



ATHENS COUNTY ENGINEER'S OFFICE

Jeff Maiden, P.E., P.S., Athens County Engineer
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ADDENDUM #3—SEPTEMBER 30, 2014

SALT/GRIT STORAGE STRUCTURES PROJECT PROJECT NO. 14051 ATHENS COUNTY, OHIO

1. The scope of work has changed and now includes the construction of one (1) salt storage building only with dimensions of 60' wide by 98'-2" long. See drawing entitled "Addendum #3 – Revised Site Plan" enclosed. This drawing shows a new proposed location for a single building and revised Wall Details.
2. Soil borings were completed for the new proposed location of the building and are included with this addendum. County employees excavated and removed existing soil, and placed and compacted #304 aggregate materials to a depth of approximately 4 feet under the proposed concrete building slab using a vibratory "sheep foot" roller.
3. The wall surfaces shall be flat and shall receive a "Rubbed Surface" per 2013 ODOT CMS 511.15. The interior joint has been changed to 1" preformed expansion joint filler with backer rod and joint sealant. The bottom mat of longitudinal rebar in the footers shall be #6 bars @ 12" o.c. The top and bottom mat of steel in the footer shall be tied together with # 6 "C" shaped bars at the edge of the footer. All laps for reinforcing steel shall be a minimum of thirty (30) bar diameters. The 4" thick layer of stone under the footer has been deleted and is not required.
4. The subgrade for the building pad has been graded from 669.33 at the rear of the building, to 669.0 at the front of the building by County employees. The Contractor will be responsible for excavating for the footers, installing footers and walls, and backfilling and compacting the excavations. The material that will be excavated for the foundations is predominantly #304 aggregate base (see item #2 above). This select #304 material shall be used

for backfilling the void between the top of the footer and the bottom of the #67 gravel base under the slab. The contractor will furnish and place #67 washed gravel between the prepared subgrade and the bottom of the 8" concrete slab.

5. The contractor shall provide and install 6" perforated footer drains and #67 washed gravel encased in filter fabric on the outside of the building footers. The material that will be excavated for the foundations is predominantly #304 aggregate base (see item #2 above). This select #304 material shall be used for backfilling the exterior footer excavation as well. The footer drains shall be extended to the ditch located about 20 feet from the rear of the buildings using 6" diameter, schedule 40 PVC pipe.
6. The canvas roof material shall be the NovaShield 12 oz. fabric or approved equal. The minimum fabric warranty shall be a 15 year prorated warranty.
7. The closed end wall shall have vertical truss members spaced 10' c/c. Two mechanical vents with galvanized framework shall be installed in this wall.
8. The roof structure specification is based on the Winkler Canvas Ltd. (truss free standing Quonset product). The Engineer realizes that there are other roof shapes that may be cheaper but do not provide the overall height across the width of the structure, and therefore are not equal. If the Contractor provides a bid for this project using an alternate roof manufacturer, all product literature must be included to verify that each technical requirement of the bid has been met.
9. The roof structure specifications are amended as follows:
 - The roof structure shall be the Winkler Canvas Limited, 60' wide by 98'-2" deep three sided arch (Truss Free Standing Quonset), or approved equal. The roof structure shall be designed to be set on and attached to a reinforced concrete retaining wall structure.
 - The minimum truss height shall be 26'-0" above top of concrete wall, resulting in a minimum height above floor slab of 35'-6" at rear of building, and 36'-0" at front of building.
 - Trusses to be manufactured utilizing Gatorshield Galvanized Tubing as manufactured by Allied Mechanical Tube Division or approved equal. Tubing shall have a yield strength equal to 46,000 psi, and

tensile strength equal to 62,000 psi.

- Each building shall have one open end wall, and one closed end wall (*that is vented per item #7 above*).
- The roof structure/ building system is to be designed to meet a minimum snow load of 25 pounds per square foot, and wind load resulting from a 90 mph wind.
- The building shall have eleven (11) rows of rigid “X” bracing between trusses (i.e., rigid bracing from the top chord of one truss to the bottom chord of an adjacent truss, and from the bottom chord of one truss to the top chord of an adjacent truss.)


