HARRISON HILLS CITY SCHOOL DISTRICT
HARRISON COUNTY, OHIO
HARRISON HILLS CITY SCHOOL DISTRICT OUTDOOR CLASSROOM
(RE-BID)
ADDENDUM #1
December 15, 2022

THRASHER PROJECT #030-10454

TO WHOM IT MAY CONCERN:

A Mandatory Pre-Bid Conference was held on Tuesday, December 13, 2022, on the above-referenced project, a copy of the sign in sheet is included in this Addendum. The following are clarifications and responses to questions posed by contractors for the above reference project.

A. GENERAL

1. The Geotechnical Investigation Report is attached to this Addendum for reference.

B. SPECIFICATIONS

1. **ADD** the Wage Rates as attached to this Addendum.
2. **OMIT** Section 087100 Door Hardware that is 16 pages. The Section 087100 specification that is 22 pages shall be applicable.

C. DRAWINGS

1. Sheet C2.02, **ADD** this sheet as attached to this Addendum.
2. Sheet C2.03, **ADD** this sheet as attached to this Addendum.
3. Sheet S500, **OMIT** Detail 11/S500.

D. QUESTIONS AND RESPONSES

1. **QUESTION**
   Detail 6/A5.02 indicates waterproofing on all walls below grade on both sides as well as drain tile on the high side of the wall. Do the foundation drains and waterproofing occur at all walls or only where there is no concrete slab (ie: the top wall behind all the seating)?

   RESPONSE
   The extent of the foundation drain lines are indicated on a plan attached to this Addendum. The applied waterproofing occurs at all foundation walls below grade and at the top of footings.

2. **QUESTION**
Sheet C2.02 plan indicates to *"maintain clear egress from school exits";* is this requirement for emergencies only or do we need to anticipate daily access by staff & students in and out?

RESPONSE
The 'path of clear egress' is intended for emergency purposes only, not for regular use by students or faculty. When construction operations prohibit the use of these emergency exits, notify and coordinate with Owner and Architect representatives.

3. **QUESTION**
Have the drawings or specifications been modified since the previous bid docs?

RESPONSE
The scope of work remains the same, except we added 3) electrical outlets along the back wall on Sheet E2.01.

4. **QUESTION**
The Wage Rates are listed in the specifications but weren't included.

RESPONSE
Attached to this Addendum.

E. CLARIFICATIONS

N/A

If you have any questions or comments, please feel free to contact me at your earliest convenience. As a reminder, bids will be received until 10:00 am on Thursday, December 22, 2022, at Harrison Hills City School District, 100 Huskies Way, Cadiz, OH. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.

Marcus Carnegie

Marcus Carnegie, PAL
Project Manager

HARRISON HILLS CITY SCHOOL DISTRICT
HARRISON COUNTY, OHIO
HARRISON HILLS CITY SCHOOL DISTRICT-OUTDOOR CLASSROOM

MANDATORY PRE-BID CONFERENCE
Tuesday, December 13, 2022

Thrasher Project #030-10454

Name	Representing	Phone #	Email Address
Bryan Hyndman	Cathell	740-317-7211	bhyndman@cathell.com
Bob Darden	&Build	216-970-6384	BDARDEN@AND-BUILD.COM
James McKeegan	Grae-Con	740 282-6830	jmckeegan@graecon.com
Cody Saltsman	Fort Steuben Maintenance	740-461-9359	cody@fortsteubmaint.com
Walt Byron	BP	740-317-3353	AND. Joe@ fire
Jer Keegan	BP		

"General Decision Number: OH20220001 12/02/2022

Superseded General Decision Number: OH20210001

State: Ohio

Construction Types: Heavy and Highway

Counties: Ohio Statewide.

Heavy and Highway Construction Projects

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least $15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least $11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a

conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at https://www.dol.gov/agencies/whd/government-contracts.

Modification Number	Publication Date
0	01/07/2022
1	01/14/2022
2	01/28/2022
3	02/18/2022
4	02/25/2022
5	03/11/2022
6	04/08/2022
7	05/27/2022
8	06/10/2022
9	06/17/2022
10	06/24/2022
11	07/08/2022
12	07/15/2022
13	07/22/2022
14	07/29/2022
15	08/12/2022
16	08/26/2022
17	09/02/2022
18	09/30/2022
19	12/02/2022

BROH0001-001 06/01/2021

DEFIANCE, FULTON (Excluding Fulton, Amboy & Swan Creek Townships), HENRY (Excluding Monroe, Bartlow, Liberty, Washington, Richfield, Marion, Damascus & Townships & that part of Harrison Township outside corporate limits of city of Napoleon), PAULDING, PUTNAM and WILLIAMS COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0001-004 06/01/2021

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	$ 30.40	17.55

BROH0003-002 06/01/2021

FULTON (Townships of Amboy, Swan Creek & Fulton), HENRY (Townships of Washington, Damascus, Richfield, Bartlow, Liberty, Harrison, Monroe, & Marion), LUCAS and WOOD (Townships of Perrysburg, Ross, Lake, Troy, Freedom, Montgomery, Webster,

Center, Portage, Middleton, Plain, Liberty, Henry, Washington,
Weston, Milton, Jackson & Grand Rapids) COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0005-003 06/01/2020

CUYAHOGA, LORAIN & MEDINA (Hinckley, Granger, Brunswick,
Liverpool, Montville, York, Homer, Harrisville, Chatham,
Litchfield & Spencer Townships and the city of Medina)

	Rates	Fringes
BRICKLAYER		
BRICKLAYERS; CAULKERS; CLEANERS; POINTERS; & STONEMASONS.....	$ 36.64	17.13
SANDBLASTERS.....	$ 36.39	17.13
SEWER BRICKLAYERS & STACK BUILDERS.....	$ 36.64	17.13
SWING SCAFFOLDS.....	$ 37.14	17.13

BROH0006-005 06/01/2021

CARROLL, COLUMBIANA (Knox, Butler, West & Hanover Townships),
STARK & TUSCARAWAS

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0007-002 06/01/2021

LAWRENCE

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0007-005 06/01/2021

PORTAGE & SUMMIT

	Rates	Fringes
BRICKLAYER.....	$ 30.40	17.55

BROH0007-010 06/01/2017

PORTAGE & SUMMIT

	Rates	Fringes
MASON - STONE.....	$ 28.65	14.55

BROH0008-001 06/01/2021

COLUMBIANA (Salem, Perry, Fairfield, Center, Elk Run, Middleton, & Unity Townships and the city of New Waterford), MAHONING & TRUMBULL

	Rates	Fringes
BRICKLAYER.....	$ 30.40	17.55

BROH0009-002 06/01/2021

BELMONT & MONROE COUNTIES and the Townships of Warren & Mt. Pleasant and the Village of Dillonvale in JEFFERSON COUNTY

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55
Refractory.....	$ 31.45	19.01

BROH0010-002 06/01/2021

COLUMBIANA (St. Clair, Madison, Wayne, Franklin, Washington, Yellow Creek & Liverpool Townships) & JEFFERSON (Brush Creek & Saline Townships)

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0014-002 06/01/2021

HARRISON & JEFFERSON (Except Mt. Pleasant, Warren, Brush Creek, Saline & Salineville Townships & the Village of Dillonvale)

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0016-002 06/01/2021

ASHTABULA, GEAUGA, and LAKE COUNTIES

	Rates	Fringes

Bricklayer, Stonemason.....$ 30.40 17.55

BROH0018-002 06/01/2021

BROWN, BUTLER, CLERMONT, HAMILTON, PREBLE (Gasper, Dixon, Israel, Lanier, Somers & Gratis Townships) & WARREN COUNTIES:

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0022-004 06/01/2021

CHAMPAIGN, CLARK, CLINTON, DARKE, GREENE, HIGHLAND, LOGAN, MIAMI, MONTGOMERY, PREBLE (Jackson, Monroe, Harrison, Twin, Jefferson & Washington Townships) and SHELBY COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0032-001 06/01/2021

GALLIA & MEIGS

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0035-002 06/01/2021

ALLEN, AUGLAIZE, MERCER and VAN WERT COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0039-002 06/01/2021

ADAMS & SCIOTO

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

BROH0040-003 06/01/2021

ASHLAND, CRAWFORD, HARDIN, HOLMES, MARION, MORROW, RICHLAND, WAYNE and WYANDOT (Except Crawford, Ridge, Richland & Tymochtee Townships) COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	$ 31.93	22.54

FOOTNOTE: Layout Man and Sawman rate: $1.00 per hour above journeyman rate.
Free standing stack work ground level to top of stack; Sandblasting and laying of carbon masonry material in swing stage and/or scaffold; Ramming and spading of plastics and gunniting: $1.50 per hour above journeyman rate.
""Hot"" work: $2.50 above journeyman rate.

BROH0044-002 06/01/2021

	Rates	Fringes
Bricklayer, Stonemason COSHOCTON, FAIRFIELD, GUERNSEY, HOCKING, KNOX, KICKING, MORGAN, MUSKINGUM, NOBLE (Beaver, Buffalo, Seneca & Wayne Townships) & PERRY COUNTIES:.....	$ 30.40	17.55

BROH0045-002 06/01/2021

FAYETTE, JACKSON, PIKE, ROSS and VINTON COUNTIES

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.66

BROH0046-002 06/01/2021

ERIE, HANCOCK, HURON, OTTAWA, SANDUSKY, SENECA, WOOD (Perry & Bloom Townships) and WYANDOT (Tymochtee, Crawford, Ridge & Richland Townships) COUNTIES & the Islands of Lake Erie north of Sandusky

	Rates	Fringes
Bricklayer, Stonemason.....	$ 30.40	17.55

FOOTNOTE: Layout Man and Sawman rate: $1.00 per hour above journeyman rate.
Free standing stack work ground level to top of stack; Sandblasting and laying of carbon masonry material in swing stage and/or scaffold; Ramming and spading of plastics and gunniting: $1.50 per hour above journeyman rate.
""Hot"" work: $2.50 above journeyman rate.

BROH0052-001 06/01/2021

ATHENS COUNTY

	Rates	Fringes
Bricklayer, Stonemason	$ 30.40	17.55

BROH0052-003 06/01/2021

NOBLE (Brookfield, Noble, Center, Sharon, Olive, Enoch, Stock, Jackson, Jefferson & Elk Townships) and WASHINGTON COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 30.40	17.55

BROH0055-003 06/01/2021

DELAWARE, FRANKLIN, MADISON, PICKAWAY and UNION COUNTIES

	Rates	Fringes
Bricklayer, Stonemason	$ 30.40	17.55

CARP0003-004 05/01/2017

MAHONING & TRUMBULL

	Rates	Fringes
CARPENTER	$ 26.20	17.42

CARP0069-003 05/01/2017

CARROLL, STARK, TUSCARAWAS & WAYNE

	Rates	Fringes
CARPENTER	$ 25.98	15.98

CARP0069-006 05/01/2017

COSHOCTON, HOLMES, KNOX & MORROW

	Rates	Fringes
CARPENTER	$ 24.04	15.29

CARP0171-002 05/01/2019

BELMONT, COLUMBIANA, HARRISON, JEFFERSON & MONROE

	Rates	Fringes
CARPENTER	$ 27.37	20.02

CARP0200-002 05/01/2021

ADAMS, ATHENS, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GALLIA, GUERNSEY, HIGHLAND, HOCKING, JACKSON, LAWRENCE, LICKING, MADISON, MARION, MEIGS, MORGAN, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE, ROSS, SCIOTO, UNION, VINTON and WASHINGTON COUNTIES

	Rates	Fringes
CARPENTER	$ 30.28	20.08
Diver	$ 39.41	10.40
PILEDRIVERMAN	$ 30.28	20.08

CARP0248-005 07/01/2008

LUCAS & WOOD

	Rates	Fringes
CARPENTER	$ 27.27	14.58

CARP0248-008 07/01/2008

	Rates	Fringes
CARPENTER		
DEFIANCE, FULTON, HANCOCK, HENRY, PAULDING & WILLIAMS COUNTIES	$ 23.71	13.28

CARP0254-002 05/01/2017

ASHTABULA, CUYAHOGA, GEAUGA & LAKE

	Rates	Fringes
CARPENTER	$ 32.40	16.97

CARP0372-002 05/01/2016

ALLEN, AUGLAIZE, HARDIN, MERCER, PUTNAM & VAN WERT

	Rates	Fringes
CARPENTER	$ 24.54	18.21

CARP0639-003 05/01/2017

MEDINA, PORTAGE & SUMMIT

	Rates	Fringes
CARPENTER	$ 30.42	16.99

CARP0735-002 05/01/2019

ASHLAND, ERIE, HURON, LORAIN & RICHLAND

	Rates	Fringes
CARPENTER	$ 26.30	17.91

CARP1311-001 05/01/2017

BROWN, BUTLER, CHAMPAIGN, CLARK, CLERMONT, CLINTON, DARKE, GREENE, HAMILTON, LOGAN, MIAMI, MONTGOMERY, PREBLE, SHELBY & WARREN

	Rates	Fringes
Carpenter & Piledrivermen	$ 29.34	15.95
Diver	$ 40.58	9.69

CARP1393-002 07/01/2008

CRAWFORD, DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, SANDUSKY, SENECA, WILLIAMS & WOOD

