

U.S. EPA Construction Inspection Training Course

Module 5: 2022 Construction General Permit (CGP)

Site Inspections

Site 1, Part 1

This document is a text-based version of Module 5: Site 1, Part 1 of the EPA Construction Inspection Training Course. It is intended to be used in conjunction with the other modules in the EPA Construction Inspection Training Course.



This training does not impose any new legally binding requirements on EPA, States, Tribes, territories, or the regulated community, and does not confer legal rights or impose legal obligations upon any member of the public. In the event of a conflict between this training and any statute, regulation, or permit, this training would not be controlling.

Table of Contents

1. Screen 1	3
2. Screen 2	4
3. Screen 3	5
4. Screen 4	6
5. Screen 5	8
6. Screen 6	10
7. Site 1, Area 1	11
8. Site 1, Area 2.....	13
9. Site 1, Area 3.....	16
10. Site 1, Area 4.....	20
11. Site 1, Area 5.....	24
12. Site 1, Area 6.....	28
13. Site 1, Area 7.....	31
14. Site 1, Area 8.....	34
15. Site 1, Area 9.....	38
16. Site 1, Area 10.....	42
17. Site 1, Area 11.....	46
18. Site 1, Area 12.....	50
19. Site 1, Area 13.....	52
20. Site 1, Area 14.....	56
21. Site 1, Area 15.....	59
22. Site 1, Area 16.....	61
23. Site 1, Area 17.....	64
24. Site 1, Area 18.....	67
25. Screen 25	69

1. Screen 1

1.1. Visual Element



1.2. Narration

Welcome to Module 5: Conducting Construction General Permit Site Inspections—Site 1, Part 1. When you are ready, select the Start Training button to begin your first virtual site inspection.

2. Screen 2

2.1. Visual Element



Lesson 3: Virtual Inspection




2 of 25

2.2. Narration






Now that we've covered how to prepare for an inspection and what to do after it is completed, let's apply what we've learned and conduct a virtual inspection. You will virtually walk through two construction sites. You will play the role of the inspector-in-training, and will receive guidance from a virtual senior inspector, who will provide various tips in the form of narration and clickable icons throughout the inspection. These two construction sites demonstrate different construction stormwater controls and conditions. Take the time to inspect the area around you, jot down notes about the findings you observe, and think about how the lessons may apply to your own construction site. The final exam will cover concepts presented in this 360-degree virtual inspection, so make sure to explore all of the icons in each area.



3. Screen 3


3.1. Visual Element



Virtual Inspection 360 Navigation

	Select this information icon to reveal text.
	Select this image icon to reveal an image.
	Select this map pin icon to reveal the site map.
	Select this video icon to reveal a video.
	Select this arrow icon to move to the next area of the site inspection.

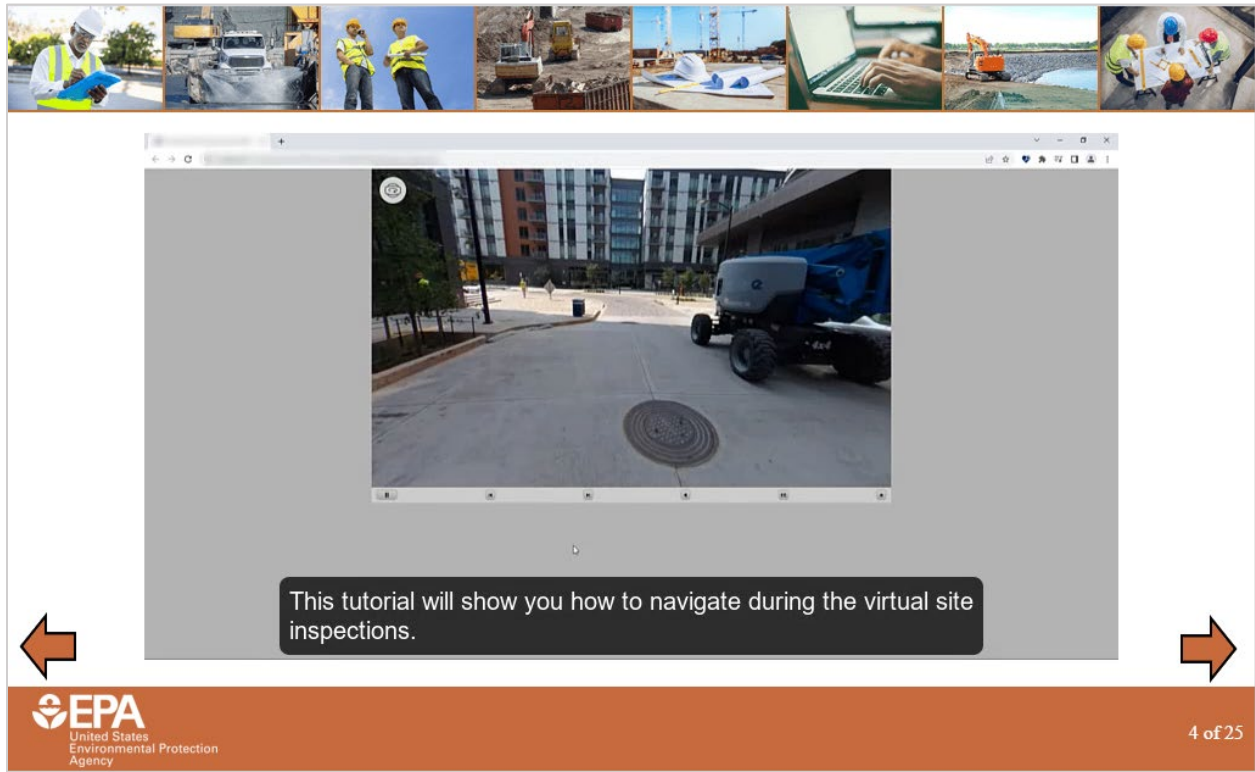
 3 of 25

3.2. Narration

First, let's go through a few housekeeping items. During the inspection, you'll encounter various icons like those shown on this screen. Take a moment to review the description for each icon. Then, move on to the next screen to watch a brief video tutorial on how to navigate in the 360-degree environment.

4. Screen 4

4.1. Visual Element



4.2. Narration

This tutorial will show you how to navigate during the virtual site inspections. Before you begin, please make sure your screen is maximized to full width so that you can see the player bar at the bottom of the screen without scrolling. If you are viewing the training on a smaller screen, such as a laptop, you may need to select the three dots in your browser menu and zoom out until you can see the entire training screen.

The virtual site inspections are made up of 360-degree areas. You will need to use a mouse to select the area and drag it in any direction. If at any point you experience difficulty moving around, click the gray space outside of the area to reset and then try dragging again.

Pay attention to the various selectable icons that provide more information about the site. These icons will appear after the introductory narration orients you to each location. Make sure to rotate your view a full 360 degrees at each location so that you do not miss any icons before you move on to the next part of the site. You may be quizzed on the information presented in the icons during the knowledge check for this module, as well as during the final exam.

This Information Icon will reveal additional information when selected. If the text on the screen appears at an angle when you select the icon, you can drag the 360-degree area until the text displays flat. This Map Pin Icon will display a map of the site to show you where you currently are. When a green check mark appears on each of the icons, you have explored the entire area and are ready to continue. Select the arrow icon to move to the next area of the site inspection.

Now we've moved to the next area.

There are some icons here we haven't seen yet. This Image Icon will reveal a photograph with accompanying narration. The pop-ups will automatically close when the narration ends. However, you can also close the pop-ups by selecting the 'x' in the upper right corner. Lastly, you may also encounter a video icon. Selecting the video icon will play a short clip providing additional information about the area.

