CONSTRUCTION PROJECTS:
A VIEW THROUGH THE “ENVIRONMENTAL LENS”

AGC Grading Forum
Tuesday, December 3rd 2019

Earle Brown Heritage Center
Brooklyn Center, MN
GOALS FOR TODAY:

- Describe “how” to best engage the environmental team
- Navigate communication landmines
- Environmental Compliance and Profit
- Leave behind messages
Think about who is on your team?

- What authority do they have?
- How do you want them to communicate?
- Are they reliable?
- Have you worked with them before?
- How do they communicate?
- Do you trust their problem-solving skills?
- Is their technical knowledge current?
- Do they understand the construction process, and timing of critical schedule steps?
Contaminated Soils
Regulated Waste Wells and Encountered Materials
Contaminated Waters
Threatened or Endangered Species
Cultural Resources
Vegetation Protection/Tree Removal Monitoring
Landscaping/Soil Stabilization
Monitoring
NPDES Compliance (SWPPP, Audits, BMP's)
Environmental Compliance Management
Documentation
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THE ECM WORKING “FOR” YOU SHOULD BE ABLE TO:

Interpret and apply environmental policies, procedures and laws to prepare, coordinate, and review all reports and documents relative to the project in a timely manner. Further, they should gather, analyze, and present technical data to the team, work effectively with other team members, and represent the project at various levels involving the public, client, and regulatory agencies.

The ECM should know and understand all aspects of the project. Analyze and uphold project budget and technical reports. They should know, understand, and interpret company policies, procedures, rules, codes, and related regulations. They are responsible for analyzing and solving program or technical issues and taking appropriate corrective action. ECM’s must work both indoors and outdoors, intermittently travel and, be exposed to dust, noise, slippery or uneven surfaces around machinery and other vehicles in the field. This position may be exposed to varying climates and temperatures while performing their duties.
ENVIRONMENTAL PROJECT LIFE CYCLES ARE A BIT LIKE RELATIONSHIPS.

MY WIFE MADE ME COFFEE THIS MORNING AND WINKED AT ME WHEN SHE HANDED ME THE CUP.

I'VE NEVER BEEN MORE SCARED OF A DRINK IN ALL OF MY LIFE.
COMMUNICATION PLAN – PROJECT MANAGEMENT

- Develop the purpose
- Set the goals
- Determine the key players
- Discuss task dependencies
- Be realistic on time and scale
- Adjust when needed
1. Listen
2. Emphasize efficiency over speed
3. Ask Questions
4. Respect your team
5. Keep everyone in the loop
No matter what I know, or how hard I work. The PM sets the tone for communication within the team. They know what is best for the project. My job is to remain open and willing to adapt to solutions which help the success of the project.

YOU......SET THE TONE
Okay, Let’s Say I Want To Comply Profitably......How?
Profit, if not planned does not occur

▶ **Return on Investment**
  ▶ What does environmental compliance cost your organization?

▶ **Capital Investment**
  ▶ What do you spend vs. what do you expect in return on environmental compliance?

▶ **Responsibility**
  ▶ Who is responsible within your organization for tracking environmental compliance risk, and how does this influence business decisions?
Business Value Chain Models

- How could you use environmental compliance to separate yourselves?
- How could environmental compliance minimize your competition?
- Do your clients value environmental compliance?
- Do you expect environmental compliance among your supply partners?
Step One

Know the Rules

Research where the project is, and what rules exist.

Document your findings.

Bid the project “right.”
Step Two

Do Your Homework:

- Make a site visit.
- Research local conditions and climate.
- Select partners and subcontractors that follow environmental compliance.
Why Visit?:

- Soils
- Existing Vegetation.
- Drainage patterns, surrounding environments.
- Political pressures.
- Signage
- Traffic Patterns.
- Example neighboring sites.
Step Three: Agree to a SWPPP

Step Three:

- Submit a Notice of Intent.
- Set up your onsite documentation.
- Establish and document your sequence of activity.
Set Up Project Documentation Correctly
Step Four: Hold a Pre-Con

- Invite the regulators.
  (This isn’t a typo)
- Discuss schedule and sequence expectations.
- Identify site communication and compliance expectation.
Step Five:

- Perimeter control management.
- Use BMP’s to manage the real problem.
- Inlets open and maintained.
- Make a plan for dewatering – plan ahead!
How Do You “Treat” Stormwater?