	Rates	Fringes
Piledrivermen & Diver's Tender	$ 27.30	16.05

DIVERS - $250.00 per day

CARP1393-003 07/01/2008

ALLEN, AUGLAIZE, HARDIN, MERCER, PUTNAM, VAN WERT & WYANDOT

	Rates	Fringes
Piledrivermen & Diver's Tender	$ 25.15	15.92

DIVERS - $250.00 per day

CARP1871-006 05/01/2017

BELMONT, HARRISON, & MONROE

	Rates	Fringes
Diver, Wet	$ 48.11	17.33
Piledrivermen; Diver, Dry	$ 32.07	17.33

CARP1871-008 05/01/2017

ASHLAND, ASHTABULA, CUYAHOGA, ERIE, GEAUGA, HURON, LAKE, LORAIN, MEDINA, PORTAGE, RICHLAND & SUMMIT

	Rates	Fringes
Diver, Wet	$ 45.80	18.84
Piledrivermen; Diver, Dry	$ 30.53	18.84

CARP1871-014 05/01/2017

CARROLL, STARK, TUSCARAWAS & WAYNE

	Rates	Fringes
Diver, Wet	$ 38.34	16.95
Piledrivermen; Diver, Dry	$ 25.56	16.95

CARP1871-015 05/01/2017

COSHOCTON, HOLMES, KNOX & MORROW

	Rates	Fringes
Diver, Wet	$ 37.34	16.07
Piledrivermen; Diver, Dry	$ 24.89	16.07

CARP1871-017 05/01/2017

MAHONING & TRUMBULL

	Rates	Fringes
Diver, Wet	$ 40.65	17.62
Piledrivermen; Diver, Dry	$ 27.10	17.62

CARP2235-012 01/01/2014

COLUMBIANA & JEFFERSON

	Rates	Fringes
PILEDRIVERMAN	$ 31.74	16.41

CARP2239-001 07/01/2008

CRAWFORD, OTTAWA, SANDUSKY, SENECA & WYANDOT

	Rates	Fringes
CARPENTER	$ 23.71	13.28

ELEC0008-002 05/23/2022

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS & WOOD

	Rates	Fringes
CABLE SPLICER	$ 38.98	18.96
ELECTRICIAN	$ 44.79	4.5%+21.61

ELEC0032-003 06/01/2022

ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, SHELBY, VAN WERT & WYANDOT (Crawford, Jackson, Marseilles, Mifflin, Ridgeland, Ridge & Salem Townships)

	Rates	Fringes
ELECTRICIAN	$ 33.07	21.36

ELEC0038-002 04/25/2022

CUYAHOGA, GEAUGA (Bainbridge, Chester & Russell Townships) & LORAIN (Columbia Township)

	Rates	Fringes
ELECTRICIAN		
Excluding Sound & Communications Work	$ 40.88	22.75

FOOTNOTES;
a. 6 Paid Holidays: New Year's Day; Memorial Day; July 4th; Labor Day; Thanksgiving Day; & Christmas Day
b. 1 week's paid vacation for 1 year's service; 2 weeks' paid vacation for 2 or more years' service

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ELEC0038-008 04/25/2022

CUYAHOGA, GEAUGA (Bainbridge, Chester & Russell Townships) & LORAIN (Columbia Township)

	Rates	Fringes

Sound & Communication
Technician
Communications Technician...$ 29.30 13.29
Installer Technician.....$ 28.05 13.25

FOOTNOTES;
a. 6 Paid Holidays: New Year's Day; Memorial Day; July 4th; Labor Day; Thanksgiving Day; & Christmas Day
b. 1 week's paid vacation for 1 year's service; 2 weeks' paid vacation for 2 or more years' service

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* ELEC0064-003 11/28/2022

COLUMBIANA (Butler, Fairfield, Perry, Salem & Unity Townships) MAHONING (Austintown, Beaver, Berlin, Boardman, Canfield, Ellsworth, Coitsville, Goshen, Green, Jackson, Poland, Springfield & Youngstown Townships), & TRUMBULL (Hubbard & Liberty Townships)

	Rates	Fringes
ELECTRICIAN	$ 36.10	18.91

ELEC0071-001 01/01/2019

ASHLAND, CHAMPAIGN, CLARK, COSHOCTON, CRAWFORD, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, GUERNSEY, HIGHLAND, HOCKING, JACKSON (Coal, Jackson, Liberty, Milton, Washington & Wellston Townships), KNOX, LICKING, MADISON, MARION, MONROE, MORGAN, MORROW, MUSKINGUM, NOBLE, PERRY, PICKAWAY, PIKE (Beaver, Benton, Jackson, Mifflin, Pebble, Peepee, Perry & Seal Townships), RICHLAND, ROSS, TUSCARAWAS (Auburn, Bucks, Clay, Jefferson, Oxford, Perry, Salem, Rush, Washington & York Townships), UNION, VINTON (Clinton, Eagle, Elk, Harrison, Jackson, Richland & Swan Townships), and WASHINGTON COUNTIES

	Rates	Fringes
Line Construction		
Equipment Operators	$ 33.62	13.40
Groundmen	$ 24.17	11.32
Linemen & Cable Splicers	$ 38.27	14.42

ELEC0071-004 01/01/2019

AUGLAIZE, CLINTON, DARKE, GREENE, LOGAN, MERCER, MIAMI, MONTGOMERY, PREBLE, and SHELBY COUNTIES

	Rates	Fringes

Line Construction
Equipment Operator.....$ 33.62 13.40
Groundman.....$ 24.17 11.32
Lineman & Cable Splicers....$ 38.27 14.42

ELEC0071-005 12/31/2018

ASHTABULA, CUYAHOGA, GEAUGA, LAKE & LORAIN

Rates Fringes

LINE CONSTRUCTION: Equipment Operator
DOT/Traffic Signal & Highway Lighting Projects...$ 32.44 14.10
Municipal Power/Transit Projects.....$ 40.10 16.42
LINE CONSTRUCTION: Groundman
DOT/Traffic Signal & Highway Lighting Projects...$ 25.06 12.26
Municipal Power/Transit Projects.....$ 31.19 14.11
LINE CONSTRUCTION: Linemen/Cable Splicer
DOT/Traffic Signal & Highway Lighting Projects...$ 36.13 15.03
Municipal Power/Transit Projects.....$ 44.56 17.58

ELEC0071-008 01/01/2019

COLUMBIANA, MAHONING, and TRUMBULL COUNTIES

Rates Fringes

Line Construction
Equipment Operator.....$ 33.62 13.40
Groundman.....$ 24.17 11.32
Lineman & Cable Splicers....$ 38.27 14.42

ELEC0071-010 01/01/2019

BELMONT, CARROLL, HARRISON, HOLMES, JEFFERSON, MEDINA, PORTAGE, STARK, SUMMIT, and WAYNE COUNTIES

Rates Fringes

Line Construction
Equipment Operator.....$ 33.62 13.40
Groundman.....$ 24.17 11.32
Lineman & Cable Splicers....$ 38.27 14.42

ELEC0071-013 01/01/2019

BROWN, BUTLER, CLERMONT, HAMILTON, and WARREN COUNTIES

	Rates	Fringes
Line Construction		
Equipment Operator	$ 33.62	13.40
Groundman	$ 24.17	11.32
Lineman & Cable Splicers	$ 38.27	14.42

ELEC0071-014 01/01/2019

ADAMS, ATHENS, GALLIA, JACKSON (Bloomfield, Franklin, Hamilton, Lick, Jefferson, Scioto & Madison Townships), LAWRENCE, MEIGS, PIKE (Camp Creek, Marion, Newton, Scioto, Sunfish & Union Townships), SCIOTO & VINTON (Brown, Knox, Madison, Vinton & Wilkesville Townships)

	Rates	Fringes
Line Construction		
Equipment Operator	$ 33.62	13.40
Groundman	$ 24.17	11.32
Lineman & Cable Splicers	$ 38.27	14.42

ELEC0082-002 11/29/2021

CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE & WARREN (Wayne, Clear Creek & Franklin Townships)

	Rates	Fringes
ELECTRICIAN	$ 33.25	20.84

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* ELEC0082-006 11/29/2021

CLINTON, DARKE, GREENE, MIAMI, MONTGOMERY, PREBLE & WARREN (Wayne, Clear Creek & Franklin Townships)

	Rates	Fringes
Sound & Communication Technician		
Cable Puller	$ 12.98 **	3.89
Installer/Technician	$ 25.95	12.27

ELEC0129-003 02/28/2022

LORAIN (Except Columbia Township) & MEDINA (Litchfield & Liverpool Townships)

	Rates	Fringes
ELECTRICIAN	$ 37.00	18.23

ELEC0129-004 02/28/2022

ERIE & HURON (Lyme, Ridgefield, Norwalk, Townsend, Wakeman, Sherman, Peru, Bronson, Hartland, Clarksfield, Norwich, Greenfield, Fairfield, Fitchville & New London Townships)

	Rates	Fringes
ELECTRICIAN	$ 37.00	18.23

ELEC0141-003 09/01/2019

BELMONT COUNTY

	Rates	Fringes
CABLE SPLICER	$ 30.63	25.87
ELECTRICIAN	$ 30.38	25.87

ELEC0212-003 11/26/2018

BROWN, CLERMONT & HAMILTON

	Rates	Fringes
Sound & Communication Technician	$ 24.35	10.99

ELEC0212-005 06/06/2022

BROWN, CLERMONT, and HAMILTON COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 33.29	21.15

ELEC0245-001 01/01/2022

ALLEN, HARDIN, VAN WERT & WYANDOT (Crawford, Jackson, Marseilles, Mifflin, Richland, Ridge & Salem Townships)

	Rates	Fringes
Line Construction		
Equipment Operator	$ 32.37	26.5%+7.25
Groundman Truck Driver	$ 18.60	26.5%+7.25
Lineman	$ 42.52	26.5%+7.25

FOOTNOTE: a. Half day's Paid Holiday: The last 4 hours of the workday prior to Christmas or New Year's Day

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ELEC0245-003 01/01/2022

DEFIANCE, FULTON, HANCOCK, HENRY, HURON, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS, and WOOD COUNTIES

	Rates	Fringes
Line Construction		
Cable Splicer	$ 48.90	26.5%+7.25
Groundman/Truck Driver	$ 18.60	26.5%+7.25
Heli-arc Welding	$ 40.76	26.5%+7.25
Lineman	$ 45.52	26.5%+7.25
Operator - Class 1	$ 34.18	26.5%+7.25
Operator - Class 2	$ 28.32	26.5%+7.25
Traffic Signal & Lighting Technician	$ 38.27	26.5%+7.25

FOOTNOTE: a. 6 Observed Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; & Christmas Day. Employees who work on a holiday shall be paid at a rate of double their applicable classified straight-time rates for the work performed on such holiday.

ELEC0245-004 01/01/2022

ERIE COUNTY

	Rates	Fringes
Line Construction		
Cable Splicer	$ 49.14	26.75%+6.75
Cablesplicer	$ 48.90	26.5%+7.25
Groundman/Truck Driver	$ 18.60	26.5%+7.25
Lineman	$ 42.52	26.5%+7.25
Operator - Class 1	$ 34.14	26.5%+7.25
Operator - Class 2	$ 28.32	26.5%+7.25

FOOTNOTE: a. 6 Observed Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; & Christmas Day. Employees who work on a holiday shall be paid at a rate of double their applicable classified straight-time rates for the work performed on such holiday.

ELEC0246-001 11/01/2021

	Rates	Fringes

ELECTRICIAN.....$ 39.50 77%+31.62

FOOTNOTE: a. 1 1/2 Paid Holidays: The last scheduled workday prior to Christmas & 4 hours on Good Friday.

ELEC0306-005 05/28/2018

MEDINA (Brunswick, Chatham, Granger, Guilford, Harrisville, Hinckley, Homer, Lafayette, Medina, Montville, Sharon, Spencer, Wadsworth, Westfield & York Townships), PORTAGE (Atwater, Aurora, Brimfield, Deerfield, Franklin, Mantua, Randolph, Ravenna, Rootstown, Shalersville, Streetsboro & Suffield Townships), SUMMIT & WAYNE (Baughman, Canaan, Chester, Chippewa, Congress, Green, Milton, & Wayne Townships)

	Rates	Fringes
CABLE SPLICER	$ 36.87	16.56
ELECTRICIAN	$ 34.54	5%+18.06

ELEC0317-002 05/30/2022

GALLIA & LAWRENCE

	Rates	Fringes
CABLE SPLICER	$ 32.68	18.13
ELECTRICIAN	$ 35.85	28.25

ELEC0540-005 12/27/2021

CARROLL (Northern half, including Fox, Harrison, Rose & Washington Townhships), COLUMBIANA (Knox Township), HOLMES, MAHONING (Smith Township), STARK, TUSCARAWAS (North of Auburn, Clay, Rush & York Townships), and WAYNE (South of Baughman, Chester, Green & Wayne Townships) COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 35.28	22.63

ELEC0573-003 05/30/2022

ASHTABULA (Colebrook, Wayne, Williamsfield, Orwell & Windsor Townships), GEAUGA (Auburn, Middlefield, Parkman & Troy Townships), MAHONING (Milton Township), PORTAGE (Charlestown, Edinburg, Freedom, Hiram, Nelson, Palmyra, Paris & Windham Townships), and TRUMBULL (Except Liberty & Hubbard Townships)

	Rates	Fringes
ELECTRICIAN	$ 37.30	20.50

ELEC0575-001 11/29/2021

ADAMS, FAYETTE, HIGHLAND, HOCKING, JACKSON (Bloomfield, Franklin, Hamilton, Jefferson, Lick, Madison, Scioto, Coal, Jackson, Liberty, Milton & Washington Townships), PICKAWAY (Deer Creek, Perry, Pickaway, Salt Creek & Wayne Townships), PIKE (Beaver, Benton, Jackson, Mifflin, Pebble, PeePee, Perry, Seal, Camp Creek, Newton, Scioto, Sunfish, Union & Marion Townships), ROSS, SCIOTO & VINTON (Clinton, Eagle, Elk, Harrison, Jackson, Richland & Swan Townships)

	Rates	Fringes
ELECTRICIAN	$ 35.00	19.76

ELEC0648-001 08/29/2022

BUTLER and WARREN COUNTIES (Deerfield, Hamilton, Harlan, Massie, Salem, Turtle Creek, Union & Washington Townships)

	Rates	Fringes
CABLE SPLICER	$ 30.50	18.23
ELECTRICIAN	$ 33.00	21.44

ELEC0673-004 05/30/2022

ASHTABULA (Excluding Orwell, Colebrook, Williamsfield, Wayne & Windsor Townships), GEAUGA (Burton, Chardon, Claridon, Hambden, Huntsburg, Montville, Munson, Newbury & Thompson Townships) and LAKE COUNTIES

	Rates	Fringes
CABLE SPLICER	$ 33.81	21.47
ELECTRICIAN	$ 34.71	23.36

ELEC0683-002 05/30/2022

CHAMPAIGN, CLARK, DELAWARE, FAIRFIELD, FRANKLIN, MADISON, PICKAWAY (Circleville, Darby, Harrison, Jackson, Madison, Monroe, Muhlenberg, Scioto, Walnut & Washington Townships), and UNION COUNTIES

