

# Poor House Run Hydrologic Assessment and Watershed Action Plan

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## Appendix A: Project Sites and Estimated Nutrient and Sediment Reductions

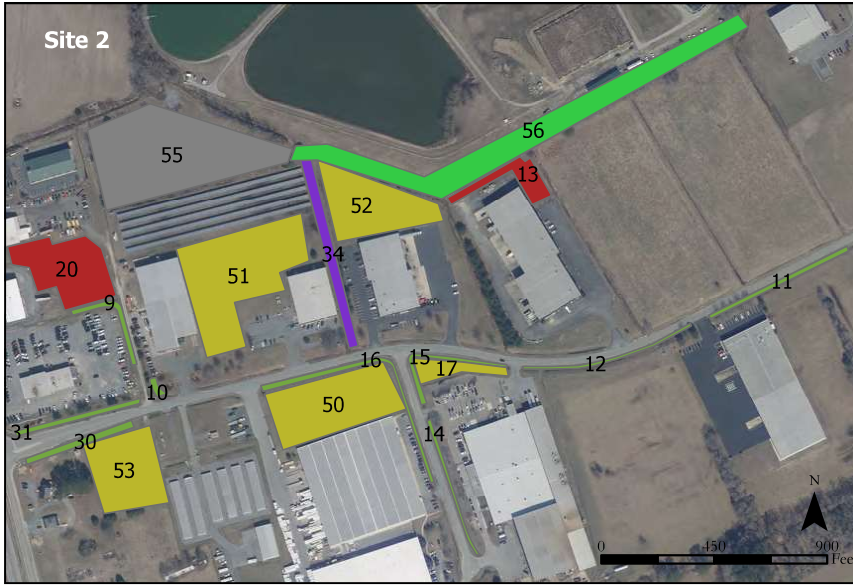


Proposed BMPs

█ BIO SWALE

█ VEGETATED OPEN CHANNEL

PROJECT ID	TYPE	PRACTICE AREA	AREA TREATED	NITROGEN REMOVED (LBS/YR)	PHOSPHORUS REMOVED (LBS/YR)	TSS REMOVED (LBS/YR)
1	VEGETATED OPEN CHANNEL	0.12	0.5	0.72	0.05	162.34
2	BIO SWALE	0.03	0.4	4.0	0.26	207.8
3	VEGETATED OPEN CHANNEL	0.01	0.2	0.29	0.02	64.94
4	VEGETATED OPEN CHANNEL	0.04	0.8	1.15	0.08	259.75
5	VEGETATED OPEN CHANNEL	0.06	1.6	10.3	0.64	727.3
6	VEGETATED OPEN CHANNEL	0.07	2	12.88	0.8	909.13



- Proposed BMPs
- STREAM RESTORATION - HEADWATER WETLAND COMPLEX
  - BIO SWALE
  - BIORETENTION
  - CONSERVATION MEADOW
  - VEGETATED OPEN CHANNEL
  - POND REHABILITATION

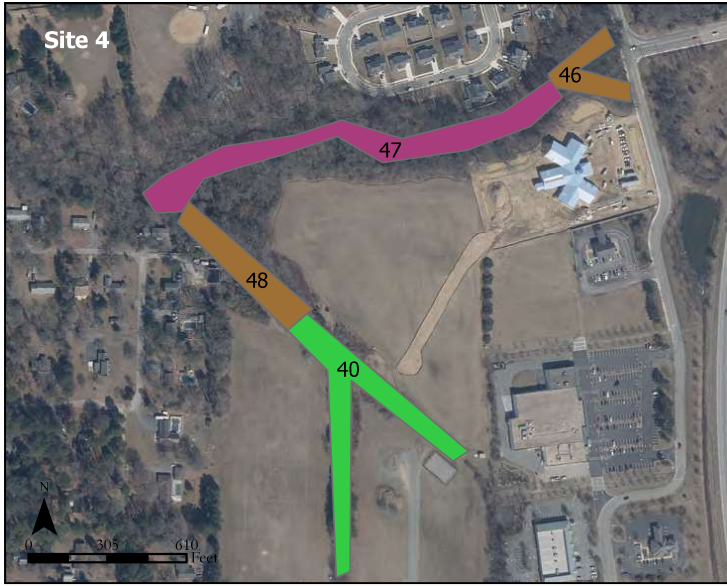
PROJECT ID	TYPE	PRACTICE AREA	AREA TREATED	NITROGEN REMOVED (LBS/YR)	PHOSPHORUS REMOVED (LBS/YR)	TSS REMOVED (LBS/YR)
9	VEGETATED OPEN CHANNEL	0.12	1.1	7.08	0.44	500.02
10	VEGETATED OPEN CHANNEL	0.03	1.1	7.08	0.44	500.02
11	VEGETATED OPEN CHANNEL	0.14	0.5	3.22	0.20	227.28
12	VEGETATED OPEN CHANNEL	0.1	1.2	7.73	0.48	545.48
13	BIORETENTION	0.35	4.8	54.84	3.67	2805.33
14	VEGETATED OPEN CHANNEL	0.1	8.2	52.8	3.29	3727.42
15	VEGETATED OPEN CHANNEL	0.12	0.7	4.51	0.28	318.19
16	VEGETATED OPEN CHANNEL	0.23	10.2	14.62	0.97	3311.76
17	CONSERVATION MEADOW	0.27	1.6	8.16	0.49	532.97
20	BIORETENTION	1.1	3	34.28	2.29	1753.33
30	VEGETATED OPEN CHANNEL	0.17	2.2	3.15	0.21	714.30
31	VEGETATED OPEN CHANNEL	0.15	0.8	1.15	0.08	259.75
34	BIO SWALE	0.44	6.2	62.07	4.03	3220.92
50	CONSERVATION MEADOW	1.54	0.8	4.08	0.24	266.49
51	CONSERVATION MEADOW	2.2	1.6	8.16	0.49	532.97
52	CONSERVATION MEADOW	1.22	0.3	1.53	0.09	99.93
53	CONSERVATION MEADOW	1.13	1.1	5.61	0.34	366.42
55	POND REHABILITATION	2.74	10.88	31.18	4.37	4238.89
56	STREAM RESTORATION - HEADWATER WETLAND COMPLEX	2.23	28.42	211.05	191.35	678872



Proposed BMPs

- BIORETENTION
- CONSERVATION MEADOW
- VEGETATED OPEN CHANNEL

PROJECT ID	TYPE	PRACTICE AREA	AREA TREATED	NITROGEN REMOVED (LBS/YR)	PHOSPHORUS REMOVED (LBS/YR)	TSS REMOVED (LBS/YR)
18	VEGETATED OPEN CHANNEL	0.03	0.1	0.14	0.01	32.47
19	VEGETATED OPEN CHANNEL	0.02	0.3	1.93	0.12	136.37
24	VEGETATED OPEN CHANNEL	0.02	0.4	0.57	0.04	129.87
25	VEGETATED OPEN CHANNEL	0.03	0.6	0.86	0.06	194.81
35	VEGETATED OPEN CHANNEL	0.1	0.4	2.58	0.16	181.83
37	VEGETATED OPEN CHANNEL	0.09	0.5	3.22	0.2	227.28
38	BIORETENTION	0.07	0.3	3.43	0.23	175.33
39	BIORETENTION	0.1	0.8	9.14	0.61	467.56
41	BIORETENTION	0.31	1.6	5.72	0.64	571.46
54	CONSERVATION MEADOW	2.05	2.1	10.71	0.64	699.53