Water Treatment Methodology:

- **Settling**
- **Filtration**
- **Polymer or flocculant treatment.**
- **Liquid polymer treatments.**
- **Solid polymer treatments with land applications or velocity check applications.**
Settling:
Inlet and outlet spacing for detention time of water.

Allows settling of sediment from water column.

Clean water is then discharged.

Storage volumes are calculated for drainage areas.
Filtration Facts:

- Equipment portable to site conditions.
- Combinations of filter media and chemical treatment to floculate the water.
- Particles trapped during flow through process and clean water discharged.
Let’s Talk Sampling

Sampling Facts:

- Representative samples can be considered for lineal projects by appropriate authorities.

- Often regulatory agencies are recommending at least 3 samples at each discharge point – local authorities may require more.

- Even if representative sampling is allowed, all discharge points will be subject to compliance with limits.
Sampling Instructions:

1. Identify locations where samples will be taken and ensure compliance with regulatory standards.

2. Determine when (frequency and time) samples will be taken.

3. Document equipment calibration and record activities.

4. Synthesize how documentation and samples will be stored.

5. Record and authenticate corrective actions taken to treat runoff.

6. Provide sampling data to regulatory authority at pre-determined intervals.
Step Six: Keep Your Dirt on Your Site

- Pick the right blanket (know the specs for each job) and install it correctly.

- Not all mulches are the same – know what are true equals.

- Think soil samples.

- Manage stockpiles.

- Protect channelized water flow.
Blankets

Seed + blanket + staples
Mulches

Mulch

Types:
- Hydromulch
- Straw mulch

Mulches
Stockpiles
Step Seven:

- Street sweeping is not a BMP.
- Concrete Wash Out Systems.
- Equipment & Leaks.
Entrance and Exit Points
Concrete Washout
Step Eight: Tell Your Story

- Document changes
- Inspection Checklists
- Corrective Action Notices
- Photo Documentation
- Litigation Steps
### Site Inspection Checklist

#### 1. General/Compliance
- Risk Level: [ ] Low (Risk Level 1) | [ ] Medium (Risk Level 2) | [ ] High (Risk Level 3)
- Dust Control: [ ] Yes | [ ] No | [ ] N/A
- Observed Risk Assessment: [ ] Yes | [ ] No | [ ] N/A
- Other Observations:

#### 2. General/Site Conditions
- Site Access: [ ] Yes | [ ] No | [ ] N/A
- Site Security: [ ] Yes | [ ] No | [ ] N/A
- Site Inspections: [ ] Yes | [ ] No | [ ] N/A
- Other Observations:

#### 3. Site Management
- Site Management: [ ] Yes | [ ] No | [ ] N/A
- Site Maintenance: [ ] Yes | [ ] No | [ ] N/A
- Site Security: [ ] Yes | [ ] No | [ ] N/A

#### 4. Preventative Control / Insect Protection PMs
- Preventative Control / Insect Protection PMs: [ ] Yes | [ ] No | [ ] N/A
- Other Observations:

#### 5. Slips
- Slippery or Wet Walkways: [ ] Yes | [ ] No | [ ] N/A
- Other Observations:

#### 6. Maintenance
- Maintenance Schedule: [ ] Yes | [ ] No | [ ] N/A
- Equipment Maintenance: [ ] Yes | [ ] No | [ ] N/A
- Other Observations:

#### 7. Exposed Soil / Vegetation Establishment
- Exposed Soil / Vegetation Establishment: [ ] Yes | [ ] No | [ ] N/A
- Other Observations:

#### 8. Site Selection
- Site Selection: [ ] Yes | [ ] No | [ ] N/A
- Other Observations:

#### 9. BMP Installation
- BMP Installation: [ ] Yes | [ ] No | [ ] N/A
- Other Observations:

### Comments/Observations:

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**Note:** All blanks must be filled for compliance.