	Rates	Fringes

CABLE SPLICER.....$ 37.50 23.15
ELECTRICIAN.....$ 36.50 23.15

ELEC0688-003 05/30/2022

ASHLAND, CRAWFORD, HURON (Richmond, New Haven, Ripley & Greenwich Townships), KNOX (Liberty, Clinton, Union, Howard, Monroe, Middleberry, Morris, Wayne, Berlin, Pike, Brown & Jefferson Townships), MARION, MORROW, RICHLAND and WYANDOT (Sycamore, Crane, Eden, Pitt, Antrim & Tymochtee Townships) COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 32.30	21.83

ELEC0972-002 06/01/2021

ATHENS, MEIGS, MONROE, MORGAN, NOBLE, VINTON (Brown, Knox, Madison, Vinton & Wilkesville Townships), and WASHINGTON COUNITES

	Rates	Fringes
CABLE SPLICER	$ 37.35	27.81
ELECTRICIAN	$ 34.30	27.62

ELEC1105-001 05/30/2022

COSHOCTON, GUERNSEY, KNOX (Jackson, Clay, Morgan, Miller, Milford, Hilliar, Butler, Harrison, Pleasant & College Townships), LICKING, MUSKINGUM, PERRY, and TUSCARAWAS (Auburn, York, Clay, Jefferson, Rush, Oxford, Washington, Salem, Perry & Bucks Townships) COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 35.25	22.18

ENGI0018-003 05/01/2019

ASHTABULA, CUYAHOGA, ERIE, GEAUGA, LAKE, LORAIN, MEDINA, PORTAGE, and SUMMIT COUNTIES

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 38.63	15.20
GROUP 2	$ 38.53	15.20
GROUP 3	$ 37.49	15.20

GROUP 4	$ 36.27	15.20
GROUP 5	$ 30.98	15.20
GROUP 6	$ 38.88	15.20
GROUP 7	$ 39.13	15.20

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating Equipment (All Types); Gradall; Helicopter Crew (Operator-Hoist or Winch); Hoe (all types); Hoisting Engine on Shaft or Tunnel Work; Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24"" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; Wheel Excavator; and Asphalt Plant Engineer (Cleveland District Only).

GROUP 2 - Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring Machine More than 48""; Bulldozer; Endloader; Horizontal Directional Drill (Over 50,000 ft lbs thrust); Hydro Milling Machine; Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24"" wide & under); Vermeer type Concrete Saw; and Maintenance Operators (Portage and Summit Counties Only).

GROUP 3 - A-Frame; Air Compressor on Tunnel Work (low pressure); Asphalt Plant Engineer (Portage and Summit Counties Only); Bobcat-type and/or Skid Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag capacity); Mixer, one bag

capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4"" & over discharge); Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie Tampers (without lifting & aligning device); Utility Operator (Small equipment); Welding Machines; and Railroad Tie Inserter/Remover; Articulating/straight bed end dumps if assigned (minus $4.00 per hour.

GROUP 4 - Backfiller; Ballast Re-locator; Bars, Joint & Mesh Installing Machine; Batch Plant; Boring Machine Operator (48"" or less); Bull Floats; Burlap & Curing Machine; Concrete Plant (capacity 4 yd. & under); Concrete Saw (Multiple); Conveyor (Highway); Crusher; Deckhand; Farm-type Tractor with attachments (highway); Finishing Machine; Fireperson, Floating Equipment (all types); Forklift; Form Trencher; Hydro Hammer expect masonary; Hydro Seeder; Pavement Breaker; Plant Mixer; Post Driver; Post Hole Digger (Power Auger); Power Brush Burner; Power Form Handling Equipment; Road Widening Trencher; Roller (Brick, Grade & Macadam); Self-Propelled Power Spreader; Self-Propelled Power Subgrader; Steam Fireperson; Tractor (Pulling Sheepfoot, Roller or Grader); and Vibratory Compactor with Integral Power.

GROUP 5 - Compressor (Portable, Sewer, Heavy & Highway); Drum Fireperson (Asphalt Plant); Generator; Masonry Fork Lift; Inboard-Outboard Motor Boat Launch; Oil Heater (asphalt plant); Oiler/Helper; Power Driven Heater; Power Sweeper & Scrubber; Pump (under 4"" discharge); Signalperson; Tire Repairperson; VAC/ALLS; Cranes - Compact, track or rubber under 4,000 pound capacity; fueling and greasing; and Chainmen.

GROUP 6 - Master Mechanic & Boom from 150 to 180.

GROUP 7 - Boom from 180 and over.

ENGI0018-004 05/01/2019

ADAMS, ALLEN, ASHLAND, ATHENS, AUGLAIZE, BELMONT, BROWN, BUTLER, CARROLL, CHAMPAIGN, CLARK, CLERMONT, CLINTON, COSHOCTON, CRAWFORD, DARKE, DEFIANCE, DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, FULTON, GALLIA, GREENE, GUERNSEY, HAMILTON, HANCOCK, HARDIN, HARRISON, HENRY, HIGHLAND, HOCKING, HOLMES, HURON, JACKSON, JEFFERSON, KNOX, LAWRENCE, LICKING, LOGAN, LUCAS, MADISON, MARION, MEIGS, MERCER, MIAMI, MONROE, MONTGOMERY, MORGAN, MORROW, MUSKINGUM, NOBLE, OTTAWA, PAULDING, PERRY, PICKAWAY, PIKE, PREBLE, PUTNAM, RICHLAND, ROSS, SANDUSKY, SCIOTO, SENECA, SHELBY, STARK, TUSCARAWAS, UNION, VAN WERT, VINTON, WARREN, WASHINGTON, WAYNE, WILLIAMS, WOOD, and YANDOT COUNTIES

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 37.14	15.20
GROUP 2	$ 37.02	15.20
GROUP 3	$ 35.98	15.20
GROUP 4	$ 34.80	15.20
GROUP 5	$ 29.34	15.20
GROUP 6	$ 37.39	15.20
GROUP 7	$ 37.64	15.20

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating Equipment (All Types); Gradall; Helicopter Crew (Operator-Hoist or Winch); Hoe (all types); Hoisting Engine on Shaft or Tunnel Work; Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24"" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; and Wheel Excavator.

GROUP 2 - Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring Machine More than 48""; Bulldozer; Endloader; Hydro Milling Machine; Horizontal Directional Drill (over 50,000 ft. lbs. thrust);Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24"" wide & under); and Vermeer type Concrete Saw.

GROUP 3 - A-Frame; Air Compressor on Tunnel Work (low pressure); Asphalt Plant Engineer; Bobcat-type and/or Skid

Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag capacity); Mixer, one bag capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4"" & over discharge); Railroad Tie Inserter/Remover; Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie Tampers (without lifting & aligning device); Utility Operator (Small equipment); and Welding Machines; Artiaculating/straight bed end dumps if assigned (minus $4.00 per hour.

GROUP 4 - Backfiller; Ballast Re-locator; Bars, Joint & Mesh Installing Machine; Batch Plant; Boring Machine Operator (48"" or less); Bull Floats; Burlap & Curing Machine; Concrete Plant (capacity 4 yd. & under); Concrete Saw (Multiple); Conveyor (Highway); Crusher; Deckhand; Farm-type Tractor with attachments (highway); Finishing Machine; Fireperson, Floating Equipment (all types); Fork Lift; Form Trencher; Hydro Hammer expect masonary; Hydro Seeder; Pavement Breaker; Plant Mixer; Post Driver; Post Hole Digger (Power Auger); Power Brush Burner; Power Form Handling Equipment; Road Widening Trencher; Roller (Brick, Grade & Macadam); Self-Propelled Power Spreader; Self-Propelled Power Subgrader; Steam Fireperson; Tractor (Pulling Sheepfoot, Roller or Grader); and Vibratory Compactor with Integral Power.

GROUP 5 - Compressor (Portable, Sewer, Heavy & Highway); Drum Fireperson (Asphalt Plant); Generator; Masonary Forklift; Inboard-Outboard Motor Boat Launch; Oil Heater (asphalt plant); Oiler/Helper; Power Driven Heater; Power Sweeper & Scrubber; Pump (under 4"" discharge); Signalperson; Tire Repairperson; VAC/ALLS; Cranes - Compact, track or rubber under 4,000 pound capacity; fueling and greasing; and Chainmen.

GROUP 6 - Master Mechanic & Boom from 150 to 180.

GROUP 7 - Boom from 180 and over.

ENGI0066-023 06/01/2017

COLUMBIANA, MAHONING & TRUMBULL COUNTIES

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		
GROUP 1 - A & B.....	$ 39.23	19.66
ASBESTOS; HAZARDOUS/TOXIC WASTE PROJECTS		

GROUP 2 - A & B.....$ 38.90 19.66
ASBESTOS; HAZARDOUS/TOXIC
WASTE PROJECTS
GROUP 3 - A & B.....$ 34.64 19.66
ASBESTOS; HAZARDOUS/TOXIC
WASTE PROJECTS
GROUP 4 - A & B.....$ 30.70 19.66
ASBESTOS; HAZARDOUS/TOXIC
WASTE PROJECTS
GROUP 5 - A & B.....$ 27.30 19.66
HAZARDOUS/TOXIC WASTE
PROJECTS
GROUP 1 - C & D.....$ 35.96 19.66
HAZARDOUS/TOXIC WASTE
PROJECTS
GROUP 2 - C & D.....$ 35.66 19.66
HAZARDOUS/TOXIC WASTE
PROJECTS
GROUP 3 - C & D.....$ 31.76 19.66
HAZARDOUS/TOXIC WASTE
PROJECTS
GROUP 4 - C & D.....$ 28.14 19.66
HAZARDOUS/TOXIC WASTE
PROJECTS
GROUP 5 - C & D.....$ 25.03 19.66
ALL OTHER WORK
GROUP 1.....$ 32.69 19.66
ALL OTHER WORK
GROUP 2.....$ 32.42 19.66
ALL OTHER WORK
GROUP 3.....$ 28.87 19.66
ALL OTHER WORK
GROUP 4.....$ 25.58 19.66
ALL OTHER WORK
GROUP 5.....$ 22.75 19.66

GROUP 1 - Rig, Pile Driver or Caisson Type; & Rig, Pile Hydraulic Unit Attached

GROUP 2 - Asphalt Heater Planer; Backfiller with Drag Attachment; Backhoe; Backhoe with Shear attached; Backhoe-Rear Pivotal Swing; Batch Plant-Central Mix Concrete; Batch Plant, Portable concrete; Berm Builder-Automatic; Boat Derrick; Boat-Tug; Boring Machine Attached to Tractor; Bullclam; Bulldozer; C.M.I. Road Builder & Similar Type; Cable Placer & Layer; Carrier-Straddle; Carryall-Scraper or Scoop; Chicago Boom; Compactor with Blade Attached; Concrete Saw (Vermeer or similar type); Concrete Spreader Finisher; Combination, Bidwell Machine; Crane; Crane-Electric Overhead; Crane-Rough Terrain; Crane-Side Boom; Crane-Truck; Crane-Tower; Derrick-Boom; Derrick-Car; Digger-Wheel (Not trencher or road widener); Double Nine; Drag Line; Dredge; Drill-Kenny or Similar Type; Easy Pour Median Barrier

Machine (or similar type); Electromatic; Frankie Pile; Gradall; Grader; Gurry; Self-Propelled; Heavy Equipment Robotics Operator/Mechanic; Hoist-Monorail; Hoist-Stationary & Mobile Tractor; Hoist, 2 or 3 drum; Horizontal Directional Drill Operator; Jackall; Jumbo Machine; Kocal & Kuhlman; Land-Seagoing Vehicle; Loader, Elevating; Loader, Front End; Loader, Skid Steer; Locomotive; Mechanic/Welder; Metro Chip Harvester with Boom; Mucking Machine; Paver-Asphalt Finishing Machine; Paver-Road Concrete; Paver-Slip Form (C.M.I. or similar); Place Crete Machine with Boom; Post Driver (Carrier mounted); Power Driven Hydraulic Pump & Jack (When used in Slip Form or Lift Slab Construction); Pump Crete Machine; Regulator-Ballast; Hydraulic Power Unit not attached to Rig for Pile Drillings; Rigs-Drilling; Roto Mill or similar Full Lane (8' Wide & Over); Roto Mill or similar type (Under 8'); Shovel; Slip Form Curb Machine; Speedwing; Spikemaster; Stonecrusher; Tie Puller & Loader; Tie Tamper; Tractor-Double Boom; Tractor with Attachments; Truck-Boom; Truck-Tire; Trench Machine; Tunnel Machine (Mark 21 Java or similar); & Whirley (or similar type)

GROUP 3 - Asphalt Plant; Bending Machine (Pipeline or similar type); Boring machine, Motor Driven; Chip Harvester without Boom; Cleaning Machine, Pipeline Type; Coating Machine, Pipeline Type; Compactor; Concrete Belt Placer; Concrete Finisher; Concrete Planer or Asphalt; Concrete Spreader; Elevator; Fork Lift (Home building only); Fork lift & Lulls; Fork Lift Walk Behind (Hoisting over 1 buck high); Form Line Machine; Grease Truck operator; Grout Pump; Gunnite Machine; Horizontal Directional Drill Locator; Single Drum Hoist with or without Tower; Huck Bolting Machine; Hydraulic Scaffold (Hoisting building materials); Paving Breaker (Self-propelled or Ridden); Pipe Dream; Pot Fireperson (Power Agitated); Refrigeration Plant; Road Widener; Roller; Sasgen Derrick; Seeding Machine; Soil Stabilizer (Pump type); Spray Cure Machine, Self-Propelled; Straw Blower Machine; Sub-Grader; Tube Finisher or Broom C.M.I. or similar type; & Tugger Hoist

