

5.25 Study Area 25 – West Homestead

These findings apply to ALCOSAN Points of Connection M-42 through M-44, which include combined sewer systems in West Homestead and the City of Pittsburgh.

West Homestead - BMP GIS Features

The SUSTAIN BMP siting tool analysis resulted in identification of a total of 769 BMP GIS Features covering 112 acres, which consisted of the following:

Table 5.25-1 - TOTAL SUSTAIN BMP Features Output

| SUSTAIN BMP Feature Type | Number of Features | Area of BMP Features (Acres) |
|---------------------------------|---------------------------|-------------------------------------|
| Permeable Pavement | 153 | 13 |
| Bioretention | 222 | 26 |
| Infiltration Basin/Trenches | 93 | 4 |
| Vegetated Filter Strips | 99 | 49 |
| Grass Swales | 197 | 20 |
| Constructed Wetlands | 5 | < 1 |

Locations of all identified BMP GIS features are presented on the SUSTAIN BMP Features Figure.

West Homestead - Concept Municipal GSI Projects

Based on the BMP features, 38 concept Municipal GSI Projects were identified covering 3 total acres with a corresponding drainage area delineation of 14 total acres and consisted of the following:

Table 5.25-2 - Summary of Identified Concept Municipal GSI Projects

| Concept GSI Technology | Number of Projects | GSI Project Area (Acres) | Project Drainage Area (Acres) |
|-------------------------------|---------------------------|---------------------------------|--------------------------------------|
| Permeable Pavement | 9 | 2 | 12 |
| Bioretention | 24 | < 1 | 1 |
| Infiltration Basin/Trenches | 5 | < 1 | 1 |
| Vegetated Filter Strips | 0 | 0 | 0 |
| Grass Swales | 0 | 0 | 0 |
| Constructed Wetlands | 0 | 0 | 0 |

Project statistics including ALCOSAN POC, model subcatchment, BMP type, project area, area of project inside and outside of the public right-of-way, tributary drainage area, and tributary impervious drainage area are provided in the Concept Municipal Projects Table. Locations of all identified Concept Municipal GSI projects are presented in the Concept Municipal GSI Projects Figure (1) and the corresponding delineated tributary drainage areas are presented by BMP in the Individual Project Drainage Area Figures (3).