Proposed BMPs

- STREAM RESTORATION - FLOODPLAIN RECONNECTION
- STREAM RESTORATION - HEADWATER WETLAND COMPLEX
- STREAM RESTORATION - RSC

PROJECT ID	TYPE	PRACTICE AREA	AREA TREATED	NITROGEN REMOVED (LBS/YR)	PHOSPHORUS REMOVED (LBS/YR)	TSS REMOVED (LBS/YR)
40	STREAM RESTORATION - HEADWATER WETLAND COMPLEX	1.76	37.4	231.6	209.98	765824
46	STREAM RESTORATION - RSC	0.55	126	87.51	79.35	289381.28
47	STREAM RESTORATION - FLOODPLAIN RECONNECTION	2.12	15	252.82	229.2	835983.2
48	STREAM RESTORATION - RSC	0.9	13.8	92.48	83.84	305784



Proposed BMPs

- BIORETENTION
- GRADE STABILIZATION WITH ANY CULVERT WORK
- VEGETATED OPEN CHANNEL

PROJECT ID	TYPE	PRACTICE AREA	AREA TREATED	NITROGEN REMOVED (LBS/YR)	PHOSPHORUS REMOVED (LBS/YR)	TSS REMOVED (LBS/YR)
42	BIORETENTION	0.08	6.7	0.24	0.03	23.96
43	VEGETATED OPEN CHANNEL	0.04	1	1.43	0.1	324.68
44	BIORETENTION	0.08	0.4	0.84	0.06	42.95
49	GRADE STABILIZATION WITH ANY CULVERT WORK	1.17	402.5	73.8	66.91	244032



## Legend

### Proposed BMPs

VEGETATED OPEN CHANNEL

### Project Description

This site has potential to be retrofitted to a vegetated open channel (or bioswale). It is located near the intersection of Legion Rd. and 404 (Shore Hwy). At present, the swale is mowed and has no stormwater practices to reduce stormwater volume or treat nutrients. The swale eventually outlets to a pipe that goes under 404 and discharges into a forested corridor adjacent to Poor House Run. A vegetated open channel could be installed that has small pooling areas with soil amendments added to help infiltrate water. Another option is to maintain a similar swale configuration but be planted with native species to provide some habitat and storm flow velocity reduction value.





**Legend**

Proposed BMPs

- BIO SWALE
- VEGETATED OPEN CHANNEL

**Project Description**

This site has potential to be retrofitted to a bioswale. It is located near the intersection of Legion Rd. and 404 (Shore Hwy) and receives water from BMP 1. At present, the swale is mowed and has no stormwater practices to reduce stormwater volume or treat nutrients. The swale eventually outlets to a pipe that goes under 404 and discharges into a forested corridor adjacent to Poor House Run. A bioswale could be engineered for this location that would allow some water to infiltrate while maintaining the ability to convey stormwater and not flood the road. There are many constraints at this site with the road and sidewalk very close to the swale. There could also be utilities that are under the swale that could limit the project scope and size.



## Proposed BMP 3

3

N

0 5 10 Feet

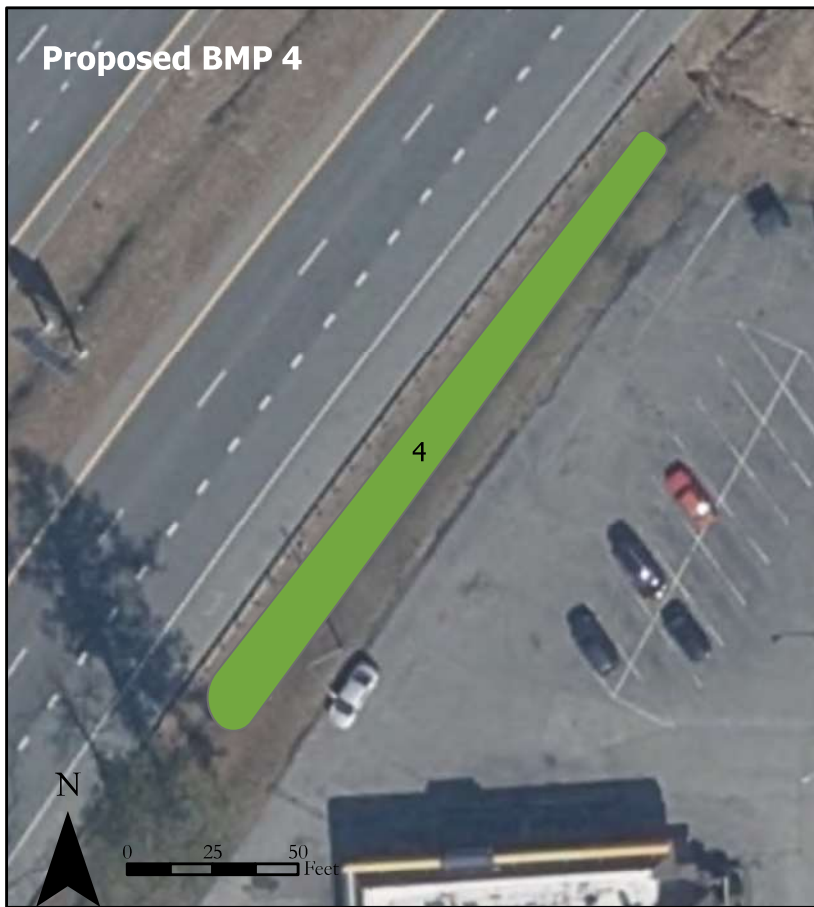
## Legend

### Proposed BMPs

VEGETATED OPEN CHANNEL

### Project Description

This site has potential to be retrofitted to a vegetated open channel (or bioswale). It is located near the intersection of Legion Rd. and 404 (Shore Hwy) and receives stormwater from BMP 1 and BMP 2. At present, the swale is mowed and has no stormwater practices to reduce stormwater volume or treat nutrients. The swale eventually outlets to a pipe that goes under 404 and discharges into a forested corridor adjacent to Poor House Run. A vegetated open channel could be installed that has small pooling areas with soil amendments added to help infiltrate water. Another option is to maintain a similar swale configuration but be planted with native species to provide some habitat and storm flow velocity reduction value.



## Legend

### Proposed BMPs

 VEGETATED OPEN CHANNEL

## Project Description

This site has potential to be retrofitted to a vegetated open channel (or bioswale). It is located near the intersection along 404 (Shore Hwy) and receives stormwater from BMP 1, BMP 2, and BMP 3. At present, the swale is mowed, is starting to erode, and has no stormwater practices to reduce stormwater volume or treat nutrients. The swale eventually outlets to a pipe that goes under 404 and discharges into a forested corridor adjacent to Poor House Run. A vegetated open channel could be installed that has small pooling areas with soil amendments added to help infiltrate water. Another option is to maintain a similar swale configuration but be planted with native species to provide some habitat and storm flow velocity reduction value.



## Legend

### Proposed BMPs

 VEGETATED OPEN CHANNEL

## Project Description

This site has potential to be retrofitted to a vegetated open channel (or bioswale). At present it is a concrete swale that is efficient and moving stormwater. It is located in the median between the access road that connects to AutoZone and the access road that leads to the Walmart parking lot. The concrete swale goes under the access road and daylights to another concrete swale that eventually connects into the underground stormwater system. The concrete could be removed and the swale regraded and planted out with suitable vegetation. The soil could also be amended to better infiltrate water. The swale could be enlarged slightly to handle and infiltrate larger storm flows but there are site restrictions that limit the ability to make this into a larger stormwater project.