5. Screen 5

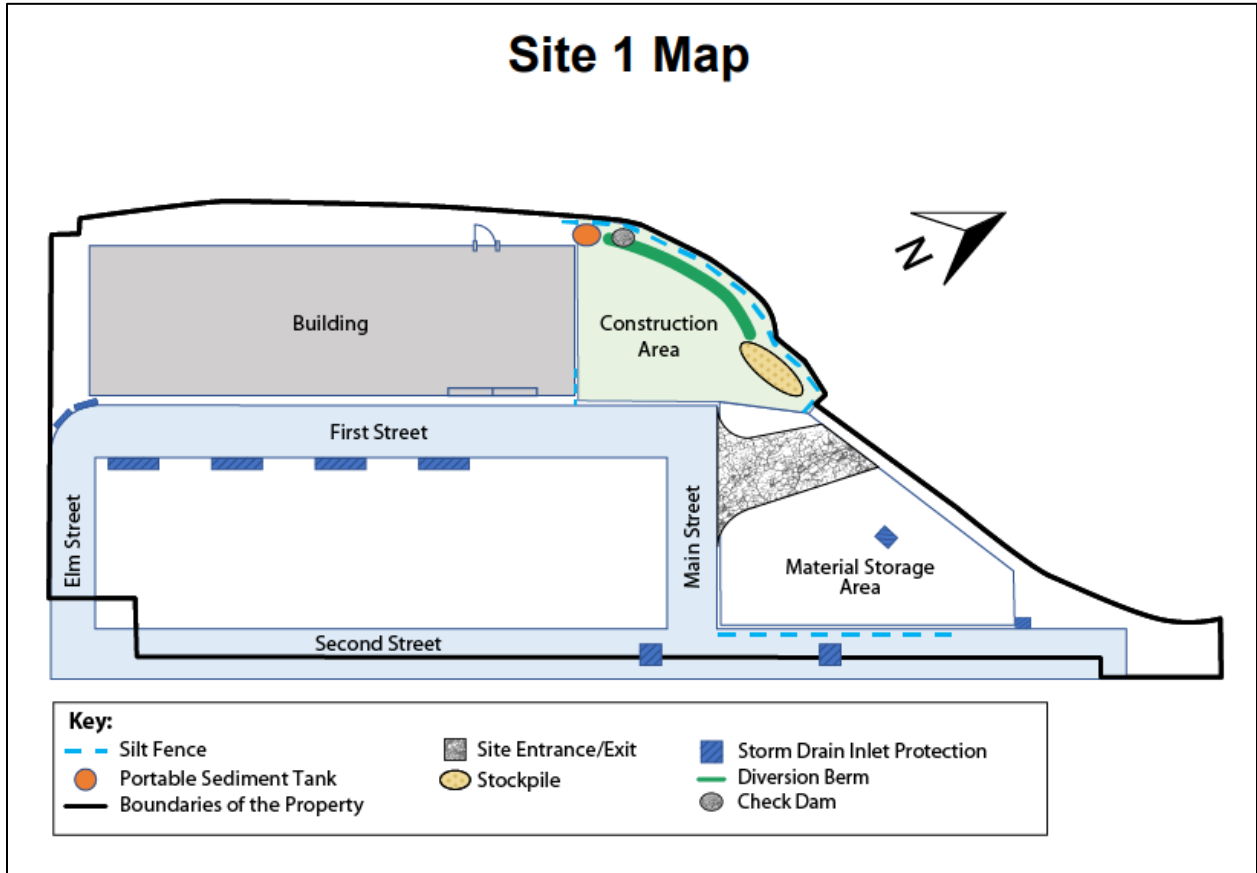
5.1. Visual Element



5.2. Narration

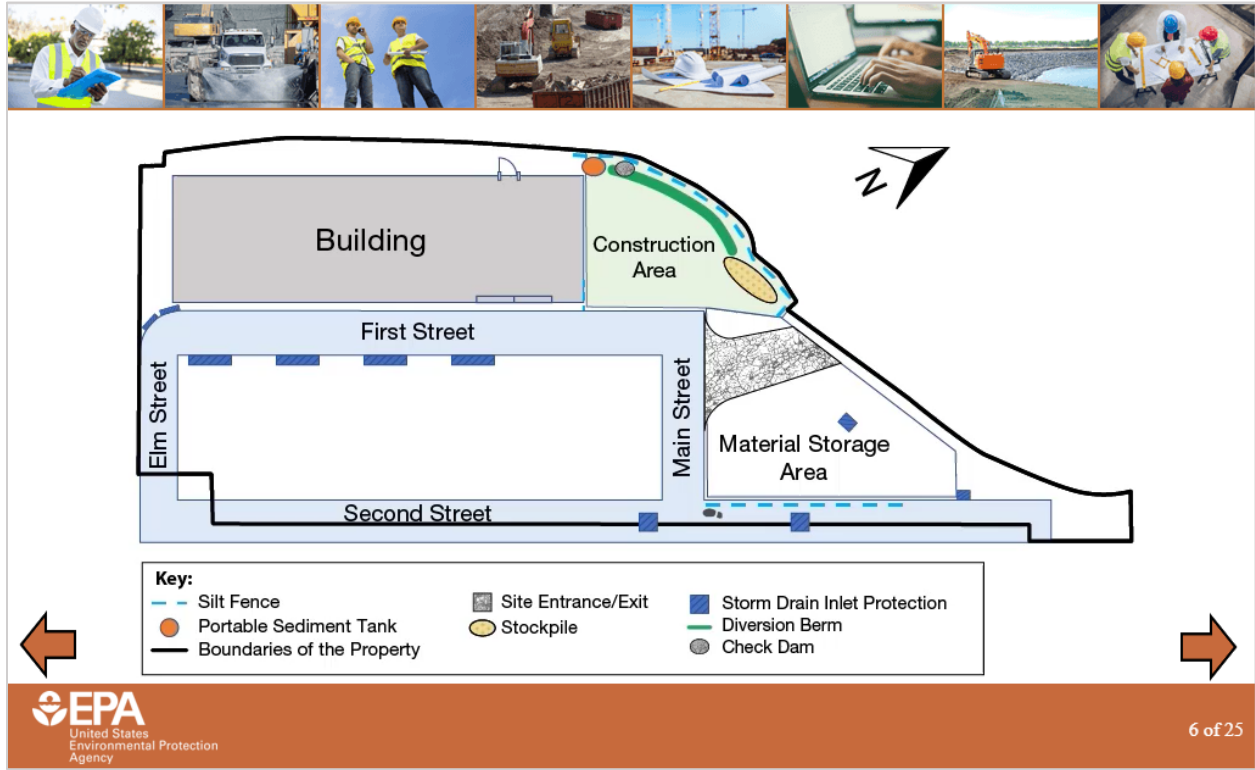
Now that you know how to navigate the 360-degree environment, you are ready to begin your first virtual site inspection. You may find it useful to keep a copy of the site map open in another window throughout the inspection. Select the link on the screen to open a copy of the Site 1 map. Remember that before you start an inspection, you should review the map and make a plan for how to inspect the site. The next screen will present a short video showing the path you will travel through Site 1. After that, you will proceed to the first 360-degree area. Let's hop in the truck and go!

5.3. Links
Site 1 Map



6. Screen 6

6.1. Visual Element



6.2. Narration

This is a map for the first virtual site—a handy tool that will be referred to throughout the inspection. Watch the animation of the footprints to see the path you will follow. You will walk the perimeter of the site and make stops at stormwater controls and areas of concern along the way. On this site, you will walk north along Main Street towards the stabilized construction entrance, walk around the active construction area to inspect the controls along the northeast perimeter, assess this stabilized area, and then cross through the garage towards First Street. Next, you will walk down First Street to inspect the condition of all curb inlets and head back up into the site to tour the materials storage and staging areas. Finally, you will walk along Second Street, back to the starting point. It is important to inspect all active construction stormwater controls and areas within the permitted site. Select the next arrow to begin your inspection.

7. Site 1, Area 1

7.1. Starting View



Figure 7-1. Starting view for Site 1, Area 1.

7.2. Opening Narration

Hello, and welcome to your first virtual site inspection! In this “360-degree” virtual environment, we will go through a sample CGP site inspection from start to finish. Right now, we are standing at the perimeter of a construction site in a densely developed, urban setting. As you move around the site, you will learn about how to inspect construction stormwater controls, common problems to expect, and how to properly document and follow up on issues.

Keep in mind that issues or potential issues you observe during the virtual inspection must be recorded as findings in your virtual inspection report. Depending on the type of issues observed, they may also trigger the need for routine maintenance or a corrective action. These will be pointed out throughout the inspection, and then summarized at the end of the inspection. It should be noted that decisions made during the site inspection about classifying findings as either routine maintenance or corrective action are specific to the scenarios found on this site. When conducting site inspections in the future, you may encounter different scenarios and will have to make your own judgements about whether findings should be treated as routine maintenance or corrective action based on the information available.

After this narration ends, check out the 360-degree virtual environment and select the icons to reveal new information. After you have interacted with all the icons, select the arrow icon to move forward to the next area. Have a good inspection!

7.3. Site 1, Area 1 Interactive Icons

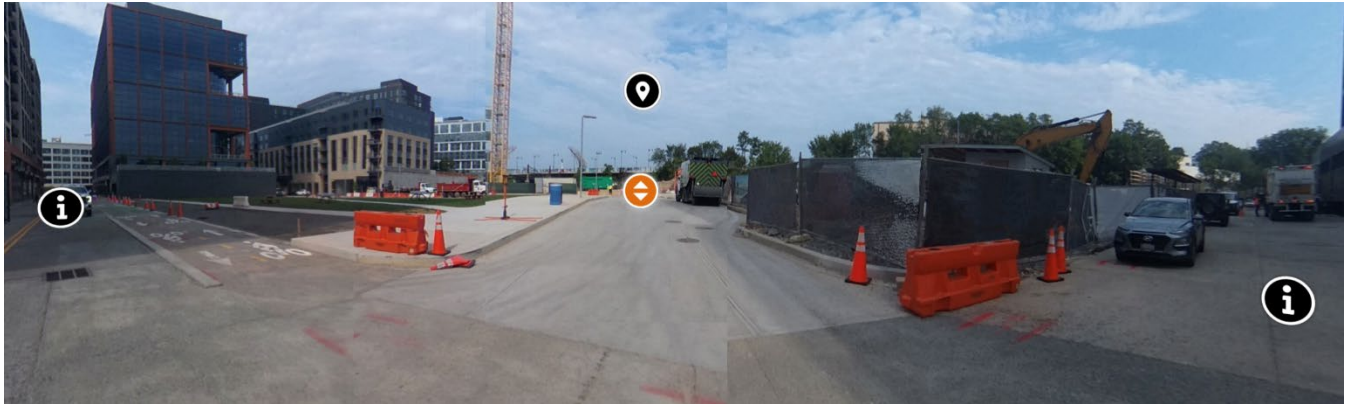


Figure 7-2. Composite view of interactive icons for Site 1, Area 1.

Map Pin Icon

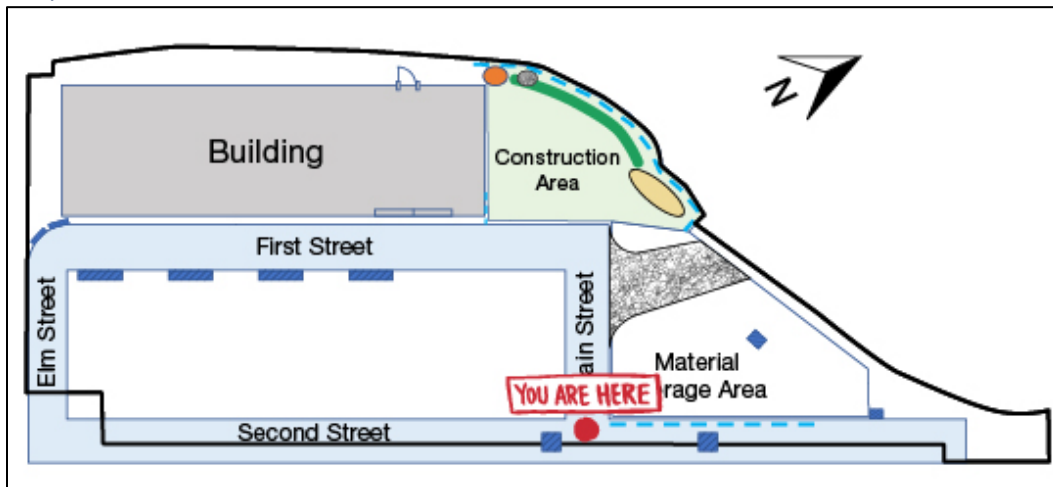


Figure 7-3. Site 1 Map. "You Are Here" in Area 1.

Information Icon (Left)

According to the final construction stormwater design plans, this street (Second Street) is not within the limit of disturbance but is still part of the permitted site area. It has at-grade inlets with inlet protection controls, so we must inspect this area later.

Information Icon (Right)

This street is Second Street. You will inspect this area later.

Arrow Icon

[Selecting this icon moves the user to the next area.]

8. Site 1, Area 2

8.1. Starting View



Figure 8-1. Starting view for Site 1, Area 2.

8.2. Opening Narration

We are now standing on Main Street closer to the construction entrance. This project is in a later phase of development and construction on many areas of the site is already completed. However, there are still areas with active construction. Look carefully at the site. You must conduct site inspections until the site meets the final stabilization requirements and the operator submits a Notice of Termination, or NOT. Investigate the area for all the icons. Then, select the arrow icon to move towards the area undergoing active construction.

8.3. Site 1, Area 2 Interactive Icons

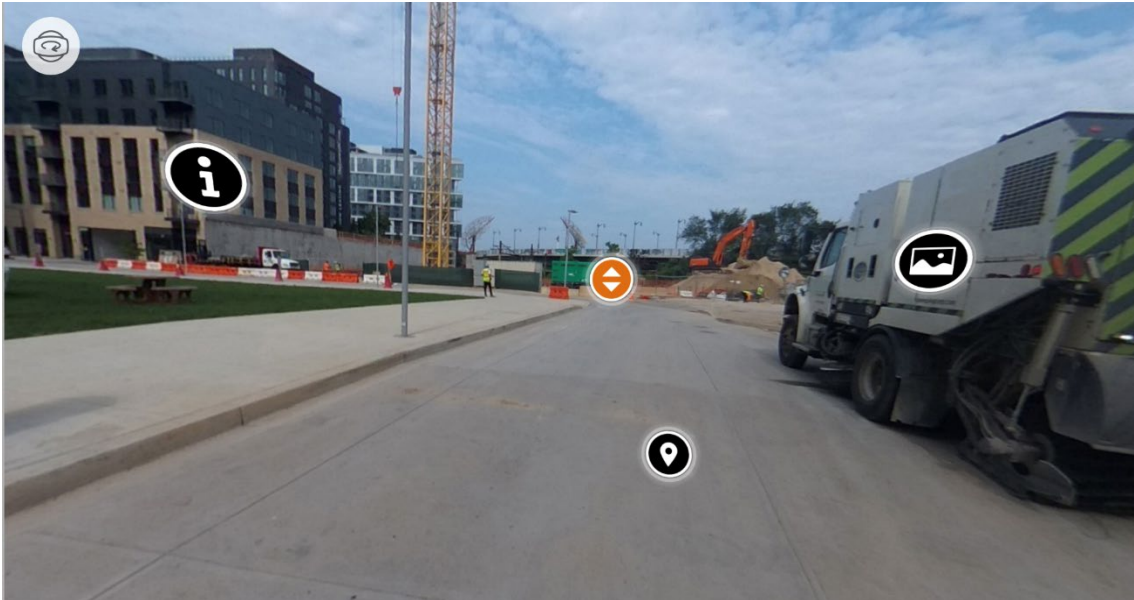


Figure 8-2. Interactive icons for Site 1, Area 2.