10. The County Engineer is currently preparing drawings to obtain the building permit for the installation of the concrete foundations and will obtain the foundation permit no later than October 20th, 2014. The manufacturer of the roof structure shall provide structural roof drawings and connection details at top of concrete wall that complies with the 2011 Ohio Basic Building Code, and shall be stamped by a Professional Engineer registered in the State of Ohio. The County Engineer will submit a 2nd set of drawings to obtain the final building permit for the roof structure. The building permit fees will be paid directly by the Athens County Engineer.

11. The Athens County Engineer anticipates awarding the project no later than October 14th, 2014; scheduling a preconstruction meeting on October 20th, 2014, at 10 am; signing a contract and issuing the notice to proceed on October 21st, 2014. The completion date is eighty (80) days after the actual date of the notice to proceed.

12. The revised Engineer’s Construction Cost Estimate is \$ 375,000.

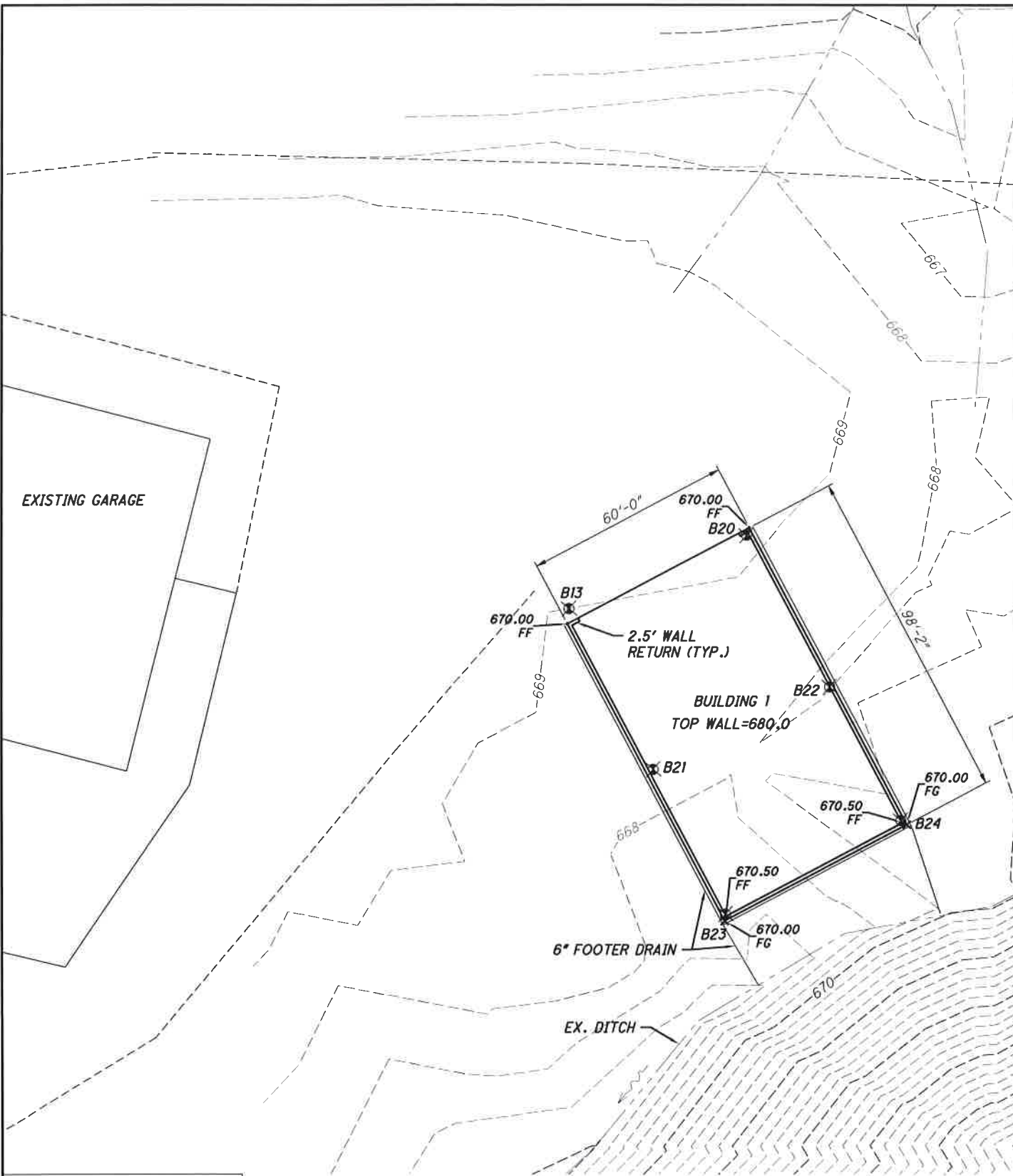
THIS ADDENDUM MUST BE ACKNOWLEDGED ON PAGE 14 OF “SECTION I” OF THE BID DOCUMENTS (BID FORM).