GROUP 4 - Air Curtain Destructor & Similar Type; Batch Plant-Job Related; Boiler Operator; Compressor; Conveyor; Curb Builder, self-propelled; Drill Wagon; Generator Set; Generator-Steam; Heater-Portable Power; Hydraulic Manipulator Crane; Jack-Hydraulic Power driven; Jack-Hydraulic (Railroad); Ladavator; Minor Machine Operator; Mixer-Concrete; Mulching Machine; Pin Puller; Power Broom; Pulverizer; Pump; Road Finishing Machine (Pull Type); Saw-Concrete-Self-Propelled (Highway Work); Signal Person; Spray Cure Machine-Motor Powered; Stump Cutter; Tractor; Trencher Form; Water Blaster; Steam Jenny; Syphon; Vibrator-Gasoline; & Welding Machine

GROUP 5 - Brakeperson; Fireperson; & Oiler

IRON0017-002 05/01/2022

ASHTABULA (North of Route 6, starting at the Geauga County Line, proceeding east to State Route 45), CUYAHOGA, ERIE (Eastern 2/3), GEAUGA, HURON (East of a line drawn from the north border through Monroeville & Willard), LAKE, LORAIN, MEDINA (North of Old Rte. #224), PORTAGE (West of a line from Middlefield to Shalersville to Deerfield), and SUMMIT (North of Old Rte. #224, including city limits of Barberton) COUNTIES

	Rates	Fringes
IRONWORKER		
Ornamental, Reinforcing, & Structural	$ 34.33	27.51

IRON0017-010 05/01/2022

ASHTABULA (Eastern part from Lake Erie on the north to route #322 on the south to include Conneaut, Kingsville, Sheffield, Denmark, Dorset, Cherry Valley, Wayne, Monroe, Pierpont, Richmond, Andover & Williamsfield Townships)

	Rates	Fringes
IRONWORKER		
Structural, including metal building erection & Reinforcing	$ 34.33	27.51

IRON0044-001 06/01/2022

ADAMS (Western Part), BROWN, BUTLER (Southern Part), CLERMONT, CLINTON (South of a line drawn from Blanchester to Lynchburg), HAMILTON, HIGHLAND (Excluding eastern one-fifth & portion of county inside lines drawn from Marshall to Lynchburg from the northern county line through E. Monroe to Marshall) and WARREN (South of a line drawn from Blanchester through Morrow to the west county line) COUNTIES

	Rates	Fringes
IRONWORKER, REINFORCING	$ 32.37	22.30
Beyond 30-mile radius of Hamilton County Courthouse	$ 28.67	21.20
Up to & including 30-mile radius of Hamilton County Courthouse	$ 27.60	20.70

IRON0044-002 06/01/2022

CLINTON (South of a line drawn from Blanchester to Lynchburg), HAMILTON, HIGHLAND (Excluding eastern one-fifth & portion of county inside lines drawn from Marshall to Lynchburg from the northern county line through E. Monroe to Marshall) & WARREN (South of a line drawn from Blanchester through Morrow to the west county line)

	Rates	Fringes
IRONWORKER		
Fence Erector	$ 30.28	22.30
Ornamental; Structural	$ 31.87	22.30

IRON0055-003 07/01/2021

CRAWFORD (Area Between lines drawn from where Hwy #598 & #30 meet through N. Liberty to the northern border & from said Hwy junction point due west to the border), DEFIANCE (S. of a line drawn from where Rte. #66 meets the northern line through Independence to the eastern county border), ERIE (Western 1/3), FULTON, HANCOCK, HARDIN (North of a line drawn from Maysville to a point 4 miles south of the northern line on the eastern line), HENRY, HURON (West of a line drawn from the northern border through Monroeville & Willard), LUCAS, OTTAWA, PUTNAM (East of a line drawn from the northern border down through Miller City to where #696 meets the southern border), SANDUSKY, SENECA, WILLIAMS (East of a line drawn from Pioneer through Stryker to the southern border), WOOD & WYANDOT (North of Rte. #30)

	Rates	Fringes
IRONWORKER		
Fence Erector	$ 21.30	20.92
Flat Road Mesh	$ 29.77	21.30
Tunnels & Caissons Under Pressure	$ 29.77	21.30
All Other Work	$ 31.25	26.90

IRON0147-002 06/01/2022

ALLEN (Northern half), DEFIANCE (Northern part, excluding south of a line drawn from where Rte. #66 meets the northern line through Independence to the eastern county border), MERCER (Northern half), PAULDING, PUTNAM (Western part, excluding east of a line drawn from the northern border down through Miller City to where #696 meets the southern border), VAN WERT, and WILLIAMS (Western part, excluding east of a line drawn from Pioneer through Stryker to the southern border) COUNTIES

	Rates	Fringes
IRONWORKER	$ 31.20	28.47

IRON0172-002 06/01/2022

CHAMPAIGN (Eastern one-third), CLARK (Eastern one-fourth), COSHOCTON (West of a line beginning at the northwestern county line going through Walhonding & Tunnel Hill to the southern county line), CRAWFORD (South of Rte. #30), DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, HARDIN (Excluding a line drawn from Roundhead to Maysville), HIGHLAND (Eastern one-fifth), HOCKING, JACKSON (Northern half), KNOX, LICKING, LOGAN (Eastern one-third), MADISON, MARION, MORROW, MUSKINGUM (West of a line starting at Adams Mill going to Adamsville & going from Adamsville through Blue Rock to the southern border), PERRY, PICKAWAY, PIKE (Northern half), ROSS, UNION, VINTON and WYANDOT (South of Rte. #30) COUNTIES

	Rates	Fringes
IRONWORKER	$ 33.27	21.20

IRON0207-004 06/01/2022

ASHTABULA (Southern part starting at the Geauga County line), COLUMBIANA (E. of a line from Damascus to Highlandtown), MAHONING (N. of Old Route #224), PORTAGE (E. of a line from Middlefield to Shalersville to Deerfield) & TRUMBULL

	Rates	Fringes
IRONWORKER		
Layout; Sheeter	$ 32.92	26.26
Ornamental; Reinforcing; Structural	$ 31.92	26.26
Ornamental; Reinforcing	$ 28.92	25.61

IRON0290-002 06/01/2022

ALLEN (Southern half), AUGLAIZE, BUTLER (North of a line drawn from east to the west county line going through Oxford, Darrtown & Woodsdale), CHAMPAIGN (Excluding east of a line drawn from Catawla to the point where #68 intersects the northern county line), CLARK (Western two-thirds), CLINTON (Excluding south of a line drawn from Blanchester to Lynchburg), DARKE, GREENE, HIGHLAND (Inside lines drawn from Marshall to Lynchburg & from the northern county line through East Monroe to Marshall), LOGAN (West of a line drawn from West Liberty to where the northern county line meets the western county line of Hardin), MERCER (Southern half), MIAMI,

MONTGOMERY, PREBLE, SHELBY & WARREN (Excluding south of a line drawn from Blanchester through Morrow to the western county line) COUNTIES

	Rates	Fringes
IRONWORKER	$ 31.59	23.85

IRON0549-003 12/01/2021

BELMONT, GUERNSEY, HARRISON, JEFFERSON, MONROE & MUSKINGUM (Excluding portion west of a line starting at Adams Mill going to Adamsville and going from Adamsville through Blue Rock to the south border)

	Rates	Fringes
IRONWORKER	$ 34.44	18.77

IRON0550-004 05/01/2022

ASHLAND, CARROLL, COLUMBIANA (W. of a line from Damascus to Highlandtown), COSHOCTON (E. of a line beginning at NW Co. line going through Walhonding & Tunnel Hill to the South Co. line), HOLMES, HURON (S. of Old Rte. #224), MAHONING (S. of Old Rte. #224), MEDINA (S. of Old Rte. #224), PORTAGE (S. of Old Rte. #224), RICHLAND, STARK, SUMMIT (S. of Old Rte. #224, Excluding city limits of Barberton), TUSCARAWAS, & WAYNE

	Rates	Fringes
Ironworkers:Structural, Ornamental and Reinforcing	$ 30.97	21.69

IRON0769-004 06/01/2022

ADAMS (Eastern Half), GALLIA, JACKSON (Southern Half), LAWRENCE & SCIOTO

	Rates	Fringes
IRONWORKER	$ 33.71	27.69

IRON0787-003 06/01/2022

ATHENS, MEIGS, MORGAN, NOBLE, and WASHINGTON COUNTIES

	Rates	Fringes
IRONWORKER	$ 31.50	23.75

LABO0265-008 05/01/2022

	Rates	Fringes
LABORER		
ASHTABULA, ERIE, HURON, LORAIN, LUCAS, MAHONING, MEDINA, OTTAWA, PORTAGE, SANDUSKY, STARK, SUMMIT, TRUMBULL & WOOD COUNTIES		
GROUP 1	$ 34.95	12.10
GROUP 2	$ 35.12	12.10
GROUP 3	$ 35.45	12.10
GROUP 4	$ 35.90	12.10
CUYAHOGA AND GEAUGA COUNTIES ONLY: SEWAGE PLANTS, WASTE PLANTS, WATER TREATMENT FACILITIES, PUMPING STATIONS, & ETHANOL PLANTS CONSTRUCTION	$ 37.56	12.10
CUYAHOGA, GEAUGA & LAKE COUNTIES		
GROUP 1	$ 36.18	12.10
GROUP 2	$ 36.35	12.10
GROUP 3	$ 36.68	12.10
GROUP 4	$ 37.13	12.10
REMAINING COUNTIES OF OHIO		
GROUP 1	$ 34.52	12.10
GROUP 2	$ 34.69	12.10
GROUP 3	$ 35.02	12.10
GROUP 4	$ 35.47	12.10

LABORER CLASSIFICATIONS

GROUP 1 - Asphalt Laborer; Carpenter Tender; Concrete Curing Applicator; Dump Man (Batch Truck); Guardrail and Fence Installer; Joint Setter; Laborer (Construction); Landscape Laborer; Mesh Handlers & Placer; Right-of-way Laborer; Riprap Laborer & Grouter; Scaffold Erector; Seal Coating; Surface Treatment or Road Mix Laborer; Sign Installer; Slurry Seal; Utility Man; Bridge Man; Handyman; Waterproofing Laborer; Flagperson; Hazardous Waste (level D); Diver Tender; Zone Person & Traffic Control

GROUP 2 - Asphalt Raker; Concrete Puddler; Kettle Man Pipeline); Machine Driven Tools (Gas, Electric, Air); Mason Tender; Brick Paver; Mortar Mixer; Power Buggy or Power Wheelbarrow; Paint Striper; Sheeting & Shoring Man; Surface Grinder Man; Plastic Fusing Machine Operator; Pug Mill Operator; & Vacuum Devices (wet or dry); Rodding Machine Operator; Diver; Screwman or Paver; Screed Person; Water Blast, Hand Held Wand; Pumps 4"" & Under (Gas, Air or

Electric) & Hazardous Waste (level C); Air Track and Wagon Drill; Bottom Person; Cofferdam (below 25 ft. deep); Concrete Saw Person; Cutting with Burning Torch; Form Setter; Hand Spiker (Railroad); Pipelayer; Tunnel Laborer (without air) & Caisson; Underground Person (working in Sewer and Waterline, Cleaning, Repairing & Reconditioning); Sandblaster Nozzle Person; & Hazardous Waste (level B)

GROUP 3 - Blaster; Mucker; Powder Person; Top Lander; Wrencher (Mechanical Joints & Utility Pipeline); Yarner; Hazardous Waste (level A); Concrete Specialist; Concrete Crew in Tunnels (With Air-pressurized - $1.00 premium); Curb Setter & Cutter; Grade Checker; Utility Pipeline Tapper; Waterline; and Caulker

GROUP 4 - Miner (With Air-pressurized - $1.00 premium); & Gunite Nozzle Person

TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE

SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING.

PAIN0006-002 05/01/2018

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN, PORTAGE (N. of the East-West Turnpike) & SUMMIT (N. of the East-West Turnpike)

	Rates	Fringes
PAINTER		
COMMERCIAL NEW WORK; REMODELING; & RENOVATIONS		
GROUP 1	$ 27.90	16.16
GROUP 2	$ 28.30	16.16
GROUP 3	$ 28.60	16.16
GROUP 4	$ 34.16	16.16
COMMERCIAL REPAINT		
GROUP 1	$ 26.40	16.16
GROUP 2	$ 26.80	16.16
GROUP 3	$ 27.10	16.16

PAINTER CLASSIFICATIONS - COMMERCIAL NEW WORK; REMODELING; & RENOVATIONS

GROUP 1 - Brush; & Roller

GROUP 2 - Sandblasting & Buffing

GROUP 3 - Spray Painting; Closed Steel Above 55 feet; Bridges & Open Structural Steel; Tanks - Water Towers; Bridge Painters; Bridge Riggers; Containment Builders

GROUP 4 - Bridge Blaster

PAINTER CLASSIFICATIONS - COMMERCIAL REPAINT

GROUP 1 - Brush; & Roller

GROUP 2 - Sandblasting & Buffing

GROUP 3 - Spray Painting

PAIN0007-002 07/01/2021

FULTON, HENRY, LUCAS, OTTAWA (Excluding Allen, Bay, Bono, Catawba Island, Clay Center, Curtice, Danbury, Eagle Beach, Elliston, Elmore, Erie, Fishback, Gem Beach & Genova) & WOOD

	Rates	Fringes
PAINTER		
NEW COMMERCIAL WORK		
GROUP 1	$ 28.74	18.77
GROUP 2	$ 28.74	18.77
GROUP 3	$ 28.74	18.77
GROUP 4	$ 28.74	18.77
GROUP 5	$ 28.74	18.77
GROUP 6	$ 28.74	18.77
GROUP 7	$ 28.74	18.77
GROUP 8	$ 28.74	18.77
GROUP 9	$ 28.74	18.77

REPAINT IS 90% OF JR

PAINTER CLASSIFICATIONS

GROUP 1 - Brush; Spray & Sandblasting Pot Tender

GROUP 2 - Refineries & Refinery Tanks; Surfaces 30 ft. or over where material is applied to or labor performed on above ground level (exterior), floor level (interior)

GROUP 3 - Swing Stage & Chair

GROUP 4 - Lead Abatement

GROUP 5 - All Methods of Spray

GROUP 6 - Solvent-Based Catalized Epoxy Materials of 2 or More Component Materials, to include Solvent-Based Conversion Varnish (excluding water based)

