinley Park.

Potential Green Infrastructure Project Site
Site 167 - Zelda Way and Bernd St along McKinley Park
City of Pittsburgh, Beltzhoover Neighborhood



Potential Partner: City of Pittsburgh, PWSA, Pittsburgh Parks Conservancy, Beltzhoover Civic Association

Potential GI Project: Opportunities to reroute stormwater into the existing green space. GI feature along Bernd to capture flow from Zelda and off of Bernd upstream of the catchbasin. Other GI features on the eastern side of the site could be used to capture flow from Elsinburgh Way & Beltzhoover Ave.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Saw Mill Run / S-29 |
| Approx. Tributary Combined Area (acres): | 0.57(total) / 0.57 (public right of way impervious) |
| Land Use: | Institutional |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Multiple opportunities to site GI along Bernd St, Zelda Way, and within the park. |
| Slow Release Outlet: | Opportunity to connect GI feature to catch basin within the park or along Bernd. |
| Required Storage Volume (gallons): | 23,000 |
| Approximate GI Footprint (sq ft): | 2,500 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Improved park access & aesthetics |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | |
|----------------------|----------|----------|
| ACSA Sewershed: S-29 | Subshed: | Site ID: |
|----------------------|----------|----------|

| | | |
|----------------|-------------|--------------------------|
| Date 10/8/2014 | Assessor(s) | Feath, Kelly, Swansinger |
|----------------|-------------|--------------------------|

Site Description

| | |
|---------------------|----------------------------------|
| Name: McKinley Park | Municipality: City of Pittsburgh |
|---------------------|----------------------------------|

Address / Intersection: Bernd Zelda & Beltzhoover

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

Triangle shaped lot bound by Bernd St, Zelda Way and Beltzhoover Ave. Area is part of McKinley Park. There is some pump house or small structure located near Beltzhoover Ave within the park limits. There is a small degraded set of stairs leading into the park area on the corner of Beltzhoover Ave and Elsinburg Way.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

It appears significant runoff flows down the hill from Elsinburg, Michigan Way, and Beltzhoover Ave. Evidence of erosion along Zelda Way flowing down toward Bernd. More erosion along Bernd St with a catch basin located at the bottom of Bernd St near Bausman St.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | |
|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> |
|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)

Site is relatively well maintained. Some litter within the park.

Curb Condition

Low asphalt curb on Bernd St. Non existent curb along Elsinburg Way, Beltzhoover Way, & Zelda Way.

Sidewalk / Street Trees / Other ROW Landscaping

The park is mostly an open field with some larger trees. There is a steep wooded area in the corner of the site.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

Homes along Elsinburg are disconnected



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- | | | | |
|--|--------------------------------------|--|--|
| <input checked="" type="radio"/> Residential | <input type="checkbox"/> Commercial | <input type="checkbox"/> Institutional | <input type="checkbox"/> Transport-Related |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Undeveloped | <input checked="" type="radio"/> Park | <input type="checkbox"/> Other: |

Describe Adjacent Land Use:

Park surrounded by residential neighborhood

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|----------------------------------|--|---|
| <input checked="" type="radio"/> | <input type="checkbox"/> Sewer | PA one call to determine exact location of utilities. |
| <input checked="" type="radio"/> | <input type="checkbox"/> Water | |
| <input checked="" type="radio"/> | <input type="checkbox"/> Gas | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Telecommunication | |
| <input checked="" type="radio"/> | <input type="checkbox"/> Electric | |
| <input checked="" type="radio"/> | <input type="checkbox"/> Overhead Wires | |
| <input type="checkbox"/> | <input type="checkbox"/> Other | |

Soils:

- | | | |
|--|------------------------------|-------------------------------------|
| Soil auger test holes: | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No |

Comments:

Ample space for testing

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Catch basin covered with plywood in three locations. The bottom of Elsinburg, within the park, and above Zelda Way. Signs of erosion suggest significant runoff along the sides of the road.

Proposed Retrofit

Purpose of Retrofit:

- | | | | |
|---|---|--|---|
| <input checked="" type="radio"/> Source control / CSO reduction | <input checked="" type="radio"/> Community Benefit | <input type="checkbox"/> Water Quality | <input type="checkbox"/> Channel Protection |
| <input type="checkbox"/> Demonstration / Education | <input type="checkbox"/> Parallel Infrastructure Repair | <input type="checkbox"/> Other: | |

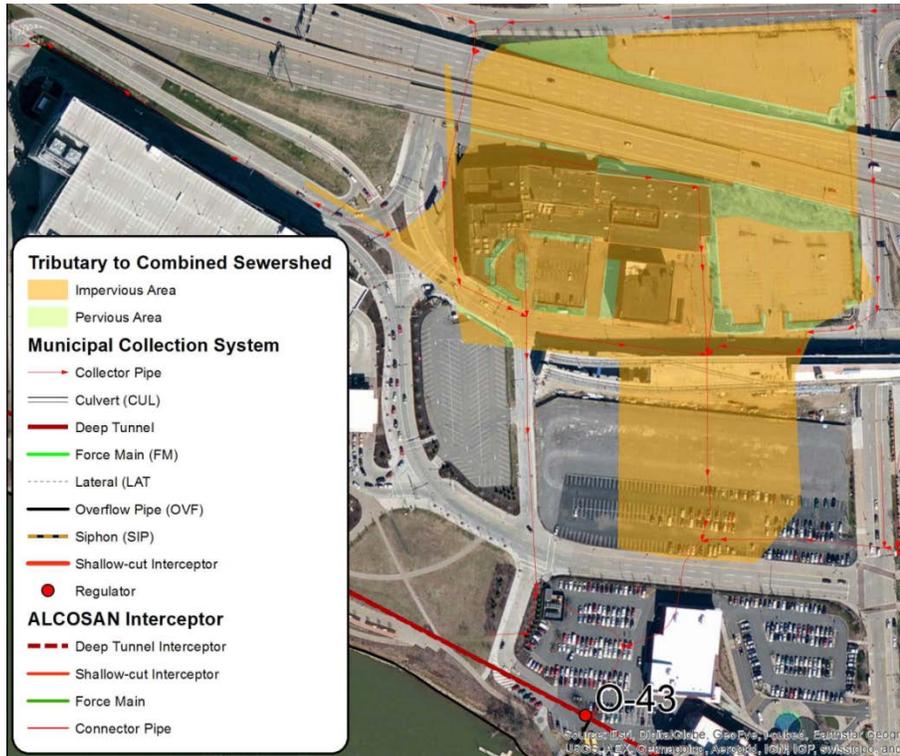
Proposed GSI Option:

- | | | | |
|---|---|--|---|
| <input type="checkbox"/> Extended Detention | <input type="checkbox"/> Wet Pond | <input type="checkbox"/> Created Wetland | <input checked="" type="radio"/> Bioretention |
| <input type="checkbox"/> Filtering Practice | <input checked="" type="radio"/> Infiltration | <input checked="" type="radio"/> Swale | <input type="checkbox"/> Other |

Demonstration Concept Description (Supplement with concept sketch as needed):

There are multiple opportunities within the park. The stairwell entrance can be enhanced and GI installation can be incorporated to take flow from Elsinburg. An infiltration trench can be dug along a natural bench in higher eastern portion of the site taking flow from Zelda and Beltzhoover. Another opportunity along Bernd St could be implemented where a erosion channel has formed. GI can run the entire length of Bernd and connect at a catch basin toward Bausman.