SUBMITTED BY:



JEFF MAIDEN, PE, PS
ATHENS COUNTY ENGINEER

Z:\PROJECTS\Capital Improvements 2014\Engineers Salt Storage\dwg\Rebid_a1t3.dwg 30-Sep-14 1:35 PM



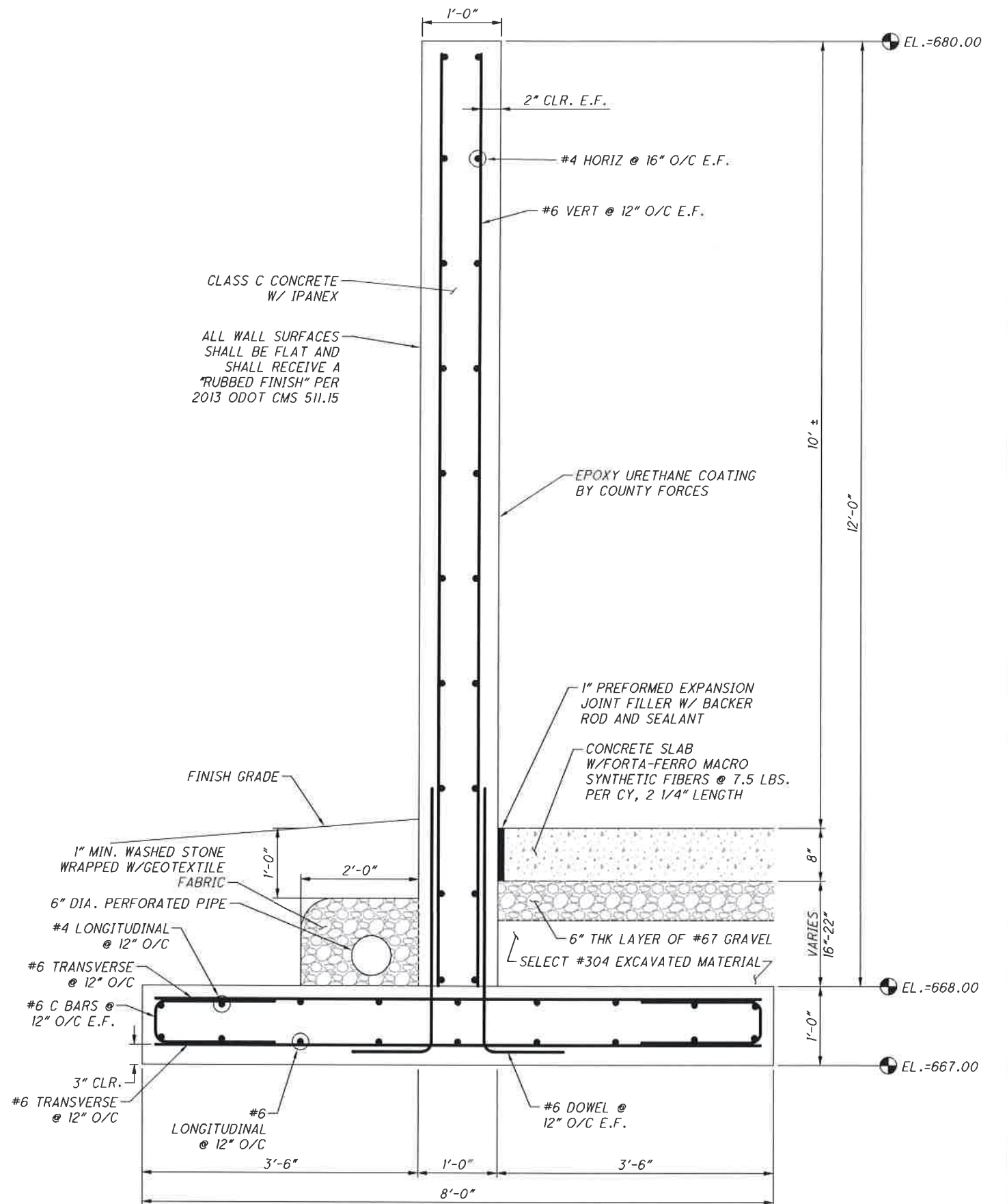
ENGINEER'S SEAL

STATE OF OHIO
 Rex Jeffrey Maiden
 E-51405
 REGISTERED PROFESSIONAL ENGINEER

SIGNED: *Rex Jeffrey Maiden*
 DATE: 9/30/14

CONSTRUCTION NOTES

1. ATHENS COUNTY FORCES HAVE PREPARED THE BUILDING SUBGRADE TO AN ELEVATION OF 669.3 AT THE REAR OF THE BUILDING AN 669.0 AT THE FRONT OF THE BUILDING. CONTRACTOR SHALL EXCAVATE AND CONSTRUCT THE FOOTERS AND WALL AND SHOULD ONLY HAVE TO DO MINIMAL GRADING BEFORE PLACING STONE AND CONSTRUCTING THE CONCRETE PAD.
2. CONTRACTOR SHALL PROVIDE AND PLACE THE GRANULAR BACKFILL AND FOOTER DRAIN THEN BACKFILL UP TO THE LEVEL OF THE FLOOR SLAB. THE CONTRACTOR SHALL ESTABLISH FINAL GRADES FOR A DISTANCE OF 10' AROUND THE BUILDINGS.