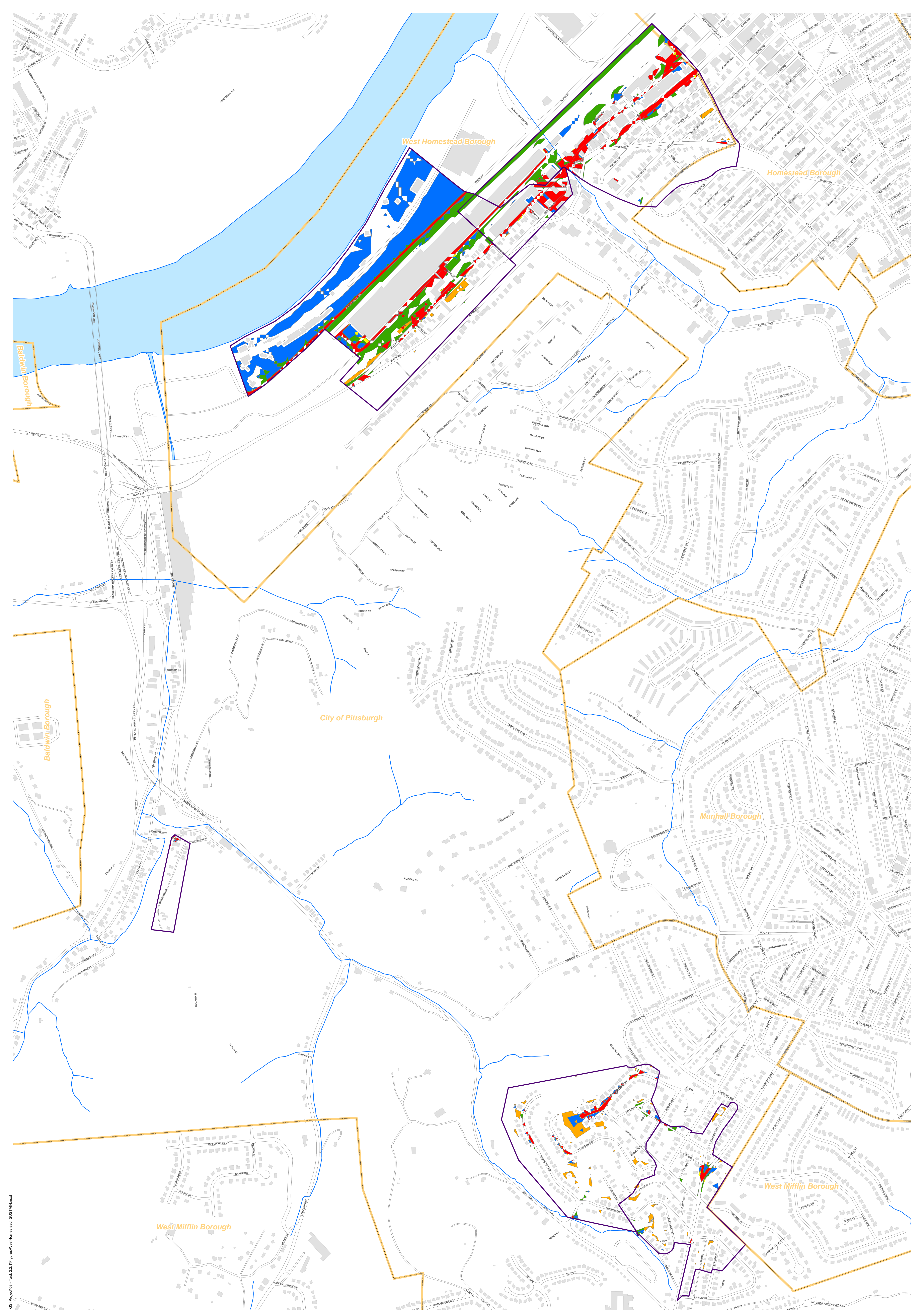
West Homestead - Concept Commercial/Institutional and Special Case GSI Projects

Based on the BMP features, 26 concept Commercial/Institutional and Special Case GSI Projects were identified covering 11 total acres and consisted of the following:

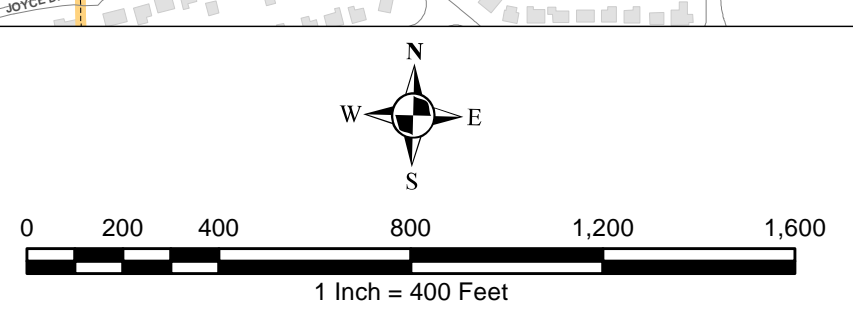
Table 5.25-3 - Summary of Identified Concept Commercial/Institutional and Special Case GSI Projects

| Concept GSI Technology or Special Case Project Category | Number of Projects | GSI Project Area (Acres) |
|--|---------------------------|---------------------------------|
| Commercial/Institutional Permeable Pavement | 7 | 4 |
| Commercial/Institutional Green Roofs | 13 | 3 |
| State Route Permeable Pavement | 6 | 5 |
| Busway Permeable Pavement | 0 | 0 |
| Busway Bioretention | 0 | 0 |

Project statistics including ALCOSAN POC, model subcatchment, BMP type, project area, area of project taxable, exempt, provisionally exempt and in the public right-of-way are provided in Concept Commercial / Institutional GSI Projects Table. Locations of all identified Concept Commercial / Institutional GSI projects are presented in the Concept Commercial / Institutional GSI Projects Figure (1).