**Potential Green Infrastructure Project Site
Site 163 - O-43 Sewershed
City of Pittsburgh, Chateau Neighborhood**



Potential Partner: Army Corps of Engineers, Sports and Exhibition Authority of Pittsburgh and Allegheny County, PWSA, Riverlife, Buhl Foundation

Potential GI Project: O-43 is a sewershed where green infrastructure could be cost-competitive with proposed grey infrastructure. GI would be placed at strategic locations throughout the sewershed, with an initial focus of rerouting existing parking lot runoff to an existing green space between the Rivers Casino and Carnegie Science Center.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Main Rivers / O-43 |
| Approx. Tributary Combined Area (acres): | 13.5 acres |
| Land Use: | Commercial |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Locations to be placed throughout O-43 sewershed with specific focus to rerouting stormwater from existing parking lots into lawn adjacent to Ohio River. |
| Slow Release Outlet: | NA |
| Required Storage Volume (gallons): | 240,000 |
| Approximate GI Footprint (sq ft): | 26,000 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Water feature with river access adjacent to Ohio River |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | |
|----------------------|--|-------------------|
| ACSA Sewershed: O-43 | | Site ID: O-43 POC |
|----------------------|--|-------------------|

| | | |
|-----------------|--------------------|--|
| Date: 9/24/2014 | Assessor(s): JK,SS | |
|-----------------|--------------------|--|

Site Description

| | |
|----------------|---------------|
| Name: O-43 POC | Municipality: |
|----------------|---------------|

Address / Intersection: Reedsdale Street between Casino Drive and Allegheny Avenue

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

The O-43 combined delineation includes Reedsdale Street, a portion of Fontella Street, Boyce Street and Walker Street. The Allegheny subway system begins along Reedsdale. The Rivers Casino property is located adjacent to the O-43 delineation. Two buildings fall within the combined O-43 delineation that may have the potential for sewer separation.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

There are a number of catch basins located within the combined O-43 area. Most collect flow from Fontella, Walker, and Reedsdale.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | |
|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> |
|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)

Boyce Street is a degraded brick road with no apparent drainage.

Curb Condition

Ample curb throughout most of the area. Lower curb below the Allegheny station to allow bus traffic in and out of the area. Sections of curb missing in front of 1000 Reedsdale Street.

Sidewalk / Street Trees / Other ROW Landscaping

Some landscaping in front of Mercy Pittsburgh building. Additional landscaping and street trees are located within the adjacent O-41 shed along the Casino property.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

NA



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential
- Commercial
- Institutional
- Transport-Related
- Industrial
- Undeveloped
- Park
- Other:

Describe Adjacent Land Use:

The area includes PA 65, Mercy health center, Allegheny station and parking lots.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|--------------------------|--|--|
| <input type="checkbox"/> | <input checked="" type="radio"/> Sewer | PA one call in order to locate utilities |
| <input type="checkbox"/> | <input checked="" type="radio"/> Water | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Gas | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Telecommunication | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Electric | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Overhead Wires | |
| <input type="checkbox"/> | <input type="checkbox"/> Other | |

| Soils: | Comments: |
|--|---|
| Soil auger test holes: | <input type="checkbox"/> Yes <input checked="" type="radio"/> No Most of the area is impervious. Any tests |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> Yes <input checked="" type="radio"/> No would need to be drilled through |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes <input checked="" type="radio"/> No concrete/asphalt. |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> Yes <input checked="" type="radio"/> No |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Most municipal structures capture runoff from Reedsdale St. Most of the area evaluated has been separated during the Casino or subway construction. Boyce street appears to have a large area that does not drain and may pond during heavy rains. Runoff may flow onto private Mercy parking lot.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction
- Community Benefit
- Water Quality
- Channel Protection
- Demonstration / Education
- Parallel Infrastructure Repair
- Other:

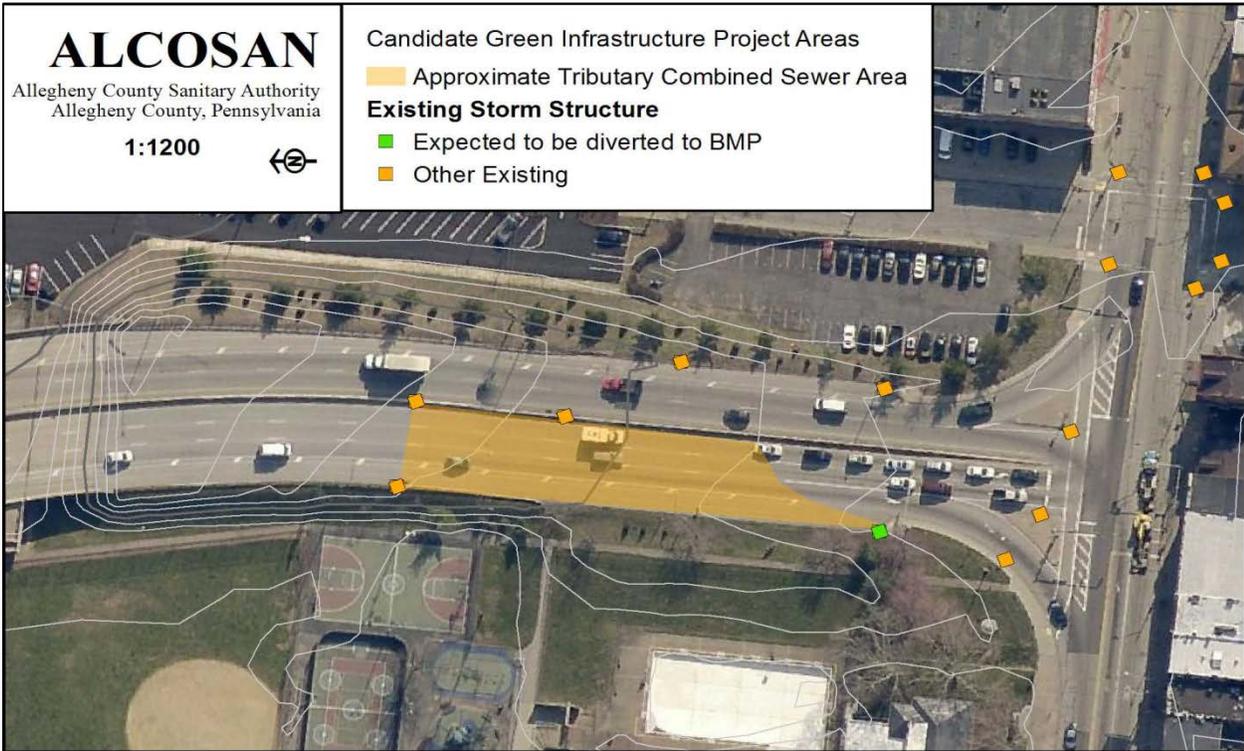
Proposed GSI Option:

- Extended Detention
- Wet Pond
- Created Wetland
- Bioretention
- Filtering Practice
- Infiltration
- Swale
- Other

Demonstration Concept Description (Supplement with concept sketch as needed):

The cost and feasibility of sewer separation should be investigated within the area. There is potential to modify existing landscaping at the intersections of Fontella and Reedsdale. These areas could potentially be modified with curb cuts in order to take runoff from the street. Other opportunities exist within the public ROW in the area of the bus station and elevated subway station. Two private parking lots are also located within the shed. Coordination with the land owners would need to take place in order to capture any runoff from these lots.

Potential Green Infrastructure Project Site
Site 28 - Birmingham Bridge adjacent to Ormsby Park
City of Pittsburgh, Southside Neighborhood



Potential Partners: City of Pittsburgh, PWSA, PennDOT, Western Pennsylvania Conservancy

Potential GI Project: Potential to reroute runoff from Birmingham Bridge off-ramp to existing lawn area adjacent to Ormsby Park. Project has similar potential on other side of bridge with adjacent private property and could also be integrated within planned PennDOT traffic calming and pedestrian safety project along East Carson Street.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Main Rivers/ M-20, M-18 |
| Approx. Tributary Combined Area (acres): | 0.25 (public right of way impervious) |
| Land Use: | Commercial, Residential, Institutional |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Infiltration/Bioretention trenches in existing landscaped area of Ormsby Park adjacent to Birmingham Bridge off-ramp. |
| Slow Release Outlet: | Pipe from each GI installation to an existing catch basin. |
| Required Storage Volume (gallons): | 10,000 |
| Approximate GI Footprint (sq ft): | 1,100 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Pedestrian Safety; traffic calming |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | |
|----------------------------|--|-------------|
| ACSA Sewershed: M-20, M-18 | | Site ID: 28 |
|----------------------------|--|-------------|

| | |
|-----------------|-----------------------------|
| Date: 9/10/2014 | Assessor(s) Kelly, Jedlicka |
|-----------------|-----------------------------|

Site Description

| | |
|-----------------------------------|--------------------------------|
| Name: Birmingham Bridge Southside | Municipality: PWSA - Southside |
|-----------------------------------|--------------------------------|

Address / Intersection: North Ave between Brighton Rd and Cedar Ave

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

There is interest in constructing a GI feature to capture runoff from the Birmingham Bridge. The Western PA Conservancy maintains the land adjacent to the bridge and sidewalk. The site of interest is along a walking trail adjacent to the Carnegie Library, Ornsby Field, and a public park.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

There are a number of catch basins on the Birmingham Bridge collecting runoff draining toward E Carson St. The bridge has three lanes and a bike lane all draining to a potential GI feature where the Western Pennsylvania Conservancy maintains the land. There is also potential for expansion of GI into the public park, along the pedestrian pathway, and on the opposite side of the bridge to take additional flow upstream of catch basins on the bridge and impervious area within the park.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 9 |
|---|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)

Western Pennsylvania Conservancy maintains the landscaping adjacent to the bridge and all catch basins are well maintained.

Curb Condition

Curb has ample reveal and is in good condition.

Sidewalk / Street Trees / Other ROW Landscaping

There are some mature trees along the pedestrian path in close proximity to the WPA Conservancy landscaping.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

The library appears to be directly connected. The building adjacent to the public park appears to have internal downspouts. Both buildings are not within close proximity to the proposed GI.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- Residential
- Commercial
- Institutional
- Transport-Related
- Industrial
- Undeveloped
- Park
- Other:

Describe Adjacent Land Use:

Adjacent to the bridge is Carnegie Library, Ornsby field, a public park and immediately adjacent to the bridge is the landscaping maintained by the Western PA Conservancy.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|----------------------------------|----------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="radio"/> | Sewer Exact location of utilities would need to be determined via PA one call |
| <input type="checkbox"/> | <input checked="" type="radio"/> | Water |
| <input type="checkbox"/> | <input checked="" type="radio"/> | Gas |
| <input type="checkbox"/> | <input checked="" type="radio"/> | Telecommunication |
| <input type="checkbox"/> | <input checked="" type="radio"/> | Electric |
| <input checked="" type="radio"/> | <input type="checkbox"/> | Overhead Wires Overhead wires present |
| <input type="checkbox"/> | <input type="checkbox"/> | Other |

| Soils: | Yes | No | Comments: |
|--|------------------------------|-------------------------------------|---|
| Soil auger test holes: | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No | Site has access for double ring infiltration tests. |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No | |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No | |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> Yes | <input checked="" type="radio"/> No | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Basketball court is degraded and drains to a catch basin on the pedestrian path. Steep grassy area from bridge sloped down to public park.

Proposed Retrofit

Purpose of Retrofit:

- Source control / CSO reduction
- Community Benefit
- Water Quality
- Channel Protection
- Demonstration / Education
- Parallel Infrastructure Repair
- Other:

Proposed GSI Option:

- Extended Detention
- Wet Pond
- Created Wetland
- Bioretention
- Filtering Practice
- Infiltration
- Swale
- Other

Demonstration Concept Description (Supplement with concept sketch as needed):

Opportunity to place GI upstream of catch basins along shoulder of Birmingham Bridge. Majority of driving lanes drain to one basin directly in front of Western PA Conservancy landscaping. Infiltration or bioretention area with curb cuts could be implemented to capture runoff. Project would be highly visible. Future projects could expand GI upstream of additional catch basins on the bridge, in the park, or on the eastern side of the Birmingham Bridge.

