

Slide 1 - Case Study: Compliance vs. Non-compliance



Slide notes

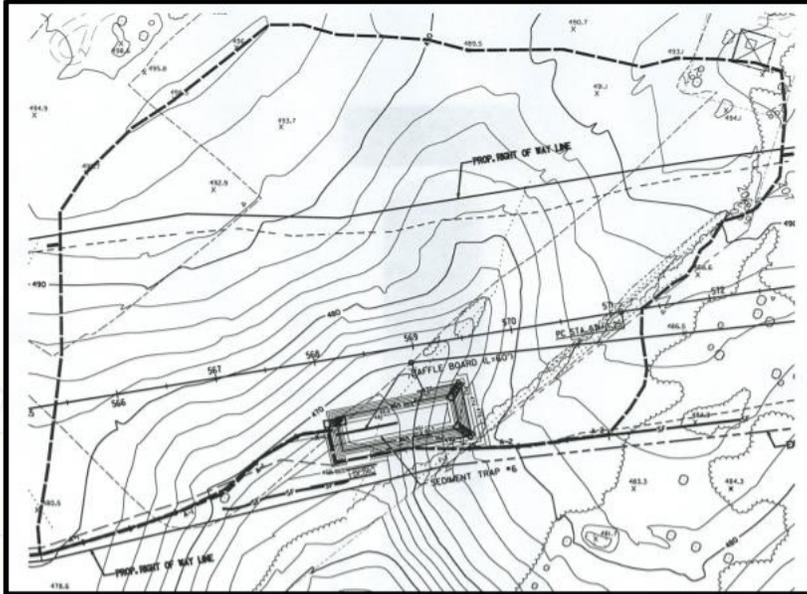
Now we will look at the costs associated with a project being found in non-compliance of the Administrations Quality Assurance Program

Notes

Slide 2 - Site Information



Site Information



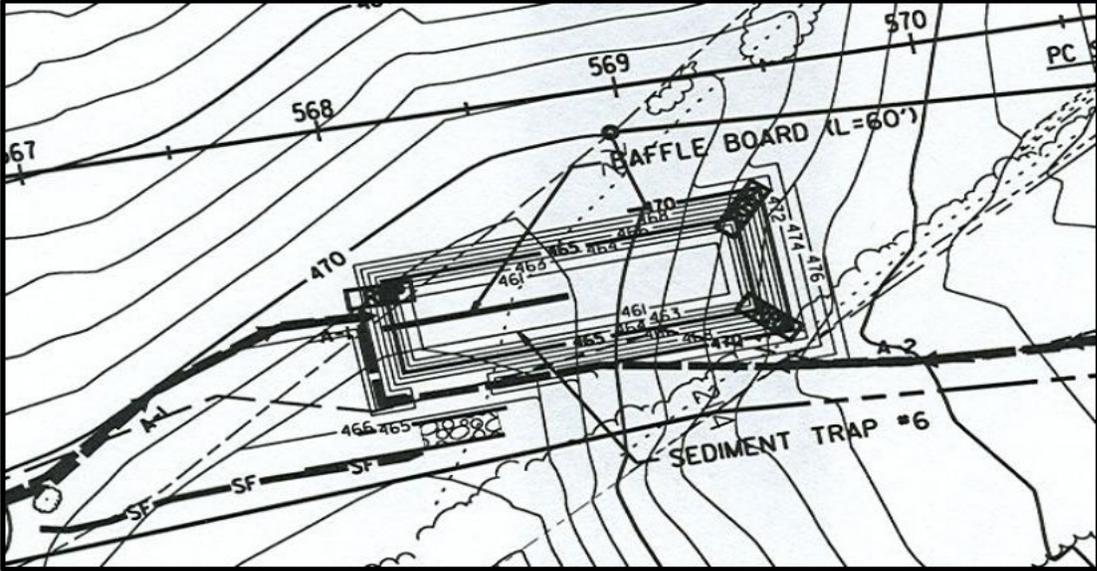
- 3-acre drainage area
- Newly graded
- Soils: Fine Sand
($k = 0.24$)
- Outfall into ephemeral channel
- 1" of runoff
- Average slope = 10%

Slide notes

There are many factors that a designer will take into account when developing an Erosion and Sediment control plan for a site. Drainage area and amount of anticipated runoff are a few of these factors. Environmental resources that may be impacted are also considered in the design. This site drains downhill into a channel that does carry water some parts of the year.