- Permeable Pavement
- Vegetated Filter Strips
- Combined Sewer Subcatchment
- Bioretention Basin
- Grass Swales
- Municipal Boundaries
- Infiltration Basin / Trench
- Constructed Wetlands



ALCOSAN GSI Project
West Homestead (M-42 thru M-44)
SUSTAIN BMP Features

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West Homestead Concept Municipal Projects

June 16, 2014

Revised October 7, 2014

*Note: The drainage area presented in this table is representative of the individual drainage area tributary to each concept municipal project without any revisions to account for overlap, without engineering judgment revisions applied, and without the drainage areas being clipped to their corresponding model subcatchments.

| ALCOSAN POC | Model Subcatchment | Concept Municipal Project UID | BMP Type | Concept Municipal Project Area (acres) | Public ROW or Parcel | | Concept Municipal Project Individual Drainage Area (acres)* | Concept Municipal Project Individual Project Impervious Drainage Area (acres)* |
|-------------|--------------------|-------------------------------|----------|--|---|---|---|--|
| | | | | | Area of Municipal Project in Public ROW (acres) | Area of Municipal Project outside of Public ROW (acres) | | |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_3 | PP | 0.030 | 0.000 | 0.030 | 0.074 | 0.038 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_4 | PP | 1.219 | 1.206 | 0.013 | 6.613 | 4.476 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_5 | PP | 0.078 | 0.078 | 0.000 | 0.091 | 0.075 |
| M-44-00 | M4400-OSC-M-02_S1 | WHOM_6 | PP | 0.109 | 0.109 | 0.000 | 0.334 | 0.307 |
| M-42-00 | DC185H001 | WHOM_9 | PP | 0.135 | 0.135 | 0.000 | 0.464 | 0.179 |
| M-42-00 | DC185H001 | WHOM_10 | PP | 0.128 | 0.128 | 0.000 | 0.535 | 0.180 |
| M-42-00 | DC185H001 | WHOM_11 | PP | 0.624 | 0.624 | 0.000 | 4.178 | 1.339 |
| M-42-00 | DC185H001 | WHOM_12 | PP | 0.057 | 0.057 | 0.000 | 0.070 | 0.054 |
| M-42-00 | M4200-OSC-M-18_S1 | WHOM_13 | PP | 0.077 | 0.076 | 0.001 | 0.106 | 0.077 |
| M-43-00 | M-43-00_S1 | WHOM_1001 | BR | 0.005 | 0.005 | 0.000 | 0.009 | 0.001 |
| M-44-00 | M4400-OSC-M-02_S1 | WHOM_1002 | BR | 0.015 | 0.007 | 0.008 | 0.024 | 0.001 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_1003 | BR | 0.013 | 0.013 | 0.000 | 0.015 | 0.004 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_1004 | BR | 0.029 | 0.020 | 0.009 | 0.050 | 0.007 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_1005 | BR | 0.024 | 0.024 | 0.000 | 0.051 | 0.051 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_1006 | BR | 0.021 | 0.008 | 0.013 | 0.042 | 0.011 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_1007 | BR | 0.019 | 0.016 | 0.003 | 0.024 | 0.006 |
| M-42-00 | DC185H001 | WHOM_1008 | BR | 0.006 | 0.005 | 0.001 | 0.009 | 0.000 |
| M-42-00 | DC185H001 | WHOM_1009 | BR | 0.006 | 0.004 | 0.002 | 0.013 | 0.006 |
| M-42-00 | DC185H001 | WHOM_1010 | BR | 0.005 | 0.005 | 0.000 | 0.007 | 0.001 |
| M-42-00 | DC185H001 | WHOM_1011 | BR | 0.014 | 0.013 | 0.001 | 0.021 | 0.003 |
| M-42-00 | DC185H001 | WHOM_1012 | BR | 0.008 | 0.008 | 0.000 | 0.011 | 0.005 |
| M-42-00 | DC185H001 | WHOM_1013 | BR | 0.058 | 0.040 | 0.018 | 0.095 | 0.025 |
| M-42-00 | DC185H001 | WHOM_1014 | BR | 0.009 | 0.009 | 0.000 | 0.012 | 0.001 |
| M-42-00 | DC185H001 | WHOM_1015 | BR | 0.041 | 0.041 | 0.000 | 0.105 | 0.014 |
| M-42-00 | DC185H001 | WHOM_1016 | BR | 0.005 | 0.003 | 0.002 | 0.010 | 0.004 |
| M-42-00 | DC185H001 | WHOM_1017 | BR | 0.004 | 0.004 | 0.000 | 0.007 | 0.001 |
| M-42-00 | DC185H001 | WHOM_1018 | BR | 0.053 | 0.053 | 0.000 | 0.490 | 0.198 |
| M-42-00 | DC185H001 | WHOM_1024 | BR | 0.006 | 0.006 | 0.000 | 0.014 | 0.006 |