Potential Green Infrastructure Project Site
Site 8 - Forbes Avenue Business District between Murray and Shady Avenue
City of Pittsburgh, Squirrel Hill Neighborhood



Potential Partner: City of Pittsburgh, PWSA, Squirrel Hill Urban Coalition

Potential GI Project: Opportunities to construct bioretention/infiltration trench around existing street trees on Forbes Avenue Business District. A pedestrian crossing in the middle of Forbes Ave offers opportunities for a GI bumpout to enhance pedestrian safety.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Main Rivers / M-29 |
| Approx. Tributary Combined Area (acres): | 1.5 (public right-of-way impervious) |
| Land Use: | Commercial |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Retrofit GI features within sidewalk and existing street trees using curb cuts. GI features to be placed upstream of catch basins. Additional opportunity to create a bumpout at the crosswalk on Forbes. |
| Slow Release Outlet: | Slow release into existing catch basins |
| Required Storage Volume (gallons): | 61,000 |
| Approximate GI Footprint (sq ft): | 6,500 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Traffic calming and pedestrian safety at crosswalk |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | | |
|-----------------|--|----------|---|
| ACSA Sewershed: | | Site ID: | 8 |
|-----------------|--|----------|---|

| | | |
|----------------|-------------|-----------------|
| Date: 9/5/2014 | Assessor(s) | Kelly, Jedlicka |
|----------------|-------------|-----------------|

Site Description

| | |
|--------------------------------|--------------------|
| Name: Forbes Business District | Municipality: PWSA |
|--------------------------------|--------------------|

Address / Intersection: Forbes Ave between Shady and Murray

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

Forbes Business District is a high traffic area where there has been expressed interest in siting GI. GI could be implemented to capture runoff from Forbes and the adjacent sidewalks by modifying some of the existing street trees or creating a bumpout at the pedestrian crossing. The one pedestrian crossing is located halfway between Murray Ave and Shady Ave.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.
 Potential to capture runoff from Forbes Ave and the sidewalks. A driveway between two commercial building also appears to drain onto Forbes Ave.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 6 |
|---|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)

There are six basins on either side of Forbes ave within the area of interest, west of Shady Ave. The most upstream basins are located on either side of Shady Ave at the intersection of Forbes and on Forbes ave, east of Shady Ave.

Curb Condition

The curb is in good condition. The area is well maintained.

Sidewalk / Street Trees / Other ROW Landscaping

There are numerous street trees throughout the business district. There is pointed brick in the area immediately surrounding the street trees.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

All of the buildings appear to have internal downspouts and/or direct connections.



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- | | | | |
|--------------------------------------|--|--|--|
| <input type="checkbox"/> Residential | <input checked="" type="checkbox"/> Commercial | <input type="checkbox"/> Institutional | <input type="checkbox"/> Transport-Related |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Undeveloped | <input type="checkbox"/> Park | <input type="checkbox"/> Other: |

Describe Adjacent Land Use:

Forbes business district is a commercial area with various shops and restaurants between Shady and Murray.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|-------------------------------------|---|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Sewer | Exact location of utilities would need to be determined via PA one call |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Water | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Gas | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> Telecommunication | |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> Electric | |
| <input type="checkbox"/> | <input type="checkbox"/> Overhead Wires | Overhead wires not present. Underground electric could present a conflict. |
| <input type="checkbox"/> | <input type="checkbox"/> Other | |

| Soils: | Yes | No | Comments: |
|--|------------------------------|--|---|
| Soil auger test holes: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Any test would need to bore through sidewalk. |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Limited parking in the area. Any bumpout or GI would most likely need to maintain on street parking along Forbes Ave.

Proposed Retrofit

Purpose of Retrofit:

- | | | | |
|--|---|---|---|
| <input checked="" type="checkbox"/> Source control / CSO reduction | <input checked="" type="checkbox"/> Community Benefit | <input checked="" type="checkbox"/> Water Quality | <input type="checkbox"/> Channel Protection |
| <input checked="" type="checkbox"/> Demonstration / Education | <input type="checkbox"/> Parallel Infrastructure Repair | <input type="checkbox"/> Other: | |

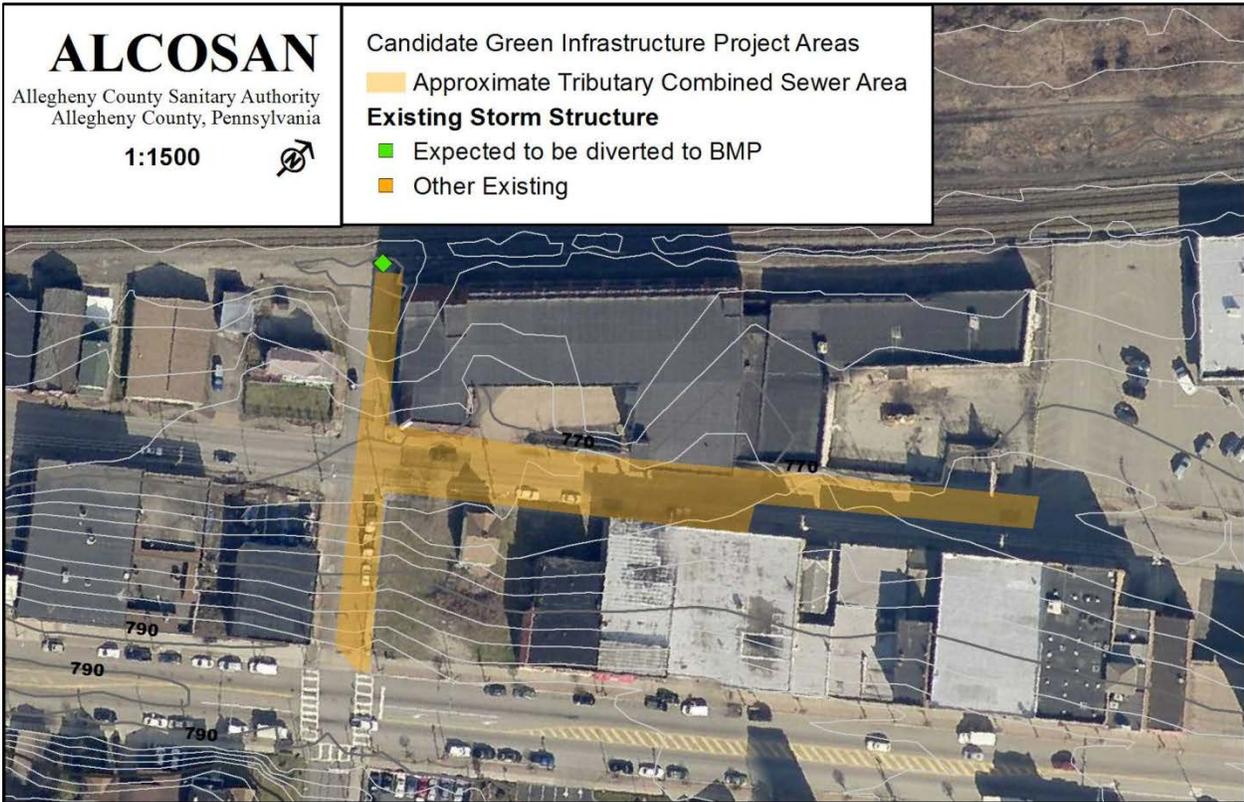
Proposed GSI Option:

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Extended Detention | <input type="checkbox"/> Wet Pond | <input type="checkbox"/> Created Wetland | <input checked="" type="checkbox"/> Bioretention |
| <input type="checkbox"/> Filtering Practice | <input checked="" type="checkbox"/> Infiltration | <input checked="" type="checkbox"/> Swale | <input type="checkbox"/> Other |

Demonstration Concept Description (Supplement with concept sketch as needed):

Opportunity to place GI upstream of catch basins on Forbes Ave. Existing street trees could be modified with a curb cut to capture runoff. There are a number of street trees in close proximity to basins. There is also a pedestrian crossing halfway between Shady and Murray Ave. A bioretention bumpout could be sited at the pedestrian crossing to slow traffic and capture stormwater.

Potential Green Infrastructure Project Site
Site 71 - 7th Avenue, Site of Former Keystone Plumbing
West Homestead Borough



Potential Partner: Municipality of West Homestead, Program for Offenders

Potential GI Project: Program for Offenders is reconstructing the former Keystone Plumbing site. There is potential to modify existing street trees via curb cuts along 7th Ave. GI opportunities also exist along Neel Street within the sidewalk adjacent to the Keystone Site.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Upper Monongahela / M-44 |
| Approx. Tributary Combined Area (acres): | 0.51 (public right of way impervious) |
| Land Use: | Institutional |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Redevelopment |
| Suggested Location of GI Installation: | Opportunity to modify existing street trees along 7 th , or construct a bioretention basin along the degraded sidewalk on Neel St. |
| Slow Release Outlet: | Slow release into catch basin on Neel St. |
| Required Storage Volume (gallons): | 21,000 |
| Approximate GI Footprint (sq ft): | 2,200 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Rebuilt sidewalk along Neel St. |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | | |
|-----------------|--|----------|----|
| ACSA Sewershed: | | Site ID: | 71 |
|-----------------|--|----------|----|

| | | |
|----------------|-------------|-----------------|
| Date: 9/5/2014 | Assessor(s) | Kelly, Jedlicka |
|----------------|-------------|-----------------|

Site Description

| | |
|-------------------------------------|------------------------------|
| Name: Former Keystone Plumbing Site | Municipality: West Homestead |
|-------------------------------------|------------------------------|

Address / Intersection: 7th Ave between Neel St and Hays St

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

Site is being redeveloped by the non profit organization Program For Offenders. The redevelopment plans have not been finalized for all portions of the site and there could be an opportunity to implement GI. The site is bordered by 7th Ave and Neel St. 7th Ave has street trees that could potentially be modified to capture stormwater. GI could also be sited in the public ROW along Neel St where the sidewalk has been degraded.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

A highpoint on 7th Avenue splits the drainage area. A catch basin at the northern side of Neel collects flow from 7th. A basin on Hays St also collects flow from 7th. Portions of 7th are sloped entirely toward the redevelopment site. It may be possible to drain both sides of the road to the former Keystone site.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 2 |
|---|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)

There are two basins draining the site. Roughly half of 7th drains toward Neel St the other half drains towards Hays St.

Curb Condition

The curb is in good condition. The sidewalk and curb north of 7th along Neel St is degraded and overgrown.

Sidewalk / Street Trees / Other ROW Landscaping

There are new street trees along 7th in front of the site.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

The redeveloped site has internal directly connected downspouts.

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- | | | | |
|--|---|--|--|
| <input checked="" type="radio"/> Residential | <input checked="" type="radio"/> Commercial | <input checked="" type="radio"/> Institutional | <input type="checkbox"/> Transport-Related |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Undeveloped | <input type="checkbox"/> Park | <input type="checkbox"/> Other: |

Describe Adjacent Land Use:

The adjacent buildings are commercial buildings. There is one residence on the corner of 7th and Neel St.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|----------------------------------|--|--|
| <input checked="" type="radio"/> | <input type="checkbox"/> Sewer | Exact location of utilities would need to be determined via PA one call |
| <input checked="" type="radio"/> | <input type="checkbox"/> Water | |
| <input checked="" type="radio"/> | <input type="checkbox"/> Gas | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Telecommunication | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Electric | |
| <input type="checkbox"/> | <input type="checkbox"/> Overhead Wires | Overhead wires not present. Underground electric could present a conflict. |
| <input type="checkbox"/> | <input type="checkbox"/> Other | |

| Soils: | Comments: |
|---|--|
| Soil auger test holes: <input type="checkbox"/> Yes <input checked="" type="radio"/> No | Any test would need to bore through |
| Evidence of poor infiltration (clays, fines) <input type="checkbox"/> Yes <input checked="" type="radio"/> No | sidewalk. There will be demolition of concrete |
| Evidence of shallow bedrock: <input type="checkbox"/> Yes <input checked="" type="radio"/> No | onsite which could provide an opportunity for |
| Evidence of high water table (gleying, saturation) <input type="checkbox"/> Yes <input checked="" type="radio"/> No | soil testing. |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

A large pervious area on site will be demolished and turned into a garden. Electric appears to be buried in front of the Keystone site and could present a conflict for modification of existing street trees.