3. ATHENS COUNTY FORCES WILL PROVIDE FINAL GRADING FOR THE REMAINDER OF THE SITE INCLUDING DITCHES AS WELL AS THE SEEDING AND MULCHING.



40
 20
 0
 HORIZONTAL SCALE IN FEET

DESIGNED BY: RUM
 CHECKED BY: RUM

ADDENDUM #3 - REVISED SITE PLAN

SALT/GRIT STORAGE STRUCTURES PROJECT

3A

TEST BORING LOG

PROJECT NAME Salt Storage Structures - 16000 Canaanville Road (US 50) - Athens, Ohio BORING NO. B-13
 CLIENT _____ PROJ. _____ SURF. ELEV. 669.6
 NO. 14-G-18489 DATE DRILLED 9/17/2014

GROUND WATER OBSERVATION	Proportions Used	140 lb Wt. x 30" fall on 2" O.D. Sampler			
<u>None</u> FEET BELOW SURFACE AT COMPLETION	Trace Less than 5%	Cohesionless Density		Cohesive Consistency	
_____ FEET BELOW SURFACE AT 24 HOURS	Few 5 to 10%	0 - 10	Loose	0 - 4	Soft
_____ FEET BELOW SURFACE AT _____ HOURS	Little 15 to 25%	10 - 30	Medium Dense	4 - 8	Medium Stiff
	Some 30 to 45%	30 - 50	Dense	8 - 15	Stiff
	Mostly 50 to 100%	50 +	Very Dense	15 - 30	Very Stiff
				30 +	Hard