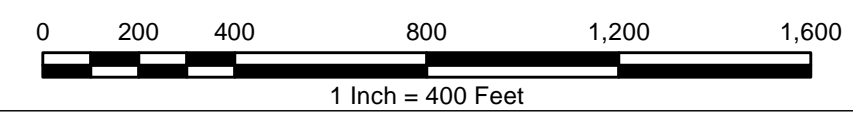
| ALCOSAN POC | Model Subcatchment | Concept Municipal Project UID | BMP Type | Concept Municipal Project Area (acres) | Public ROW or Parcel | | Concept Municipal Project Individual Drainage Area (acres)* | Concept Municipal Project Individual Project Impervious Drainage Area (acres)* |
|-------------|--------------------|-------------------------------|----------|--|---|---|---|--|
| | | | | | Area of Municipal Project in Public ROW (acres) | Area of Municipal Project outside of Public ROW (acres) | | |
| M-42-00 | DC185H001 | WHOM_1025 | BR | 0.010 | 0.010 | 0.000 | 0.012 | 0.002 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_1026 | BR | 0.007 | 0.006 | 0.001 | 0.011 | 0.002 |
| M-42-00 | M4200-OSC-M-18_S1 | WHOM_1027 | BR | 0.017 | 0.017 | 0.000 | 0.019 | 0.006 |
| M-42-00 | M4200-OSC-M-18_S1 | WHOM_1028 | BR | 0.016 | 0.016 | 0.000 | 0.032 | 0.004 |
| M-42-00 | M4200-OSC-M-18_S1 | WHOM_1029 | BR | 0.007 | 0.007 | 0.000 | 0.013 | 0.003 |
| M-43-00 | M-43-00_S1 | WHOM_2001 | IB | 0.030 | 0.011 | 0.019 | 0.045 | 0.001 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_2002 | IB | 0.156 | 0.037 | 0.119 | 0.274 | 0.067 |
| M-43-00 | M-43-00_S1 | WHOM_2003 | IB | 0.089 | 0.011 | 0.078 | 0.230 | 0.157 |
| M-42-00 | DC185H001 | WHOM_2004 | IB | 0.031 | 0.011 | 0.020 | 0.049 | 0.002 |
| M-43-00 | M-43-00_S1 | WHOM_2005 | IB | 0.047 | 0.023 | 0.024 | 0.090 | 0.056 |



- ★ ALCOSAN Structures
- ALCOSAN Shallow-Cut Interceptor
- ALCOSAN Deep Tunnel Interceptor
- One Overall Manholes
- One Overall Sewerlines