Map Pin Icon

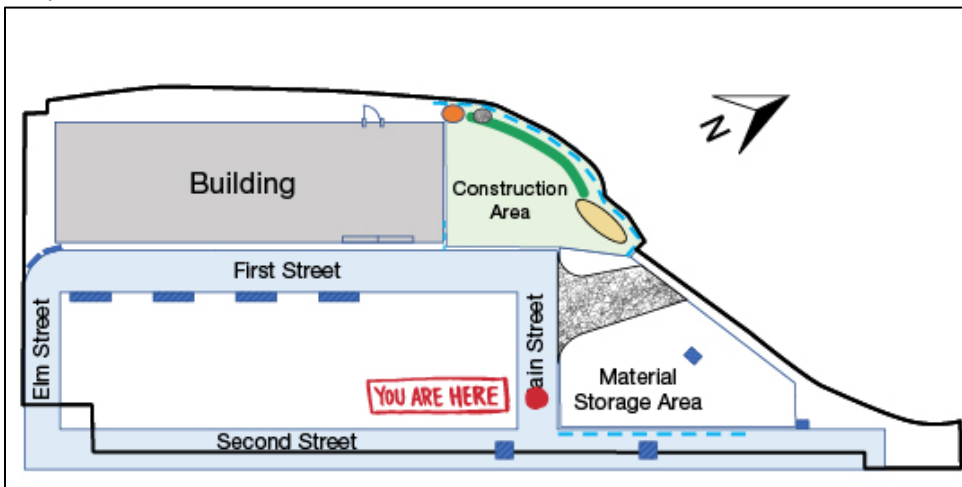


Figure 8-3. Site 1 Map. "You Are Here" in Area 2.

Information Icon

Remember to review applicable State, Tribal, Territorial, or local design requirements. CGP Part 2.1.2 requires stormwater controls to be designed and installed according to applicable design specifications. Also, refer to CGP Part 9 for State-specific requirements that are incorporated in the CGP.

Image Icon



Figure 8-4. Street sweeper on Main Street, near the construction entrance.

It's good to see a street sweeper on this public road because there are many construction vehicles that come and go from the site. Even though the site has a stabilized construction entrance, some sediment inevitably gets tracked out by the frequent trucks moving excavated fill off-site. The operator of this site arranged for a street sweeper to come by this area twice a day to minimize sediment track-out, and it seems to be working well! This part of the street doesn't have any evidence of track-out. If you observe a similar construction entrance scenario at a site you inspect in the future, then you may want to recommend that the operator of the project arrange for a street sweeper to keep adjacent roadways free of sediment.

Arrow Icon

[Selecting this icon moves the user to the next area.]

9. Site 1, Area 3

9.1. Starting View



Figure 9-1. Starting view for Site 1, Area 3.

9.2. Opening Narration

We have walked further down Main Street and are standing in front of the construction site entrance, at the intersection of Main Street and First Street. Before we enter the site, inspect the area and select the icons. Then, select the arrow icon to move to the construction entrance.

9.3. Site 1, Area 3 Interactive Icons



Figure 9-2. Composite view of interactive icons for Site 1, Area 3.

Map Pin Icon

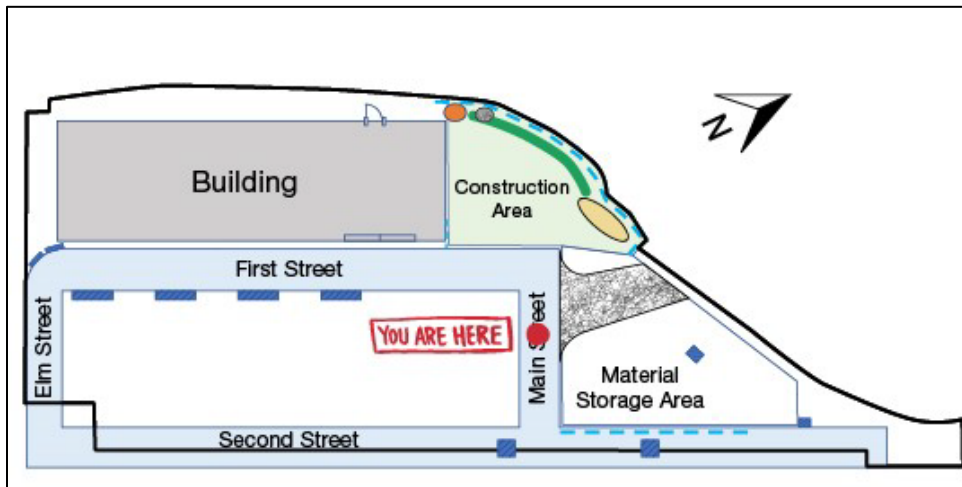


Figure 9-3. Site 1 Map. "You Are Here" in Area 3.

Image Icon (Left)

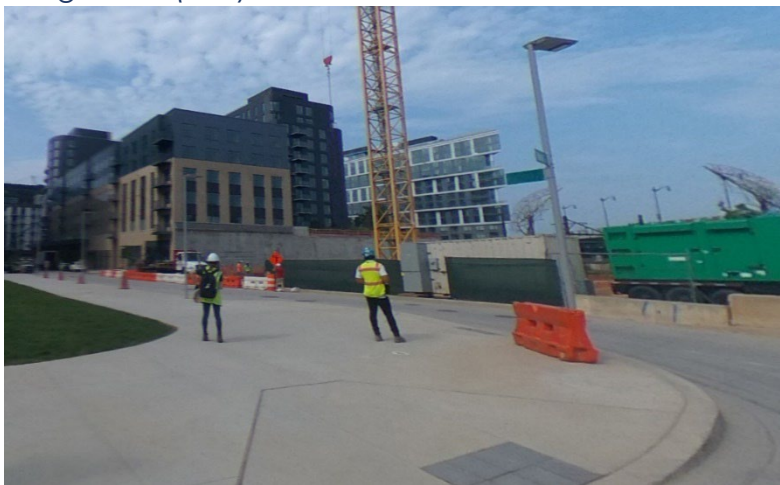


Figure 9-4. View of First Street at the intersection with Main Street.

When you are standing outside of the construction entrance, think about which way stormwater would flow along the ground. It may be a little difficult to tell in this virtual environment, but the road gently slopes down to First Street. During a storm event, this is the direction that stormwater from the site would likely flow. Understanding how stormwater flows on and off a site is important because it can help you determine where pollutants in stormwater originate and where they may end up. It's important to also remember that grading may change as construction progresses, which will impact how stormwater flows. Later in this virtual inspection, you will inspect the curb line and storm drains along First Street for evidence of sediment accumulation. During your own site inspections, it is important to regularly inspect storm drains that may receive stormwater from the site, even if they are outside of the construction area.

Information Icon (Left)

This road is First Street. You will inspect this later.

Image Icon (Middle)



Figure 9-5. View of construction entrance on Main Street.

This section of the construction area's perimeter lacks stormwater controls. It appears that sediment has been tracked out from this location. The operator must install perimeter controls and remove the sediment accumulated in the street. Document this finding in your inspection report. This finding triggers a corrective action because a required control was never installed.

Image Icon (Right)

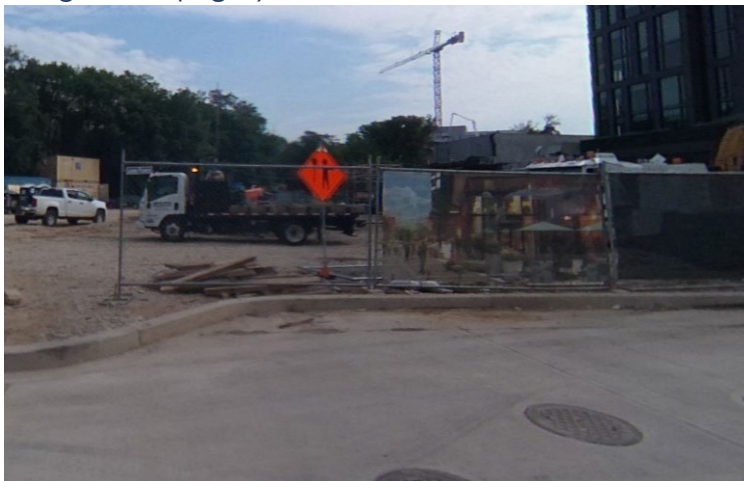


Figure 9-6. The area south of the construction entrance on Main Street.

There is some sediment accumulated in this corner of the curb line. Stormwater flowing down Main Street could push this sediment further down the road toward First Street. Document this accumulated sediment in the inspection report as a finding that requires routine maintenance. Additionally, after the inspection, communicate the finding to the operator so they can remove sediment from this area and dispose of it properly. You should also try to identify where this sediment originally came from and evaluate if additional controls are necessary to prevent further sediment accumulation.

Information Icon (Right)

This is Main Street.

Arrow Icon

[moves user to the next area]

10. Site 1, Area 4

10.1. Starting View



Figure 10-1. Starting view for Site 1, Area 4.

10.2. Opening Narration

We are now standing on top of the construction entrance. This construction entrance is at the junction of the active construction area, the materials storage area, and the paved road. Take a moment to get your bearings. Things may look different on-site than how they appear on a map. Please work through all icons to explore the area and evaluate the condition of the construction entrance. Then, select the arrow icon to move into the active construction area.

10.3. Site 1, Area 4 Interactive Icons: 180-Degree Turn from the Starting View



Figure 10-2. Composite view of interactive icons for Site 1, Area 4.

Information Icon (Left)

There are construction trailers and materials stored in this part of the site. You will inspect this area later.

Image Icon (Left)



Figure 10-3. Metal plate on the construction entrance that covers buried utilities.

At this site, there is a metal plate in the middle of the site entrance that protects buried utilities. In these situations, make sure the metal plate is secure and covers the entire utilities box.

Image Icon (Right)



Figure 10-4. View of stone aggregate on the stabilized construction entrance.

This construction entrance is stabilized with a commonly used technique: aggregate stone over underlying geotextile. As a reminder, when inspecting controls, you must look for signs that the control needs maintenance. For example, for this type of control, you need to see if the stones are packed down, sediment-laden, or displaced. If this is the case, it may indicate that the sediment-laden stone needs to be removed and replaced with clean stone, and possibly new underlying geotextile, to effectively remove sediment from the wheels of vehicles. At this site, the construction entrance appears to be in working condition and there isn't a significant amount of sediment track-out on the paved road. There are a few areas with visibly accumulated

sediment or displaced stones, but they do not appear to impact the construction entrance. During future inspections, continue to inspect the condition of the stabilized construction site entrance.