## Legend

### Proposed BMPs

VEGETATED OPEN CHANNEL

## Project Description

This site has potential to be retrofitted to a vegetated open channel (or bioswale). At present it is a concrete swale that is efficient and moving stormwater. It is located in the median between the access road for the Denton Plaza strip mall and the Walmart parking lot. There is not much space to work in so a vegetated open channel is the best option. Some small check dams could be added to the swale to temporarily pond water and there might be an opportunity to amend the soils to infiltrate some water but this site is constrained by the utilities and limited by the parking lot and access road.



**Legend**

Proposed BMPs

- BIORETENTION
- VEGETATED OPEN CHANNEL

**Project Description**

This site is located at the back of an auto dealership. The area highlighted is already wet ground with some drainage issues. A vegetated channel could be added to help convey water better but also provide stormwater attenuation from the impervious areas that are adjacent. A bioretention might also work but greater soils investigation needs to be completed to understand the infiltration capacity and whether an under drain could be added to help with drainage.



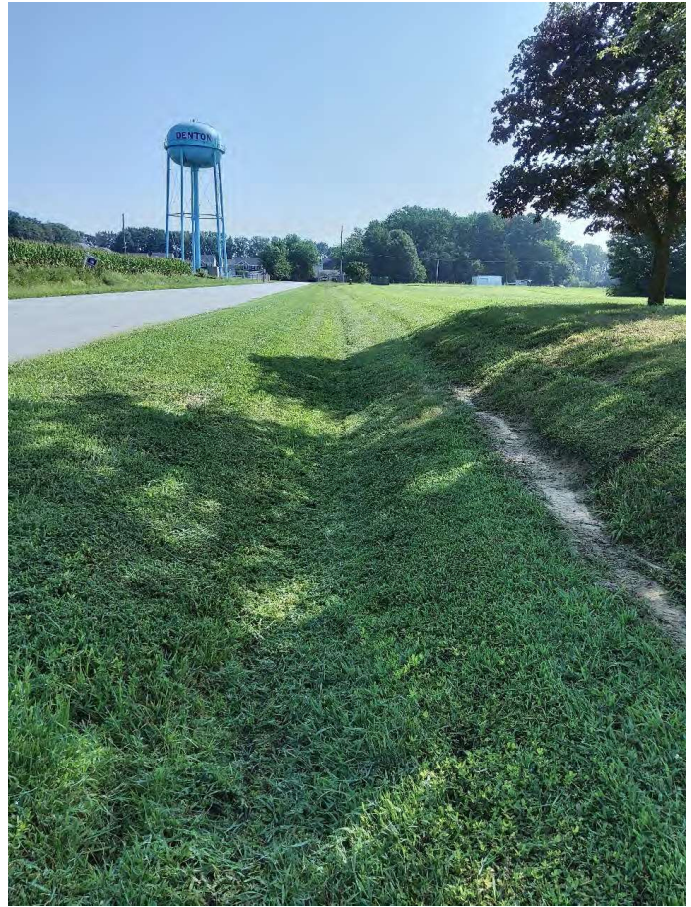
## Legend

### Proposed BMPs

 VEGETATED OPEN CHANNEL

## Project Description

This site is located along Engerman Ave. at the entrance of Tanglewood Conservatories. The area is already wet and receives water from the roadside ditch and the parking lot. The site could be planted more extensively with native species or designed into a bioretention area. An underdrain or soil amendments might be necessary to ensure drainage of a bioretention.



### Legend

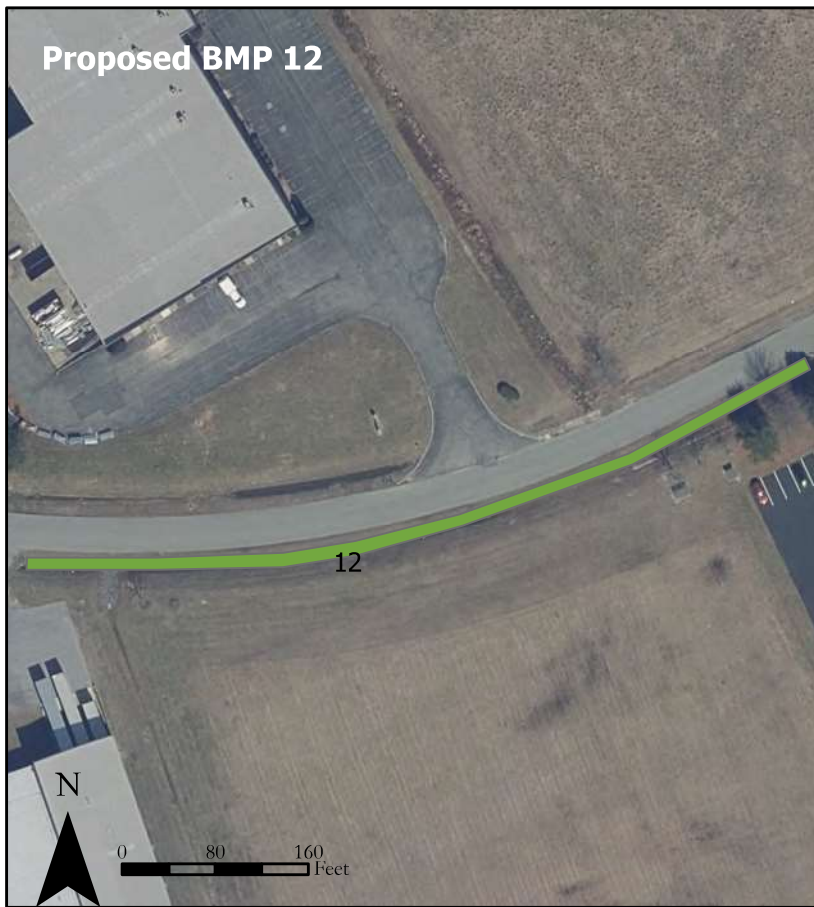
#### Proposed BMPs

- VEGETATED OPEN CHANNEL

### Project Description

This site is located along Engerman Ave. near the entrance of Furano USA. The existing swale is vegetated with grass and mowed. There are no stormwater features to reduce volume and the grass that is existing does little to address stormwater velocity. The swale could be planted with native vegetation to help increase nutrient uptake and provide some reduction of peak stormwater velocities. The swale could also be upgraded into a bioswale if there is enough room to work in to amend the soils and add small check dams to temporarily pond water.





## Legend

### Proposed BMPs

 VEGETATED OPEN CHANNEL

## Project Description

This site is located along Engerman Ave. near the entrance of Unisite Design Inc. The road side swale receives water from a swale that goes along the building pictured above. The existing swale is vegetated with grass and mowed. There are no stormwater features to reduce volume except for rip rap to stabilize one of the swales and the grass that is existing does little to address stormwater velocity. The swale could be planted with native vegetation to help increase nutrient uptake and provide some reduction of peak stormwater velocities. The swale could also be upgraded into a bioswale if there is enough room to work in to amend the soils and add small check dams to temporarily pond water.



**Legend**

Proposed BMPs

- BIORETENTION
- STREAM RESTORATION - HEADWATER WETLAND COMPLEX

**Project Description**

This bioretention site is located along Engerman Ave. at the back of Donovan Marine. This does not include the stream restoration which is a separate project. The area is just a mowed field that abuts the parking lot and a ditch. The building does not have any stormwater facilities but many downspouts that discharge to impervious surfaces. This area provides a good opportunity to treat the runoff from the building and the parking lot by installing a bioretention. The adjacent ditch should also provide an adequate outlet for the bioretention. Other site limitations such as utilities must be investigated further.