GROUP 7 - Spray Solvent Based Material; Sand & Abrasive

Blasting

GROUP 8 - Towers; Tanks; Bridges; Stacks Over 30 Feet

GROUP 9 - Epoxy Spray (excluding water based)

PAIN0012-008 05/01/2019

BUTLER COUNTY

	Rates	Fringes
PAINTER		
GROUP 1	$ 21.95	10.20
GROUP 2	$ 25.30	10.20
GROUP 3	$ 25.80	10.20
GROUP 4	$ 26.05	10.20
GROUP 5	$ 26.30	10.20

PAINTER CLASSIFICATIONS

GROUP 1: Bridge Equipment Tender; Bridge/Containment Builder

GROUP 2: Brush & Roller

GROUP 3: Spray

GROUP 4: Sandblasting; & Waterblasting

GROUP 5: Elevated Tanks; Steeplejack Work; Bridge; & Lead Abatement

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PAIN0012-010 05/01/2019

BROWN, CLERMONT, CLINTON, HAMILTON & WARREN

	Rates	Fringes
PAINTER		
HEAVY & HIGHWAY BRIDGES-GUARDRAILS-LIGHTPOLES-STRIPING		
Bridge Equipment Tender and Containment Builder	$ 21.95	10.20
Bridges when highest point of clearance is 60 feet or more; & Lead Abatement Projects	$ 26.30	10.20
Brush & Roller	$ 25.30	10.20
Sandblasting & Hopper Tender; Water Blasting	$ 26.05	10.20

Spray.....$ 25.80 10.20

PAIN0093-001 12/01/2018

ATHENS, GUERNSEY, HOCKING, MONROE, MORGAN, NOBLE and WASHINGTON COUNTIES

	Rates	Fringes
PAINTER		
Bridges; Locks; Dams; Tension Towers; & Energized Substations	$ 34.04	18.50
Power Generating Facilities	$ 30.89	18.50

PAIN0249-002 06/01/2020

CLARK, DARKE, GREENE, MIAMI, MONTGOMERY & PREBLE

	Rates	Fringes
PAINTER		
GROUP 1 - Brush & Roller	$ 24.17	11.22
GROUP 2 - Swing, Scaffold Bridges; Structural Steel; Open Acid Tank; High Tension Electrical Equipment; & Hot Pipes	$ 24.17	11.22
GROUP 3 - Spray; Sandblast; Steamclean; Lead Abatement	$ 24.92	11.22
GROUP 4 - Steeplejack Work	$ 25.12	11.22
GROUP 5 - Coal Tar	$ 25.67	11.22
GROUP 6 - Bridge Equipment Tender & or Containment Builder	$ 32.88	11.22
GROUP 7 - Tanks, Stacks & Towers	$ 27.81	11.22
GROUP 8 - Bridge Blaster, Rigger	$ 35.88	11.22

PAIN0356-002 09/01/2009

KNOX, LICKING, MUSKINGUM, and PERRY

	Rates	Fringes
PAINTER		
Bridge Equipment Tenders and Containment Builders	$ 27.93	7.25
Bridges; Blasters; andRiggers	$ 34.60	7.25
Brush and Roller	$ 20.93	7.25

Sandblasting; Steam Cleaning; Waterblasting; and Hazardous Work.....$ 25.82 7.25
Spray.....$ 21.40 7.25
Structural Steel and Swing Stage.....$ 25.42 7.25
Tanks; Stacks; and Towers...$ 28.63 7.25

PAIN0438-002 12/01/2021

BELMONT, HARRISON and JEFFERSON COUNTIES

	Rates	Fringes
PAINTER		
Bridges, Locks, Dams, Tension Towers & Energized Substations	$ 34.47	20.60
Power Generating Facilities	$ 29.65	17.68

PAIN0476-001 06/01/2021

COLUMBIANA, MAHONING, and TRUMBULL COUNITES

	Rates	Fringes
PAINTER		
GROUP 1	$ 25.79	15.81
GROUP 2	$ 33.10	15.81
GROUP 3	$ 26.00	15.81
GROUP 4	$ 27.12	15.81
GROUP 5	$ 27.79	15.81
GROUP 6	$ 26.69	15.81
GROUP 7	$ 27.79	15.81

PAINTER CLASSIFICATIONS:

GROUP 1: Painters, Brush & Roller

GROUP 2: Bridges

GROUP 3: Structural Steel

GROUP 4: Spray, Except Bar Joist/Deck

GROUP 5: Epoxy/Mastic; Spray- Bar Joist/Deck; Working Above 50 Feet; and Swingstages

GROUP 6: Tanks; Sandblasting

GROUP 7: Towers; Stacks

PAIN0555-002 06/01/2021

ADAMS, HIGHLAND, JACKSON, PIKE & SCIOTO

	Rates	Fringes
PAINTER		
GROUP 1	$ 31.95	17.05
GROUP 2	$ 33.47	17.05
GROUP 3	$ 34.99	17.05
GROUP 4	$ 37.97	17.05

PAINTER CLASSIFICATIONS

GROUP 1 - Containment Builder

GROUP 2 - Brush; Roller; Power Tools, Under 40 feet

GROUP 3 - Sand Blasting; Spray; Steam Cleaning; Pressure Washing; Epoxy & Two Component Materials; Lead Abatement; Hazardous Waste; Toxic Materials; Bulk & Storage Tanks of 25,000 Gallon Capacity or More; Elevated Tanks

GROUP 4 - Stacks; Bridges

PAIN0639-001 05/01/2011

	Rates	Fringes
Sign Painter & Erector	$ 20.61	3.50+a+b+c

FOOTNOTES: a. 7 Paid Holidays: New Year's Day; Memorial Day; July 4th; Labor Day; Thanksgiving Day; Christmas Day & 1 Floating Day
b. Vacation Pay: After 1 year's service - 5 days' paid vacation; After 2, but less than 10 years' service - 10 days' paid vacation; After 10, but less than 20 years' service - 15 days' paid vacation; After 20 years' service - 20 days' paid vacation
c. Funeral leave up to 3 days maximum paid leave for death of mother, father, brother, sister, spouse, child, mother-in-law, father-in-law, grandparent and inlaw provided employee attends funeral

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PAIN0788-002 06/01/2022

ASHLAND, CRAWFORD, ERIE, HANCOCK, HURON, MARION, MORROW, OTTAWA (Allen, Bay, Bono, Catawba Island, Clay Center, Curtice, Danbury, Eagle Beach, Elliston, Elmore, Erie, Fishback, Gem Beach & Genoa), RICHLAND, SANDUSKY, SENECA & WYANDOT

	Rates	Fringes

PAINTER
Brush & Roller.....$ 25.08 16.72
Structural Steel.....$ 26.68 16.72

WINTER REPAINT: Between December 1 to March 31 - 90%JR

$.50 PER HOUR SHALL BE ADDED TO THE RATE OF PAY FOR THE CLASSIFICATION OF WORK:

While working swingstage, boatswain chair, needle beam and horizontal cable. While operating sprayguns, sandblasting, cobblasting and high pressure waterblasting (4000psi).

$1.00 PER HOUR SHALL BE ADDED TO THE RATE OF PAY FOR THE CLASSIFICATION OF WORK:

For the application of catalized epoxy, including latex epoxy that is deemed hazardous, lead abatement, or for work or material where special precautions beyond normal work duties must be taken. For working on stacks, tanks, and towers over 40 feet in height.

PAIN0813-005 12/01/2008

GALLIA, LAWRENCE, MEIGS & VINTON

	Rates	Fringes
PAINTER		
Base Rate	$ 24.83	10.00
Bridges, Locks, Dams & Tension Towers	$ 27.83	10.00

PAIN0841-001 06/01/2018

MEDINA, PORTAGE (South of and including Ohio Turnpike), and SUMMIT (South of and including Ohio Turnpike) COUNTIES

	Rates	Fringes
Painters:		
GROUP 1	$ 25.75	14.35
GROUP 2	$ 26.40	14.35
GROUP 3	$ 26.50	14.35
GROUP 4	$ 26.60	14.35
GROUP 5	$ 27.00	14.35
GROUP 6	$ 39.20	11.75
GROUP 7	$ 27.00	14.35

PAINTER CLASSIFICATIONS:

GROUP 1 - Brush, Roller & Paperhanger

GROUP 2 - Epoxy Application

GROUP 3 - Swing Scaffold, Bosum Chair, & Window Jack

GROUP 4 - Spray Gun Operator of Any & All Coatings

GROUP 5 - Sandblast, Painting of Standpipes, etc. from Scaffolds, Bridge Work and/or Open Structural Steel, Standpipes and/or Water Towers

GROUP 6 - Public & Commerce Transportation, Steel or Galvanized, Bridges, Tunnels & Related Support Items (concrete)

GROUP 7 - Synthetic Exterior, Drywall Finisher and/or Taper, Drywall Finisher and Follow-up Man Using Automatic Tools

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* PAIN0841-002 06/01/2022

CARROLL, COSHOCTON, HOLMES, STARK, TUSCARAWAS & WAYNE

	Rates	Fringes
PAINTER		
Bridges; Towers, Poles & Stacks; Sandblasting Steel; Structural Steel & Metalizing	$ 23.50	15.45
Brush & Roller	$ 28.18	15.45
Spray; Tank Interior & Exterior	$ 23.50	15.45

PAIN1020-002 06/01/2022

ALLEN, AUGLAIZE, CHAMPAIGN, DEFIANCE, HARDIN, LOGAN, MERCER, PAULDING, PUTNAM, SHELBY, VAN WERT, and WILLIAMS COUNTIES

	Rates	Fringes
PAINTER		
Brush & Roller	$ 26.20	15.00
Drywall Finishing & Taping	$ 24.90	15.00
Lead Abatement	$ 27.95	15.00
Spray, Sandblasting Pressure Cleaning, & Refinery	$ 26.95	15.00
Swing Stage, Chair, Spiders, & Cherry Pickers	$ 25.47	15.00
Wallcoverings	$ 23.80	15.00

All surfaces 40 ft. or over where material is applied to or labor performed on, above ground level (exterior), floor level (interior) - $.50 premium

Applying Coal Tar Products - $1.00 premium

PAIN1275-002 06/01/2020

DELAWARE, FAIRFIELD, FAYETTE, FRANKLIN, MADISON, PICKAWAY, ROSS & UNION

	Rates	Fringes
PAINTER		
Bridges	$ 34.64	14.40
Brush; Roller	$ 25.16	14.40
Sandblasting; Steamcleaning; Waterblasting (3500 PSI or Over)& Hazardous Work	$ 25.86	14.40
Spray	$ 25.66	14.40
Stacks; Tanks; & Towers	$ 28.67	14.40
Structural Steel & Swing Stage	$ 25.46	14.40

PLAS0109-001 05/01/2018

MEDINA, PORTAGE, STARK, and SUMMIT COUNTIES

	Rates	Fringes
PLASTERER	$ 28.86	17.11

PLAS0109-003 05/01/2018

CARROLL, HOLMES, TUSCARAWAS, and WAYNE COUNTIES

	Rates	Fringes
PLASTERER	$ 28.21	17.11

PLAS0132-002 06/01/2022

BROWN, BUTLER, CLERMONT, HAMILTON, HIGHLAND, WARREN COUNTIES

	Rates	Fringes
PLASTERER	$ 29.25	14.69

PLAS0404-002 05/01/2018

ASHTABULA, CUYAHOGA, GEAUGA, AND LAKE COUNTIES

	Rates	Fringes
PLASTERER	$ 29.63	17.11

PLAS0404-003 05/01/2018

LORAIN COUNTY

	Rates	Fringes
PLASTERER	$ 28.86	17.11

PLAS0526-022 05/01/2018

COLUMBIANA, MAHONING, and TRUMBULL COUNTIES

	Rates	Fringes
PLASTERER	$ 28.86	17.11

PLAS0526-023 05/01/2018

BELMONT, HARRISON, and JEFFERSON COUNTIES

	Rates	Fringes
PLASTERER	$ 28.21	17.11

PLAS0886-001 05/01/2018

FULTON, HANCOCK, HENRY, LUCAS, PUTNAM, and WOOD COUNTIES

	Rates	Fringes
PLASTERER	$ 29.63	17.11

PLAS0886-003 05/01/2018

DEFIANCE, ERIE, HURON, OTTAWA, PAULDING, SANDUSKY, and SENECA COUNTIES

	Rates	Fringes
PLASTERER	$ 28.86	17.11

PLAS0886-004 05/01/2018

ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, and VAN WERT COUNTIES

	Rates	Fringes
PLASTERER	$ 28.21	17.11

PLUM0042-002 07/01/2022

ASHLAND, CRAWFORD, ERIE, HURON, KNOX, LORAIN, MORROW, RICHLAND & WYANDOT

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 34.42	25.47

PLUM0050-002 07/04/2022

DEFIANCE, FULTON, HANCOCK, HENRY, LUCAS, OTTAWA, PAULDING, PUTNAM, SANDUSKY, SENECA, WILLIAMS & WOOD

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 44.60	28.51

PLUM0055-003 05/01/2022

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, MEDINA (N. of Rte. #18 & Smith Road) & SUMMIT (N. of Rte. #303, including the corporate limits of the city of Hudson)

	Rates	Fringes
PLUMBER	$ 40.00	28.43

PLUM0083-001 07/01/2017

BELMONT & MONROE (North of Rte. #78)

	Rates	Fringes
Plumber and Steamfitter	$ 32.16	31.51

PLUM0094-002 05/01/2022

CARROLL (Northen Half), STARK, and WAYNE COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 36.83	22.99

PLUM0120-002 05/02/2022

ASHTABULA, CUYAHOGA, GEAUGA, LAKE, LORAIN (the C.E.I. Power House in Avon Lake), MEDINA (N. of Rte. #18) & SUMMIT (N. of

#303)