Information Icon (Middle)

This is First Street, it is downgradient of the construction entrance. You will inspect First Street later.

Information Icon (Right)

During a site inspection, you need to confirm construction entrance controls are installed according to State, Tribal, Territorial, or local design specifications. For example, there may be specifications for the required width and length of a construction entrance, or diameter and depth of stone.

10.4. Site 1, Area 4 Interactive Icons: Back to the Starting View



Figure 10-5. View of more interactive icons for Site 1, Area 4.

Map Pin Icon

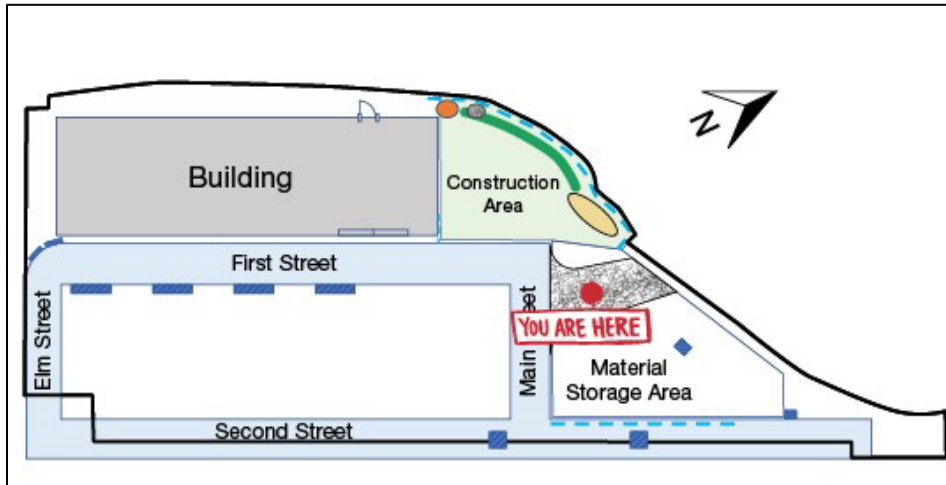


Figure 10-6. Site 1 Map. "You Are Here" in Area 4.

Arrow Icon

[Selecting this icon moves the user to the next area.]

11. Site 1, Area 5

11.1. Starting View



Figure 11-1. Starting view for Site 1, Area 5.

11.2. Opening Narration

We have walked just outside of the active construction area, which is where the excavator is working on the stockpile. Before you walk towards the stockpile, spend a moment to inspect this corner of the materials storage area because you are passing right in front of it. The CGP requires you to inspect all materials and equipment storage areas covered by the permit. This materials storage area is within the permitted project area, so you must inspect it, even if the area is not specifically identified on the site map. At a minimum, you must walk fully around this area to check for the presence of conditions that could lead to spills, leaks, or other stormwater pollution concerns. Select the image icons to closely examine this area. Then, select the arrow icon to head towards the stockpile.

11.3. Site 1, Area 5 Interactive Icons



Figure 11-2. Composite view of interactive icons for Site 1, Area 5.

Map Pin Icon

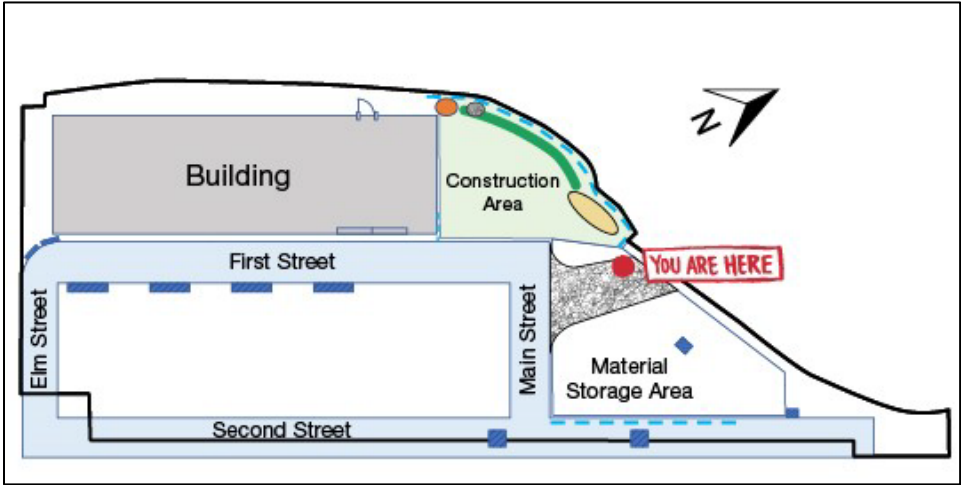


Figure 11-3. Site 1 Map. "You Are Here" in Area 5.

Information Icon

There is an excavator working on top of this stockpile. When it is safe to do so, you can carefully walk around to assess the perimeter controls behind the stockpile.

Image Icon (Left)



Figure 11-4. Improper concrete washout next to a storage shed.

On the left side of the storage shed, it appears that a small amount of concrete has been washed onto the ground. The operator must remove and dispose of the hardened concrete appropriately. Furthermore, the operator must ensure that concrete is washed out into a leak-proof container or pit and properly disposed. If by the end of the inspection you do not observe a designated concrete washout area on-site, then you must document this finding in your inspection report as a corrective action because a required stormwater control was never installed, which is one of the conditions triggering corrective actions in the CGP. Keep this in mind during the rest of this inspection. Discuss this finding with the operator after the inspection so they can begin to remedy the situation immediately.

Image Icon (Middle)



Figure 11-5. View of materials storage area near the entrance to the active construction area.

It is important to be familiar with the site! What is in the storage cabinet? On this site, subcontractors are storing soil core samples.

Image Icon (Right)



Figure 11-6. View of one side of the materials storage area.

You must make sure to always walk around and through a materials storage area to inspect for potential stormwater pollution issues such as uncovered materials or spills and leaks. These issues may not be visible from far away.

There is a small amount of sediment and debris on the ground in this area. A small amount of sediment and debris is common on construction sites and so this area is not a concern as long as stormwater controls are properly installed.

However, a significant amount of debris or litter on the ground throughout the site would be a sign of poor housekeeping, and must be flagged in the inspection report as a finding that requires routine maintenance. Keep this in mind during the rest of your site inspection.

Arrow Icon

[Selecting this icon moves the user to the next area.]

12. Site 1, Area 6

12.1. Starting View



Figure 12-1. Starting view for Site 1, Area 6.

12.2. Opening Narration

We are now standing next to the stockpile and the northern perimeter of the site. While here, you must assess the condition of the perimeter control. Take a moment to investigate the area and select all the icons. Then, select the arrow icon to go around the stockpile.

12.3. Site 1, Area 6 Interactive Icons



Figure 12-2. Composite view of interactive icons for Site 1, Area 6.

Map Pin Icon

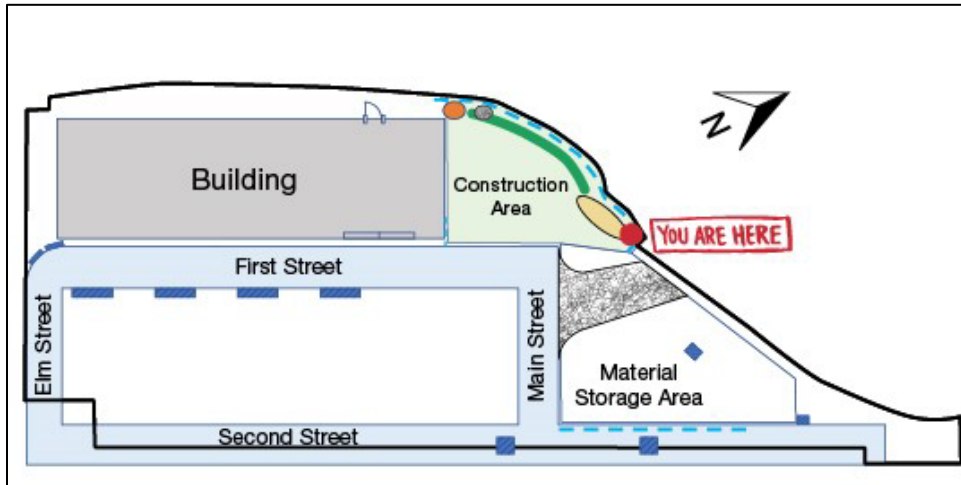


Figure 12-3. Site 1 Map. "You Are Here" in Area 6.

Information Icon (First from the Left)

Keep an eye out for active heavy machinery. Make sure the operator is aware of your presence and wait for them to finish their work if necessary so you can proceed safely.

Information Icon (Second from the Left)

This stockpile is being actively worked on, so it doesn't need to be stabilized... yet! Keep in mind that if work on the stockpile pauses for more than 14 days, the operator must implement temporary stabilization on the stockpile.

Image Icon (Second from the Right)



Figure 12-4. View of a section of silt fence along the site perimeter upgradient of the stockpile.

This image shows a view of the super silt fence perimeter control, which is a layer of woven geotextile fabric supported by a layer of chain link fence. For a super silt fence, or any type of perimeter control, you need to check if there is sediment accumulated to higher than one-half the above ground height of the control. You also need to check if the control is damaged or collapsing, or if stormwater is undercutting or circumventing the control. Do not forget to check

that the perimeter control was installed correctly according to State, Tribal, Territorial, or local design standards.

Image Icon (First from the Right)



Figure 12-5. View of a different section of the silt fence upgradient of the stockpile.

This image shows a view of the super silt fence perimeter control. This super silt fence appears to be in good condition—there isn't much sediment accumulated, there are no tears in the fabric, and the fence appears to be entrenched into the ground. However, the super silt fence appears to be installed incorrectly. This perimeter control is intended to reduce run-on, or in other words, to reduce off-site stormwater entering the construction site. The front of the super silt fence, shown here, needs to be installed facing the direction of flow. Therefore, it needs to be facing out, toward the chain link fence. Document this finding in your inspection report and state that a corrective action is triggered because the control was installed incorrectly. You need to discuss this finding with the operator immediately after the inspection so the operator can re-install the silt fence properly. During a typical site inspection, you need to walk along the length of all perimeter controls to assess their condition, but for the sake of time, we won't do that during this virtual inspection.

Arrow Icon

[Selecting this icon moves the user to the next area.]

13. Site 1, Area 7

13.1. Starting View



Figure 13-1. Starting view for Site 1, Area 7.

13.2. Opening Narration

We have arrived at the area between the stockpile and the northern perimeter of the site. During site inspection, you must walk all the way around a stockpile to assess the stockpile's sediment barrier, check for signs of erosion on the stockpile's slopes, and check for evidence of sediment migrating beyond the stockpile area. Take a moment to explore the icons, and then keep moving forward, around the stockpile.

13.3. Site 1, Area 7 Interactive Icons



Figure 13-2. Interactive icons for Site 1, Area 7.