### Legend

#### Proposed BMPs

■ VEGETATED OPEN CHANNEL

### Project Description

This grass swale is located between Park Ln. and an access road to UniSite design. There the grass swale is within a wide median strip that is mowed and has some landscaping trees. There is very little stormwater retention or attenuation benefit from the grass swale in its present condition. The swale could have native vegetation planted to reduce stormwater velocity and help provide some nutrient treatment as well as habitat value. There is room within the swale and median to create this swale into a bioswale with small check dams to encourage more infiltration to reduce stormwater volume.





**Legend**

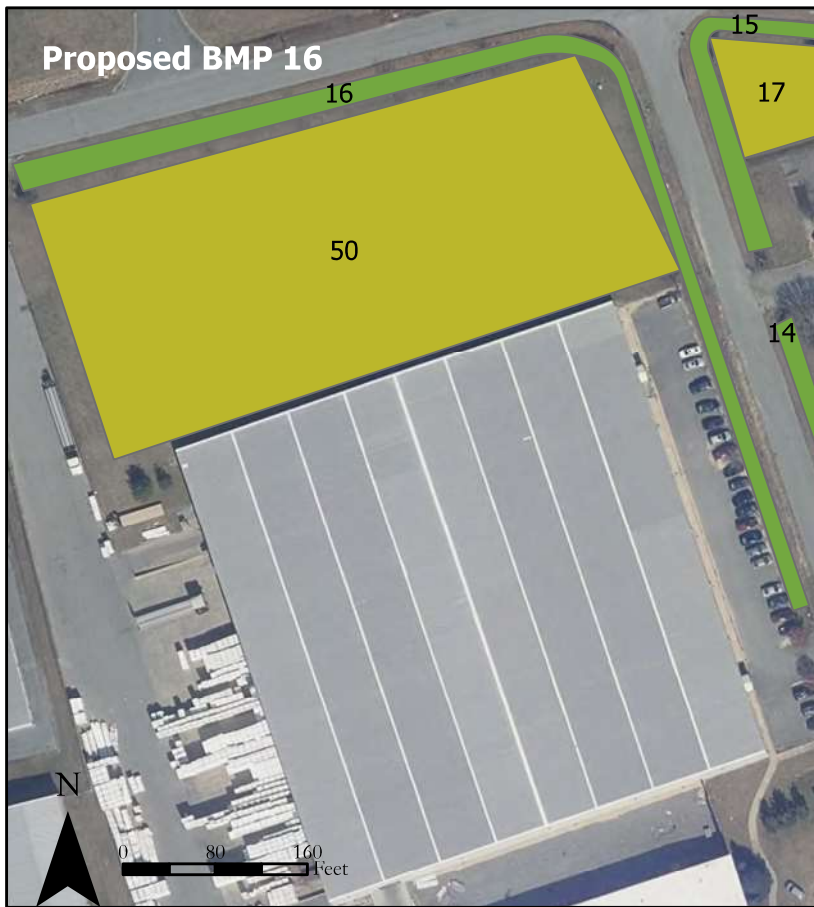
Proposed BMPs

- CONSERVATION MEADOW
- VEGETATED OPEN CHANNEL



**Project Description**

This grass swale is located at the corner of Engerman Ave. and Park Ln. This swale is mowed and currently only has grass growing in it. There is very little stormwater retention or attenuation benefit from the grass swale in its present condition. The swale could have native vegetation planted to reduce stormwater velocity and help provide some nutrient treatment as well as habitat value. If part of the proposed conservation meadow area (BMP 17) is incorporated into the project there could be potential to create a larger bioswale stormwater retention facility.



### Legend

#### Proposed BMPs

- CONSERVATION MEADOW
- VEGETATED OPEN CHANNEL

### Project Description

This grass swale is located at the corner of Engerman Ave. and Park Ln. This swale is mowed and currently only has grass growing in it. There is very little stormwater retention or attenuation benefit from the grass swale in its present condition. The swale could have native vegetation planted to reduce stormwater velocity and help provide some nutrient treatment as well as habitat value. If part of the proposed conservation meadow area (BMP 50) is incorporated into the project there could be potential to create a larger bioswale stormwater retention facility.



**Legend**

- Proposed BMPs
- CONSERVATION MEADOW
  - VEGETATED OPEN CHANNEL

**Project Description**

This grassed area is located at the corner of Engerman Ave. and Park Ln. The area is mowed and has a few landscaping trees. This area could be easily converted into a conservation meadow that is planted with native flowering species to create pollinator habitat and provide aesthetic value. The area could also have some trees planted for additional shade and habitat. The addition of more plants to this grassed open space will also help infiltrate more water and provide some stormwater benefit.



### Legend

#### Proposed BMPs

 VEGETATED OPEN CHANNEL

### Project Description

This grass swale is located off of Sharp Rd. near the back entrance to Rent-A-Center and Dollar General. The swale is maintained for conveyance and is mowed and herbicide is also applied to kill vegetation. This provides a very effective stormwater conveyance directly into the ditch. The back entrance was added sometime in 2014 and changed how water moved in this area. Previous to 2014 the grassed swale was larger. There is some room to expand the swale to attenuate some of the stormwater but this project would need to be completed in conjunction with BMP 19 to ensure that the best stormwater outcome can be achieved.



**Legend**

Proposed BMPs  
■ VEGETATED OPEN CHANNEL

**Project Description**

This grass swale is located off of Sharp Rd. near the back entrance to Rent-A-Center and Dollar General. The swale is maintained for conveyance and is mowed and herbicide is also applied to kill vegetation. This provides a very effective stormwater conveyance directly into the ditch. The back entrance was added sometime in 2014 and changed how water moved in this area. Previous to 2014 the grassed swale was larger. There is some room to expand the swale to attenuate some of the stormwater but this project would need to be completed in conjunction with BMP 18 to ensure that the best stormwater outcome can be achieved.





### Legend

#### Proposed BMPs

- BIORETENTION
- VEGETATED OPEN CHANNEL



### Project Description

This area is currently grassed and mowed. There appears to be failing drainage infrastructure in the field that might be old agricultural drainage that pre-dates the site. The drainage needs to be inspected to better understand the condition and direction the water flows. Bioretentions could be added to the area to treat runoff from the impervious areas and stormwater from the buildings could be routed to the bioretentions as well. If the drainage that is existing is in good enough shape the bioretentions can be designed to drain into that system.



**Legend**

Proposed BMPs  
■ VEGETATED OPEN CHANNEL

**Project Description**

This site is located on the north side of the Dollar General Parking lot. The existing swale is vegetated with grass and mowed. There are no stormwater features to reduce volume and the grass that is existing does little to address stormwater velocity. The swale could be planted with native vegetation to help increase nutrient uptake and provide some reduction of peak stormwater velocities. The swale could also be upgraded into a bioswale if there is enough room to work in to amend the soils and add small check dams to temporarily pond water.