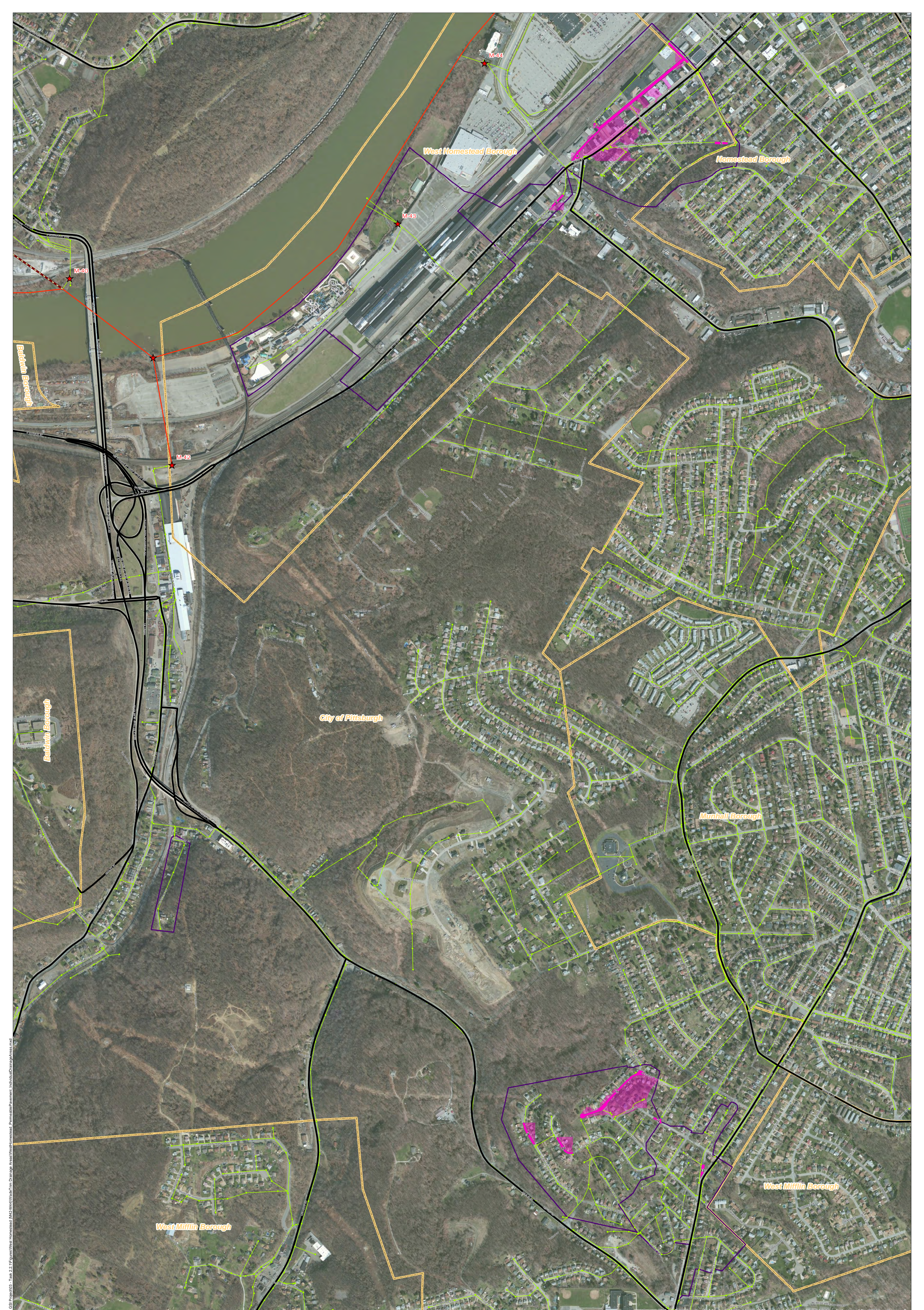
- Municipal Projects**
- Infiltration Basin
 - Bioretention
 - Permeable Pavement

