Stormwater Discharge Outfall (SDO)
Qualitative Monitoring Report Supplement SWU-242A:

Guidance for Rating Stormwater Discharge

This supplement is intended only as a guide for rating visually observed parameters on a scale of 1-5. The inspector should use best professional judgment when characterizing the quality of stormwater discharge. Also, the pictures included here do not necessarily show stormwater discharges but serve to illustrate the characteristics described.
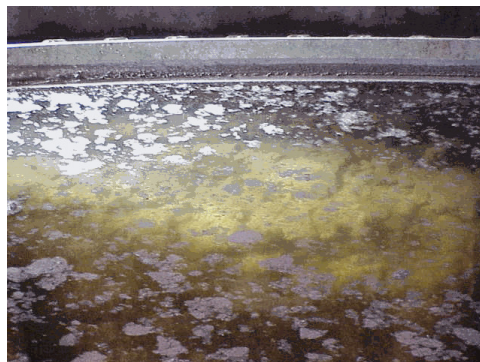
Clarity
(1 is clear, and 5 is very opaque or cloudy)

| 1 | 3 | 5 |

Floating Solids
(1 is no solids, and 5 is the surface covered with floating solids or significant trash/debris)
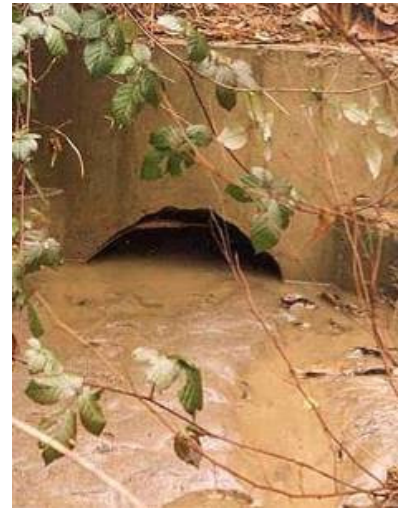

| 1 | 3 | 5 |

Suspended Solids
(1 is no solids, and 5 is extremely muddy or clouded with other particles)

| **1** | **3** | **5** |

<u>Tannic Water</u>

Water naturally high in tannins in the eastern part of North Carolina may still have low amounts of suspended solids and high clarity but not appear "clear" because of coloration. The examples below will help rate discharges that must be observed in tannic waters.

Clear tannic water may look like tea or coffee, but waters that look more "milky" or like "chocolate milk" have less clarity and higher suspended solids.

Suspended Solids / Clarity in waterbodies naturally high in tannins

| **1 / 1** | **3 / 3** | **5 / 5** |

SWU-242A-061808

Example 1

1.   Outfall Description: Example 1 of 4
Outfall No. <u>001</u>   Structure (pipe, ditch, etc.) <u> Pipe </u>_____
Receiving Stream: _____
Describe the industrial activities that occur within the outfall drainage area: _____

_____

2.   Color: Describe the color of the discharge using basic colors (red, brown, blue, etc.) and tint
(light, medium, dark) as descriptors: <u>   light brown</u>_____

3.   Odor: Describe any distinct odors that the discharge may have (i.e., smells strongly of oil, weak
chlorine odor, etc.): <u>   none</u>_____

4.   Clarity: Choose the number which best describes the clarity of the discharge, where 1 is clear
and 5 is very cloudy:

1   (2)   3   4   5

5.   Floating Solids: Choose the number which best describes the amount of floating solids in the
stormwater discharge, where 1 is no solids and 5 is the surface covered with floating solids:

1   2   3   (4)   5

6.   Suspended Solids: Choose the number which best describes the amount of suspended solids in
the stormwater discharge, where 1 is no solids and 5 is extremely muddy:

1   2   (3)   4   5

Example 1 of 4, cont.

7.   Is there any **foam** in the stormwater discharge?   (Yes)   No   Possibly small amount of foam near pipe outlet.

8.   Is there an **oil sheen** in the stormwater discharge?   Yes   (No)

9.   Is there evidence of **erosion or deposition** at the outfall?   (Yes)   No   Deposition of sand to the right of pipe outlet.

10.   **Other Obvious Indicators of Stormwater Pollution:**

List and describe N/A _____

Example 2

1.   Outfall Description: Example 2 of 4
Outfall No. 001   Structure (pipe, ditch, etc.) __Ditch__ _____
Receiving Stream: _____
Describe the industrial activities that occur within the outfall drainage area: _____

_____

2.   Color: Describe the color of the discharge using basic colors (red, brown, blue, etc.) and tint
(light, medium, dark) as descriptors: __medium gray-green_____

3.   Odor: Describe any distinct odors that the discharge may have (i.e., smells strongly of oil, weak
chlorine odor, etc.): __none_____

4.   Clarity: Choose the number which best describes the clarity of the discharge, where 1 is clear
and 5 is very cloudy:

1   (2)   3   4   5

> Note in lower right corner of picture, leaf shadow is visible on the bottom of outlet. Clarity decreases beyond outlet.