Map Pin Icon

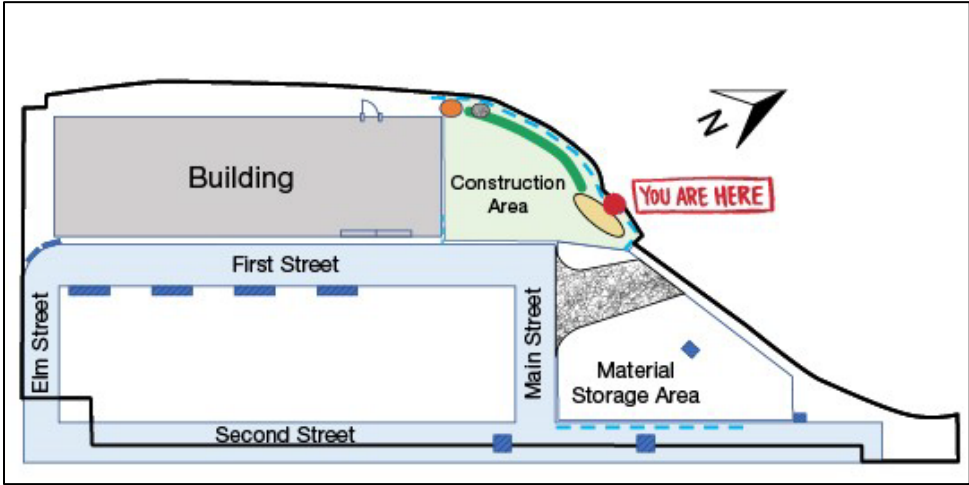


Figure 13-3. Site 1 Map. "You Are Here" in Area 7.

Image Icon (Left)



Figure 13-4. View of the soil stockpile and a section of silt fence upgradient of it.

It's good to see that the stockpile is not touching the perimeter control. The space between the stockpile and the perimeter control is stabilized with erosion control matting and vegetation. Although stormwater is flowing on-site in this area, leaving space between the stockpile and silt fence is still a good practice because it helps prevent damage to the silt fence and helps prevent sediment from leaving the site.

Image Icon (Right)



Figure 13-5. View of neighboring property.

In this area, the neighboring property is upgradient of the project site. This section of the silt fence is located further down from the section of silt fence we looked at before. Remember that this is preventing stormwater run-on from contacting the stockpile and the rest of the exposed sediment on-site. Because of this, the fence needs to be installed facing the outside of the site.

Arrow Icon

[Selecting this icon moves the user to the next area.]

14. Site 1, Area 8

14.1. Starting View



Figure 14-1. Starting view for Site 1, Area 8.

14.2. Opening Narration

We have just walked **all the way around** the stockpile. Are you tired yet? No? Good. Now, check out the area to get oriented. From here, you can see that the active part of the construction site is below grade. Stormwater from this area would flow into the excavated area. To prevent excess stormwater flow into the excavated area, the site operator has installed a diversion berm, which redirects stormwater along the northern perimeter. Check out the icons in this area and then let's continue walking west along the berm.

14.3. Site 1, Area 8 Interactive Icons



Figure 14-2. Composite view of interactive icons for Site 1, Area 8.

Map Pin Icon

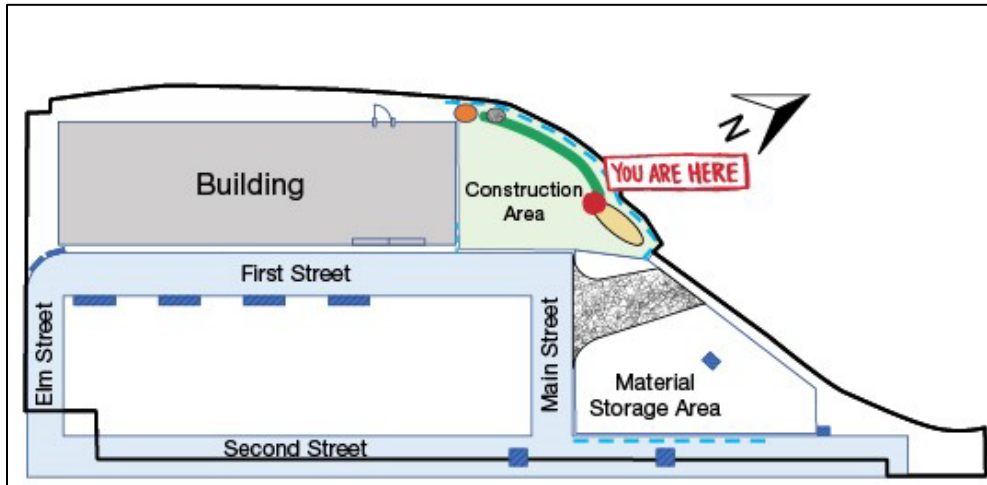


Figure 14-3. Site 1 Map. "You Are Here" in Area 8.

Image Icon (Left)



Figure 14-4. View of the diversion berm along the perimeter of the active construction area.

Unfortunately, the erosion control matting at this spot on the berm is damaged and needs to be repaired. Include the damaged matting as a finding that requires routine maintenance in your inspection report. This finding is considered routine maintenance because it can be resolved with a minor repair, rather than replacing the control in its entirety. Present this finding to the operator after your inspection so they can immediately initiate routine maintenance.

Image Icon (Middle)



Figure 14-5. View of erosion control matting and vegetation on the slope adjacent to the soil stockpile.

This sloped area next to the stockpile is stabilized with erosion control matting and vegetation. During site inspections, you must inspect all areas where stabilization measures have been implemented. You must check for signs of damage, erosion, or sediment accumulation. By the looks of it, the erosion control matting here appears to be in good condition.

Image Icon (Right)



Figure 14-6. View of orange safety fence immediately downgradient of the soil stockpile, above the active construction area.

This stockpile doesn't have a downgradient sediment barrier, which is required by the permit. This damaged orange fence is not a sufficient sediment barrier. Any stockpile erosion would cause sediment to fall into the excavated area, which is treated by dewatering controls, but the fallen sediment could lead to damage or additional work for the operator. Document the lack of a downgradient sediment barrier as a finding in the inspection report. This finding triggers a corrective action because a required stormwater control was never installed. Present this finding to the operator after the inspection so they can initiate corrective actions immediately.

Arrow Icon

[Selecting this icon moves the user to the next area.]

15. Site 1, Area 9

15.1. Starting View



Figure 15-1. Starting view for Site 1, Area 9.

15.2. Opening Narration

We have just walked further along the diversion berm. This area is mostly stabilized with erosion control matting and vegetation. There is also a check dam. Review the icons at this location to learn more about how to inspect these controls, and then keep walking past the check dam.

15.3. Site 1, Area 9 Interactive Icons



Figure 15-2. Composite view of interactive icons for Site 1, Area 9.

Map Pin Icon

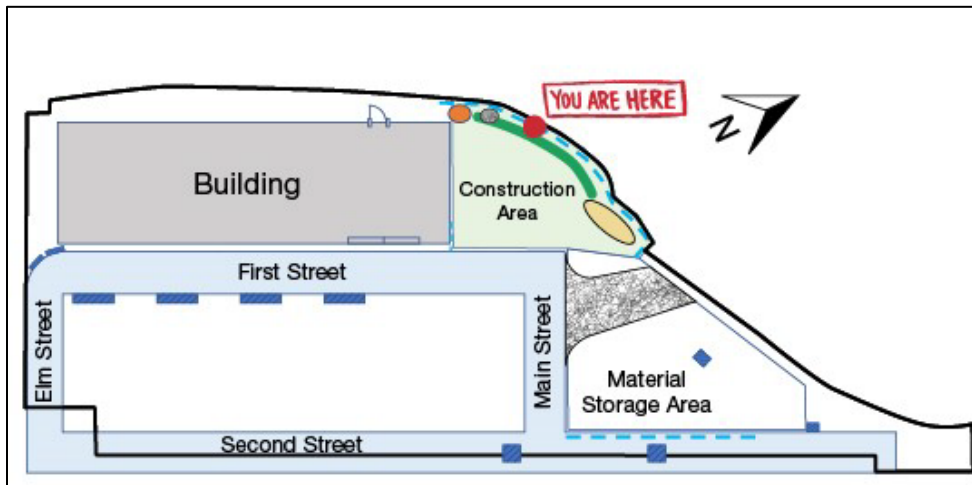


Figure 15-3. Site 1 Map. "You Are Here" in Area 9.

Image Icon (First from the Left)



Figure 15-4. Displaced erosion control matting on the diversion berm.

Check out this berm. There are some areas along the berm where the erosion control matting has been displaced and the underlying ground is exposed. During a precipitation event, these exposed areas would be unprotected and could cause erosion and sediment discharge. Because this condition only requires a minor repair, the work can be treated as routine maintenance, as opposed to a corrective action, which would be triggered by more significant repairs or a complete replacement of the control. Include this finding as routine maintenance in your inspection report, and remind the operator to begin work immediately.

Image Icon (Second from the Left)



Figure 15-5. View of erosion control matting on the diversion berm.

When inspecting erosion control matting, you need to check that separate sections of material are properly overlapped and joined together. In general, the erosion control matting along this berm appears smooth and well installed.

Image Icon (Third from the Left)



Figure 15-6. The erosion control matting is anchored to the diversion berm with nails.

When inspecting erosion control matting, you need to check that it is securely anchored to the ground. At this site, the matting is nailed to the berm in regular intervals, as it should be.

Image Icon (Fourth from the Left)



Figure 15-7. View of check dam at the downgradient end of the area contained by the diversion berm.

When inspecting check dams, you must consider whether the check dam is functioning as intended—meaning that the check dam is effectively slowing down stormwater and preventing scour or erosion. You need to also check for loose rocks, sediment accumulation, or other signs of wear. This check dam appears to be well maintained, and there is no evidence of scouring or erosion around or under the check dam.

Image Icon (Fifth from the Left)



Figure 15-8. View of the area draining to the check dam.

In this area, stormwater flows along the site perimeter toward the check dam, in the direction shown by the red arrow. In general, you must assess conveyances and drainage pathways for signs of erosion or sediment accumulation. Here, the drainage path appears to be well stabilized with matting and vegetation.

Arrow Icon

[Selecting this icon moves the user to the next area.]

16. Site 1, Area 10

16.1. Starting View



Figure 16-1. Starting view for Site 1, Area 10.

16.2. Opening Narration

We are now standing above the western corner of the active construction area. This is where the site's dewatering system is located. You must inspect the dewatering system as part of a site inspection, but keep in mind that this is different than a dewatering inspection, which must be conducted when dewatering water is being discharged. You will not conduct a dewatering inspection right now because dewatering water is not being discharged. Remember, you may be responsible for conducting site inspections, dewatering inspections, or both! The requirements for conducting dewatering inspections were discussed in Module 2 of this training.

The dewatering system at this site consists of a PVC pipe leading into a portable sediment tank made from double-walled corrugated aluminum pipe. When the operator needs to dewater ground water or accumulated stormwater from inside the excavated construction area, they pump water up through a hose that connects to the PVC pipe system. When conducting site inspections in the future, if you do not understand how the dewatering system operates from reviewing construction plans, you should ask the site operator to explain. Select the icons in the area to learn more about this dewatering system.

Once you've selected all the icons, continue to the next area.

16.3. Site 1, Area 10 Interactive Icons



Figure 16-2. Composite view of interactive icons for Site 1, Area 10.