LOCATION OF BORING See Boring Location Plan

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler			Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
				0-6	6-12	12-18			
	--	0.0-1.5	SS	11	13	10			FILL: Brown Silty Sand with Gravel (SM) - mostly f-c sand, little to some gravel, little silt
	4.5	2.0-3.5	SS	7	7	5	Moist	2.0	FILL: Reddish Brown Sandy Lean Clay with Gravel (CL) - moderately plastic, some f-c sand, little gravel; contains shale fragments
5	4.5	4.0-5.5	SS	4	4	5	Moist		
								8.0	Brown, some gray Lean Clay with Sand (CL) - moderately plastic, little f-c sand, few gravel; contains trace to few shale fragments and topsoil with roots
10									
	2.0	13.5-15.0	SS	3	4	5	Moist to Very Moist		
15									
	4.0	18.5-20.0	SS	4	6	8	Moist to Damp	18.5	Reddish Brown Lean Clay with Sand - Residual Soil - moderately plastic, little f-c sand, few gravel
20									
	4.5	23.5-25.0	SS	6	8	11	Moist to Damp	24.5	Reddish Brown Shale, highly weathered; can be broken down to a soil consistency by hand with easy to moderate effort
25									
	4.5	28.5-28.9	SS	50/5			Damp	28.9	
30									BOTTOM OF BORING: 28.9'

* The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



TEST BORING LOG

PROJECT NAME Salt Storage Structures - 16000 Canaanville Road (US 50) - Athens, Ohio BORING NO. B-20
 CLIENT _____ PROJ. _____ SURF. ELEV. 669.1
 NO. 14-G-18489 DATE DRILLED 9/24/2014

GROUND WATER OBSERVATION				Proportions Used			140 lb Wt. x 30" fall on 2" O.D. Sampler				
<u>8.0</u> FEET BELOW SURFACE AT COMPLETION _____ FEET BELOW SURFACE AT 24 HOURS _____ FEET BELOW SURFACE AT _____ HOURS				Trace	Less than 5%		Cohesionless Density		Cohesive Consistency		
				Few	5 to 10%		0 - 10	Loose	0 - 4	Soft	
				Little	15 to 25%		10 - 30	Medium Dense	4 - 8	Medium Stiff	
				Some	30 to 45%		30 - 50	Dense	8 - 15	Stiff	
				Mostly	50 to 100%		50 +	Very Dense	15 - 30	Very Stiff	
									30 +	Hard	
LOCATION OF BORING See Boring Location Plan											
DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler			Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness		
				0-6	6-12	12-18					
	--	0.0-1.5	SS	16	26	20	Moist		FILL: Brown Silty Sand with Gravel (SM) - mostly f-c sand, some to little gravel, little silt		
	--	2.0-3.5	SS	7	6	4	Wet		Water Seepage at 2.0'		
								4.0			
5	0.25	4.0-5.5	SS	4	9	5	Wet		FILL: Brown Lean Clay with Sand (CL) to Sandy Lean Clay with Gravel (CL) - moderately plastic, little to some f-c sand, few to little gravel; contains shale and sandstone fragments, trace asphalt		
								8.0			
	0.5-1.0	8.5-10.0	SS	2	3	3	Very Moist		FILL: Topsoil		
10								10.0			
	0.25-1.0	13.5-15.0	SS	5	6	8	Very Moist		FILL: Brown Lean Clay with Sand (CL) to Sandy Lean Clay with Gravel (CL) - moderately plastic, little to some f-c sand, few to little gravel; contains shale and sandstone fragments, trace asphalt		
15											
	1.5	18.5-20.0	SS	4	5	7	Very Moist to Moist	18.5	Brown Mottled Gray to Brown Lean Clay with Sand (CL) - moderately plastic, little f-c sand, few gravel; contains shale and sandstone fragments		
20											
								22.5			
	4.5	23.5-25.0	SS	10	17	26	Moist to Damp		Reddish Brown Shale, highly weathered; can be broken down to a soil consistency by hand with easy to moderate effort		
25											
	4.5	28.5-29.5	SS	16	50		Damp		BOTTOM OF BORING: 29.5'		
30								29.5			

* The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



TEST BORING LOG

PROJECT NAME Salt Storage Structures - 16000 Canaanville Road (US 50) - Athens, Ohio BORING NO. B-21
 CLIENT _____ PROJ. _____ SURF. ELEV. 669.2
 NO. 14-G-18489 DATE DRILLED 9/24/2014