Proposed Retrofit

Purpose of Retrofit:

- | | | | |
|---|---|--|---|
| <input checked="" type="radio"/> Source control / CSO reduction | <input checked="" type="radio"/> Community Benefit | <input checked="" type="radio"/> Water Quality | <input type="checkbox"/> Channel Protection |
| <input checked="" type="radio"/> Demonstration / Education | <input type="checkbox"/> Parallel Infrastructure Repair | | <input type="checkbox"/> Other: |

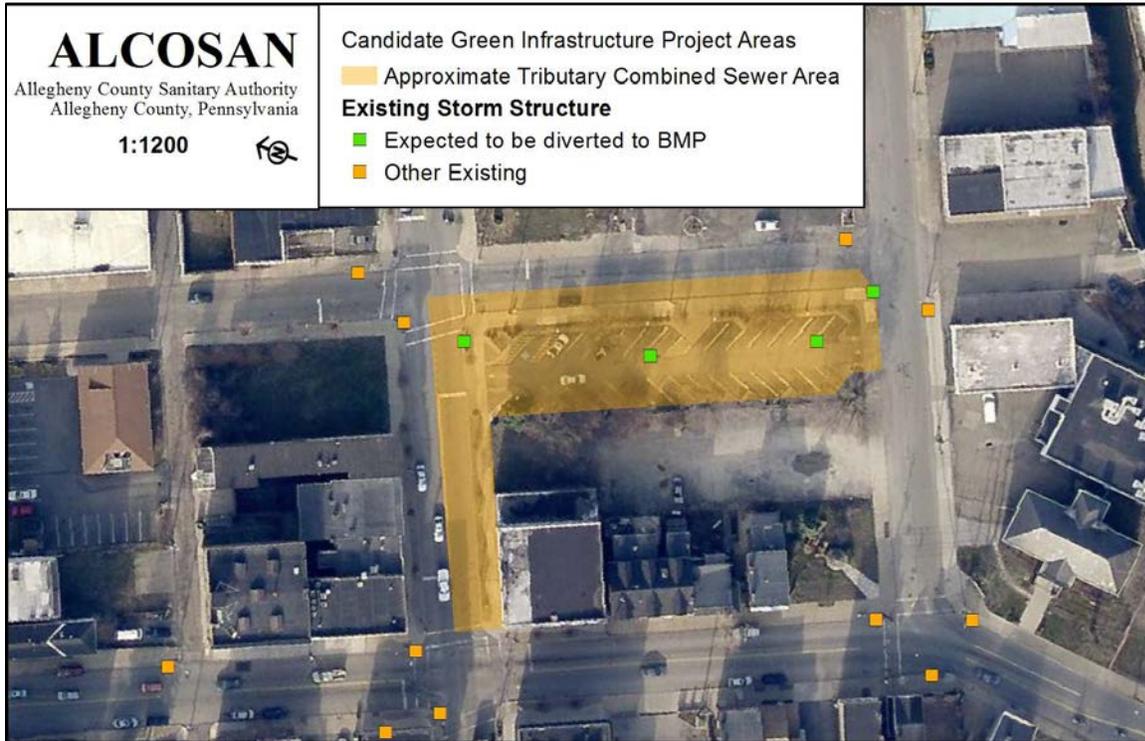
Proposed GSI Option:

- | | | | |
|---|---|--|---|
| <input type="checkbox"/> Extended Detention | <input type="checkbox"/> Wet Pond | <input type="checkbox"/> Created Wetland | <input checked="" type="radio"/> Bioretention |
| <input type="checkbox"/> Filtering Practice | <input checked="" type="radio"/> Infiltration | <input type="checkbox"/> Swale | <input type="checkbox"/> Other |

Demonstration Concept Description (Supplement with concept sketch as needed):

Opportunity to modify existing street trees to capture storm water. Degraded sidewalk along Neel St could be another potential site to have a bioretention area. Any GI on Neel would need to maintain existing loading dock. Basin at the bottom of Neel could be tied into if a bioretention feature was constructed.

**Potential Green Infrastructure Project Site
Site 137 -Parking Lot at Main Street and Alexander
City of Pittsburgh, West End Neighborhood**



Potential Partners: PWSA, Pittsburgh Parking Authority

Potential GI Project: Potential to construct bioretention/infiltration bumpouts and/or swales within the existing parking lot and perimeter sidewalk. Parking lot runoff could be maintained with modifications to on-site catch basins and conversion of one or more parking spaces into a GI feature. Additional green infrastructure could be retrofit into existing sidewalk landscaping to capture runoff from Main Street.

| Project Characteristic | Description |
|--|--|
| Planning Basin and POC Shed: | Saw Mill Run / MH-08 |
| Approx. Tributary Combined Area (acres): | 0.56 (public right of way impervious) |
| Land Use: | Commercial, Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Within parking lot at the corner of Alexander and Main and at the corner of Alexander and Neptune. |
| Slow Release Outlet: | Pipe from each GI installation to an existing catch basin |
| Required Storage Volume (gallons): | 23,000 |
| Approximate GI Footprint (sq ft): | 2,400 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | Streetscape enhancement |

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Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | | |
|-----------------|--|----------|-----|
| ACSA Sewershed: | | Site ID: | 137 |
|-----------------|--|----------|-----|

| | | |
|-----------------|-------------|-----------------|
| Date: 9/10/2014 | Assessor(s) | Kelly, Jedlicka |
|-----------------|-------------|-----------------|

Site Description

| | |
|----------------------------------|------------------------|
| Name: Municipal Lot on Alexander | Municipality: West End |
|----------------------------------|------------------------|

Address / Intersection: Intersection of Main and Alexander

GPS ID LAT: LONG:

Description of Proposed Retrofit Location (Include ownership and land use):

Interest in constructing a GI feature within the municipally owned lot. The corners of the site have some landscaping that appears to be well maintained. On site landscaping also runs parallel to the sidewalk on Alexander St. It appears most of the lot drains to two basins located in the center of the lot.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.

The site collects runoff from Main St upstream of a catch basin on the corner of Alexander and Main Street. Two basins within the lot drain the entire lot. Flow along Alexander bypasses the site but there is potential to capture runoff using a curb cut.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 4 |
|---|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)

There are two basins within the middle of the parking lot, both appear in good condition. Inlets on the corner of Neptune and Alexander appear to be in poor condition.

Curb Condition

Curb is in good condition along Alexander and Main St.

