

MODULE 4: INSPECTIONS

Module 4 Objectives

After completing this module, you will be able to:

- Identify the types or phases of inspections,
- Become a more prepared inspector;
- Understand the importance of documentation and record keeping;
- Conduct more knowledgeable inspections
- Facilitate better compliance with the project specifications and state standards

Module 4 Content

4.a. Introductions

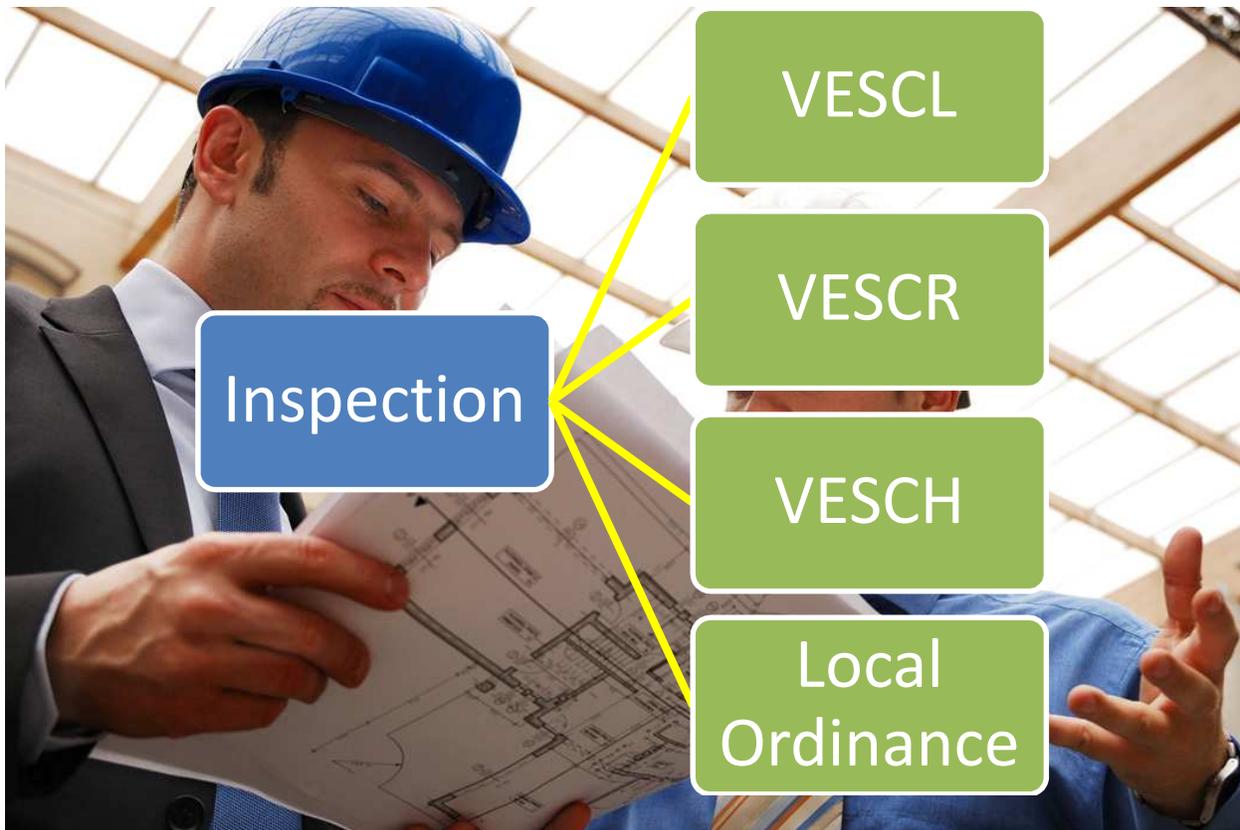
4.b. Inspecting

4.c. The prepared Inspector

4.d. Compliance and Enforcement

4a. Introduction

Ensuring compliance with the VESCLR and the standards and specifications set forward by the VESCH is done through inspection and enforcement. Inspections are conducted to verify a project meets these requirements. This is done by closely and critically reviewing and examining a regulated land disturbing activity to ensure observance of and obedience to the established laws, regulations and minimum standards, and specifications.



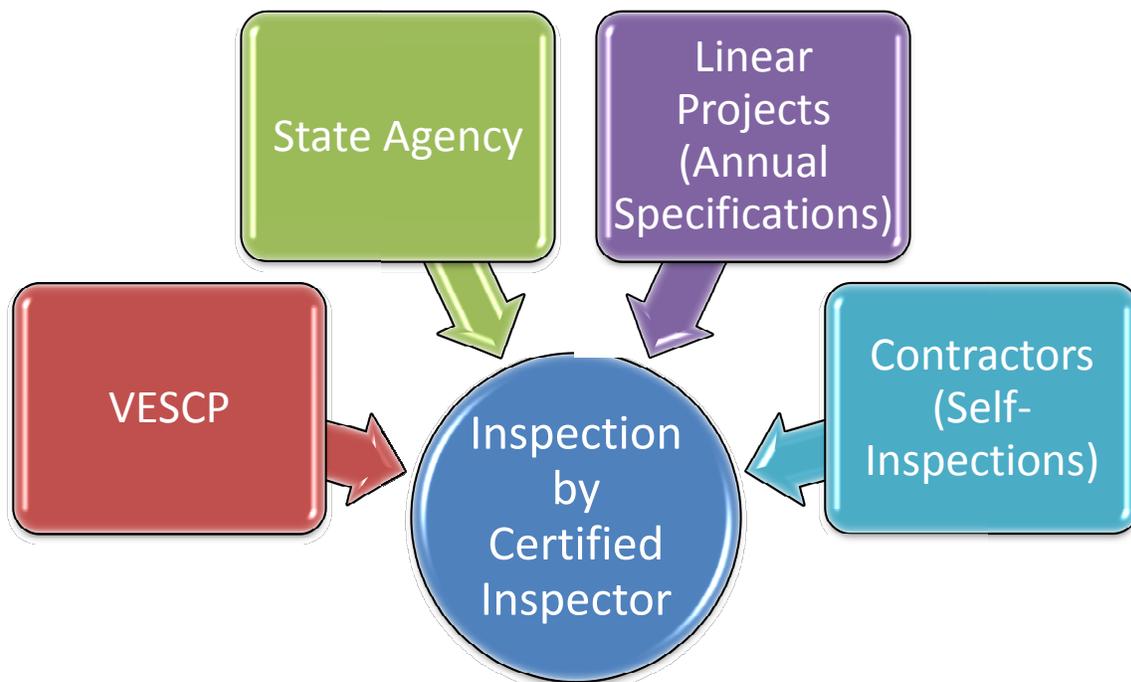
Inspection is the first step in an enforcement process and if a potential violation is observed, enforcement actions will follow to ensure that the laws, regulations, standards and local ordinances are being followed.