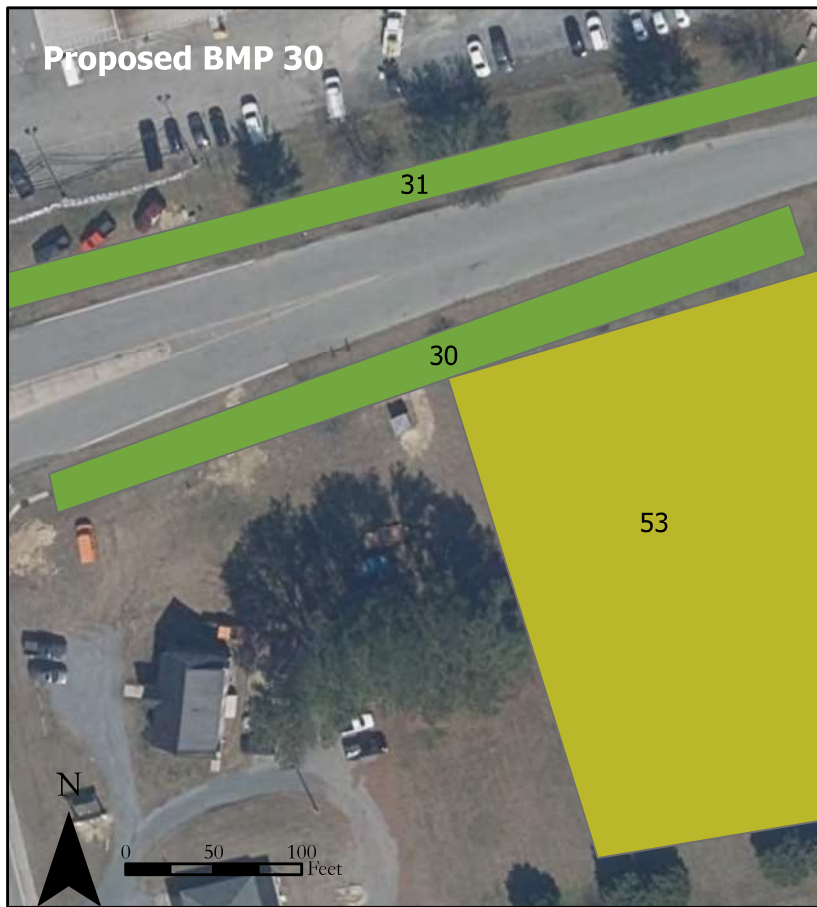
### Legend

#### Proposed BMPs

VEGETATED OPEN CHANNEL

### Project Description

This site is located on the northeast side of the Dollar General Parking lot. The existing swale is vegetated with grass and mowed and there are some landscaping trees. There are no stormwater features to reduce volume and the grass that is existing does little to address stormwater velocity. The swale could be planted with native vegetation to help increase nutrient uptake and provide some reduction of peak stormwater velocities. The swale could also be upgraded into a bioretention if there is enough room to work in to amend the soils.



### Legend

#### Proposed BMPs

- CONSERVATION MEADOW
- VEGETATED OPEN CHANNEL

### Project Description

This site is located at the south side of the intersection of Engerman Ave. and Industrial Parkway. The existing swale is vegetated with grass and receives drainage from a pipe that (top right) that drains the storage facility. There are no stormwater features to reduce volume and the grass that is existing does little to address stormwater velocity. The swale could be planted with native vegetation to help increase nutrient uptake and provide some reduction of peak stormwater velocities. The swale could also be retrofitted into a bioswale with small check dams to provide some stormwater retention and infiltration. Implementing a bioswale at this location would require more site investigation of soils and utilities. Working with the private landowners there might be an opportunity to daylight the pipe and create a stormwater facility in the grassed field.



**Legend**

Proposed BMPs

- CONSERVATION MEADOW
- VEGETATED OPEN CHANNEL

**Project Description**

This site is located at the north side of the intersection of Engerman Ave. and Industrial Parkway. The existing swale is vegetated with grass and mowed and there are some landscaping trees. There are no stormwater features to reduce volume and the grass that is existing does little to address stormwater velocity. The swale could be planted with native vegetation to help increase nutrient uptake and provide some reduction of peak stormwater velocities. The swale could also be retrofitted into a bioswale with small check dams to provide some stormwater retention and infiltration. Implementing a bioswale at this location would require more site investigation of soils and utilities.





### Legend

#### Proposed BMPs

- BIO SWALE
- CONSERVATION MEADOW
- STREAM RESTORATION - HEADWATER WETLAND COMPLEX
- POND REHABILITATION

### Project Description

This site is located off Engerman Ave. between Palmetto factory and Lorry Industries. The present condition of the site is an overgrown ditch that conveys stormwater from two roadside swales and revives water from the two adjacent properties. The ditch does seem to receive periodic maintenance. The site is a good candidate for a stormwater facility, with a bioswale making the most sense. There should be few limitations at the site and access is good. There might be space to create a larger stormwater facility if both the landowners are amenable to providing some space on their properties.





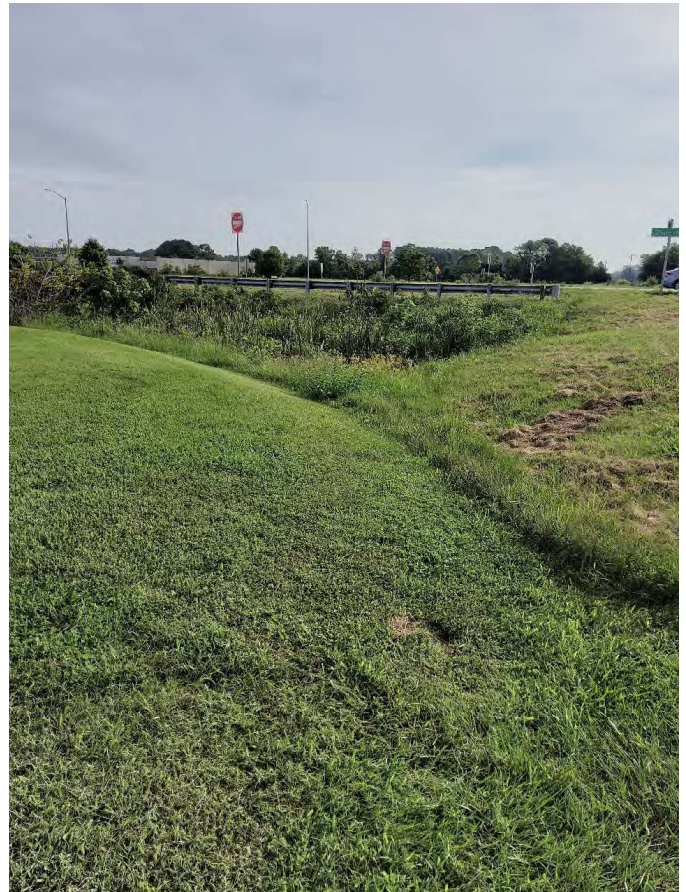
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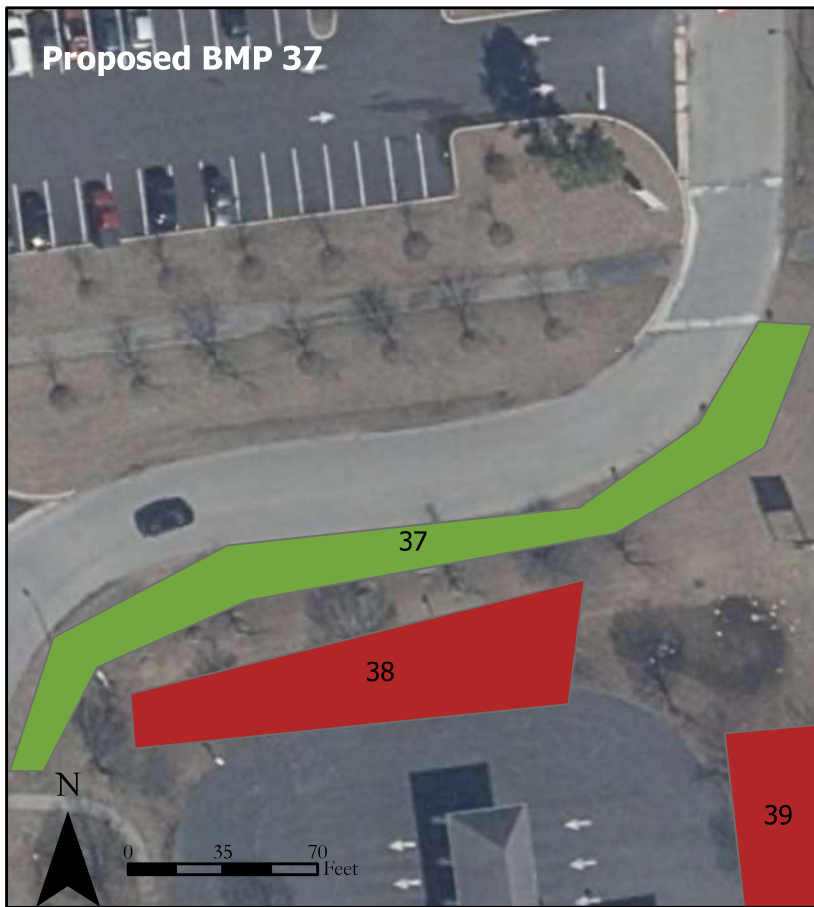
#### Proposed BMPs