Sidewalk / Street Trees / Other ROW Landscaping

Street trees with grates along Main St. Trees and landscaping are located on site in the corners and along the edges of the municipal lot.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

NA

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- | | | | |
|--|---|--|--|
| <input checked="" type="radio"/> Residential | <input checked="" type="radio"/> Commercial | <input type="checkbox"/> Institutional | <input type="checkbox"/> Transport-Related |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Undeveloped | <input type="checkbox"/> Park | <input type="checkbox"/> Other: |

Describe Adjacent Land Use:

Lot is surrounded by Alexander, Main, and Neptune on three sides. Adjacent to the municipal lot is a gravel residential parking lot. Across Alexander St is a large grass lot, and a large gravel lot.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|----------------------------------|--|---|
| <input type="checkbox"/> | <input checked="" type="radio"/> Sewer | Exact location of utilities would need to be determined via PA one call |
| <input type="checkbox"/> | <input checked="" type="radio"/> Water | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Gas | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Telecommunication | |
| <input type="checkbox"/> | <input checked="" type="radio"/> Electric | Electric lines appear to be buried along Main St. |
| <input checked="" type="radio"/> | <input type="checkbox"/> Overhead Wires | Overhead wires down Alexander and Wabash |
| <input type="checkbox"/> | <input type="checkbox"/> Other | |

| Soils: | | Comments: |
|--|--|---|
| Soil auger test holes: | <input type="checkbox"/> Yes <input checked="" type="radio"/> No | Site has limited access for double ring infiltration tests. |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> Yes <input checked="" type="radio"/> No | |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes <input checked="" type="radio"/> No | |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> Yes <input checked="" type="radio"/> No | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Municipal lot is sloped toward Neptune. Low point of the entire lot is the basin near Neptune Street. It appears all flow channels toward the middle of the lot and the basin closer to Neptune St. Saw Mill Run is very close to site.

Proposed Retrofit

Purpose of Retrofit:

- | | | | |
|---|---|--|---|
| <input checked="" type="radio"/> Source control / CSO reduction | <input checked="" type="radio"/> Community Benefit | <input checked="" type="radio"/> Water Quality | <input type="checkbox"/> Channel Protection |
| <input checked="" type="radio"/> Demonstration / Education | <input type="checkbox"/> Parallel Infrastructure Repair | | <input type="checkbox"/> Other: |

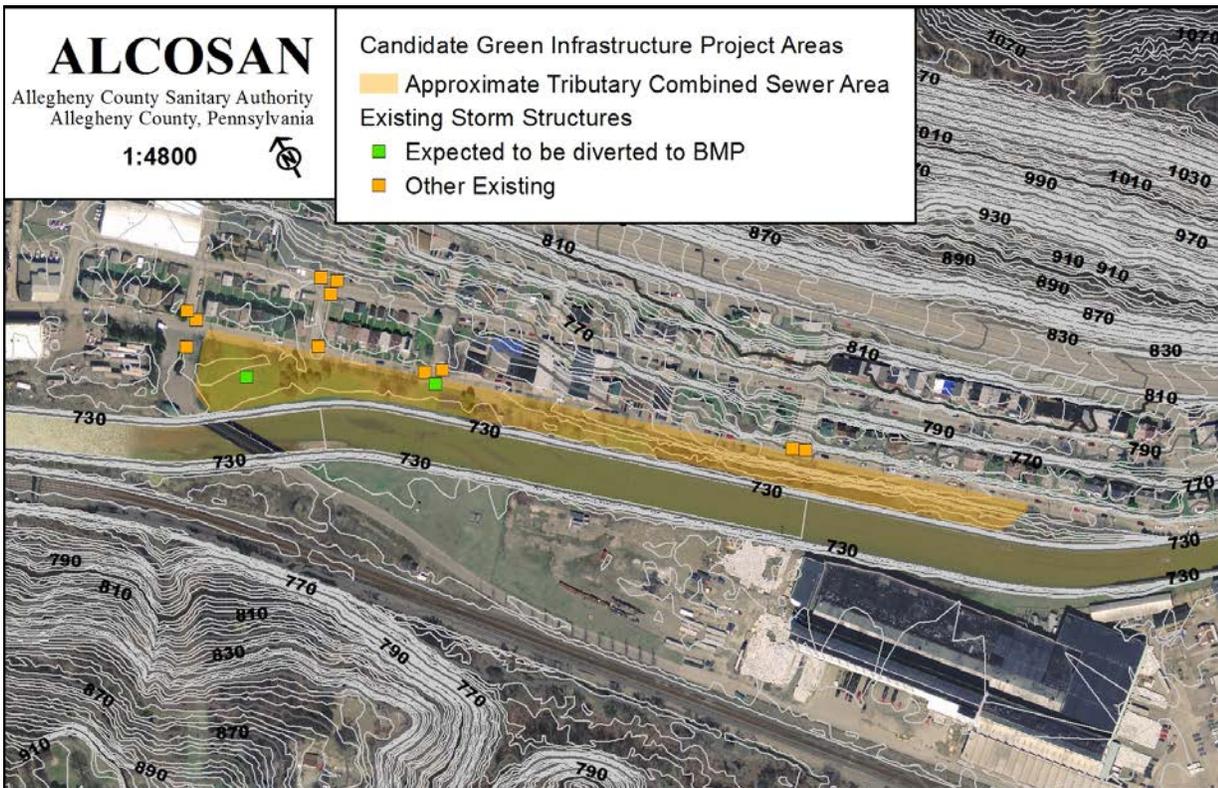
Proposed GSI Option:

- | | | | |
|---|---|--|---|
| <input type="checkbox"/> Extended Detention | <input type="checkbox"/> Wet Pond | <input type="checkbox"/> Created Wetland | <input checked="" type="radio"/> Bioretention |
| <input type="checkbox"/> Filtering Practice | <input checked="" type="radio"/> Infiltration | <input checked="" type="radio"/> Swale | <input type="checkbox"/> Other |

Demonstration Concept Description (Supplement with concept sketch as needed):

There is potential to construct two GI installations at the corners of Alexander & Main, and Alexander & Neptune. A curb cut and trench would need to be constructed to take runoff from Main upstream of the basin on the corner of Alexander & Main. The corner is a natural low spot where there is evidence of water ponding. This location would be adjacent to the entrance to the lot and help beautify the corner of Main and Alexander. The other GI location would most likely require the elimination of one parking spot to provide adequate space to capture runoff. Runoff can be captured from both within the lot and along Alexander St if the curb were cut to allow flow to travel to the retention area.