---

**By:** [Signatures]

**Date:** [Date]

---

**Report:** [Title]

**Date:** [Date]

---

**Company:** [Company Name]

**Contact:** [Contact Name]

**Phone:** [Phone Number]
## Checklists

<table>
<thead>
<tr>
<th>Inspector:</th>
<th>Photos Taken? Yes/No</th>
<th>Photos Taken? Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. General / Compliance</strong></td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>a. Was there adverse discharge to &quot;Waters of the State&quot; or offsite?</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>b. Incidents of non-compliance with NPDES Permit Requirements?</td>
<td>YES</td>
<td>NO</td>
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<tr>
<td>c. All Logs Up To Date? (Inspection, Maintenance, etc.)</td>
<td>YES</td>
<td>NO</td>
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<tr>
<td><strong>2. General / Site Conditions</strong></td>
<td>YES</td>
<td>NO</td>
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<tr>
<td>a. Sediment in streets, curb, gutter, inlets, pipes, adjacent property?</td>
<td>YES</td>
<td>NO</td>
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<td>b. Debris, trash, trash, or other construction debris on site?</td>
<td>YES</td>
<td>NO</td>
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<td>c. Damaging flow from off-site causing washouts?</td>
<td>YES</td>
<td>NO</td>
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<tr>
<td>d. Hazardous Material Spills Since Last Inspection? Vehicles, Equipment</td>
<td>YES</td>
<td>NO</td>
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<td>e. Secondary containment needed for hazardous materials on site?</td>
<td>YES</td>
<td>NO</td>
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<td>f. Equipment/vehicle maintenance, Washout Areas In Place Utilized/Maintained?</td>
<td>YES</td>
<td>NO</td>
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<td><strong>3. Site Management</strong></td>
<td>YES</td>
<td>NO</td>
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<td>a. Unprotected stockpiles or stockpiles on street, curb and gutter?</td>
<td>YES</td>
<td>NO</td>
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<td>b. Concrete Washouts Acceptable, Maintained?</td>
<td>YES</td>
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<td>c. Rock Construction In Place? Functional? Need Maintenance?</td>
<td>YES</td>
<td>NO</td>
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<td>d. Subcontractor Activity Causing Damage? (Irrigation, Sidewalls, FoulDirt, etc.)</td>
<td>YES</td>
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## Corrective Action Notices

### Request for Corrective Action

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<tr>
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<th>Description</th>
<th>Resp Person</th>
<th>Action Taken (Phone, Fax, Mail, Verbal Request)</th>
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*Use additional pages if necessary*
When Should I Take Pictures?

- Whenever you have impacts to a water of the state.
- When you are in disagreement over a compliance issue.
- When you “catch” a sub-contractor in violation of compliance.
- When you suspect an upcoming issue of concern.
Step Nine: Stabilize As You Go

- **Dirt**: get a soil test.
- **Seed**: Use the right type.
- **Fertilizer**: Apply only what you need.
- **Cover**: Cheap insurance.
Step Ten: Tidy Up and Get Out

- Take out your BMP’s.
- Signage & Documentation.
- Notice of Termination (NOT).
- Thank you’s and leave behind messages.
Would You Hire This Contractor Again?
Remember These Profit Plans. . . . .

1. Know the rules.
2. Do your homework.
3. Agree to a SWPPP.
4. Hold a Pre-Con.
5. Make it easy to comply.
6. Keep your dirt on your own site.
7. This isn’t your mother’s construction site (Haz. Mat’l).
8. Tell your story.
9. Stabilize as you go.
10. Tidy up…and get out.
REMEMBER....... THESE PROFIT DRIVEN COMMUNICATION TIPS:

1. Listen
2. Emphasize efficiency over speed
3. Ask Questions
4. Respect your team
5. Keep everyone in the loop
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