- BIORETENTION
- VEGETATED OPEN CHANNEL

### Project Description

This site is located on the south side of Shore United Bank adjacent to Sharp Rd. The existing swale is vegetated with grass and mowed and there are some landscaping trees. The swale drains to a roadside ditch along 404. There are no stormwater features to reduce volume and the grass that is existing does little to address stormwater velocity. The swale could be planted with native vegetation to help increase nutrient uptake and provide some reduction of peak stormwater velocities. The swale could also be upgraded into a bioretention/bioswale if there is enough room to work in to amend the soils and if there are no conflicts with utility right of way.





**Legend**

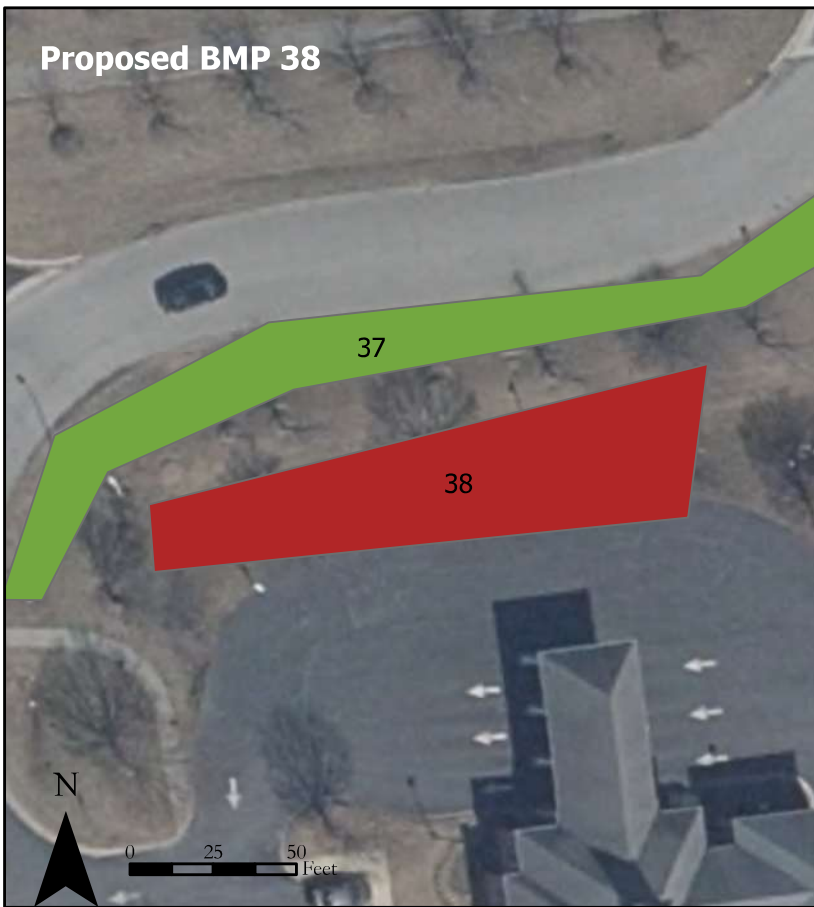
Proposed BMPs

- BIORETENTION
- VEGETATED OPEN CHANNEL

**Project Description**

This site is located on the north side of Shore United Bank adjacent to 5th St. The swale is mowed grass and has a few landscaping trees. There are no stormwater features to reduce volume and the grass that is existing does little to address stormwater velocity. The swale could be planted with native vegetation to help increase nutrient uptake and provide some reduction of peak stormwater velocities. The swale could also be upgraded into a bioswale if there is enough room to work in to amend the soils.





**Legend**

**Proposed BMPs**

- BIORETENTION
- VEGETATED OPEN CHANNEL

**Project Description**

This site is located on the north side of Shore United Bank adjacent to 5th St. The swale is mowed grass and has a few landscaping trees. There are no stormwater features to reduce volume and the grass that is existing does little to address stormwater velocity. The swale could be designed to be a bioretention area that is able to store and infiltrate stormwater. Further down the swale another bioretention or small stormwater facility could be added were there is an existing storm drain inlet (BMP 39).



### Proposed BMP 39



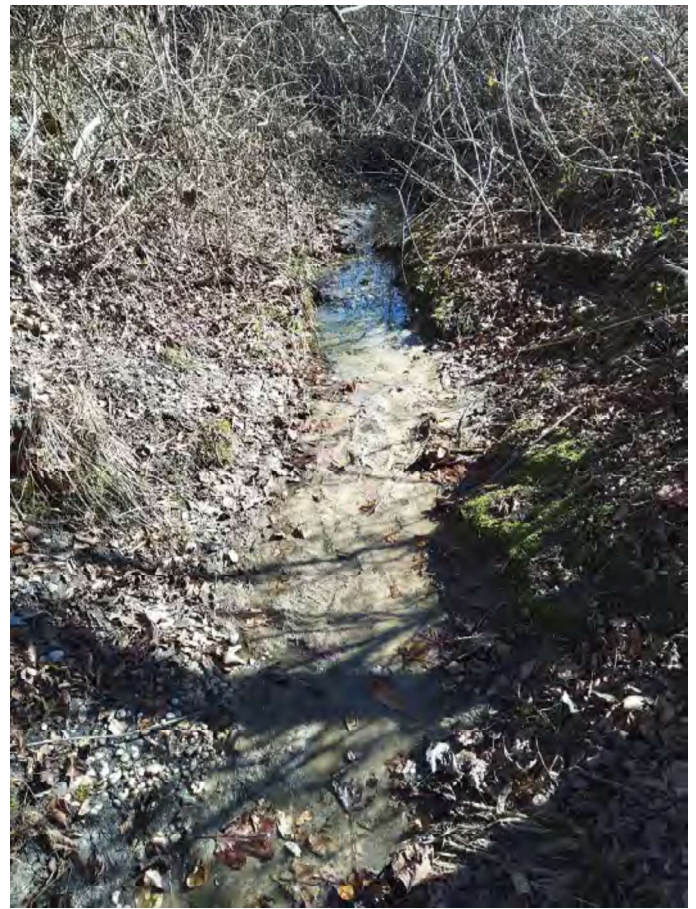
### Legend

- Proposed  
BMPs
- BIORETENTION

### Project Description

This site is located on the east side of Shore United Bank. The swale is mowed grass and has a few landscaping trees. There are no stormwater features to reduce volume and the grass that is existing does little to address stormwater velocity. The swale could be designed to be a bioretention area that is able to store and infiltrate stormwater.