There is only so much that can be taught in a class setting; there is no substitute for on-the-job training from experienced inspectors or supervisors.

4b. Inspecting

This section describes the essential tasks carried out by all inspectors and how to conduct inspections. These materials are intended primarily for inspectors employed by regulatory agencies and VESCPs. As noted previously, the land disturber or designee may have inspection responsibilities because of the monitoring agreement. While there may be some variability based on who conducts the inspections, there are many items in common and that's why the VESCL requires the person conducting ESC inspections hold a certificate of competency issued by the State.

The ultimate responsibility for inspections will remain with the localities, while the ultimate responsibility with the compliance with the VESCLR is with the owner.



State agencies that have Board approved standards and specifications are responsible for their own inspections; although these programs are subject to periodic review and inspection by DEQ. In addition, DEQ stormwater inspectors may visit a construction site to conduct VSMP inspections, since an ESC plan is part of a Stormwater Pollution Prevention Plan (SWPPP).

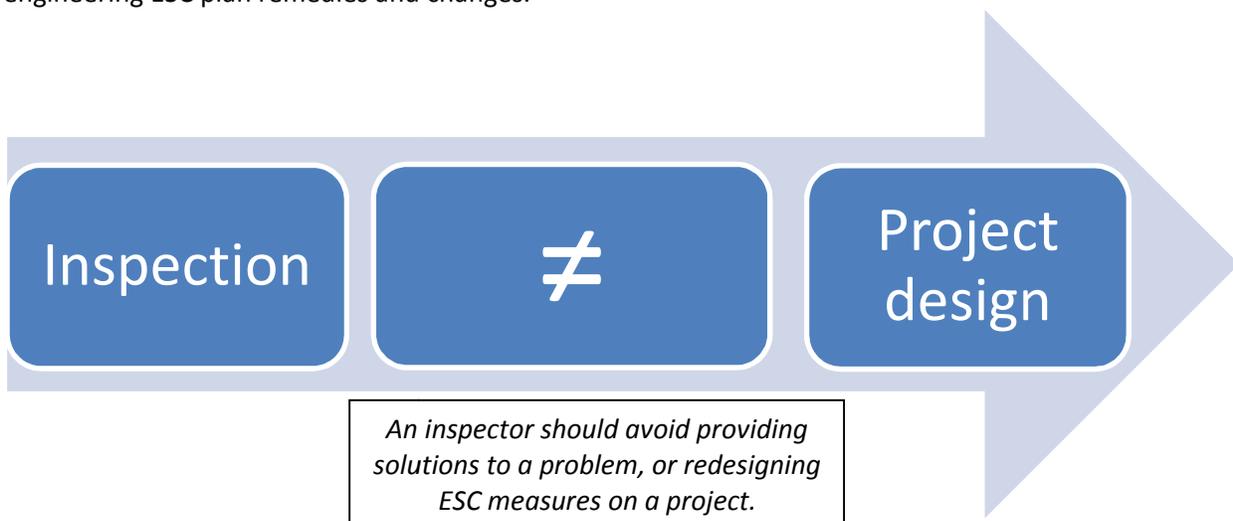
The Role of an Inspector

The inspector determines if land-disturbing activities are in compliance with the approved plan and the minimum standards, by examining a site for compliance with the program. Subsequently they enforce the VESCLR when potential violations are observed.

The goal of the permitting program is to prevent accelerated erosion and offsite sedimentation.



It is important to note if the site is not achieving compliance, it is not the inspector’s responsibility to offer engineering solutions and recommendations to achieve compliance. Such advice may place the responsibility of future non-compliance on the inspector. The inspector may discuss possible remedies; but, they should refer the land disturber back to the site engineer or the designer when it comes to engineering ESC plan remedies and changes.



The inspector may also discuss potential variances to the minimum standards with the RLD; however, an inspector cannot grant variances. These must be applied for in writing and variances are granted by the plan reviewer and program administrator.

The Inspection Process

The inspection process consists of a number of phases, ranging from the first time that you get the project assigned to you as an inspector, through preconstruction meetings, regular inspections, to the final inspection. Once out in the field, the inspector's job consists of the following items:

Inspection				
1. ESC measures installed according to the approved plan and at the right phase of the project?	2. ESC measures maintained according to the approved plan?	3. Erosion controlled to the maximum extent possible?	4. Is offsite sedimentation prevented? Is the turbidity in receiving waters attributable to the project minimized?	5. Site successfully stabilized post construction?

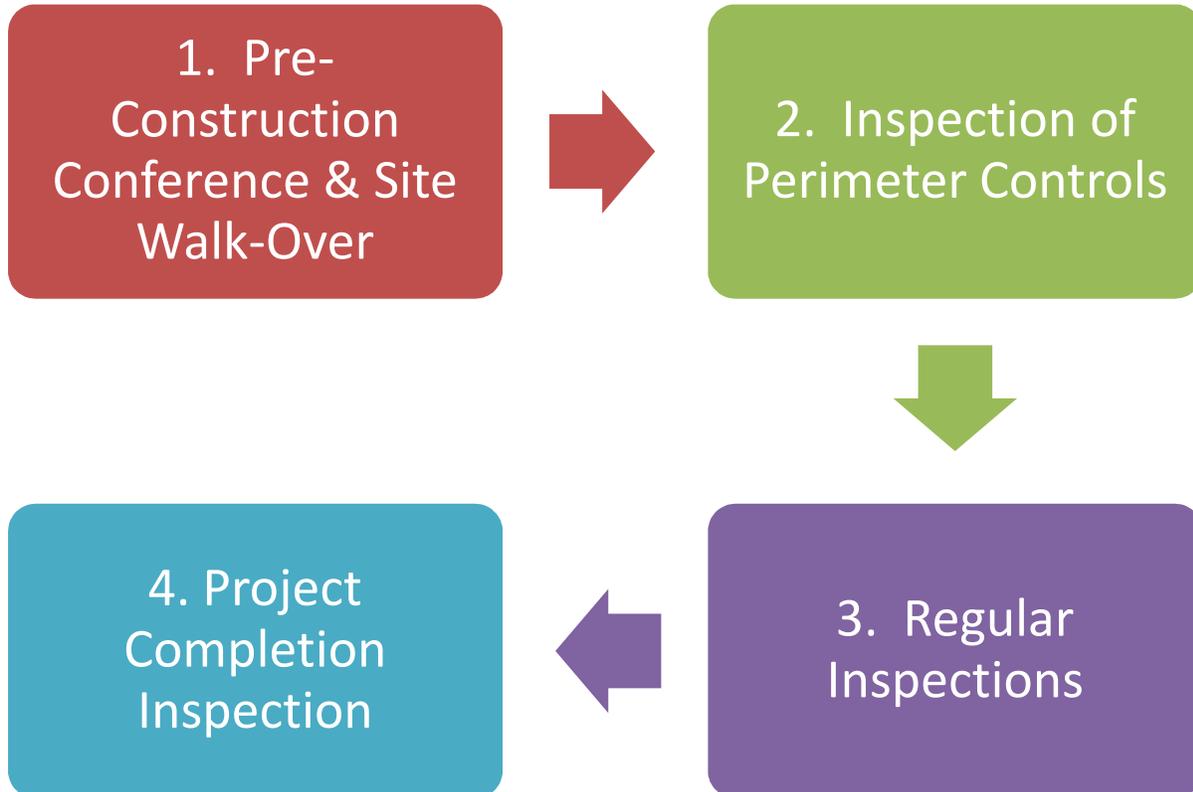
A proper inspection requires knowledge, planning, and preparation. As inspectors you will need to review construction plans, attend preconstruction conferences, and be knowledgeable about the law, regulations, standards, and the performance criteria and maintenance requirements of the BMPs. In other words, inspections don't "just happen"; it takes time to learn how to inspect a construction site properly. Moreover, project sites are often large and can have many land-disturbing activities occurring at the same time, which can complicate ESC implementation.