	Rates	Fringes
PIPEFITTER	$ 44.07	28.34

PLUM0162-002 06/01/2022

CHAMPAIGN, CLARK, CLINTON, DARKE, FAYETTE, GREENE, MIAMI, MONTGOMERY & PREBLE

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 36.47	26.80

PLUM0168-002 06/01/2022

MEIGS, MONROE (South of Rte. #78), MORGAN (South of Rte. #78) & WASHINGTON

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 38.02	34.09

PLUM0189-002 06/01/2019

DELAWARE, FAIRFIELD, FRANKLIN, HOCKING, LICKING, MADISON, MARION, PERRY, PICKAWAY, ROSS & UNION

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 38.45	16.98

PLUM0219-002 06/01/2022

MEDINA (Rte. #18 from eastern edge of Medina Co., west to eastern corporate limits of the city of Medina, & on the county road from the west corporate limits of Medina running due west to and through community of Risley to the western edge of Medina County - All territory south of this line), PORTAGE, and SUMMIT (S. of Rte. #303) COUNTIES

	Rates	Fringes
Plumber and Steamfitter	$ 41.22	26.64

PLUM0392-002 06/01/2022

BROWN, BUTLER, CLERMONT, HAMILTON & WARREN

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 36.71	24.89

PLUM0396-001 06/01/2021

COLUMBIANA (Excluding Washington & Yellow Creek Townships & Liverpool Twp. - Secs. 35 & 36 - West of County Road #427), MAHONING and TRUMBULL COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER	$ 35.35	27.01

PLUM0495-002 06/01/2022

CARROLL (Rose, Monroe, Union, Lee, Orange, Perry & Loudon Townships), COLUMBIANA (Washington & Yellow Creek Townships & Liverpool Township, Secs. 35 & 36, West of County Rd. #427), COSHOCTON, GUERNSEY, HARRISON, HOLMES, JEFFERSON, MORGAN (South to State Rte. #78 & from McConnelsville west on State Rte. #37 to the Perry County line), MUSKINGUM, NOBLE, and TUSCARAWAS COUNTIES

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 31.24	34.34

PLUM0577-002 06/01/2022

ADAMS, ATHENS, GALLIA, HIGHLAND, JACKSON, LAWRENCE, PIKE, SCIOTO & VINTON

	Rates	Fringes
Plumber, Pipefitter, Steamfitter	$ 37.56	25.73

PLUM0776-002 07/01/2022

ALLEN, AUGLAIZE, HARDIN, LOGAN, MERCER, SHELBY and VAN WERT COUNTIES

	Rates	Fringes
Plumber, Pipefitter,		

Steamfitter.....$ 39.33 27.68

TEAM0377-003 05/01/2021

STATEWIDE, EXCEPT CUYAHOGA, GEAUGA & LAKE

	Rates	Fringes
TRUCK DRIVER		
GROUP 1	$ 29.74	15.70
GROUP 2	$ 30.16	15.70

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Asphalt Distributor; Batch; 4- Wheel Service; 4-Wheel Dump; Oil Distributor & Tandem

GROUP 2 - Tractor-Trailer Combination: Fuel; Pole Trailer; Ready Mix; Semi-Tractor; & Asphalt Oil Spraybar Man When Operated From Cab; 5 Axles & Over; Belly Dump; End Dump; Articulated Dump; Heavy Duty Equipment; Low Boy; & Truck Mechanic

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TEAM0436-002 05/01/2021

CUYAHOGA, GEAUGA & LAKE

	Rates	Fringes
TRUCK DRIVER		
GROUP 1	$ 30.65	16.95
GROUP 2	$ 31.15	16.95

GROUP 1: Straight & Dump, Straight Fuel

GROUP 2: Semi Fuel, Semi Tractor, Euclids, Darts, Tank, Asphalt Spreaders, Low Boys, Carry-All, Tourna-Rockers, Hi-Lifts, Extra Long Trailers, Semi-Pole Trailers, Double Hook-Up Tractor Trailers including Team Track & Railroad Siding, Semi-Tractor & Tri-Axle Trailer, Tandem Tractor & Tandem Trailer, Tag Along Trailer, Expandable Trailer or Towing Requiring Road Permits, Ready-Mix (Agitator or Non-Agitator), Bulk Concrete Driver, Dry Batch Truck, Articulated End Dump

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher

minimum wage under Executive Order 14026 ($15.00) or 13658 ($11.25). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the

most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination

* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

"General Decision Number: OH20220065 10/21/2022

Superseded General Decision Number: OH20210065

State: Ohio

Construction Type: Building

Counties: Coshocton, Guernsey, Harrison, Morgan, Noble and Perry Counties in Ohio.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least $15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least $11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the

Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at https://www.dol.gov/agencies/whd/government-contracts.

Modification Number	Publication Date
0	01/07/2022
1	01/14/2022
2	02/18/2022
3	02/25/2022
4	03/11/2022
5	06/10/2022
6	07/15/2022
7	09/02/2022
8	10/21/2022

ASBE0002-003 08/01/2022

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR	$ 44.50	28.43

BROH0009-004 06/01/2019

COSHOCTON, GUERNSEY, MORGAN, NOBLE, AND PERRY COUNTIES

	Rates	Fringes
BRICKLAYER	$ 28.82	15.43

BROH0010-001 07/01/2021

HARRISON COUNTY

	Rates	Fringes
BRICKLAYER	$ 32.36	20.40

BROH0055-007 06/01/2021

	Rates	Fringes
TILE FINISHER	$ 27.06	9.50
TILE SETTER	$ 30.65	19.21

ELEC0246-003 11/01/2021

HARRISON COUNTY

	Rates	Fringes
ELECTRICIAN (Low Voltage Wiring Only)	$ 22.00	41%+9.68

ELEC0540-002 08/30/2021

COSHOCTON, GUERNSEY, MORGAN, NOBLE, and PERRY COUNTIES

	Rates	Fringes
ELECTRICIAN (Low Voltage Wiring Only)	$ 22.85	14.58

ELEC0972-006 06/01/2021

	Rates	Fringes
ELECTRICIAN (Excludes Low Voltage Wiring)	$ 34.30	27.62

ENGI0018-025 05/01/2018

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
Backhoe/Excavator/Trackhoe; Crane	$ 35.89	15.09
Bobcat/Skid Steer/Skid Loader; Bulldozer	$ 35.77	15.09
Forklift	$ 34.73	15.09

IRON0550-008 05/01/2022

	Rates	Fringes
IRONWORKER (Ornamental and Structural)	$ 30.97	21.69

LABO0083-004 05/01/2021

	Rates	Fringes
LABORER		
Mason Tender - Cement/Concrete	$ 37.52	11.80

LABO0134-002 05/01/2021

	Rates	Fringes
LABORER		
Mason Tender - Brick	$ 28.76	11.80

PAIN0093-003 12/01/2021

	Rates	Fringes
PAINTER (Brush and Roller)	$ 28.31	20.60

PLAS0132-011 06/01/2022

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 29.25	14.69

PLUM0495-007 06/01/2022

	Rates	Fringes
PIPEFITTER (Includes HVAC Pipe Installation)	$ 31.24	34.34
PLUMBER (Excludes HVAC Pipe Installation)	$ 31.24	34.34

SFOH0669-009 04/01/2021

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers)	$ 39.25	25.81

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* SHEE0024-024 06/01/2022

	Rates	Fringes
SHEET METAL WORKER (HVAC Duct Installation Only)	$ 33.53	26.36

SHEE0033-015 06/01/2022

	Rates	Fringes
SHEET METAL WORKER (Excludes HVAC Duct Installation)	$ 31.73	27.44

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* UAVG-OH-0016 01/01/2018

	Rates	Fringes
IRONWORKER, REINFORCING	$ 29.10	19.73

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* UAVG-OH-0017 01/01/2019

	Rates	Fringes
ROOFER	$ 29.59	15.17

SUOH2012-067 08/29/2014

	Rates	Fringes
CARPENTER	$ 25.75	12.99
LABORER: Common or General	$ 24.62	8.51
LABORER: Pipelayer	$ 18.37	4.79
OPERATOR: Loader	$ 22.69	8.01
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 23.91	10.42
TRUCK DRIVER: Dump (All Types)	$ 19.33	6.55

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the

cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union

average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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The request should be accompanied by a full statement of the interested party's position and by any information (wage

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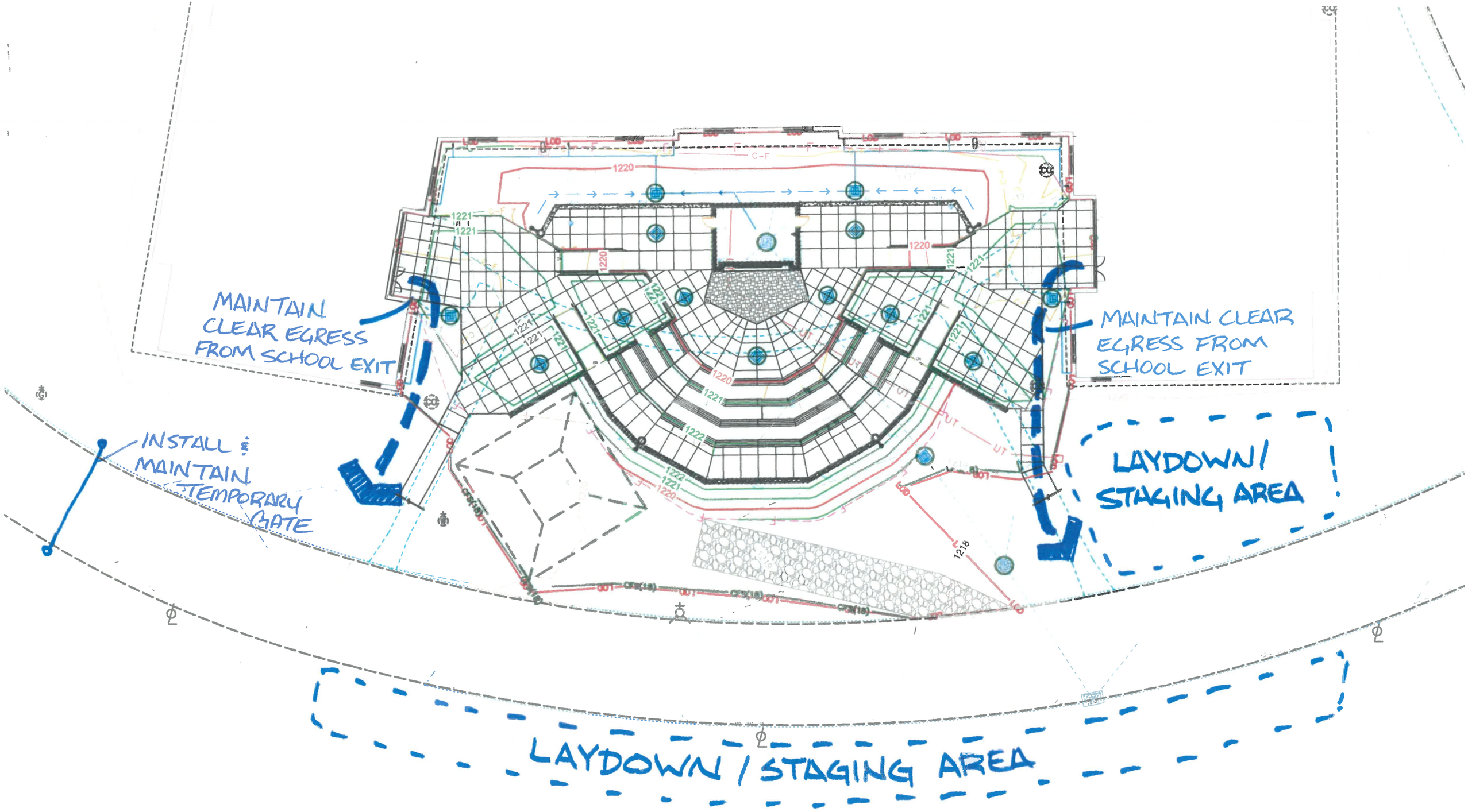
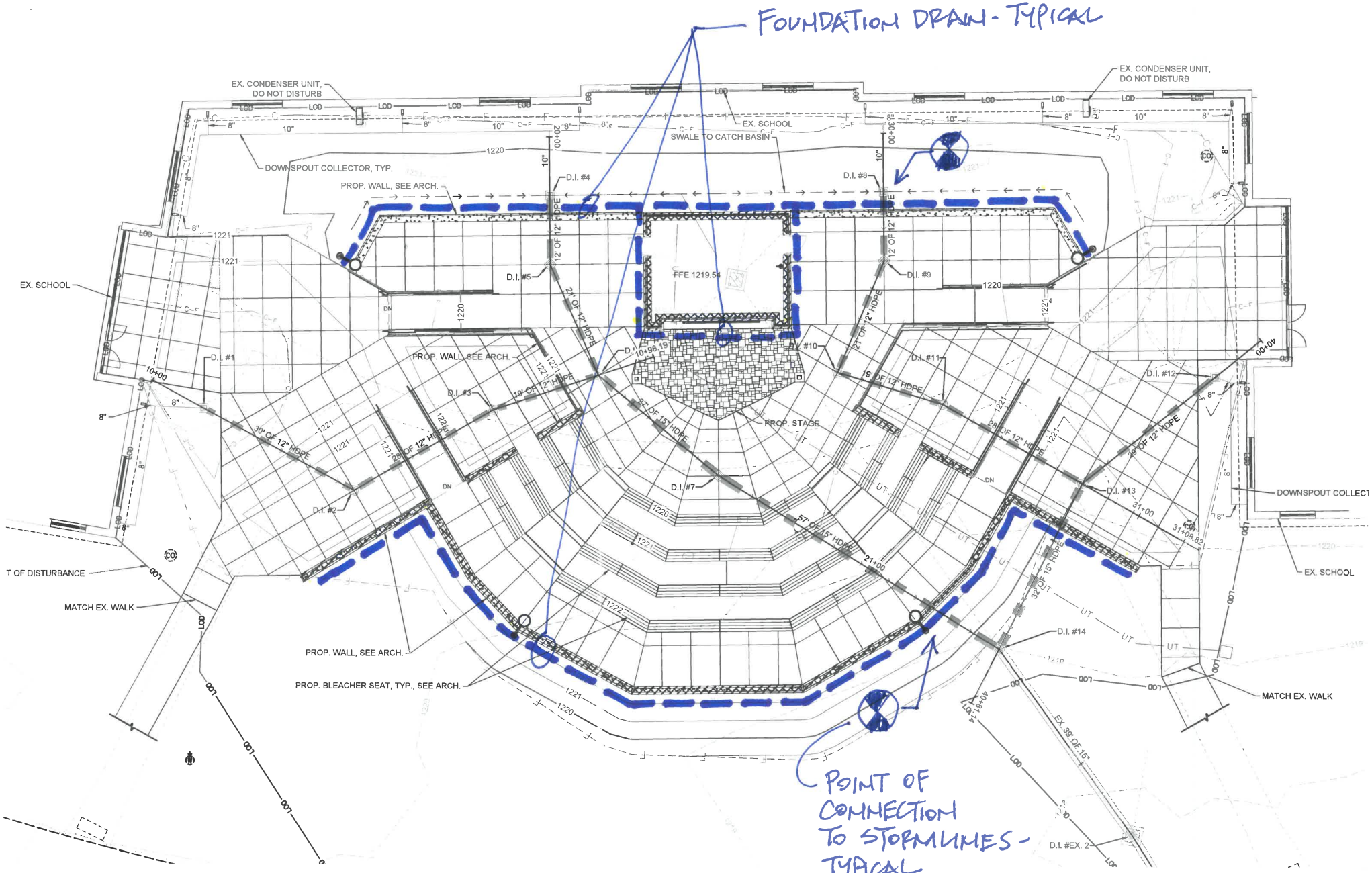
END OF GENERAL DECISIO"



HARRISON HILLS - OUTDOOR CLASSROOM
C2.02 - Addendum #1 12/15/22



HARRISON HILLS - OUTDOOR CLASSROOM
C2.03 - Addendum No. 1 12/15/22

Resource International, Inc.