- State Roads
- Combined Sewer Subcatchment
- Municipal Boundaries

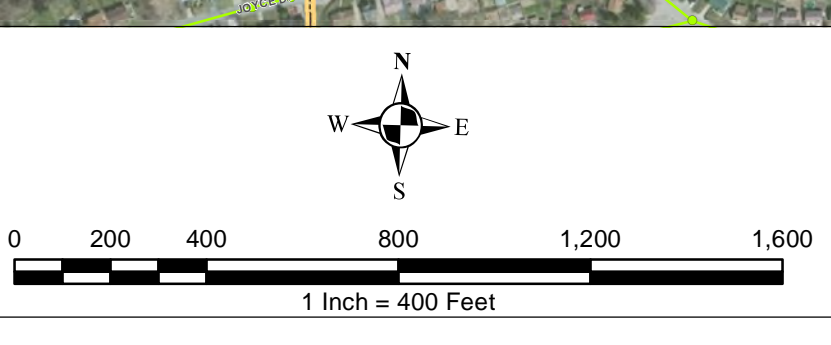


ALCOSAN GSI Project
West Homestead (M-42 thru M-44)
Concept Municipal GSI Projects

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 Source: ESRI, DeLorme, USGS, NAVI, AeroGRID, IGN, SVP, and the GIS User Community



- ★ ALCOBAN Structures
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- ALCOBAN Deep Tunnel Interceptor
- One Overall Manholes
- One Overall Sewerlines
- Permeable Pavement Drainage Areas
- Permeable Pavement Drainage Areas
- State Roads
- Combined Sewer Subcatchment
- Municipal Boundaries

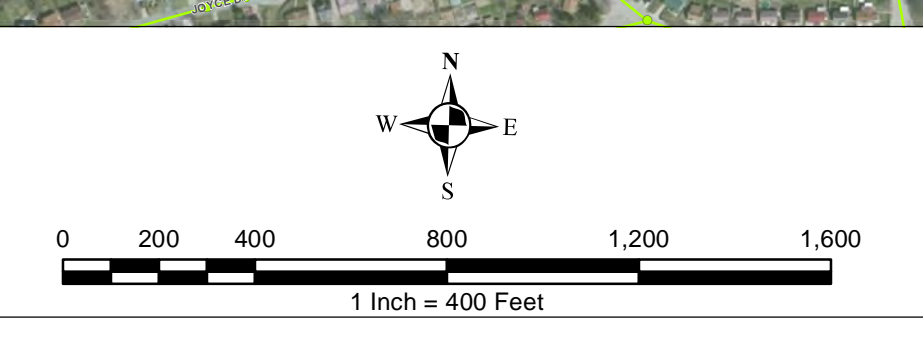


ALCOBAN GSI Project
 West Homestead (M-42 thru M-44)
 Concept Municipal Permeable Pavement GSI Projects
 Individual Project Drainage Areas

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- ★ ALCOSAN Structures
- ALCOSAN Shallow-Cut Interceptor
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ALCOSAN GSI Project
 West Homestead (M-42 thru M-44)
 Concept Municipal Bioretention GSI Projects
 Individual Project Drainage Areas

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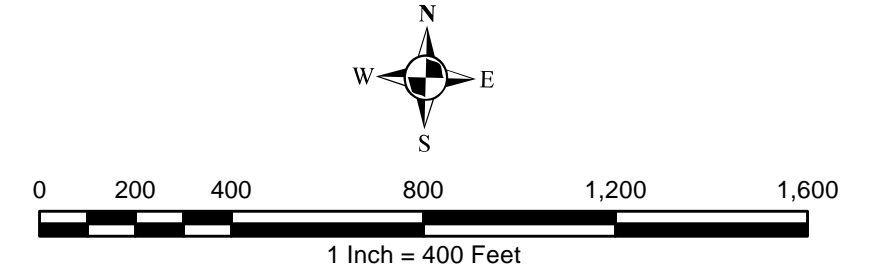
**West Homestead Concept Commercial / Institutional Permeable Pavement, Green Roof, and Special Case GSI Projects:
Summary Table**