Once assigned a project as an inspector a number of things need to happen:



Inspections

As a general guideline, there are 4 different phases in a project for which an inspector is involved. The figure below shows the chronology of this:



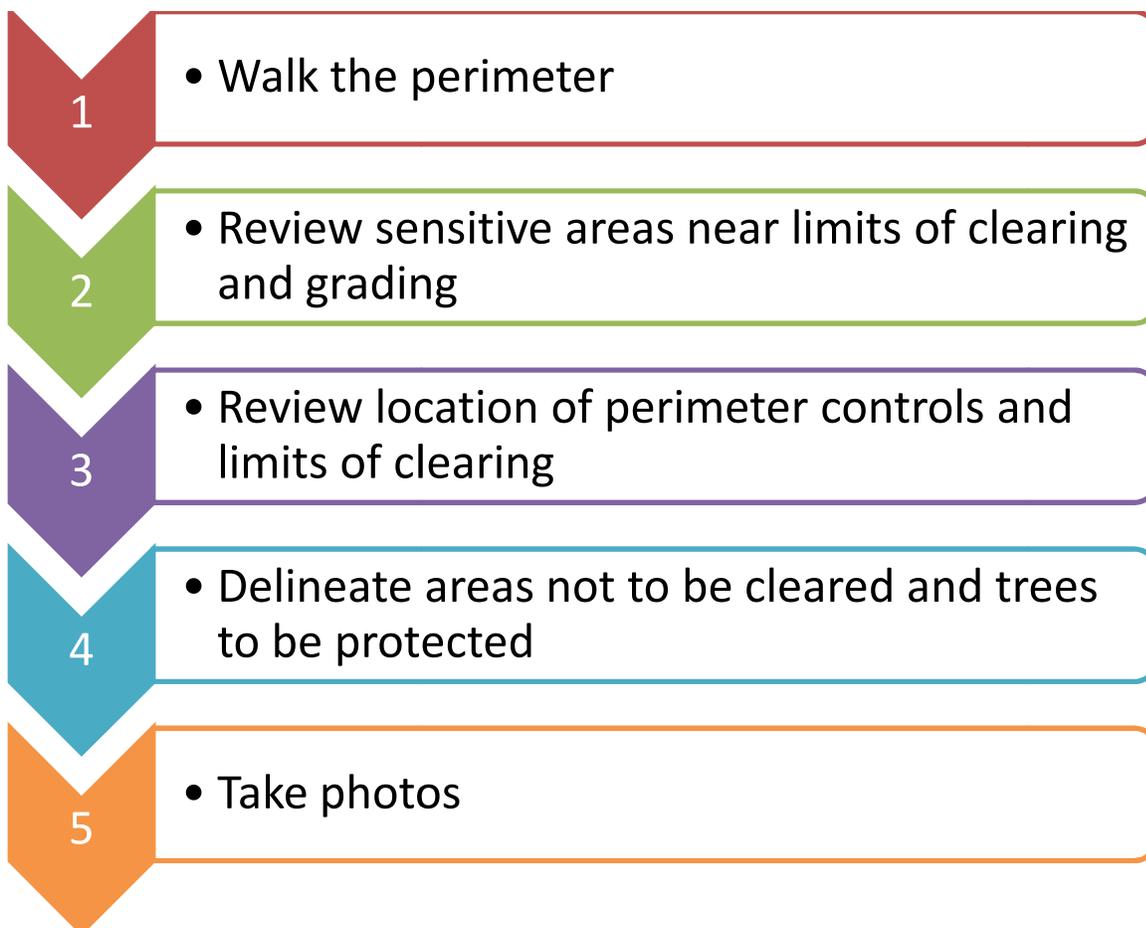
Pre Construction Conference

The pre-construction conference is a very important item in the inspection program. It usually is the first time there is a face-to-face meeting between the inspector and the people involved with the development of the project (including one or more of the following persons: the RLD, contractor, owner and the engineer). This meeting is meant to: establish a good working relationship between all parties; establish expectations; and discuss particular aspects of that specific project. During this meeting the inspector informs the RLD what their expectations are for the project.

During the pre-construction conference, the inspector will need to take detailed notes of potential issues, agreements, bottlenecks, etc. Notes will need to be transcribed (as a pre-construction inspection report) and shared with all the parties that were present during the meeting. They will serve as the official record of what was agreed upon during the meeting. Subsequently, the notes, photographs and the report will need to be entered into the project file.

Inspectors often report the reason for their success is that they are very strict in the beginning; however, they may gradually relax when the project manager demonstrates this action is warranted. Others may be strict throughout the project but are lenient with issuing notices to comply. Whichever inspector style you choose, consistency is important. The pre-construction conference is a good time exercise your style as some contractors may be more difficult to deal with than others. Your experience with certain individuals from previous projects/jobs can also be used to determine your inspection style. We recommend that a beginning inspector learn from an experience inspector prior to embarking on an individual project.

After the office meeting, a site visit is recommended using the following steps:



Regular Inspections

Once the project has started the first inspection should be to inspect the installation of perimeter controls at the project site. Perimeter controls must be *functional* before any up-slope areas are disturbed; a basin without diversions is not functional.

After this inspection, an inspection schedule and routine should be developed in order to conduct a successful inspection.

Minimum Standard 4 (MS4) requires that *“Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.”* Note that according to MS5, *“Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after stabilization.”* It is critical to obtain compliance on these two points.

Inspection Frequency

The regulations require an inspection be conducted *“at least once in every two-week period, within 48 hours following a runoff producing storm event, and at the completion of the project prior to the release of any performance bonds ...”* (9VAC25-840-60 B).

The regulations also do allow for the development of an alternative inspection program. The alternative program would need to be approved by the State Water Control Board; the VESCP Program Administrator is responsible for developing it. This alternative program & inspection schedule has to be established in writing and [at a minimum] address: the amount of disturbed project area, site condition and stage of construction; it must also be documented by inspection records.