Notes

Slide 3 - E&S Controls



E&S Controls

- Original excavation for sediment control
- Cleanout excavation
- Stone for sediment control
- Portable Sediment Tank
- Earth Dike
- Stabilized Construction Entrance
- Silt Fence
- Temporary Seed & Mulch
- Turf Establishment

Slide notes

The plans call for multiple controls to be installed and maintained for the duration of the work. This section of the plan shows the controls and area around a sediment trap to be constructed that will control the runoff from the disturbed area during the construction phase. Without this basin and associated controls such as earth dikes and silt fence the sediment laden runoff may leave the project and collect on adjacent properties or wash into a waterway.

Notes

Slide 4 - Erosion & Sediment Control Costs



Erosion & Sediment Control Costs

Quantities and Costs:

- Original Excavation (300 CY @ \$15/CY) = \$4,500
- Cleanout Excavation (75 CY @ \$35/CY) = \$2,625
- Stone for Sed. Control (90 TON @ \$30/T) = \$2,700
- Portable Sediment Tank (1 EA) = \$2,000
- Earth Dike (350 LF @ \$4/LF) = \$1,400
- Silt Fence (125 LF @ \$2/LF) = \$250
- Temp. Seeding & Mulching (30 LB @ \$40/LB) = \$1,200
- Turf Establishment (2000 SY @ \$2/SY) = \$4,000

Total = **\$18,675**

Slide notes

The contract documents will include the E and S controls to be utilized, the quantities, and the compensation to be paid to a contractor for the materials and work as it is completed.

Notes

Slide 5 - Non-compliance Costs

Non-compliance Costs

Construction Requirements:

- Clean up crew mobilization
- Excavation of sediment at culvert
- Grading
- Removal of selected trees
- Planting replacement trees
- Obtain temporary access to downstream property
- Temp. Seeding & Mulching
- Turf Establishment

Fail

Slide notes

Lets consider a situation were the contractor chooses not to follow the plan or does not follow the plan and contract documents correctly. Not only will the contractor receive a failing grade as a result, there may also be additional work or mitigation necessary due to environmental damage downstream of the project site. Clean up will be required, possibly additional grading or removal of selected trees due to damage. Trees that are damaged and removed will have to be replaced along with new turfgrass establishment. For some of these activities the contractor may have to negotiate with adjacent property owner for access rights.

Notes

Slide 6 - Non-compliance Costs



Non-compliance Costs

Additional Work:

- Clean up crew mobilization = \$2,500
- Excavation (22 CY @ \$100/CY) = \$2,200
- Land Grading = \$1,000
- Clearing & Grubbing (0.15 AC @ \$15,000/AC) = \$2,250
- Tree replacement (50 Red maple 2 1/2 B&B \$175/EA) = \$8,750
- Turf Establishment (1,500 SY @ \$3/SY) = \$4,500

Stop Work Order/Delay Time (3 Days)

- Overhead (PM, Supervisor, Office) (3 days @ \$1,500/d) = \$4,500
- Crew (Non-production; 3 days @ \$2,500/d) = \$7,500
- LD's (3 days @ \$1500/d) = \$4,500