Potential Green Infrastructure Project Site
Site 53 – Airbrake Avenue Walking Trail
Wilmerding Borough



Potential Partner: Wilmerding Borough

Potential GI Project: Opportunity to retrofit GI within existing green space, playground and walking trail along Airbrake Ave. Stormwater runoff from Airbrake Ave would be rerouted via curb cuts into bioretention/infiltration installations along the existing walking trail and lawn area.

| Project Characteristic | Description |
|--|---|
| Planning Basin and POC Shed: | Turtle Creek / T-16A, T-17 and T-19 |
| Approx. Tributary Combined Area (acres): | 3.80 (total) / 0.77 (public right of way impervious) |
| Land Use: | Residential |
| Upstream Inlets That Could Be Modified? | Yes |
| Retrofit or Redevelopment? | Retrofit |
| Suggested Location of GI Installation: | Right of way adjacent to sidewalk along Airbrake and/or within existing lawn area and walking trail. |
| Slow Release Outlet: | Develop opportunities to slow release into existing pervious area and/or connect to existing catch basins |
| Required Storage Volume (gallons): | 31,000 |
| Approximate GI Footprint (sq ft): | 3,400 |
| Assumed Loading Ratio: | 10:1 |
| Potential Community Co-Benefits: | GI incorporated into existing trail system |

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation (Part 1)

| | | |
|-----------------------------------|-----------------------------|-------------|
| ACSA Sewershed: T-16A, T-17, T-19 | Subshed: | Site ID: 52 |
| Date: 8/7/2014 | Assessor(s) Kelly, Jedlicka | |

Site Description

| | |
|--|----------------------------------|
| Name: Airbrake Ave Walking Trail | Municipality: Wilmerding Borough |
| Address / Intersection: Airbrake from 4th Street to the end of the walking trail | |
| GPS ID | LAT: LONG: |

Description of Proposed Retrofit Location (Include ownership and land use):

Site is existing lawn area, park and walking trail along Airbrake Avenue between 4th Street to approximately 200 feet past 1st street. Lawn area is situated between Airbrake Ave and Turtle Creek, and walking trail is currently under construction. The borough has expressed an interest in incorporating GSI into the expansion through curb cuts and added vegetation.

Existing Site Conditions

Description of Drainage Area of Proposed GSI Site (Supplement with map markups):

Drainage area for proposed site area delineated on map.
 Runoff from the southern half of Airbrake Ave could be directed into GSI within lawn area/walking trail. Collecting runoff from streets perpendicular to Airbrake would require catch basin modifications.

Assessment of Existing Stormwater Features within Potential Drainage Area

| | | |
|---|---|---|
| Stormwater Catch Basins and Inlets | <i>Number (Mark Locations on Maps):</i> | 2 |
|---|---|---|

Existing Maintenance Concerns (Provide Location, Take Photo)
 There is one catch basin along the southern half of Airbrake which collects existing runoff from the street as well as a catch basin within the lawn area that is a low point and drains runoff from within the lawn area.

Curb Condition

Low curb along southern side of Airbrake Ave. Visible sediment deposit along curb.

Sidewalk / Street Trees / Other ROW Landscaping

Sidewalk in good condition. Some mature trees along the trail. Mature trees are closer to the road between 3rd and 2nd St. and root structure could be where GSI could be placed in ROW.

Building Downspout Connection (Which buildings appear connected? Mark connected roofs on aerial maps)

Mix of disconnected (~25%) and connected (~75%) homes along Airbrake Ave. None of the runoff from disconnected homes would be connected to GSI unless catch basins on opposite side of the road are modified to drain to lawn area or walking trail.

ALCOSAN Wet Weather Program



Green Stormwater Infrastructure Field Evaluation Worksheet (Part 1)

Site Constraints

Adjacent Land Use:

- | | | | |
|---|--------------------------------------|--|--|
| <input checked="" type="checkbox"/> Residential | <input type="checkbox"/> Commercial | <input type="checkbox"/> Institutional | <input type="checkbox"/> Transport-Related |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Undeveloped | <input type="checkbox"/> Park | <input type="checkbox"/> Other: |

Describe Adjacent Land Use:

Residential area across from lawn area, playground and walking trail.

Existence of Utilities within Potential GSI Project Construction:

| Yes | Possible | Location |
|-------------------------------------|--|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Sewer | ALCOSAN cleanout structure within lawn area near T-16A |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> Water | Possible water line access manhole (photo) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Gas | Observed on northern side of Airbrake Ave, not proposed within GSI ROW |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Telecommunication | Surface markings observed |
| <input type="checkbox"/> | <input type="checkbox"/> Electric | No surface markings observed; overhead lines |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> Overhead Wires | Along southern side of Airbrake Ave. |
| <input type="checkbox"/> | <input type="checkbox"/> Other | |

| Soils: | | | Comments: |
|--|------------------------------|--|-----------------------------------|
| Soil auger test holes: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Space to do infiltration testing. |
| Evidence of poor infiltration (clays, fines) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |
| Evidence of shallow bedrock: | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |
| Evidence of high water table (gleying, saturation) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |

Other Field Observations (Slopes, Site Access, Maintenance Concerns, etc.)

Trail is currently being expanded beyond 1st street. Field across from 4th street has a catch basin draining into Turtle Creek. Airbrake Ave is relatively flat. Some curb breaks currently exist which appear to allow flow onto green area between trail and Airbrake Ave.

Proposed Retrofit

Purpose of Retrofit:

- | | | | |
|--|---|--|---|
| <input checked="" type="checkbox"/> Source control / CSO reduction | <input checked="" type="checkbox"/> Community Benefit | <input type="checkbox"/> Water Quality | <input type="checkbox"/> Channel Protection |
| <input type="checkbox"/> Demonstration / Education | <input type="checkbox"/> Parallel Infrastructure Repair | <input type="checkbox"/> Other: | |

Proposed GSI Option:

- | | | | |
|--|--|---|--|
| <input type="checkbox"/> Extended Detention | <input type="checkbox"/> Wet Pond | <input type="checkbox"/> Created Wetland | <input checked="" type="checkbox"/> Bioretention |
| <input checked="" type="checkbox"/> Filtering Practice | <input checked="" type="checkbox"/> Infiltration | <input checked="" type="checkbox"/> Swale | <input type="checkbox"/> Other |

Demonstration Concept Description (Supplement with concept sketch as needed):

Opportunities for GSI in the field north west of the walking trail between Airbrake Ave and Turtle Creek. A swale or retention trench could be constructed along the sidewalk to capture flow running off of the southern side of Airbrake Ave. Potential for curb cuts to be paired with GSI along Airbrake Ave in the vicinity of 1st St. to allow for runoff to flow into a swale along the trail. Trail expansion is currently under construction (observed during field visit) and appears to include some existing curb removal. Need to discuss with municipal officials if the curb removal is part of a planned curb cut and regrading to allow for some runoff to drain into landscaping along the trail.