Citizen’s complaints may result in extra inspections. These are usually inspected by the locality or, when the complaint is addressed to the department directly, DEQ inspectors may also become involved. Appendix E discusses some special considerations that involve citizen complaints.

Right of Entry ([§62.1-44.15:60](#))

The Department, the VESCP authority (where authorized to enforce this article) or any duly authorized agent of the Department or such VESCP authority have the right to enter any project for inspection of the land disturbance activities and/or erosion and sediment control. This must be accomplished at reasonable times and under reasonable circumstances.

4c. The Prepared Inspector

Conduct

Conducting inspections consistently and handling all projects, individuals, problems, and potential violations equally throughout is vital for program credibility. Therefore, we recommend that all VESCPs have a set of Standard Operating Procedures (SOP) and a general code of conduct. While inspectors are all individuals with individual styles of inspecting and enforcement, SOPs can provide some standard rules of conduct that can be applied to inspecting. However, no matter what the situation, inspectors need to carry out their responsibilities in a professional manner and in accordance with the rules, law, regulations and local ordinance. One thing we do not want: is an authority or organization inconsistently applying the VESCLR across projects. Finally, it is essential to follow proper legal procedures and to remain professional, courteous and fair.

Dealing with Contractors

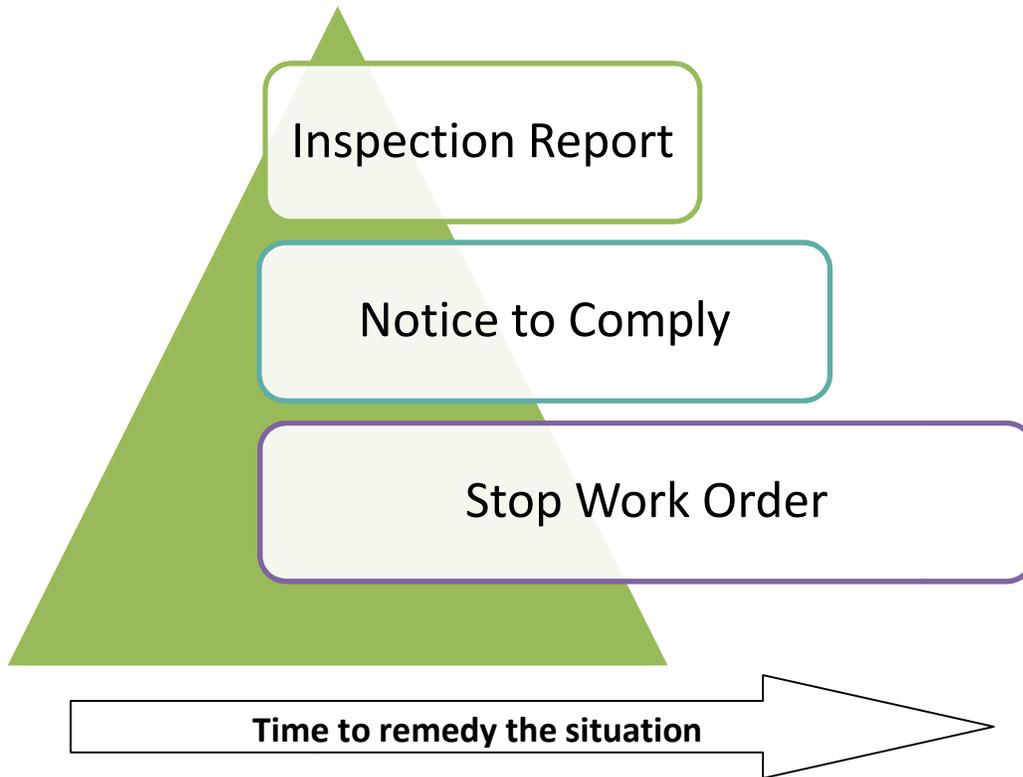
The relationship between the inspector and the land disturber should be based on mutual respect. Effective communication and people skills are important assets to a field inspector (these are described in subsequent pages). In many cases when you have a good working relationship with the RLD/site supervisor you can get them to fix problems before you even leave the site. This makes your job easier; but [more importantly] causes the site to be brought back into compliance immediately.

Remember:

It is the objective of the VESCL to “prevent unreasonable degradation of properties, stream channels, waters, and other natural resources” from soil erosion, sedimentation and nonagricultural runoff. Thus, we inspect to protect areas down gradient from the land disturbing activity to the maximum extent practicable during construction activities. We are not there to slow down or stop development.

While the inspector’s (VESCP’s) decision is based on the VESCLR, there is some discretion when deciding the enforcement step (i.e. inspection report, notice to comply or stop work order) based on the severity of the problem and how quickly the situation must be remedied. Alternatively, it may also be partially based on the past relationship between the contractor and the inspector. Inspectors will likely have to deal with an individual (contractor, foreman, RLD, etc.) and/or this company again on other projects. Issues and/or working relationships will likely carry over from one job site to the next; thus, a good working relationship is important.

The use of enforcement measures may delay the needed correction which could exacerbate the problems encountered in the field (see the graphic on the next page). When considering erosion and sediment control, time may be of the essence and the quicker we can remedy a project the less harm is inflicted to properties and waters down gradient from our site.



Relationship Building

One of the most difficult parts of being an inspector may well be dealing with the public, including contractors, developers, neighbors, concerned citizens, and politicians. When anyone from the public comes to you with an erosion and sediment control issue, you should understand that their concern is most likely the most important thing on their mind at that specific time. When you talk with an owner or a contractor, profit or a general sense of “*you cannot tell me what I can or can’t do on my property*” may prevail. All parties have opinions and rights as citizens and human beings. Moreover, all of them have an opinion of how you should do your job as a regulator and how you should apply and interpret the law and regulations. As an inspector you may sometimes feel like you are squeezed in the middle of the various forces (Figure 4.1).