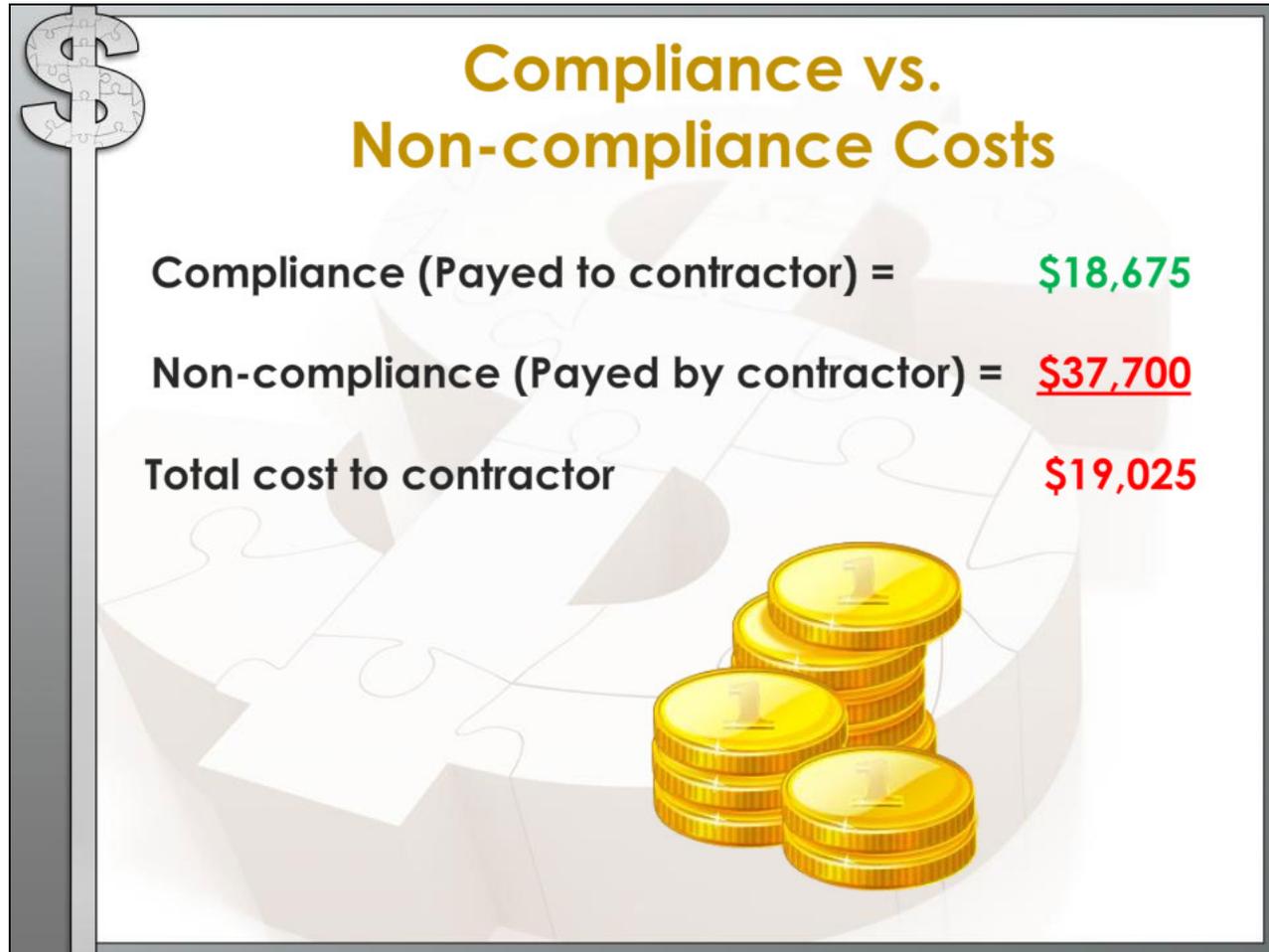
Total Cost = \$37,700

Slide notes

Take a moment to review the cost associated with this non compliance. Not only does the contractor incur a cost for the liquidated damages but also for all of the additional work and operational downtime associated with the event. In this case the total cost amounted to over 37 thousand dollars.

Notes

Slide 7 - Compliance vs. Non-compliance Costs



Slide notes

Even when a non-compliance occurs the contractor is still obligated to complete the original work per the contract documents and plans. In this case the original compensation for the work done correctly does not cover the costs associated with the non compliance.

Notes

Slide 8 - Non-compliance Consequences

Non-compliance Consequences

- Lost Productivity
- Bad Press
- Mitigation Requirements
- Penalties
- Attorney Fees
- Engineer Fees
- Lost credibility with regulatory agencies
- Documented past Non-Compliance is evaluated as part of Design/Build selection criteria

Slide notes

There are also many other cost that may be associated with a non compliance. Bad press or lost credibility with the regulatory agencies. Those regulatory agencies that originaly issued the permits may also impose penalties or mitigation requirements.

The goal should always be to stay in compliance with the administrations programs and contract documents to ensure good standing with all stakeholders involved in the business that S.H.A conducts.

Notes

Slide 9 - End



Slide notes

This concludes the Cost of non-compliance portion of the training. Please select the next module to continue the training

Notes