February 21, 2014
Revised October 10, 2014

| ALCOSAN POC | Model Subcatchment | Concept Comm / Inst Project UID | BMP Type | Concept Municipal Project Area (acres) | Taxable (acres) | Exempt (acres) | Provisionally Exempt (acres) | Public ROW (acres) |
|--------------------|---------------------------|--|-----------------|---|----------------------------|---------------------------|---|-------------------------------|
| M-44-00 | M4400-OSC-M-02_S1 | WHOM_6001 | CPP | 0.322 | 0.002 | 0.320 | 0.000 | 0.000 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_6002 | CPP | 0.318 | 0.146 | 0.000 | 0.000 | 0.172 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_6003 | CPP | 0.146 | 0.079 | 0.000 | 0.000 | 0.067 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_6004 | CPP | 0.201 | 0.000 | 0.000 | 0.000 | 0.201 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_6005 | CPP | 0.688 | 0.078 | 0.000 | 0.000 | 0.610 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_6008 | CPP | 0.061 | 0.061 | 0.000 | 0.000 | 0.000 |
| M-43 | M-43-00_S1 | WHOM_6009 | CPP | 1.931 | 0.048 | 0.000 | 0.866 | 1.017 |
| M-43-00 | M-43-00_S1 | WHOM_7001 | GR | 0.350 | 0.350 | 0.000 | 0.000 | 0.000 |
| M-44-00 | M4400-OSC-M-02_S1 | WHOM_7002 | GR | 0.189 | 0.001 | 0.000 | 0.000 | 0.188 |
| M-44-00 | M4400-OSC-M-02_S1 | WHOM_7003 | GR | 0.201 | 0.180 | 0.000 | 0.000 | 0.021 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_7004 | GR | 0.164 | 0.103 | 0.000 | 0.000 | 0.061 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_7005 | GR | 0.177 | 0.176 | 0.000 | 0.000 | 0.001 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_7006 | GR | 0.451 | 0.451 | 0.000 | 0.000 | 0.000 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_7007 | GR | 0.171 | 0.170 | 0.000 | 0.000 | 0.001 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_7008 | GR | 0.234 | 0.228 | 0.000 | 0.000 | 0.006 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_7009 | GR | 0.126 | 0.118 | 0.000 | 0.000 | 0.008 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_7010 | GR | 0.312 | 0.312 | 0.000 | 0.000 | 0.000 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_7011 | GR | 0.113 | 0.109 | 0.000 | 0.000 | 0.004 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_7012 | GR | 0.265 | 0.264 | 0.000 | 0.001 | 0.000 |
| M-43-00 | M-43-00_S1 | WHOM_7013 | GR | 0.172 | 0.145 | 0.000 | 0.027 | 0.000 |
| M-42-00 | M4200-OSC-M-18_S1 | WHOM_8001 | SRPP | 0.152 | 0.000 | 0.000 | 0.000 | 0.152 |
| M-44-00 | M4400-OSC-M-08_S1 | WHOM_8002 | SRPP | 2.239 | 0.004 | 0.000 | 0.000 | 2.235 |
| M-43-00 | M-43-00_S1 | WHOM_8003 | SRPP | 1.145 | 0.008 | 0.000 | 0.000 | 1.137 |
| M-43-00 | M-43-00_S1 | WHOM_8004 | SRPP | 0.196 | 0.011 | 0.000 | 0.000 | 0.185 |
| M-44-00 | M4400-OSC-M-02_S1 | WHOM_8005 | SRPP | 0.885 | 0.000 | 0.000 | 0.000 | 0.885 |
| M-42-00 | M4200-OSC-M-18_S1 | WHOM_8006 | SRPP | 0.051 | 0.000 | 0.000 | 0.000 | 0.051 |



- ★ ALCOSAN Structures
- ALCOSAN Shallow-Cut Interceptor
- ALCOSAN Deep Tunnel Interceptor
- Special Case
- Concept Commercial / Institutional Permeable Pavement Projects
- Concept Green Roof Projects
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- Combined Sewer Subcatchment
- Municipal Boundaries



ALCOSAN GSI Project
West Homestead (M-42 thru M-44)
Concept Commercial / Institutional,
Green Roof, and Special Case GSI Projects

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Source: ESRI, DeLorme, USGS, NAVTEQ, AeroGRID, IGN, Esri, and the GIS User Community