### Legend

#### Proposed BMPs

- STREAM RESTORATION - HEADWATER WETLAND COMPLEX
- STREAM RESTORATION - RSC

### Project Description

This site is located in Sharp Road Community Park. This project is part of the larger Poor House Run stream restoration project. The ditches that go through the park are incised with some erosion. The restoration methods that could be completed in the ditches could be to turn the ditch into a "swamp run" were the ditches are widened and wetland vegetation is able take hold. This will allow water to still be conveyed but allows for retention and peak flow attenuation. Some of the park grounds would need to be used to complete a restoration using this method. If using park ground is an issue the project could be confined more in channel with natural channel methods used to help stabilize the banks and better handle storm flows.



### Legend

#### Proposed BMPs

- BIORETENTION
- STREAM RESTORATION - HEADWATER WETLAND COMPLEX

## Project Description

This site is located at the back of Food Lion and in Sharp Road Community Park . The impevious area drains into a stormwater pond at the south end of the proposed bioretention. Working with the town and the private landowner a bioretention could be designed to help store and treat stormwater before it goes into the stormwater pond.



**Legend**

Proposed  
BMPs  
■ BIORETENTION

**Project Description**

This site is located at Arcadia of Denton and outlets to 5th St. There is an existing old stormwater practice that could be re-designed to meet current practice standards for bioretentions.



**Legend**

Proposed BMPs

- BIORETENTION
- GRADE STABILIZATION WITH ANY CULVERT WORK
- VEGETATED OPEN CHANNEL

**Project Description**

This site is located along 5th St. The swale is grassed and mowed. The swale drains directly to the north culvert that carries the norther tributary of Poor House Run and goes under 5th St. There might be some room between the road and the forest to put in a linear stormwater feature to reduce peak stormwater flow going down into the culvert. There might be opportunity to divert this flow into the forest to better treat and store stormwater. This BMP might be able to tie into BMP 49.



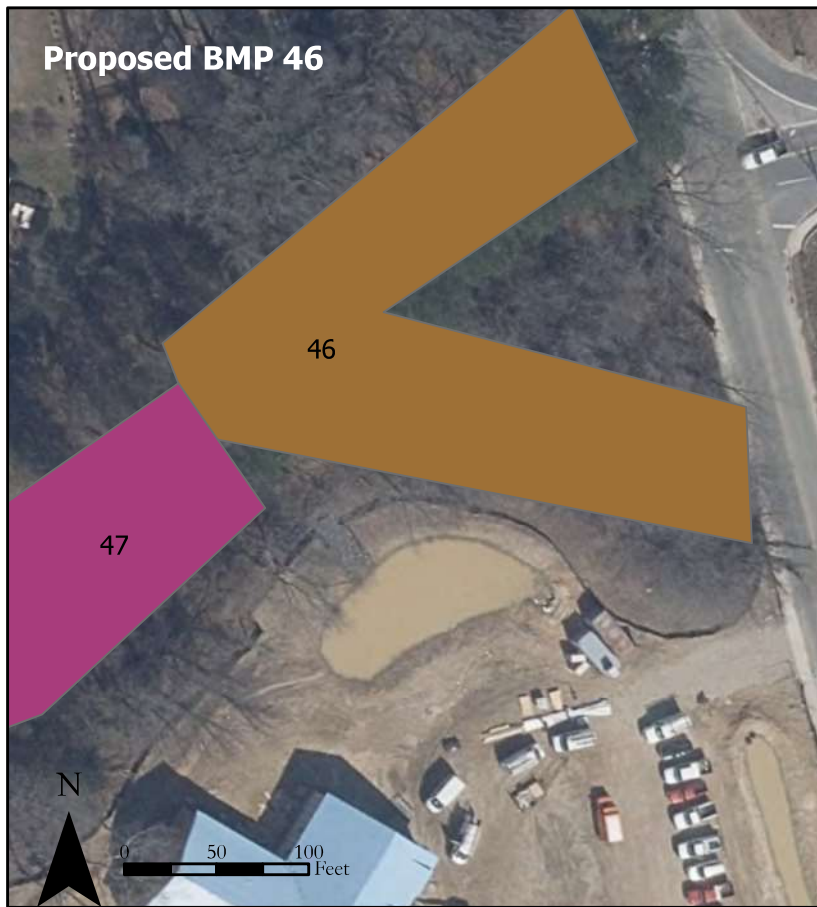


### Legend

- Proposed BMPs
- BIORETENTION

### Project Description

This site is located at Denton Medical Center on Daffin Ln. There is an existing old stormwater practice that could be re-designed to meet current practice standards for bioretentions.



**Legend**

**Proposed BMPs**

- STREAM RESTORATION - FLOODPLAIN RECONNECTION
- STREAM RESTORATION - RSC



**Project Description**

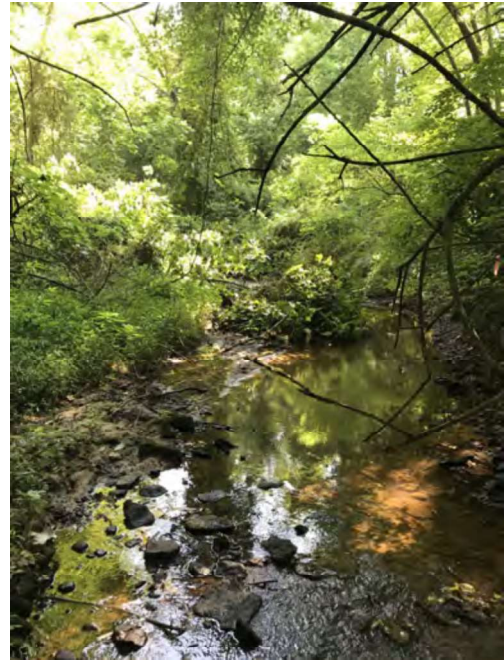
This site is located at 5th St. and comprises both culverts that pass on 5th St. The stream restoration for Poor House Run in this section will need a regenerative stormwater conveyance design to help step water down a steep grade in a manner that is not erosive and helps stabilize the stream banks. This portion of the of Poor House Run stream restoration should be completed at the same time as the culvert replacement to ensure proper access and reduce traffic issues in the area.