Map Pin Icon

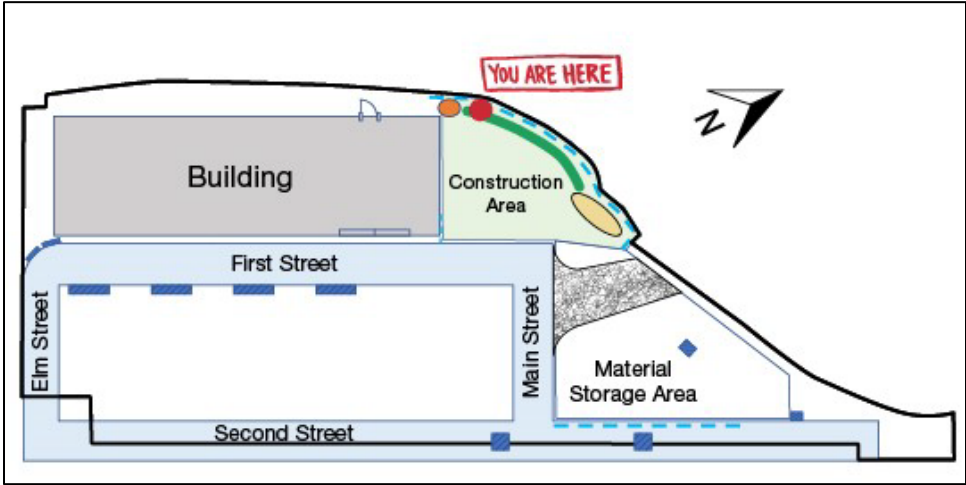


Figure 16-3. Site 1 Map. "You Are Here" in Area 10.

Information Icon (Left)

When inspecting a dewatering system, you should understand how water flows through the system. At this site, the operator has PVC pipe set up around the construction area to make it easy to dewater from multiple locations. This specific type of setup is not required; there are many ways to dewater.

Image Icon (Left)



Figure 16-4. Piping and a valve that are part of the dewatering system for the active construction area.

This is the valve closest to the portable sediment tank. The valve and the pipe appear to be free of staining, cracking, leaking, and other signs of wear. During dewatering, the pump needs to have enough power to push water up the hose, through this valve, and up the pipe towards the portable sediment tank.

Image Icon (Top Middle)



Figure 16-5. View of the inside of the portable sediment tank.

When inspecting a dewatering system, you need to check how much sediment has accumulated inside the control, which in this case is the portable sediment tank. Looking inside, you can see signs of sediment residue on the black filter bag and some sediment accumulated at the bottom, but there is still plenty of capacity to continue dewatering. The filter bag is not damaged and appears to function properly.

Image Icon (Bottom Middle)



Figure 16-6. View of the outlet of the portable sediment tank.

This is where dewatering water would discharge from the portable sediment tank. After water passes through the sediment bag inside the tank and rises to the level of the outlet circled in red, the water would flow through a final pipe section and into the drain. You can see that the final section of pipe has become disconnected and is lying on the ground, so you need to remind the operator to connect this part before they begin any dewatering. When dewatering water is discharging, this is the location where the inspector would conduct dewatering inspections.

Image Icon (Right)



Figure 16-7. View of the inlet pipe leading into the portable sediment tank.

The PVC pipe is set up to send water into the portable sediment tank from the top of the tank.

Information Icon (Right)

An inspector must conduct a dewatering inspection on every day that dewatering water is discharged. For more information on dewatering inspection requirements, see Module 2.

Arrow Icon

[Selecting this icon moves the user to the next area.]

17. Site 1, Area 11

17.1. Starting View



Figure 17-1. Starting view for Site 1, Area 11.

17.2. Opening Narration

We have walked to the other side of the portable sediment tank. This area of the site is already at final grade and has final stabilization, but you must still inspect this stabilized area at the frequency specified in CGP Part 4.4.1 until the entire project is finished and the operator submits an NOT. On a typical site inspection, we would continue walking along the perimeter to assess the condition of the final stabilization measures, but to save time during this virtual inspection, we can take a shortcut through the parking garage to get to the next area. After you finish exploring the icons, select the arrow icon to move into the parking garage.

17.3. Site 1, Area 11 Interactive Icons: 180-Degree Turn from the Starting View



Figure 17-2. View of interactive icons for Site 1, Area 11.

Image Icon (Left)



Figure 17-3. Debris and construction materials on the ground near the portable sediment tank.

As you walk the site, it's a good idea to keep an eye out for piles of materials that are uncovered, discarded materials, or other good housekeeping concerns. This area is untidy, but is it a stormwater pollution concern? The ground slopes toward the excavated construction area, so it's unlikely any material or pollutants would be mobilized off-site, as long as effective controls are in place. Still, you may recommend to the operator that they dispose of the debris and cover or stabilize this area. If you see uncovered material like this at a site you inspect in the future, use your best judgment to decide if this counts as a condition that should be addressed through routine maintenance or corrective action.

Image Icon (Right)



Figure 17-4. View of the active construction area.

From here, you get a great view inside the excavated construction area. You can also see some locations that you've already inspected, like the stockpile.

17.4. Site 1, Area 11 Interactive Icons: Back to the Starting View



Figure 17-5. View of more interactive icons for Site 1, Area 11.

Map Pin Icon

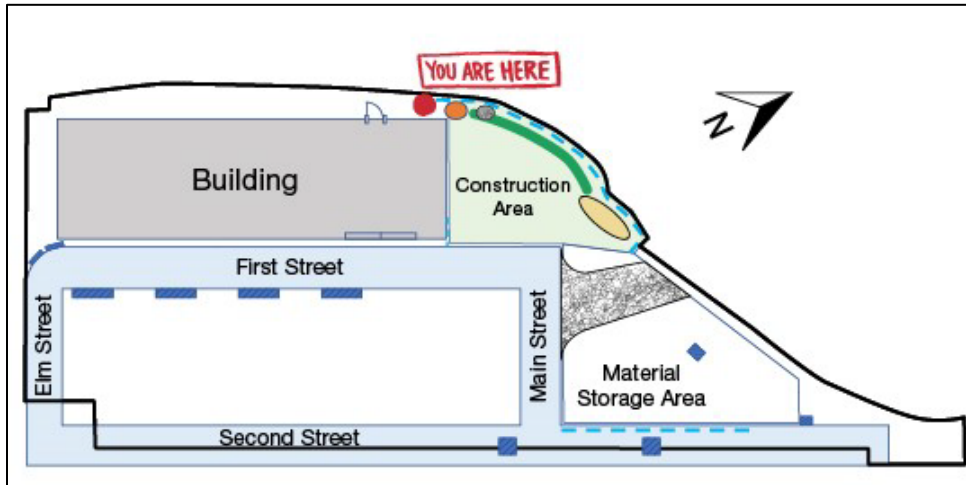


Figure 17-6. Site 1 Map. "You Are Here" in Area 11.

Image Icon



Figure 17-7. View of permeable pavers behind the parking garage.

Check out the pavers in this area. The vegetation appears to be growing in well, and there are no cracks, sediment accumulation, or debris.

Arrow Icon

[Selecting this icon moves the user to the next area.]

18. Site 1, Area 12

18.1. Starting View



Figure 18-1. Starting view for Site 1, Area 12.

18.2. Opening Narration

We just entered the parking garage through the back door. Continue through the garage to exit onto First Street.

18.3. Site 1, Area 12 Interactive Icons



Figure 18-2. View of interactive icons for Site 1, Area 12.

Map Pin Icon

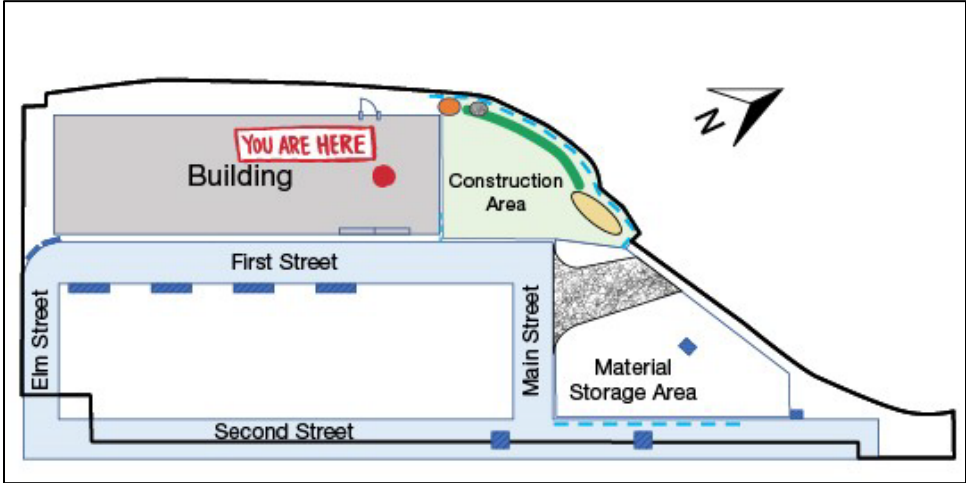


Figure 18-3. Site 1 Map. "You Are Here" in Area 12.

Arrow Icon

[Selecting this icon moves the user to the next area.]

19. Site 1, Area 13

19.1. Starting View



Figure 19-1. Starting view for Site 1, Area 13.

19.2. Opening Narration

We have walked through the parking garage and onto First Street. Earlier in the inspection, you noted that this street is within the site boundary and downgradient of the construction entrance. According to the site map, there are inlet protection controls along this street. So, let's walk all the way down First Street to inspect these controls. Select the icons to explore the area and then move down the street.

19.3. Site 1, Area 13 Interactive Icons

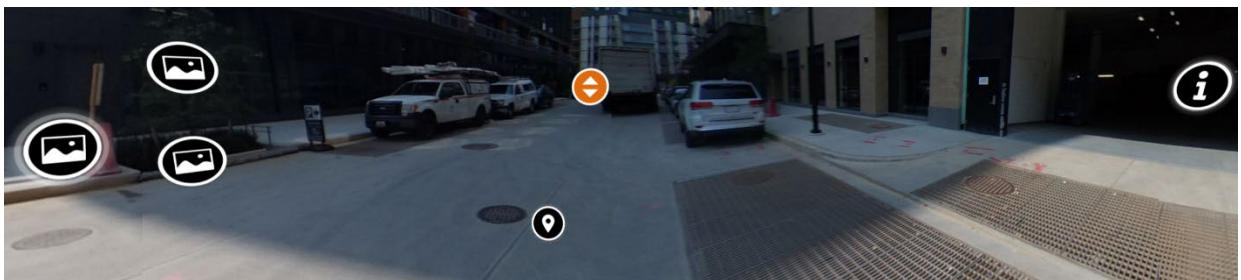


Figure 19-2. Composite view of interactive icons for Site 1, Area 13.