HARRISON CENTRAL JR./SR. HIGH SCHOOL OUTDOOR CLASSROOM
CADIZ, OHIO

GEOTECHNICAL INVESTIGATION REPORT

Prepared For:
The Thrasher Group, Inc.
600 White Oaks Blvd
Bridgeport, WV 26330

Prepared By:
Resource International, Inc.
6350 Presidential Gateway
Columbus, OH 43231

Rii Project No. W-22-057

July 2022

RESOURCE INTERNATIONAL, INC.
6350 Presidential Gateway
Columbus, Ohio 43231
Ph: 614.823.4949

July 7, 2022

Mr. Marcus Carnegie, PLA
Project Manager
The Thrasher Group, Inc.
600 White Oaks Blvd
Bridgeport, WV 26330

Re: Geotechnical Investigation Report
Harrison Central Jr./Sr. High School Outdoor Classroom
Cadiz, Ohio
Rii Project No. W-22-057

Mr. Carnegie:

Resource International, Inc. (Rii) is pleased to submit this geotechnical investigation report for the above-referenced project. Engineering logs have been prepared and are attached to this report along with field and laboratory test results. This report includes recommendations for the design and construction of the proposed Outdoor Classroom for the Harrison Central Jr./Sr. High School located in Cadiz, Ohio.

We sincerely appreciate the opportunity to be of service to you on this project. If you have any questions concerning the geotechnical investigation or this report, do not hesitate to contact us.

Sincerely,

RESOURCE INTERNATIONAL, INC.

Johnnatan Garcia-Ruiz
Staff Engineer

Daniel Karch, P.E.
Project Manager– Geotechnical Services

Enclosure: Geotechnical Investigation Report

Planning

Engineering

Construction Management

Technology

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

This report is a presentation of the geotechnical investigation performed for the design and construction of the outdoor classroom for the Harrison Central Jr./Sr. High School located in Cadiz, Ohio. The site of the proposed new spaces is within the existing grounds and sidewalks located on the east side of the existing school (east-wing). A vicinity map depicting the location of the site is provided on the boring plan in Appendix I.

Based on the project information provided, it is understood that the development will include a covered stage area with an annexed storage room, two outdoor classrooms, and a fixed, amphitheater style, seating area.

1.1 Existing Site Conditions

The proposed site is located within Harrison Central High School property, off Liggett Ln, less than a mile to the west of Cadiz in Harrison County, Ohio. The surface topography of the area is characterized by flat areas with low relief, having an average surface elevation around 1200 feet mean sea level (msl). Based on a separate Environmental Site Assessment report of the area prepared by Resource International, Inc. (Rii), it is understood that the proposed area was previously a surface mining operation as early as 1960 with continual operations until mid-1990s. Regionally, the area slopes to the east and north toward Mill Run Creek.

1.2 Site Geology

Physiographically, the site lies within the unglaciated portion of Ohio, within the Appalachian Plateaus Province, and within the Little Switzerland Plateau district. This district contains a topography that is highly dissected with high-relief, with mostly fine-grained rocks, including red shales and red soils that are prone to landslides. The soil encountered at the project site consists of undocumented fill classified to be spoils from the previously mining operations.

Based on the Bedrock Topography and Geology Maps, obtained from the Ohio Department of Natural Resources (ODNR), the underlying bedrock at the sites consist of two formations, the Monongahela Group and the Conemaugh Group. Both of these units are of Upper Pennsylvanian-age and are characterized by lithologies that commonly intertongue and intergrade and change rapidly both vertically and horizontally in rock types. The Monongahela Group, which is the younger unit of the two, is comprised of interbedded shale, siltstone, sandstone, mudstone, limestone (non-marine), and coal and can be as thick as 350+ feet. The Conemaugh Group is comprised of interbedded shale, siltstone, sandstone, mudstone and lesser amounts of limestone and coal and can be as thick as 350 to 490 feet. The mudstones in both units are subject to severe surface weathering. Red shales and red soils are common and prone to landslides, especially where bedrock is exposed.

The top of bedrock in the project vicinity generally follows the rolling site terrain, generally with thin overburden soil on hilltops and slopes and deeper soils in valley bottoms. All of the borings contained various types of rock fragments throughout. One of the borings, B-1, encountered bedrock at a depth of 42.0 feet below the ground surface, and the bedrock was cored. Three of the deeper borings, B-2, B-3 and B-5, encountered auger refusal at depths between 23.2 and 40.0 feet below the ground surface. The bedrock surface can be weathered, and thus irregular, with surficial rock being softer and augerable, which produces pulverized rock fragments and soil making the exact bedrock surface difficult to determine without coring of the rock throughout the project site.

2.0 SUBSURFACE INVESTIGATION

Between May 25 and 26, 2022, a total of six (6) soil borings were performed for the proposed outdoor classroom, extended to depths ranging from 15.0 to 47.0 feet below the existing ground surface. The borings were performed at the locations illustrated on the boring plan provided in Appendix I. During the field reconnaissance, Rii personnel documented the existing site conditions and mapped the boring locations. Rii utilized a handheld GPS unit to obtain northing and easting coordinates at the boring locations. Approximate ground surface elevations at the boring locations were determined using topographic information from the basemap provided by the Thrasher Group. A summary of the boring locations and ground surface elevations is illustrated in Table 1.

Table 1. Boring program

Boring Number	Structure Reference	Northing	Easting	Ground Elevation [1] (feet msl)	Boring Depth (feet)
B-1	Stage Roof / Stage Mat	220790.482	2389172.215	1220.3	47.0
B-2		220818.462	2389167.823	1220.4	33.4
B-3	Storage Building	220798.727	2389143.321	1220.3	40.0
B-4	Fixed Seating Area	220759.609	2389198.988	1220.7	20.0
B-5		220814.294	2389221.769	1219.5	23.5
B-6		220857.334	2389182.225	1220.3	15.0

1. *Ground surface elevations at boring locations were determined using topographic information provided by The Thrasher Group.*

The borings were drilled with an ATV-mounted (CME-750X) rotary drilling machine utilizing a 3.25-inch inside diameter hollow stem auger and a 4.5-inch outside diameter continuous flight auger to advance the holes. Standard penetration test (SPT) and split spoon sampling was performed at 2.5-foot increments to depths of 15.0 feet in borings B-1 and B-2, and to depths of 10.0 feet in the remaining borings. Split spoon sampling then continued at 5.0-foot increments thereafter to the boring termination depths. The SPT, per the American Society for Testing and Materials (ASTM) designation D1586, is conducted using a 140-pound hammer free falling 30 inches to drive a 2.0-inch outside

diameter split spoon sampler 18 inches. Rii utilized a calibrated automatic drop hammer to generate consistent energy transfer to the sampler. Driving resistance is recorded on the boring logs in terms of blows per 6.0-inch interval of the driving distance. The second and third intervals are added to obtain the number of blows per foot (N). SPT blow counts aid in estimating soil characteristics used to calculate bearing capacities and settlement potential. Measured blow count (N_m) values are corrected to an equivalent (60 percent) energy ratio, N_{60}, by the following equation. Both values are represented on boring logs presented in Appendix III.

$$N_{60} = N_m*(ER/60)$$

Where:

N_m = measured N value

ER = drill rod energy ratio, expressed as a percent, for the system used

The hammer for the CME-750X ATV-mounted drill used for this project was calibrated on March 31, 2022 and has a drill rod energy ratio of 84.2 percent.

For instances of no recovery from standard SS interval, a 2.5-inch O.D. split spoon is driven the full length of the standard SS interval plus an additional 6.0 inches to obtain a representative sample. Only the final 6.0 inches of sample is retained. Blow counts from 2S sampling are not correlated with N_{60} values.

Hand penetrometer readings, which provide a rough estimate of the unconfined compressive strength of the soil, were reported on the boring logs in units of tons per square foot (tsf) and were utilized to classify the consistency of the cohesive soil in each layer. An indirect estimate of the unconfined compressive strength of the cohesive split spoon samples can be made from a correlation with the blow counts (N_{60}). Please note that split spoon samples are considered to be disturbed and the laboratory determination of their shear strengths may vary from undisturbed conditions.

The depth to bedrock was determined by split sampler refusal. Split sampler refusal is defined as exceeding 50 blows with less than 6.0 inches of penetration by the split spoon sampler. Where the borings required rock core samples, an NQ2-sized double-tube diamond bit core barrel (utilizing wire line equipment) was used to core the bedrock. Coring produced a 2.0-inch diameter core from which the type of rock and its geological characteristics were determined.

The rock cores obtained from the boring B-1 were logged in the field and visually classified Rii's laboratory. The retrieved core was analyzed to identify the type of rock, color, mineral content, bedding planes and other geological and mechanical features of interest in this project. The Rock Quality Designation (RQD) for each rock core run was calculated according to the following equation:

$$RQD = \frac{\sum \text{segments equal to or longer than 4.0 inches}}{\text{core run length}} \text{ x } 100$$

The RQD value aids in estimating the general quality of the rock and is used in conjunction with other parameters to designate the quality of the rock mass. Additionally, an unconfined compressive strength test was conducted on the rock core obtained from boring B-1.

Upon completion of drilling, the borings were backfilled with the soil cuttings generated during the drilling process.

During drilling, field personnel prepared field logs showing the encountered subsurface conditions. Soil samples obtained from the drilling operation were preserved in sealed glass jars and delivered to the soil laboratory. In the laboratory, the soil samples were visually classified and select soil samples were tested as noted in Table 2.

Table 2. Laboratory Test Schedule

Laboratory Test	Test Designation	Number of Tests Performed
Natural Moisture Content	ASTM D2216	12
Plastic and Liquid Limits	ASTM D4318	4
Gradation – Hydrometer	ASTM D422	4
Unconfined Compression (Rock)	ASTM D2938	1

These tests are necessary to classify the soil and rock based on the Unified Soil Classification System (USCS) in accordance with ASTM D2487. The results are also used to estimate engineering properties needed to provide foundation design recommendations and soil and rock related construction considerations. Results of the laboratory testing are presented in Appendix IV and, in part, on the boring logs in Appendix III. A description of the soil terms used throughout this report is presented in Appendix II.

3.0 SUBSURFACE PROFILE

Interpreted engineering logs have been prepared based on the field logs, visual classification of samples and laboratory test results. Classification of the borings follows the current USCS specifications. The following is a summary of what was found in the test borings and what is represented on the boring logs.

3.1 Surface Materials

All borings were performed within the proposed outdoor classroom area and encountered between 4.0 to 6.0 inches of topsoil at the existing ground surface.

3.2 Subsurface Soils

Below the surficial material, existing fill material consisting of both cohesive and granular soils were encountered in the borings to the termination depths, ranging from 15.0 feet to 42.0 below existing ground surface. The existing fill materials were described as gray to brownish gray and brown sandy lean clay and sandy lean clay with gravel (USCS CL), and gray to dark gray and brownish gray, poorly graded gravel, silty gravel with sand, and silty sand with gravel (USCS GP, GM, SM). The fill contained limestone, shale, sandstone and coal fragments throughout the depth of the borings.

Given the history of the area, and this site in particular, the existing fill can be attributed to spoils from mining operations. Based on the uncontrolled nature of the fill, the following shear strength consistencies and relative densities may not be as reliable when compared to those of natural soils. Nevertheless, the reported field readings serve as an estimate of both consistency and relative density.

The shear strength and consistency of the cohesive fill materials are primarily derived from the hand penetrometer values (HP). The cohesive fill materials encountered ranged from very stiff ($2.0 < HP \leq 4.0$ tsf) to hard ($HP > 4.0$ tsf). The unconfined compressive strength of the cohesive fill materials samples tested, as estimated from the hand penetrometer, ranged from 2.25 to 4.5 tsf (limit of the instrument). The relative density of granular fill material is primarily derived from SPT blow count (N_{60}). Based on the SPT blow counts obtained, the granular fill materials encountered ranged from medium dense ($10 < N_{60} < 30$ blows per foot [bpf]) to very dense ($N_{60} > 50$ bpf). Blow counts recorded from the SPT sampling ranged from 25 bpf to split spoon refusal (higher than 50 bpf). Split spoon refusal is defined as exceeding 50 blows with less than 6.0 inches of penetration by the split spoon sampler.

It must be noted that higher blow counts corresponding to very dense granular soils were encountered at depths where limestone fragments cobbles or split spoon sampler refusal were encountered. The split spoon sampler upon encountering cobbles generally registers a higher blow count which is considered an anomaly and not representative of the actual shear strength of the soils.

Natural moisture contents of the fill material samples tested ranged from 7 to 23 percent. The natural moisture contents of the fill material samples tested for plasticity index ranged from 4 percent below to 2 percent below their corresponding plastic limits. In general, the fill materials exhibited natural moisture contents estimated in the range of slightly below optimum moisture levels.