5.   Floating Solids: Choose the number which best describes the amount of floating solids in the
stormwater discharge, where 1 is no solids and 5 is the surface covered with floating solids:

1   (2)   3   4   5

> Floating solids observed here are mostly tree debris that fell in after discharge.

6.   Suspended Solids: Choose the number which best describes the amount of suspended solids in
the stormwater discharge, where 1 is no solids and 5 is extremely muddy:

1   (2)   3   4   5

> Solids have settled out near outfall and are more "dissolved" out in the water near the top of the picture (where water appears more gray). At the outlet, there are not any swirls, clouds, or suspended particles.

SWU-242A-061808

Example 2 of 4, cont.

7.   Is there any **foam** in the stormwater discharge?   Yes   (No)

8.   Is there an **oil sheen** in the stormwater discharge?   Yes   (No)

9.   Is there evidence of **erosion or deposition** at the outfall?   (Yes)   No

10.   Other Obvious Indicators of Stormwater Pollution:

List and describe <u>Some displacement of gravel and sediment observed at the outfall. Also, lots of solids that have settled. The water becomes more turbid/cloudy beyond the outfall (i.e., clarity decreases). Evidence of excessive solids being carried into receiving water.</u> _____

This example illustrates how additional information in number 10. can be important to characterizing stormwater discharge impacts.

SWU-242A-061808

Example 3

1.   Outfall Description: Example 3 of 4
Outfall No. 001   Structure (pipe, ditch, etc.) ___Pipe___ _____
Receiving Stream: _____
Describe the industrial activities that occur within the outfall drainage area: _____

_____

2.   Color: Describe the color of the discharge using basic colors (red, brown, blue, etc.) and tint
(light, medium, dark) as descriptors: ___medium brown/tan_____

3.   Odor: Describe any distinct odors that the discharge may have (i.e., smells strongly of oil, weak
chlorine odor, etc.): ___oily smell_____

4.   Clarity: Choose the number which best describes the clarity of the discharge, where 1 is clear
and 5 is very cloudy:

                        1   2   3   (4)   5

5.   Floating Solids: Choose the number which best describes the amount of floating solids in the
stormwater discharge, where 1 is no solids and 5 is the surface covered with floating solids:

                        1   2   3   (4)   5 | Rating based on amount of scum/oil covering surface, not tree debris.

6.   Suspended Solids: Choose the number which best describes the amount of suspended solids in
the stormwater discharge, where 1 is no solids and 5 is extremely muddy:

                        1   2   (3)   4   5

SWU-242A-061808

Example 3 of 4, cont.

7.   Is there any **foam** in the stormwater discharge?   Yes   (No)

8.   Is there an **oil sheen** in the stormwater discharge?   (Yes)   No

9.   Is there evidence of **erosion or deposition** at the outfall?   Yes   (No)

10.   Other Obvious Indicators of Stormwater Pollution:

List and describe Oil and scummy substance floating on top. Dead duck found. _____

SWU-242A-061808

Example 4

1.   Outfall Description: Example 4 of 4
Outfall No. <u>001</u>   Structure (pipe, ditch, etc.) <u> Pipe </u>_____
Receiving Stream: _____
Describe the industrial activities that occur within the outfall drainage area: _____

_____

2.   Color: Describe the color of the discharge using basic colors (red, brown, blue, etc.) and tint
(light, medium, dark) as descriptors: <u>   clear   </u>_____

3.   Odor: Describe any distinct odors that the discharge may have (i.e., smells strongly of oil, weak
chlorine odor, etc.): <u>   none   </u>_____

4.   Clarity: Choose the number which best describes the clarity of the discharge, where 1 is clear
and 5 is very cloudy:

                                   (1)   2   3   4   5

5.   Floating Solids: Choose the number which best describes the amount of floating solids in the
stormwater discharge, where 1 is no solids and 5 is the surface covered with floating solids:

                                   (1)   2   3   4   5

6.   Suspended Solids: Choose the number which best describes the amount of suspended solids in
the stormwater discharge, where 1 is no solids and 5 is extremely muddy:

                                   (1)   2   3   4   5

Example 4 of 4, cont.

7. Is there any **foam** in the stormwater discharge? Yes (No)

8. Is there an **oil sheen** in the stormwater discharge? Yes (No)

9. Is there evidence of **erosion or deposition** at the outfall? Yes (No)

10. Other Obvious Indicators of Stormwater Pollution:

List and describe N/A _____

SWU-242A-061808