GROUND WATER OBSERVATION	Proportions Used	140 lb Wt. x 30" fall on 2" O.D. Sampler	
None FEET BELOW SURFACE AT COMPLETION	Trace Less than 5%	Cohesionless Density	Cohesive Consistency
_____ FEET BELOW SURFACE AT 24 HOURS	Few 5 to 10%	0 - 10 Loose	0 - 4 Soft
_____ FEET BELOW SURFACE AT _____ HOURS	Little 15 to 25%	10 - 30 Medium Dense	4 - 8 Medium Stiff
	Some 30 to 45%	30 - 50 Dense	8 - 15 Stiff
	Mostly 50 to 100%	50 + Very Dense	15 - 30 Very Stiff
			30 + Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler			Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
				From	To	0-6			
	--	0.0-1.5	SS	10	14	13	Moist		FILL: Brown Silty Sand with Gravel (SM) - mostly f-c sand, some to little gravel, little silt
	--	2.0-3.5	SS	5	4	4	Moist	3.0	FILL: Brown, Reddish Brown, and Gray Lean Clay with Sand (CL) to Sandy Lean Clay with Gravel (CL) - moderately plastic, little to some f-c sand, few to little gravel; contains shale and sandstone fragments, trace asphalt
5	3.0	4.0-5.5	SS	2	3	4	Moist		
	1.0-2.5	8.5-10.0	SS	2	2	3	Very Moist to Moist	9.5	Reddish Brown Shale, highly weathered; can be broken down to a soil consistency by hand with easy to moderate effort
10									
	4.5	13.5-15.0	SS	10	10	16	Damp		
15									
	4.5	18.5-19.0	SS	50			Damp	19.0	

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TEST BORING LOG

PROJECT NAME Salt Storage Structures - 16000 Canaanville Road (US 50) - Athens, Ohio BORING NO. B-22
 CLIENT _____ PROJ. _____ SURF. ELEV. 669.1
 NO. 14-G-18489 DATE DRILLED 9/24/2014

GROUND WATER OBSERVATION	Proportions Used	140 lb Wt. x 30" fall on 2" O.D. Sampler			
<u>None</u> FEET BELOW SURFACE AT COMPLETION	Trace Less than 5%	Cohesionless Density		Cohesive Consistency	
_____ FEET BELOW SURFACE AT 24 HOURS	Few 5 to 10%	0 - 10	Loose	0 - 4	Soft
_____ FEET BELOW SURFACE AT _____ HOURS	Little 15 to 25%	10 - 30	Medium Dense	4 - 8	Medium Stiff
	Some 30 to 45%	30 - 50	Dense	8 - 15	Stiff
	Mostly 50 to 100%	50 +	Very Dense	15 - 30	Very Stiff
				30 +	Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler			Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
				From	To	To			
				0-6	6-12	12-18			
	--	0.0-1.5	SS	15	21	16	Moist		FILL: Brown Silty Sand with Gravel (SM) - mostly f-c sand, some to little gravel, little silt
	--	2.0-3.5	SS	7	6	6	Wet		Water Seepage at 2.0'
5	2.0	4.0-5.5	SS	2	3	4	Moist	4.0	FILL: Brown Mottled Gray Lean Clay (CL) - moderately plastic; contains shale fragments with depth
	3.0	8.5-10.0	SS	2	3	4	Moist	9.0	Brown Sandy Lean Clay with Gravel (CL) - moderately plastic, some f-c sand, little gravel; contains shale and sandstone fragments
10	3.5-4.5	13.5-15.0	SS	3	5	7	Moist	13.5	Reddish Brown Shale, highly weathered; can be broken down to a soil consistency by hand with easy to moderate effort
15	4.5	18.5-19.0	SS	50/5.5"			Damp	19.0	BOTTOM OF BORING: 19.0'

* The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



TEST BORING LOG

PROJECT NAME Salt Storage Structures - 16000 Canaanville Road (US 50) - Athens, Ohio BORING NO. B-23
 CLIENT _____ PROJ. _____ SURF. ELEV. 669.4
 NO. 14-G-18489 DATE DRILLED 9/24/2014

