Successful Vegetation Management

MICHELE MEYER, MPA, CESSWI, MS4CECI RESOLUTION GROUP, INC.

Vegetation Requirements under IDEM Construction Stormwater General Permit

- Minimize Disturbance
- Preserve Natural Buffers
- Topsoil must be preserved and protected, unless infeasible
- Unvegetated areas that are left idle or scheduled to be left inactive must be temporarily or permanent stabilized with measures appropriate for the season to minimize erosion potential.
- Final Stabilization achieved when there is a density of 70% cover



Final Stabilization begins before the project starts

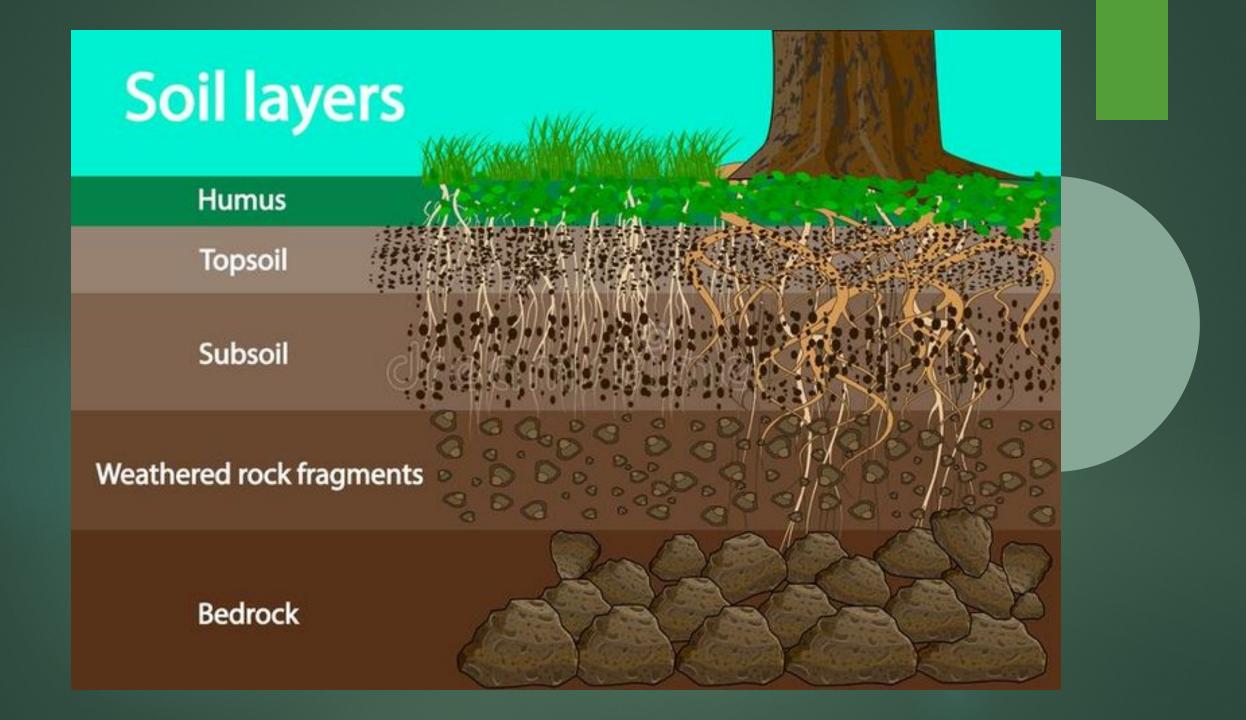
- Is there a realistic number of mobilizations in the contract?
- Are there items in the budget for temporary stabilization?
- Is the final stabilization method appropriate for the type of work, season and length of contract?
- Who is responsible for stabilization? What about sub-contractor or utility work?
- What is the pre-construction condition of existing vegetation?

Condition of Existing Vegetation

- Visual inspection of existing conditions
- What is growing?
 - Monocultures?
 - ► Weeds?
 - ► Native Vegetation?

- Are there areas with no vegetation, bare soil?
- Are there existing erosion issues?
- Stream Bank condition
- Potential for contaminated soils?





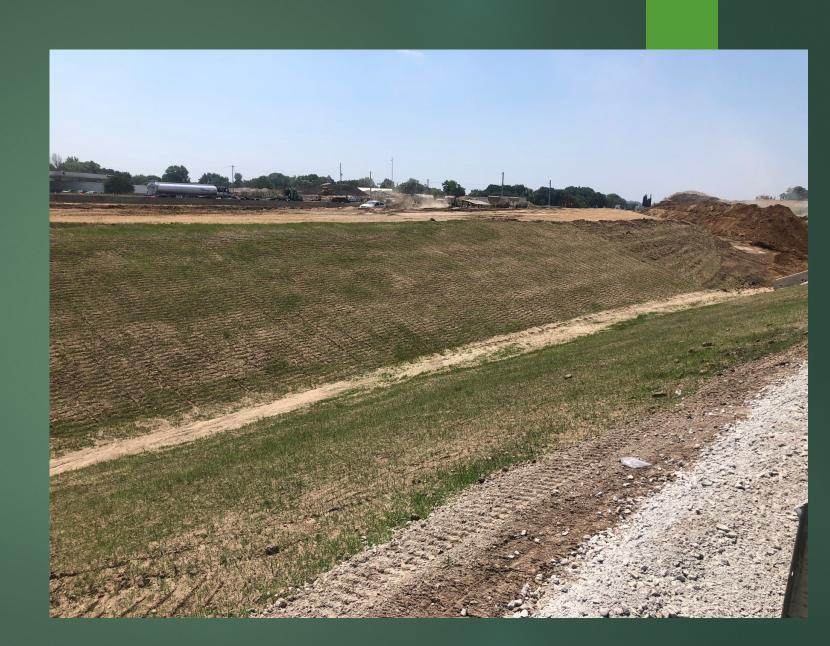
Organic Matter Layer



Do not treat soil like dirt

Protect your topsoil

- Assembly line grading operations
- Temp or permanent seed topsoil stockpiles
- Install topsoil as soon as grading and structures are installed
- ► Track properly
- Re-Vegetate as soon as possible



Use proper methods to prepare the soil for permanent stabilization

- Avoid Compaction
- Avoid working soil when too wet
- Proper tracking
- Proper seed bed preparation.