Map Pin Icon

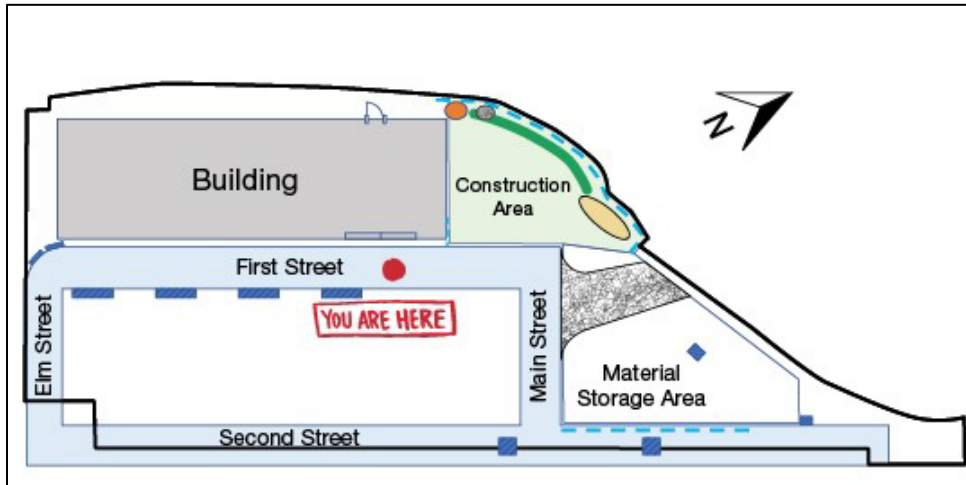


Figure 19-3. Site 1 Map. "You Are Here" in Area 13.

Image Icon (Left)



Figure 19-4. View of filter sock covering inlet to bioretention cell along First Street.

You can see some evidence of sediment accumulation on the upgradient side of the filter sock, which means it's doing its job. There is a relatively small amount of sediment; however, the operator must remove any sediment that has accumulated adjacent to the inlet. This finding is considered routine maintenance because removing the sediment is upkeep that ensures the stormwater control remains in effective operating condition. Include a finding to this effect in your inspection report and indicate that routine maintenance is required. Also, make sure to tell the operator so they can remove and properly dispose of the sediment.

Image Icon (Top Right)



Figure 19-5. View of sediment accumulation in bioretention cell.

During your site inspections, you must check for sediment accumulation in and around stormwater inlets. In this case, we are checking for sediment accumulation at an inlet that leads to a bioretention cell. If there is sediment accumulation, you must ask the operator to remove the sediment and maintain or replace the control. In this case, there isn't too much sediment accumulated on top of the bioretention cell, but you must note in the inspection report that the operator must still remove the sediment. During future inspections you must check to make sure that there is no additional sediment accumulation.

Image Icon (Bottom Right)



Figure 19-6. View of bioretention cell along first street.

This inlet leads to a small bioretention cell, which is a permanent green infrastructure feature that manages stormwater. Even though it is not a storm drain, it still must be protected so that it continues to function as designed. This filter sock appears to be in good condition, but it needs to be moved so that it fully covers both curb-cut inlets. If the filter sock is not long enough to cover both curb cuts, the operator should use two filter socks. Add this finding to the inspection report and note that routine maintenance is needed. Moving the filter sock to cover both curb cuts or adding a second filter sock is considered a minor repair or upkeep, and therefore is

treated as routine maintenance as opposed to a corrective action, which would be triggered if the repair was more significant. Communicate this finding to the operator after the inspection so they can complete the routine maintenance.

Information Icon

This is the parking garage that we just walked out of.

Arrow Icon

[Selecting this icon moves the user to the next area.]

20. Site 1, Area 14

20.1. Starting View



Figure 20-1. Starting view for Site 1, Area 14.

20.2. Opening Narration

We have just taken a few steps down First Street. Do you see any other controls to inspect? Select the icons in the area and then keep moving down the street.

20.3. Site 1, Area 14 Interactive Icons



Figure 20-2. View of interactive icons for Site 1, Area 14.

Map Pin Icon

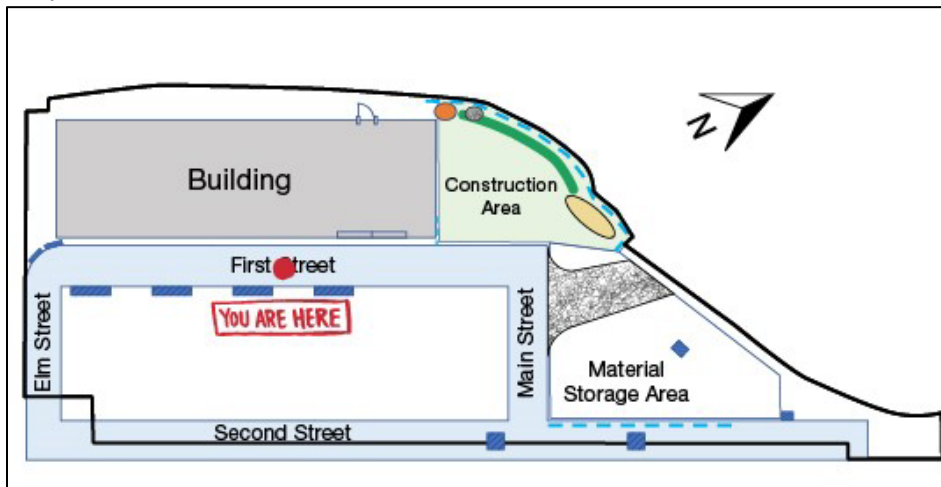


Figure 20-3. Site 1 Map. "You Are Here" in Area 14.

Image Icon



Figure 20-4. View of second bioretention cell along First Street.

Here's another bioretention cell with a filter sock protecting the inlet. This control appears to be in good condition.

Arrow Icon

[Selecting this icon moves the user to the next area.]

21. Site 1, Area 15

21.1. Starting View



Figure 21-1. Starting view for Site 1, Area 15.

21.2. Opening Narration

We're now a few more steps down First Street. Select the icons and then continue down to the end of the street.

21.3. Site 1, Area 15 Interactive Icons

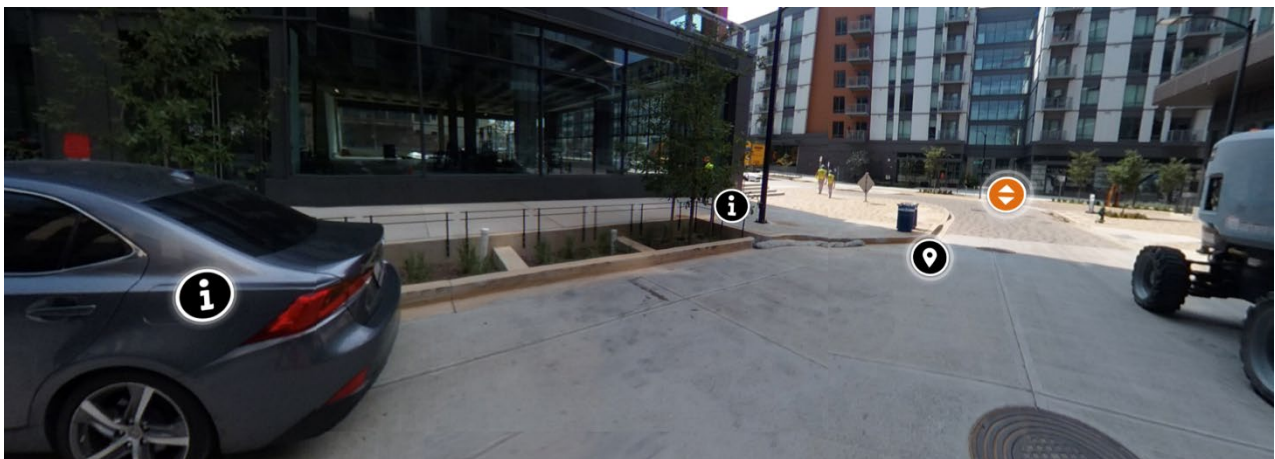


Figure 21-2. Composite view of interactive icons for Site 1, Area 15.

Map Pin Icon

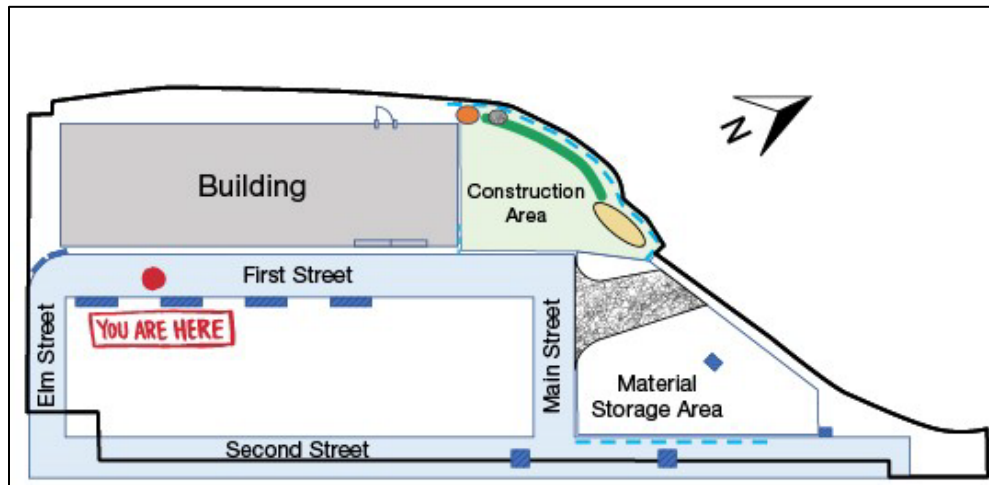


Figure 21-3. Site 1 Map. "You Are Here" in Area 15.

Information Icon (Left)

You must make sure to inspect all inlets and inlet protection controls, even ones behind cars.

Information Icon (Right)

Here is another filter sock protecting the inlet to a bioretention cell. We won't take a closer look now in this virtual inspection for the sake of time, but on a normal inspection you must inspect all inlet protection within the permitted site area.

Arrow Icon

[Selecting this icon moves the user to the next area.]

22. Site 1, Area 16

22.1. Starting View



Figure 22-1. Starting view for Site 1, Area 16.

22.2. Opening Narration

We have worked our way down to the end of First Street to its intersection with Elm Street. This corner is the furthest downgradient point within the permitted site area and where stormwater flowing down First Street would ultimately end up. Now that you're here, you must inspect this corner curb inlet, which receives all of the stormwater flow. Select the icons to assess the condition of this control. Then, we will turn around and walk back up the street toward the active construction area.

22.3. Site 1, Area 16 Interactive Icons

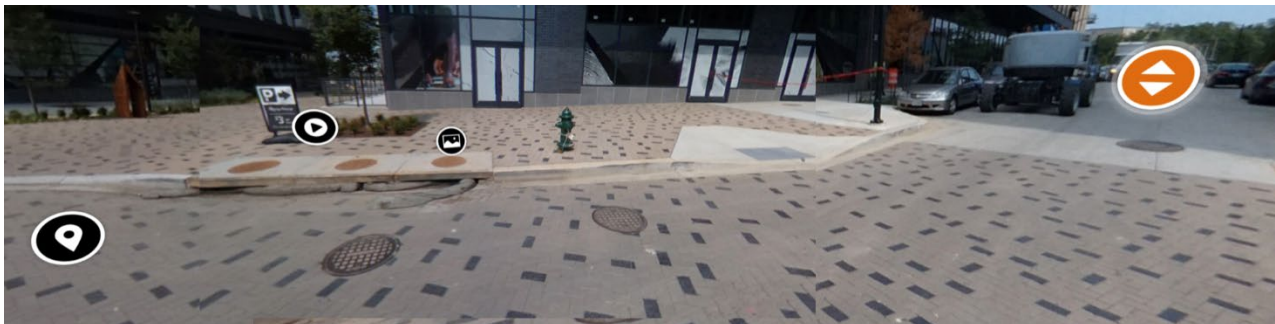


Figure 22-2. Composite view of interactive icons for Site 1, Area 16.