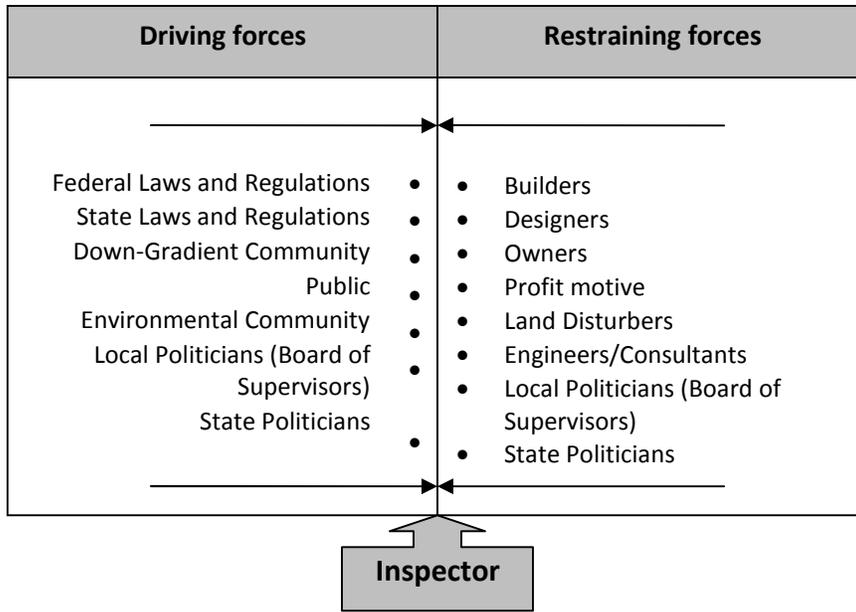
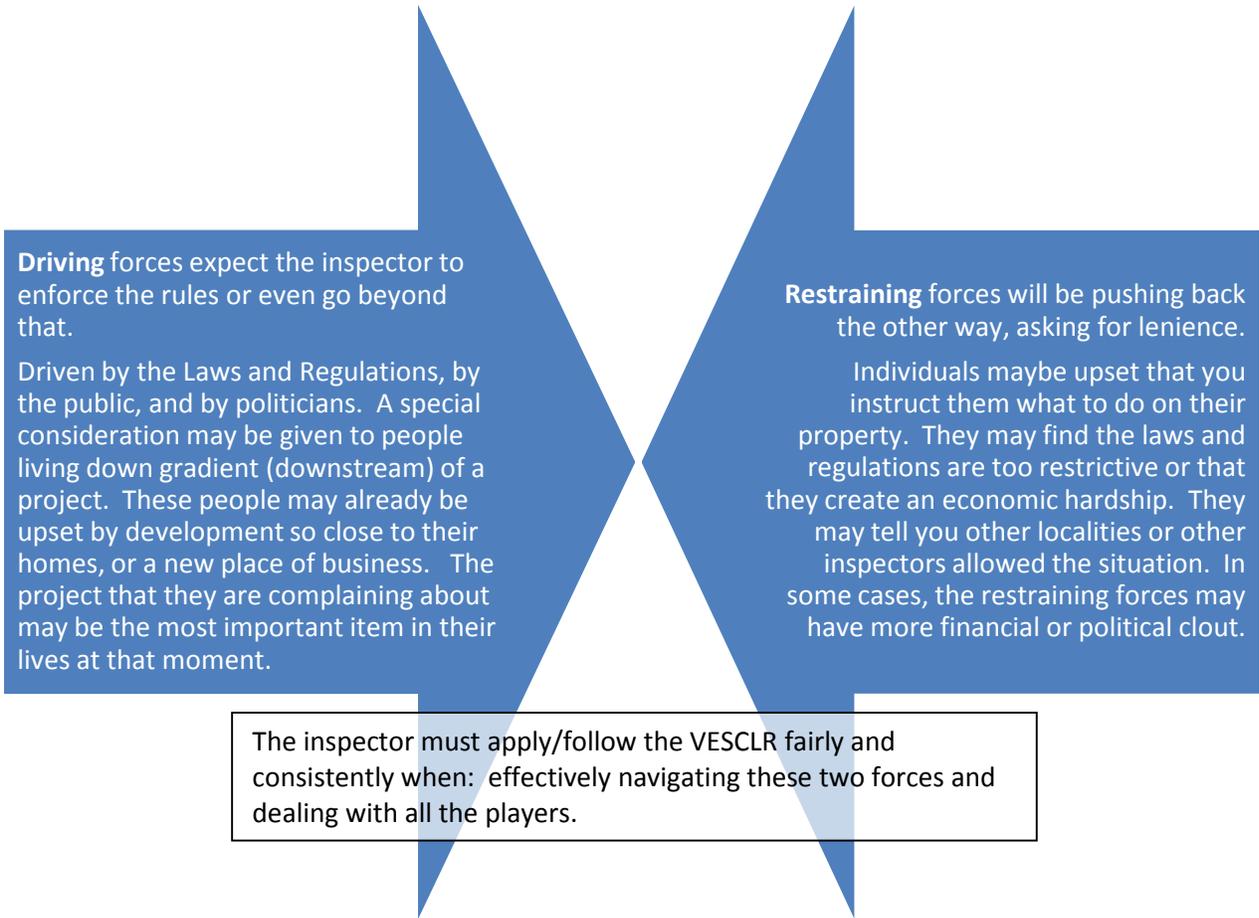


Figure 4.1. The role of an inspector is to consistently apply the laws and regulations, despite being pushed both ways by driving and restraining forces.



Experience has shown it is very important to keep an open mind when responding to a complaint, doing inspections, or implementing an enforcement action. It is possible the information presented in a complaint is biased in favor of the complainant. The site or parties involved may have a long history for which you are not aware; you must do your best to determine and stick to the facts.



Fairness also means treating all people with courtesy and respect. If you show respect for the other person, that person is more likely to show respect for you. Active listening and empathy are essential tools for the job. Moreover, it is important to be as consistent as possible. If you apply the rules consistently to every situation, the people you deal with will know what to expect from: you, your locality, and the entity where you are employed. However, there may be times when you encounter people that refuse to cooperate; in such cases, the VESCLR is your ultimate decision tool.

The list below provides five words as the most important words to remember in relationship building:

- 1 • Empathy
- 2 • Courtesy
- 3 • Inquiry
- 4 • Interest
- 5 • Respect

The following list also describes other generally accepted codes of conduct:

1. Bring solutions to problems to the table;
2. Be aware on non-formal communication or body language;
3. Never blind side a person and go over their head before trying to solve it with that person first;
4. Keep your commitments and do what you say you will do;
5. Share the credits for accomplishment;
6. Help others find their greatness;
7. Be an active listener;
8. Build two-way communication and seek to understand others;
9. Do not whine;
10. Do not play the blame game; and
11. Exercise patience.

Turning this around, we can use the next list to nourish a conflict with an owner, developer, RLD, or complainant:

1. Do not listen;
2. React with hostility;
3. Insult;
4. Yell;
5. Have pre-conceived assumptions;
6. Self-Interest;
7. Unrealistic expectations;
8. Blame;
9. Sarcasm;
10. Harsh words;
11. Insincerity;
12. A “how is that my problem” attitude; and
13. Minimizing the problem or accomplishments.

Pre-Inspection Preparation

Before going on an inspection you should pull the project file and review the project in general, as well as the previous inspection reports. In doing so you can identify past problem areas to ensure they have been fixed properly and that the fix is sufficient. Other potential problem areas can also be identified before going out on an inspection. Subsequently, you will want to document what corrections have been made.

In addition, it would be useful to know the immediate & long range weather forecasts. Knowing this will give you a sense of how urgent it is to fix a certain deficiency. If heavy rains are expected within the next few days, the fix might be urgent; while if no rain is expected, perhaps the fix can be stretched out over a few days.