Compaction

Erosion Control Blanket VS Hydroseeding



INDOT Plant Growth Layer Specification 629-R-630

- Pre-Bid soil testing INDOT Geotech
- Contractor take samples and test early to determine necessary amendments
- Amendment may be added prior to major grading
- Amend soils then stockpile
- Testing facilities can give amendment recommendations from soil test result which can help

INDIANA DEPARTMENT OF TRANSPORTATION GEOTECHNICAL SERVICES DIVISION

Summary of Existing Topsoil Test Results for use with Plant Growth Layer

.

Date:

Des. No.: 1901395

Project: Interstate-69 Section 6, Contract 4, "6.3"

Location: Morgan County

2/13/2020

					ANALYSIS							
REF.	LOCATION				AASHTO T 289	AASHTO T 88 and T 89	AASHTO T 267 and T 21**	Bray P-1 Equivalent	NCRRP 221, Chapt 7***			
Boring Log	Station	Offset (feet)	Lt/Rt	Tested Depth	pН	Gravel*	Sand	Silt	Clay	Organic Content	Phosphorus Potassium (ppm) (ppm)	
-				(inch)		(% by Weight)				(% by Wt)		/
TS-01	"PR-A" 1858+04	30	Rt	3 to 6	7.9	0.8	49.2	42.7	7.4	4.5	53	129
TS-02	"PR-B" 1885+38	40	Rt	3 to 6	8.7	8.7	36.4	42.4	12.5	1.6	7	48
TS-03	"PR-B" 1911+43	36	Lt	3 to 6	8.1	20.1	51.8	26.9	1.2	6.0	39	76
TS-04	"PR-B" 1939+69	38	Rt	3 to 6	8.5	3.7	30.5	52.4	13.4	1.9	14	64
TS-05	"PR-A" 1968+02	24	Rt	3 to 6	7.9	22.0	54.9	19.2	3.9	5.5	12	47
TS-06	"PR-B" 1991+09	33	Rt	3 to 6	7.8	13.4	53.5	31.0	2.1	4.7	12	61
TS-07	"PR-C" 2022+58	65	Rt	3 to 6	7.7	12.0	45.9	39.8	2.3	4.0	7	69
TS-08	"PR-C" 2052+81	74	Lt	3 to 6	8.2	1.5	40.2	53.0	5.4	2.8	26	87
TS-09	"PR-C" 2079+67	64	Rt	3 to 6	6.9	0.1	63.7	33.9	2.4	2.1	27	226
TS-10	"PR-C" 2108+49	2	Lt	3 to 6	8.2	27.8	50.4	18.3	3.4	1.9	9	53
TS-11	"PR-C" 2138+35	78	Lt	3 to 6	7.8	5.6	39.0	48.6	6.8	4.6	42	290
TS-12	"PR-C" 2163+89	75	Rt	3 to 6	8.0	20.0	54.3	24.5	1.3	6.3	28	155
	Acceptable Ranges per 914.01 =			6.0 - 7.3	N/A	5 - 50%	30 - 80%	5 - 30%	3 - 10%**	20 - 80	105 - 250	

* For informational purposes only

** In Davies, Gibson, Knox, Pike Posey, and Vanderburgh Counties, AASHTO T 21 shall also be performed. Acceptable range is 4 - 10%

*** North Central Regional Research Publication 221, Chapter 7

Note: All existing topsoil test results presented herein are for information only.

See attached A&L Great Lakes Laboratories Report of Analysis for exact Method of Analysis for determination of Phosphorus and Potassium

What does this stuff mean?

	TOPSOIL REQUIREMENTS AFTER INSTALLATION									
	Requirement	Measurement	Range	Test Method						
	рН		6.0 - 7.3	AASHTO T 289						
	Clay	Weight	5% - 30%	AASHTO T 88 and T 89						
•	Silt	Weight	30% - 80%	AASHTO T 88 and T 89						
Γ	Sand	Weight	5% - 50%	AASHTO T 88 and T 89						
	Organic Material	Weight	3% - 10%***	AASHTO T 267 and AASHTO T 21***						
	Phosphorus	Weight	46-110 ppm [*]	North Central Regional Research Publication 221, Chapter 6, Bray P-1						
	Potassium	Weight	105-250 ppm ^{**}	North Central Regional Research Publication 221, Chapter 7						
	Alternatively 2 In the counties	Alternatively 210-500 lb/ac								

Table 1

Take Aways

- Have a solid revegetation plan before the contract starts
- Make sure that the vegetation plan makes sense taking into consideration
 - Existing vegetation/soil conditions
 - Length of contract
 - Timing of seeding
 - Proper soil management
 - The right stabilization method for field conditions and season.
 - ► Re-disturbance

- Know your soil
 - Are their existing soil issues
 - Understand your existing soil conditions
- Understand your seasonal limitations
- Have a working knowledge of how things grow, gravity.