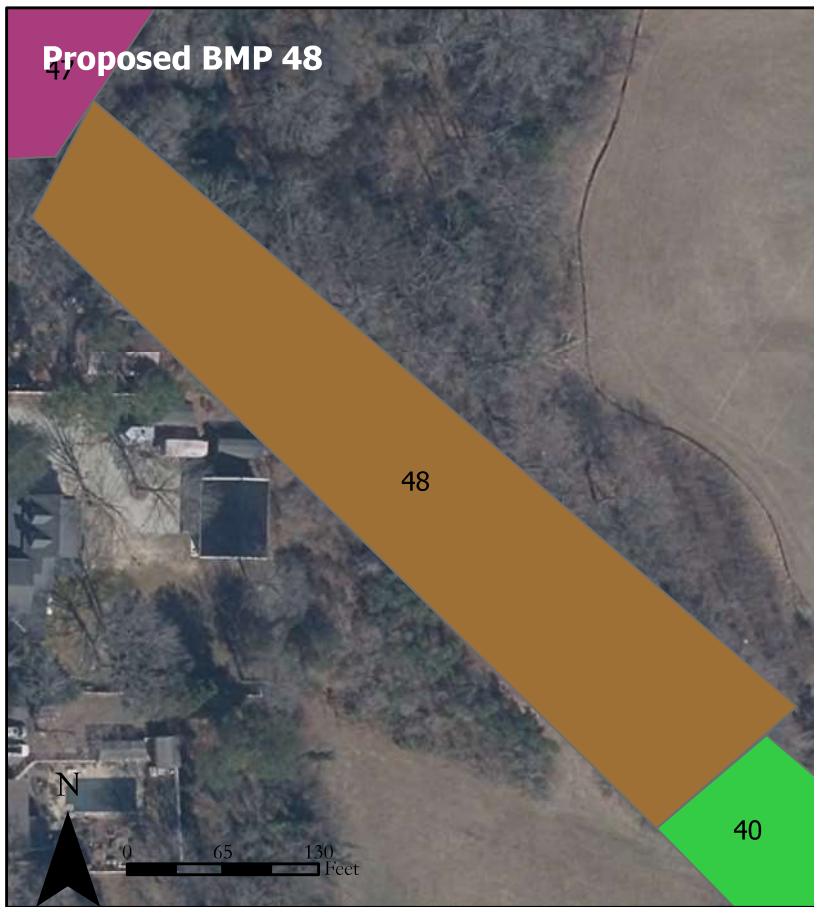
**Proposed BMPs**

- CONSERVATION MEADOW
- STREAM RESTORATION - FLOODPLAIN RECONNECTION
- STREAM RESTORATION - RSC



**Project Description**

This site is along the Poor House Run stream corridor. This part of the stream is relatively stable but disconnected from the floodplain. Natural channel design that uses soft engineering (wood and small structures) could be used to help reconnect the floodplain to help with flood attenuation. The stream restoration design needs to be designed to account for future changes in the watershed that could increase peak stream discharge during storm events.



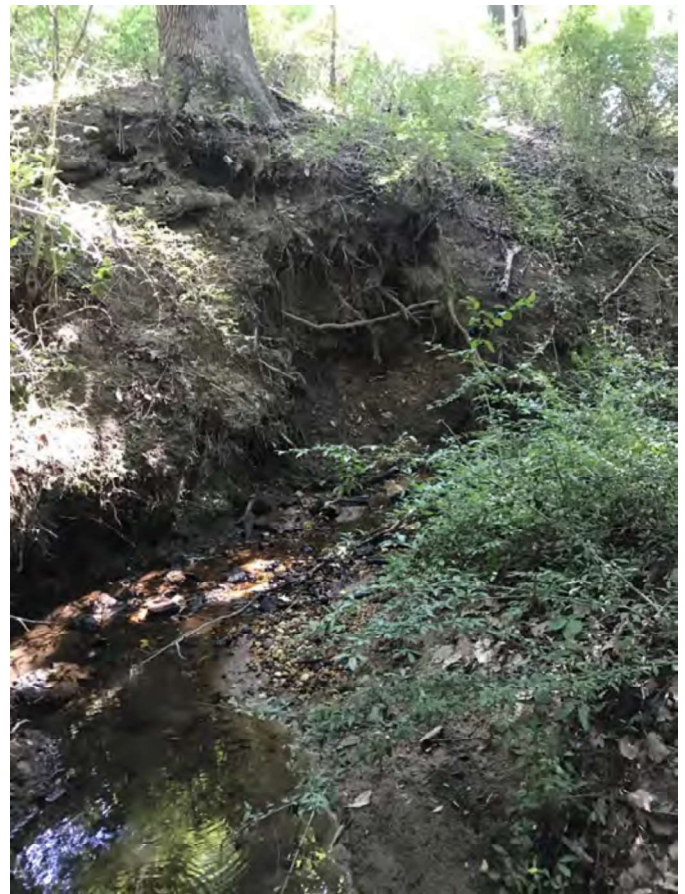
**Legend**

**Proposed BMPs**

- STREAM RESTORATION - FLOODPLAIN RECONNECTION
- STREAM RESTORATION - HEADWATER WETLAND COMPLEX
- STREAM RESTORATION - RSC

**Project Description**

This site is located in the ditch that cuts through Sharp Road Community Park. The end of the ditch before it connects with Poor House Run is severely eroded and unstable. Regenerative stormwater conveyance (RSC) methods need to be used to help step water down the steep grade. RSC use step pools to stair-step water down a steep grade in a way that maintains channel stability and encourages some water to infiltrate to reduce stormwater volume.





**Legend**

**Proposed BMPs**

- BIORETENTION
- GRADE STABILIZATION WITH ANY CULVERT WORK

**Project Description**

This site is located at 5th St. and Legion Rd. and is the north tributary of Poor House Run. This area could be designed to better handle stormwater to reduce peak discharge and alleviate some pressure on the culverts and downstream sections of Poor House Run. This land is owned by the Town of Denton.



**Legend**

Proposed BMPs

- CONSERVATION MEADOW
- VEGETATED OPEN CHANNEL

**Project Description**

This site is located at on Engerman Ave in front of SEW Friel. The area is currently in grass and has the potential to be planted with native flowering plants and native trees to provide habitat and better infiltration.



## Proposed BMP 51

51

N

0 75 150 Feet

### Legend

Proposed BMPs

 CONSERVATION MEADOW

### Project Description

This site is located on the Palmetto property just south of the Town of Denton property that has solar panels. At present the field is mowed grass. A native species meadow could be planted for pollinator habitat and provide better infiltration to attenuate some stormwater from the adjacent areas.



### Legend

#### Proposed BMPs

- BIO SWALE
- CONSERVATION MEADOW
- STREAM RESTORATION - HEADWATER WETLAND COMPLEX

#### Project Description

This site is located on the Lorry Industries property just south of the waste water treatment plant. At present the field is mowed grass. A native species meadow could be planted for pollinator habitat and provide better infiltration to attenuate some stormwater from the adjacent areas.



### Legend

#### Proposed BMPs

- CONSERVATION MEADOW
- VEGETATED OPEN CHANNEL

### Project Description

This site is located on the south side of Engerman Ave. near the U-Hual storage. At present the field is mowed grass. A native species meadow could be planted for pollinator habitat and provide better infiltration to attenuate some stormwater from the adjacent areas.



### Legend

- Proposed BMPs
- BIORETENTION
  - CONSERVATION MEADOW

### Project Description

This site private property adjacent to PNC Bank. At present the field is mowed grass. A native species meadow could be planted for pollinator habitat and provide better infiltration to attenuate some stormwater from the adjacent areas.





**Legend**

Proposed BMPs

- CONSERVATION MEADOW
- STREAM RESTORATION - HEADWATER WETLAND COMPLEX
- POND REHABILITATION

**Project Description**

This site is la large stormwater pond owned by the Town of Denton. It is a major stormwater feature that collects water from a ditch south of the Waste Water Treatment Plant. It is in need of maintenance. It is a good candidate to be re-designed using newer stormwater standards to increase its efficacy at storing and treating stormwater.



**Legend**

**Proposed BMPs**

- BIO SWALE
- BIORETENTION
- CONSERVATION MEADOW
- STREAM RESTORATION - HEADWATER WETLAND COMPLEX
- POND REHABILITATION



**Project Description**

This site is located just south of the Waste Water Treatment Plant. The ditch presents an opportunity to better treat and store stormwater. The ditch could be expanded to hold more stormwater and created into a "swamp run" that would create habitat while still conveying stormwater.