Weather is also a reason why you might want to carry rain gear; especially on an alternative (i.e. weekly) inspection schedule, where you could end up inspecting in the rain. Table 4.1 lists some equipment that

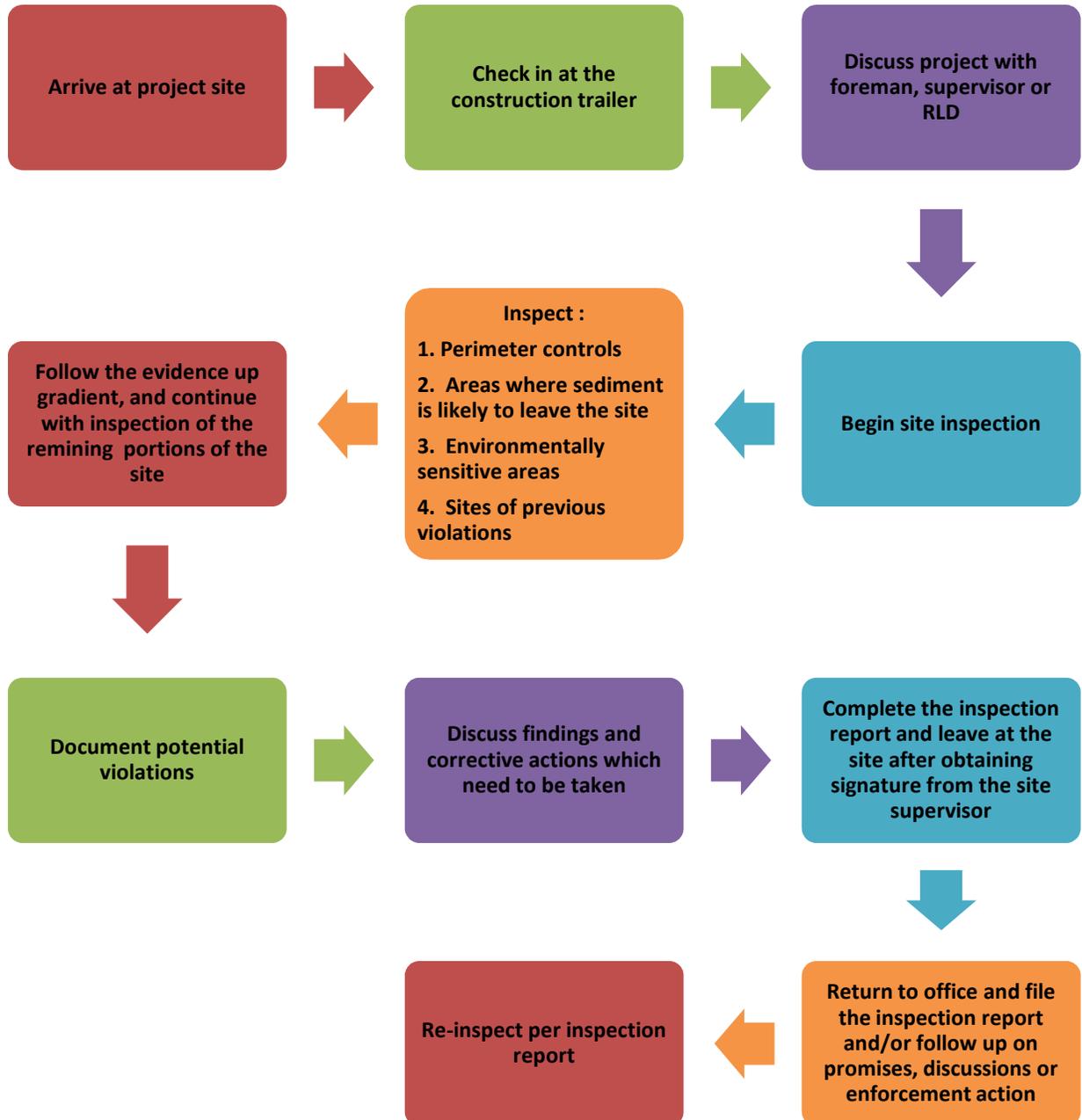
an inspector may wish to carry with them. Most construction sites will require you wear steel toed boots, a hardhat and a safety vest. In addition, you should always bring a camera, a note pad and a pen. If possible, cameras should be equipped with a date stamp, which may be important if a case ends up in court. You should definitively make it a point to carry some or all of the items listed below in your vehicle for easy reference and use. Once you become more familiar with the site and with inspection you may wish to leave the plans and the E&S pocket guide in the vehicle. A lock level and tape measure are useful tools when inspecting sediment traps and basins for size and installation (this is discussed in more detail in the sediment basin section).

Table 4.1. List of recommended and optional equipment for an inspection

<p><i>Recommended equipment</i></p> <ul style="list-style-type: none"> • Field bag/backpack • (Steel toed) boots • ANSI Z89.1 Hardhat • ANSI 107-2010 safety vest • Plans • Clip board • Camera (with date stamp) • Field manual (E&S Pocket guide) <p><i>Optional equipment</i></p> <ul style="list-style-type: none"> • Lock level • Tape measure (50-foot long) • Notepad and pen • Cell phone • Rain gear • Insect repellent • Sun block/sunglasses • Protective eyewear • Rain gear • Change of clothing • Bottled water/snacks • Maps • First aid kit
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Practical Inspecting

The figure below shows a typical inspection sequence:



If you are accompanied by the supervisor/RLD on your inspection rounds, make small talk, engage them in conversation about the project, discuss any issues or potential future issues, and discuss your future expectations for E&S control at the site. When you encounter issues, do not chastise, demean or in any other way make the supervisor/RLD feel their effort is worthless. This will create animosity and resistance. Take notes and discuss with them a potential remedy for the situation. This might also be a good time to discuss your expectations including potential fixes and the timeframe allowed to complete the fixes.

It is important to record your observations by taking notes and photographs during the inspection (see the next page). When taking photographs it is important to make notes about the photos. This includes a description of the potential violation, the date and time, the direction in which the photo was taken.

Remember:

1. Sedimentation is a sign that erosion is occurring on the site,
2. Every land disturbing activity will have some erosion. ESC is meant to minimize the release of sediment from the construction site,
3. Documenting successes and positive items is often as important as documenting violation, and
4. When there is no inspection report, the inspection never took place.

Table 4.2 provides an overview of the different categories of potential violations and the sections in the law and regulations where they are addressed.

Table 4.2. The anatomy of a potential violation

Violations observed at a site can fall in any of the following categories:

1. Working without an approved plan (VESCL §62.1-44.15:55A and VESCL §62.1-44.15:58C)
2. Not following (failure to comply with) the approved plan (VESCL §62.1-44.15:58A)
3. Not following the minimum standards (9VAC25-840-40 and VESCL §62.1-44.15:58A)
4. Not following the design standards and specifications (VESCHB and VESCL §62.1-44.15:58A)
5. Having no RLD on the project (VESCL §62.1-44.15:58B)
6. Imminent danger to the environment and human population (VESCL §62.1-44.15:58C)

Making a Photographic Record

When you create a photographic record of a construction site and/or documenting violations there are a number of common sense things to keep in mind. The following are some pointers that should assist you in creating a solid record.