GROUND WATER OBSERVATION	Proportions Used	140 lb Wt. x 30" fall on 2" O.D. Sampler	
None FEET BELOW SURFACE AT COMPLETION	Trace Less than 5%	Cohesionless Density	
_____ FEET BELOW SURFACE AT 24 HOURS	Few 5 to 10%	0 - 10 Loose	0 - 4 Soft
_____ FEET BELOW SURFACE AT _____ HOURS	Little 15 to 25%	10 - 30 Medium Dense	4 - 8 Medium Stiff
	Some 30 to 45%	30 - 50 Dense	8 - 15 Stiff
	Mostly 50 to 100%	50 + Very Dense	15 - 30 Very Stiff
			30 + Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler			Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION
				0-6	6-12	12-18			Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
	--	0.0-1.5	SS	13	17	18	Moist		FILL: Brown Silty Sand with Gravel (SM) - mostly f-c sand, some to little gravel, little silt
	--	2.0-3.5	SS	15	16	16	Moist		
	2.5	4.0-5.5	SS	6	3	3	Moist	4.5	
5								6.0	FILL: Brown and Gray Lean Clay with Sand (CL) - moderately plastic, little f-c sand, few gravel; contains shale and sandstone fragments
	4.5	8.5-10.0	SS	19	26	35	Damp		Gray Shale, highly weathered; can be broken down to a soil consistency by hand with easy to moderate effort
10								11.5	Reddish Brown Shale, highly weathered; can be broken down to a soil consistency by hand with easy to moderate effort
	4.5	13.5-14.8	SS	20	25	50/4"	Damp	14.8	
15									BOTTOM OF BORING: 14.8'

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TEST BORING LOG

PROJECT NAME Salt Storage Structures - 16000 Canaanville Road (US 50) - Athens, Ohio BORING NO. B-24
 PROJ. _____ SURF. ELEV. 669.4
 CLIENT _____ NO. 14-G-18489 DATE DRILLED 9/24/2014

GROUND WATER OBSERVATION	Proportions Used	140 lb Wt. x 30" fall on 2" O.D. Sampler	
None FEET BELOW SURFACE AT COMPLETION _____ FEET BELOW SURFACE AT 24 HOURS _____ FEET BELOW SURFACE AT _____ HOURS	Trace	Less than 5%	
	Few	5 to 10%	
	Little	15 to 25%	
	Some	30 to 45%	
	Mostly	50 to 100%	
		Cohesionless Density	Cohesive Consistency
		0 - 10	Loose
		10 - 30	Medium Dense
		30 - 50	Dense
		50 +	Very Dense
		0 - 4	Soft
		4 - 8	Medium Stiff
		8 - 15	Stiff
		15 - 30	Very Stiff
		30 +	Hard

LOCATION OF BORING **See Boring Location Plan**

DEPTH	Pocket Penetrometer (tsf)	Sample Depths From To	Type of Sample	Blows per 6" on Sampler			Moisture Density or Consist.	Strata Change Depth*	SOIL IDENTIFICATION Remarks include color, type of soil, etc. Rock-color, type, condition, hardness
				From	To	To			
				0-6	6-12	12-18			
	--	0.0-1.5	SS	10	8	5	Moist	1.0	FILL: Brown Silty Sand with Gravel (SM) - mostly f-c sand, some to little gravel, little silt
									FILL: Brown Sandy Lean Clay with Gravel (CL) - moderately plastic, some f-c sand, little gravel; contains shale fragments
	1.5	2.0-3.5	SS	2	2	3	Moist	3.0	FILL: Brown Mottled Gray Lean Clay (CL) - moderately plastic, few f-c sand; contains topsoil
									FILL: Reddish Brown and Brown Lean Clay with Sand (CL) - moderately plastic, little f-c sand, few gravel; contains shale fragments
	1.0	4.0-5.5	SS	2	3	4	Moist	4.5	
5								6.0	
									Reddish Brown and Brown Shale, highly weathered; can be broken down to a soil consistency by hand with easy to moderate effort
	4.5	8.5-10.0	SS	6	10	16	Moist to Damp		
10									
	4.5	13.5-15.0	SS	17	26	34	Damp		
15								15.0	
									BOTTOM OF BORING: 15.0'

* The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