Map Pin Icon

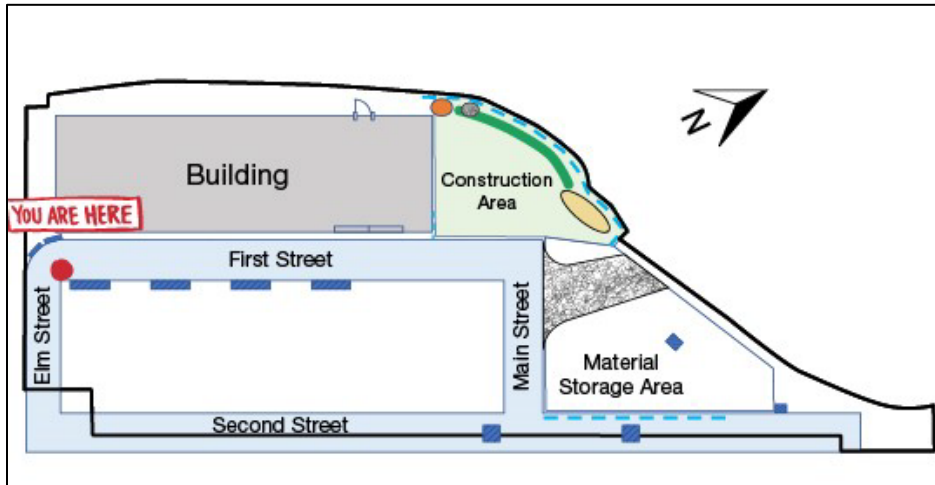


Figure 22-3. Site 1 Map. "You Are Here" in Area 16.

Video Icon



Figure 22-4. Screenshot of a video showing the condition of the filter sock in the corner curb inlet.

Let's take a closer look at the filter socks protecting this corner curb inlet.

Image Icon



Figure 22-5. View of the filter sock in the curb inlet at the end of First Street.

These filter socks are in bad condition and must be replaced immediately. In their current condition, they are not protecting this curb inlet. Not only are many parts crushed or even sunk into the curb inlet, but there are also several gaps that could allow stormwater discharges to carry pollutants off-site. Because this control needs to be replaced in its entirety, this condition triggers a corrective action. Add this to your inspection report, and present this finding to the operator.

Arrow Icon

[Selecting this icon moves the user to the next area.]

23. Site 1, Area 17

23.1. Starting View



Figure 23-1. Starting view for Site 1, Area 17.

23.2. Opening Narration

Now we're starting to walk back up First Street, toward the construction entrance. From this angle, you can see a curb inlet to a bioretention area that is not properly protected. Can you spot it? Select the icon to check it out. Then, we'll continue walking toward the construction entrance.

23.3. Site 1, Area 17 Interactive Icons

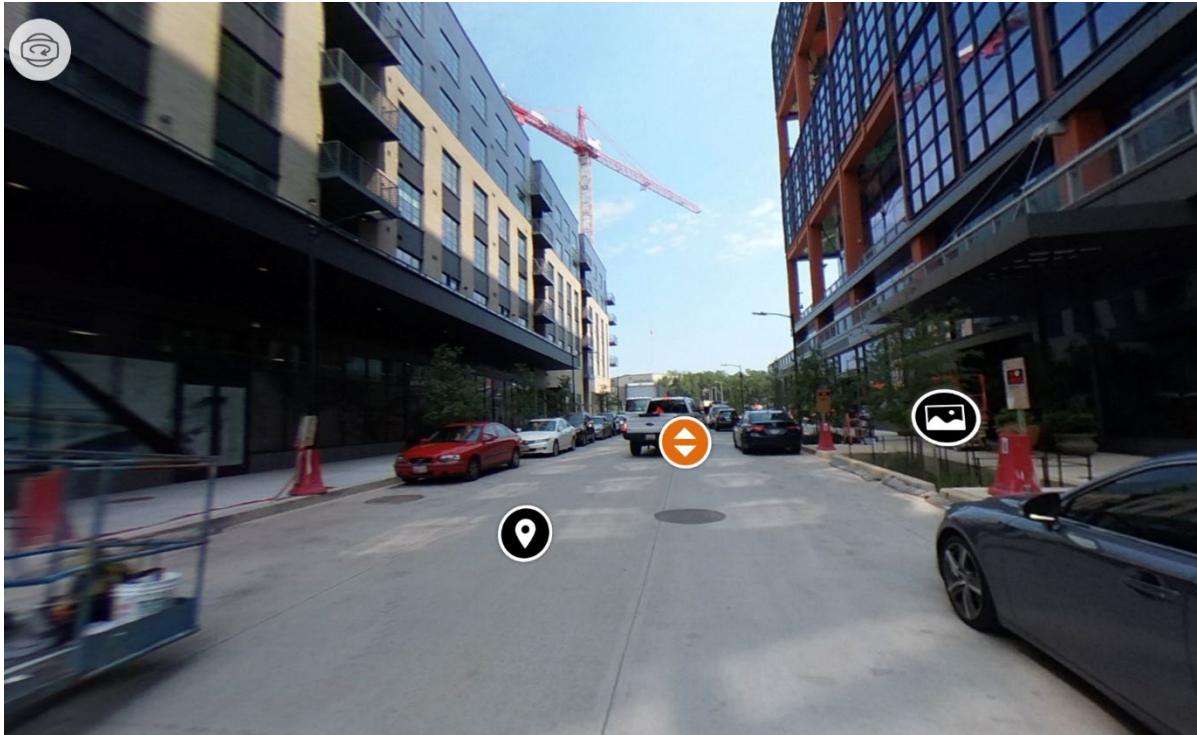


Figure 23-2. View of interactive icons for Site 1, Area 17.

Map Pin Icon

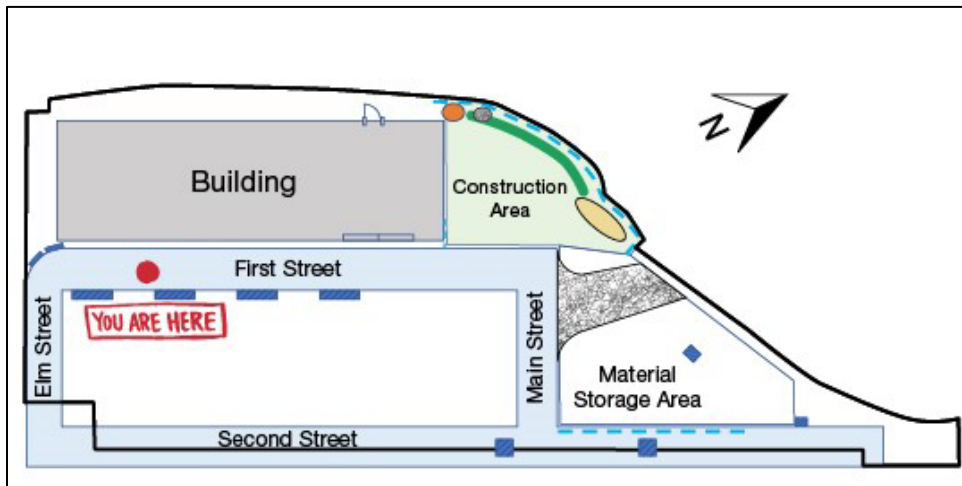


Figure 23-3. Site 1 Map. "You Are Here" in Area 17.

Image Icon



Figure 23-4. View of a third bioretention cell along First Street.

This curb inlet is unprotected because the filter sock has been moved or displaced. Add this finding to the inspection report as a condition that requires routine maintenance, and inform the operator of this finding. Because moving the filter sock to cover the curb cut is considered a minor repair or upkeep, routine maintenance is all that is required here, as opposed to a corrective action.

Arrow Icon

[Selecting this icon moves the user to the next area.]

24. Site 1, Area 18

24.1. Starting View



Figure 24-1. Starting view for Site 1, Area 18.

24.2. Opening Narration

Continue along the road. There is not much to inspect in this section of the site. Select the icons in this area before moving to the next screen where you will have the opportunity to take a break before continuing back to the construction site for the second half of this site inspection.

24.3. Site 1, Area 18 Interactive Icons



Figure 24-2. View of interactive icons for Site 1, Area 18.

Map Pin Icon

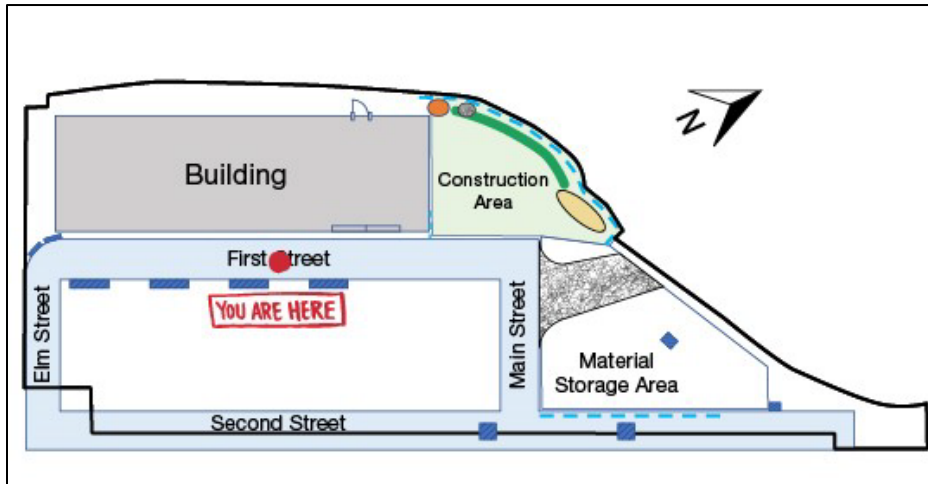


Figure 24-3. Site 1 Map. "You Are Here" in Area 18.

Information Icon

Quick tip: You must record your findings in the inspection report; however, you may also want to take notes about general site conditions in your inspection notebook. You should also take photos of your observations for future reference.

Arrow Icon

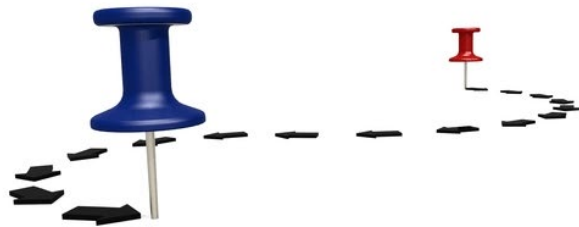
[Selecting this icon moves the user to the next area.]

25. Screen 25

25.1. Visual Element



This Concludes Part 1 of This Site Inspection.



25 of 25

25.2. Narration

This concludes the inspection for the first portion of this site. Feel free to exit this module and take a break before coming back to finish your inspection of the first site. To finish the inspection, you'll need to open a new module, Module 5: Site 1, Part 2.