1. Try to take photographs with the sun behind or above you.
2. If possible, take photographs of a violation from different angles.
3. It might be useful to photograph the undisturbed site prior to land disturbance; in particular those areas where ESC measures/BMPs will be installed.
4. Take detailed notes of what you are seeing (taking a photograph of).
5. Large, panorama-type photos are not of particular value unless the goal is to show perspective for a closer shot or extensive land disturbance without stabilization.
6. If possible use a clipboard, tape measure, etc. in the photograph as a reference of size. However, caution should be used about having people appear in the photos. For example, if you are alleging that something poses a high landslide hazard, do not position people or vehicles in the photo in the potential hazard zone. OSHA risks should also be avoided.
7. Photos should document all observations that will be cited in the inspection report/Notice to Comply (except reporting/paperwork violations).
8. In addition to photographing the failed ESC controls /BMP, inspectors should photograph areas where a BMP was required but not installed. For example, an undisturbed-by-construction grass covered/wooded area may not normally get photographed but it should be if that is the location where a trap/basin should have been installed but was not.
9. The inspection photos should have the date stamp on the photo if the camera includes that function. Once filed electronically or printed, photos should be labeled to include the project name and permit number. The photos should concisely describe what is being shown; the statute or regulation being cited; who took the photo; and the date taken (even if the date is included in the photo). Compass references, if known, may be included (for example, looking towards the east), as well as any references to the ESC Plan. For example: Photo taken from Locust Drive facing northwest depicting Lot Nos. 38 and 39 of Phase II of ABC Development (and describe violations shown, etc.).
10. Repeat incident photos are best taken from the same location where the original photo was taken. Documentation of any corrective action taken should also include at least one photo taken from the location of the original violation photo.

Documentation and Record Keeping

While a lot of the materials discussed in this section are based on personal preference, the important take-away of this section is that good documentation and record keeping is paramount to having an effective ESC program.

Documentation is important: **If there is no inspection report, the inspection never took place!** No matter what the inspector may claim.

MS-7 Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

It is important to maintain a good set of project files at the office. Files should be started when you are assigned the project and kept in chronological order until closure of the project. File retention policies may differ by location and you should refer to what is prescribed at your locality. VA State Library & Archive procedures require state inspections be retained for 3 years after project completion.

The inspector is required to fill out an inspection report. This can be done by hand, electronically, in the field or back in the office. Note that the report needs to be signed by someone from the site as being received. Filling out inspection reports in the field is particularly useful when no issues are found at a construction site; however, it can be done any time during a field visit. A sample inspection report is shown below (Fig. 1). This report can be downloaded and edited from the DEQ website. Electronic versions are available.

Record Keeping

There are two schools of note keeping:

1. Have an inspection report and site photographs, and
2. Maintain a detailed inspection log either on a note pad or in a field book in which they take notes in chronological order. When back in the office notes can be copied and added to the appropriate project file. The advantage of this system is that the inspector keeps his/her own diary of field notes with them wherever they go, or until they file the book.

But note all notes must be made available under a Freedom of Information Act (FOIA) request and when keeping a log book, any write up of a project must be done in a professional matter that can be made public.

Reply To: [INSERT ADDRESS]	[INSERT LOGO]																								
INSPECTION REPORT																									
Project Name: _____ Project Authority: _____																									
RLD Name: _____ RLD No. _____																									
Project Location: _____ Project No: _____																									
Inspector Name: _____ Inspection Date: _____ Time: _____																									
STAGE OF CONSTRUCTION																									
Pre-Construction Conference <input type="checkbox"/>	Building Construction <input type="checkbox"/>	Construction of SWM Facilities <input type="checkbox"/>																							
Clearing & Grubbing <input type="checkbox"/>	Finish Grading <input type="checkbox"/>	Maintenance of SWM Facilities <input type="checkbox"/>																							
Rough Grading <input type="checkbox"/>	Final Stabilization <input type="checkbox"/>	Other _____ <input type="checkbox"/>																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 8%;">Item#</th> <th rowspan="2" style="width: 12%;">State/Local Regulation⁽¹⁾</th> <th colspan="2" style="width: 15%;">Violation</th> <th rowspan="2" style="width: 65%;">Description and Location of Problem/Violation⁽²⁾, Required or Recommended Corrective Actions, and Other Comments/Notes</th> </tr> <tr> <th style="width: 5%;">Initial</th> <th style="width: 5%;">Repeat</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				Item#	State/Local Regulation ⁽¹⁾	Violation		Description and Location of Problem/Violation ⁽²⁾ , Required or Recommended Corrective Actions, and Other Comments/Notes	Initial	Repeat															
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		Initial	Repeat																						

Figure 4.2 Screenshot of a generic inspection report available from

On the report, State/Local Regulation refers to the regulation that was cited. For example we use §62.1-44.15:58A and or MS-1 (9VAC25-840-40) when the alleged violation relates to the establishment of permanent or temporary stabilization (§62.1-44.15:58A refers to not following an approved plan). It is important to note whether it is an initial citation or a repeat citation. A repeat citation might require a notice to comply. Finally in the “*Description and Location of Problem, Required or Recommended Corrective Actions, and Other Comments/Notes*” you will need to spell out the exact location of the potential violation and then describe the requirements to remedy it. If no potential violation is found, the inspector should still fill out the form and note that no regulatory citations were observed. Make sure you record whether items discovered during the previous inspection were corrected or not corrected.

In cases involving a potential violation, the inspection report needs to be delivered to the permittee or the person on site responsible for carrying out the plan or delivered by registered or certified mail to the address specified in the permit application or plan certification (§62.1-44.15:58C).

- A Notice to Comply will generally be written by the program administrator, department head or even at the administration level; however, a “Notice” will usually refer to the findings of the inspector and refer the responsible party back to the

The Notice to comply “shall specify the measures needed to comply with the plan and shall specify the time within which such measures shall be completed. Upon failure to comply within the time specified, the permit may be revoked and the VESCP authority, where authorized to enforce this article, the Department, or the Board may pursue enforcement as provided by §62.1-44.15:63.”

inspector for questions concerning the resolution of the issue that lead to the “Notice.” Notices to Comply usually require the land disturber to comply with inspection reports that were previously issued by the inspector and the inspector will be the person to revisit the site to ensure that the proper remedial actions have been taken. Therefore, a Notice to Comply should include:

- detailed documentation of the alleged violation (including copies of the inspection reports that address the issue and photographs taken by the inspector);
- a date by which the alleged violation must be remedied and
- a date when it will be re-inspected.

4d. Compliance and Enforcement

The erosion and sediment control laws, regulations and standards and specifications are generally performance oriented. That means, the measures used at a construction site **must be effective in controlling erosion and/or preventing sediment from leaving the site** to demonstrate compliance. Following an approved plan and installing the control measures **may not** be enough for a site to demonstrate compliance and, when this is the case, the inspector must ensure any problems are pointed out and corrected as soon as possible.

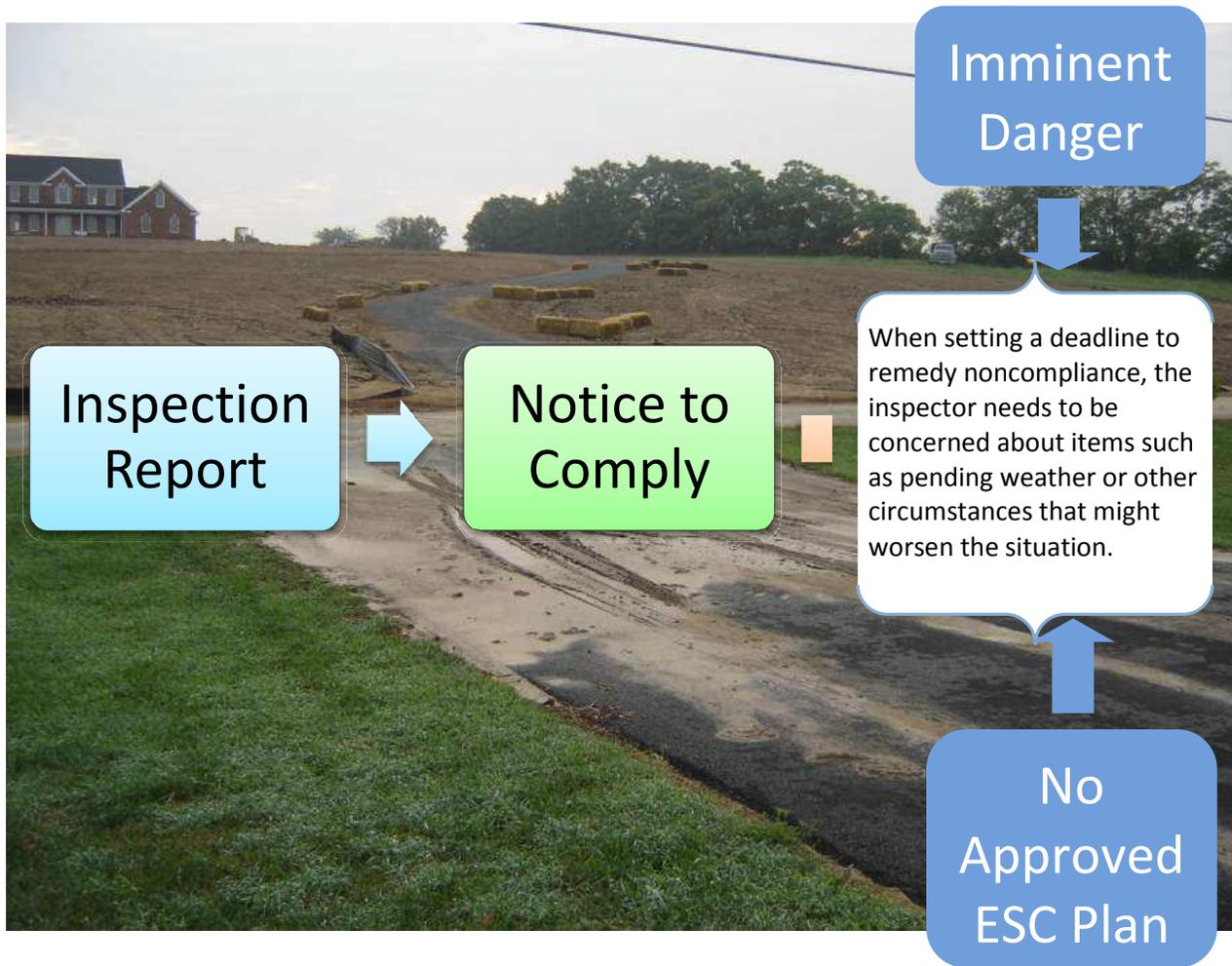
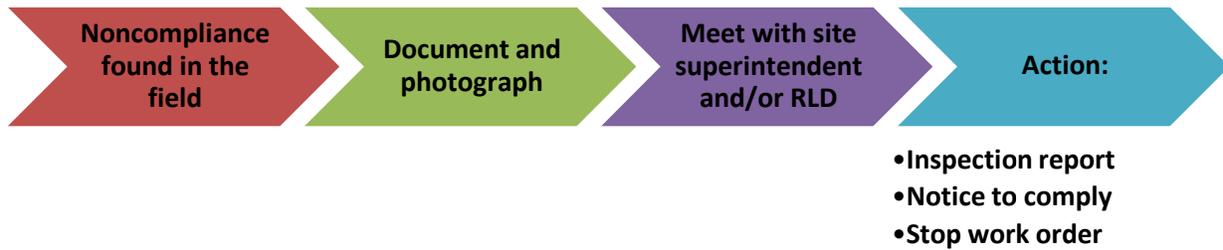


The goal of the inspection is to ensure:

- construction/maintenance of the ESC practices are in accordance with approved plans/standards/specifications, and
- no sediment leaves the project site.

Inspectors are usually the first persons to determine if the intent of the erosion and sediment control laws, regulations and specifications are being met or not.

In potential non-compliance situations, it is the inspector's duty to notify the responsible party regarding non-compliance issues. Lastly, while it is not part of the ESC program, inspectors need to be aware of the VSMP program and they should also be concerned about pollution that may be mobilized by infractions of the SWPPP.



All actions by the inspector should include a deadline for correcting the potential violation. Depending on the complexity, severity, and urgency of the violation, the deadline can range from a few hours to a couple of weeks. In setting a deadline there should be consideration of practical limitations, such as the availability of particular equipment needed to do the work or other questions that need to be considered when setting a deadline.

In some cases the inspector may encourage the owner to apply for a variance to the specifications, or ensure that additional measures are designed and implemented to correct noncompliance.

A potential last step in compliance is the potential assessment of civil penalties. The VESCL stipulates that:

“(t)he civil penalty for any violation shall be not less than \$100 nor more than \$1000. Each day during which the violation is found to have existed shall constitute a separate offense. In no event shall a series of specified violations arising from the same operative set of facts result in civil penalties which exceed a total of \$10,000, except that a series of violations arising from the commencement of land-disturbing activities without an approved plan for any site shall not resulting civil penalties which exceed a total of \$10,000.”

On July 1, 2014 Erosion and Sediment Control on a construction site becomes an integral part of the SWPPP under the VSMP regulations. ESC violations will therefore also become VSMP violations on sites larger than 1 acre. Therefore, the VESCP may consider using the civil penalty structure of the VSMP regulations includes a maximum penalty of \$32,500 per violation per day.