3.3 Bedrock

In boring B-1, limestone was encountered at a depth of 42.0 feet (Elev. 1178.3 feet msl) below existing ground surface and extended to boring termination depth of 47.0 feet below ground surface. One (1) rock core (RC-1) was obtained from boring B-1. Based on the unconfined compressive strength performed on the intact rock core from boring B-1, the compressive strength of the limestone sample encountered was 4,582 psi. Additionally, the presence of limestone and shale fragments were observed at various depths within the soils in all the borings.

3.4 Groundwater

Seepage was encountered initially in boring B-1 at the depth of 35.5 feet beneath existing ground surface. The remaining borings were dry, meaning no appreciable amount of moisture was observed in the boreholes.

Please note that short-term water level readings are not necessarily an accurate indication of the actual groundwater level. In addition, groundwater levels or the presence of groundwater are considered to be dependent seasonal fluctuations in precipitation. A more comprehensive description of the subsurface conditions encountered during the drilling program can be found on the boring logs in Appendix III.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Data obtained from the drilling and testing program have been used to determine foundation support capabilities and the settlement potential for the soils and/or fill materials encountered at the site. These parameters have been used to provide guidelines for the design of the structure foundation systems, as well as the construction specifications related to the placement of foundation systems and general earthwork recommendations, which are discussed in the following paragraphs. Allowable bearing capacity considers the gross loading, which includes weight of foundation concrete for elements placed below the existing ground and the loading from the superstructures.

Based on information provided by The Thrasher Group, it is understood that the project will include a “canopy style” covered stage area, with an annexed storage room and two outdoor classrooms that will be constructed adjacent to the east side of the existing school building. It is understood that the proposed grade for the stage, storage room and outdoor classrooms is planned to be about 2.0 feet below existing ground surface. The project will also include a fixed seating area to be constructed to the east of the proposed stage and classrooms. It is also understood that the soil material from the stage, storage room, and outdoor classrooms area is intended to be used as a fill material to raise the grade of the fixed seating area, which is planned to be amphitheater style. Specific structural loading information was not available at the time of this report.

4.1 Stage and Storage Room – Foundation Recommendations

It is understood that the stage area (with exception of the stage roof) is planned to be constructed on a mat foundation. Additionally, it is understood that the storage room and the outdoor classrooms, delimited by a proposed low height sitting wall, are considered to be on slabs-on-grade with shallow foundations. It is understood also that the stage roof will be subjected to considerable wind loads, and therefore, a deep foundation system is preferred.

Due to the uncontrolled nature of the fill material encountered within the entire project area, attributed to spoils from mining operations, and the risk of differential settlement – which is difficult to quantify in an uncontrolled fill – this material is not considered suitable for support of a shallow foundation. To eliminate this risk, Rii typically recommends that the existing fill either be completely over excavated to expose underlying suitable natural soils or that a deep foundation system such as drilled shafts be installed. However, if the mass over excavation or deep foundation options are considered cost-prohibitive, then consideration may be given to partial over excavation and replacement of the undocumented fill soils; however, this option does NOT eliminate the risk of differential settlement, and this risk must be accepted by the owner. Consideration can also be given to the use of ground improvement techniques such as aggregate piers or stone columns as described in Section 4.3. Recommendations for the foundation of the proposed stage area, stage roof, storage room, and sitting wall delimiting the outdoor classroom are described in detail in the following subsections.

4.1.1 Stage Floor and Storage Room Shallow Foundation

Based on the subsurface soils encountered in borings B-1 through B-3 at the anticipated bearing elevation for conventional shallow foundations for the storage room and the sitting wall surrounding the outdoor classrooms, were found to consist predominantly of existing fill, described as sandy lean clay with gravel and sandy lean clay (USCS CL), and contained limestone, shale, and coal fragments.

As discussed, in order to support the proposed structures on a conventional shallow foundation system, consideration should be given to complete over excavation of the existing fill encountered at this site. However, given the depth of undocumented fill throughout the project area, complete over excavation of the existing fill may not be feasible or may be cost-prohibitive. Therefore, partial over excavation of a minimum of 3.0 feet below the bottom of the footings for the storage room and the sitting walls are recommended (i.e. about 8.0 feet below the existing ground surface). Similarly, considerations to partial over excavation of about 3 feet below the bottom of the turned down footings of the mat foundation may be considered. At this level, for the mat foundation, it is recommended to place geogrid followed by 18.0 inches of Item 304 stone.

The depth of any necessary over excavation must be verified in the field by the geotechnical engineer or representative thereof. The partial over excavation option would

minimize, but NOT eliminate, the risk of future settlement since foundations supported on existing fill always poses a risk that the owner must be willing to accept.

Once any necessary over excavation has been completed, the bearing strata should be carefully inspected as soon as possible to assure adequacy. Inadequate bearing soil (soft/loose/organic), if encountered, should be over excavated to expose the underlying competent soils. The over excavations may then be backfilled with either compacted engineered fill in accordance with Section 4.6. If engineered fill is used, the over excavations should extend down and out from the bottom of the proposed foundation edge at a 45-degree plane to remove this material from within the zone of influence of the structure. Due to the nature of the fill material, attributed to spoils from mining operations, the engineered fill should be placed as soon as possible following the excavation to avoid potential water related damage. Consideration should be given to conducting testing for the expansion potential of the mine spoil, which was beyond the scope of this investigation.

Based upon an evaluation of the subsurface conditions encountered on the site, it is recommended that for the storage room and sitting wall surrounding the outdoor classrooms, conventional continuous shallow foundations bearing on engineered fill material be proportioned for a **maximum allowable bearing capacity of 3.0 ksf**.

In addition, it is recommended that for the stage area (which should be independent of the stage roof), a mat foundation with turned down footings bearing on the aforementioned engineered fill with geogrid system be proportioned for a **maximum modulus of subgrade reaction, K, of 15.0 pci**.

Foundations designed in accordance with the above-noted recommendations should experience a maximum total settlement of approximately 1.0 inch and differential settlements of less than 0.5 inch. It should again be noted that exact settlement values are not possible to accurately determine for undocumented fill bearing soils.

In order to protect against frost, exterior footings (and interior footings to be subjected to freeze-thaw effects during construction) should be placed at a minimum frost depth of 36.0 inches below the adjacent exterior grade, or in accordance with local codes. Interior footings, in heated areas not subject to freeze-thaw effects, should be placed at a minimum depth of 24.0 inches below the floor slab. A minimum width of 24.0 inches for continuous and 36.0 inches for spread footings is recommended.

Footing concrete should be placed as soon as possible following footing excavation, preferably the same day, to avoid potential water related damage. Footings should be kept dry and clean until footing concrete is placed in order to minimize damage to the bearing surface.

4.1.2 Stage Roof – Deep Foundation

As previously mentioned, it is understood that the stage roof will be subjected uplift forces due to wind loads. Therefore, for the stage roof, a deep foundation system such as drilled shafts, independent from the stage's mat foundation and the storage room, is recommended. Recommendations regarding the drilled shaft foundations are presented in the following subsections.

4.1.2.1 Drilled Shaft Foundations

Based on the subsurface investigation in borings B-1 and B-2, the soils encountered were found to consist of existing fill to the depth of bedrock and boring termination depth by auger refusal, respectively. The mine spoil fill materials in these two borings were generally described as sandy lean clay (USCS CL), poorly graded gravel, and silty gravel with sand, (USCS GP, GM) and contained limestone, shale, sandstone and coal fragments.

For the stage roof foundation, considering that uplifting forces produced by high winds are expected, Rii recommends that a deep foundation system consisting of drilled shafts be employed. Due to the nature of the uncontrolled nature of the fill materials encountered, it is recommended that drilled shaft foundations be socketed a minimum of 3 feet into bedrock, which in boring B-1 corresponds to an elevation of 1175.3 msl. **Drilled shafts extending to this elevation may be designed for a maximum allowable end bearing capacity of 13.0 ksf**. If additional capacity is required, an allowable downward side friction of 0.5 ksf may be used. For shafts extending to an elevation of 1175.3 ksf, an uplift capacity of 6.5 ksf in side friction for rock and 0.3 ksf in soil may be used. Side friction should be neglected in the upper 5.0 feet of the shaft, however.

The end bearing capacity presented is estimated using results of the rock testing conducted on the rock core taken at boring B-1. The drilled shaft capacities noted above were analyzed utilizing a factor of safety of 3.0. Drilled shaft lengths should measure a minimum of three (3) times the diameter. Drilled shafts should be designed in strict accordance with the current Ohio Building Code (OBC). Per the OBC the structural capacity of the shafts must be in compliance with the following guideline:

- Design load stresses in the concrete must not exceed 0.33 f'c.

For structure foundations supported on drilled shafts extended to the elevations noted above, total and differential settlements are estimated to be less than ½ inch if they are designed using the allowable bearing capacities provided.

4.1.2.2 Drilled Shaft Considerations

The minimum requirements for proper inspection of drilled shaft construction are as follows:

- A qualified inspector should record the material types being removed from the hole as excavation proceeds.
- When the bearing material has been encountered and identified and/or the design tip elevation has been reached, the shaft walls and base should be observed for anomalies, unexpected soft soil conditions, obstructions or caving.
- Concrete placed freefall should not be allowed to hit the sidewalls of the excavation or the rebar cage and should not pass through any water.
- Structural stability of the rebar cage should be maintained during the concrete pour to prevent buckling.
- The volume of concrete should be checked to ensure voids did not result during extraction of the casing (if utilized).
- The placement of all concrete for the drilled shafts shall follow the American Concrete Institute's Design and Construction of Drilled Piers (ACI 336.3R-93).
- If concrete is placed by tremie method, it must be done so with a rigid tremie pipe under adequate head pressure to displace water or slurry if groundwater has entered the caisson (all tremie procedures shall follow applicable ACI specifications).
- Pulling casing with insufficient concrete inside should be restricted.
- The bottom of drilled shaft excavation should be clean and free of loose material. Any loose material observed should be removed using a clean-out bucket (muck bucket).

Based on the nature and conditions of the fill materials encountered during drilling operation, attributed to spoils from mining operations that included the presence of granular materials, Rii recommends the use of casing for drilled shafts, to maintained an open excavation, especially below the groundwater table. In general, the use of casing is recommended under any of the following conditions:

- Caving material is encountered at any time during the drilling of the shaft.
- Groundwater is encountered at any time during the drilling of the shaft, or groundwater seepage occurs in the drilled shaft.

- Down hole inspection is planned (casing is required for this instance).

4.2 Seating Area (Amphitheater Style) – Embankment Settlement Evaluation

It is understood that the fixed seating to be constructed to the east of the proposed stage and classrooms, is planned to be a mounded area – amphitheater – style. It is also understood that the fill or "embankment" at its highest point is expected to have a height of approximately 10.0 feet above the existing ground surface and gradually step west to the proposed stage area grade elevation and east to the existing ground surface elevation.

As mentioned in previous sections, due to the uncontrolled nature of the fill material encountered within the entire project area, attributed to spoils from mining operations, it is difficult to quantified differential settlement. However, given the history of the area, and this site in particular, an estimated settlement evaluation was performed using the section information provided, in conjunction with the soil profile from boring B-4 through B-6.

It was assumed that the embankment will have a grade level length, extending east to west, of approximately 50 feet, with a 2H:1V front and back slopes. The estimated compressibility parameters utilized in the settlement analyses are provided in Table 3.

Table 3. Compressibility Parameters Utilized in Settlement Analysis

Material Type	γ (pcf)	*LL* (%)	C_c (1)	C_r (2)	e_o (3)	C_v (4) (ft²/yr)	N_{60}	C' (5)
FILL: Very Stiff to Hard Sandy Lean Clay and Sandy Lean Clay with Gravel (ODOT A-4a)	115	39 to 43	0.261 to 0.297	0.039 to .045	0.577 to 0.608	75	N/A	N/A
FILL: Medium Dense to Very Dense Poorly Graded Gravel (ODOT A-1-a)	120	N/A	N/A	N/A	N/A	N/A	27	121

1. *Per Table 26 of FHWA GEC 5.*
2. *Estimated 15% of C_c per Section 5.4.2.5 of FHWA GEC 5.*
3. *Per Table 8-2 of Holtz and Kovacs (1981).*
4. *Per Figure 6-37, Section 6.14.2 of FHWA GEC 5.*
5. *Per Figure 10.6.2.4.2b-1 of 2020 AASHTO LRFD BDS.*

Results of the settlement analyses indicate total estimated settlements of up to 2.5 inches, and time rate of settlement indicates that less than 1.0 inch of settlement will be remaining after a period of 10 days following construction of the embankment.

4.3 Ground Improvement Stabilization Alternative

As an alternative to the considerable over excavations, deep foundations, and construction of mounded areas on generally uncontrolled fill of mine spoil material, the risk of differential settlement can also be minimized through the use of ground improvement techniques such as the inclusion of aggregate piers or stone columns, or if reinforced rigid inclusions.

The use of stone columns for ground improvement is a technique that consists of installing columns of crushed aggregate into the foundation soils within the footprint of the proposed structures, which is compacted into place either by tamping or by vibratory methods. The columns are typically spaced in a grid pattern at regular intervals within the footprint where the soil bearing capacity is to be improved. As the aggregate is placed and compacted, they typically displace the surrounding soil which exerts a confining pressure, improving the load bearing capacity and reducing settlement.

If vibration is to be used when installing the columns, it is imperative that instrumentation such as vibration monitoring, and/or settlement monitors be installed and monitored along the adjacent existing structure. The concern is that the vibrations could propagate horizontally to the existing structures, including any underground piping, and induce damage to the façade or the windows or cause settlement of the existing structure. Rii can assist with the specification of such instrumentation.

The use of a reinforced rigid inclusion can be reserved for the areas where structures are subjected to high wind or seismic loads. In other areas where uplifting forces are not of concern, rigid inclusion can still be used with no need for reinforcing elements. The reinforcing of the rigid inclusion could be done through the use of centralized steel rebars, steel fibers, or steel cage (if necessary and extreme loading is expected). The centralized reinforcement is connected to the structure footing using an embedded steel plate. This system might also include a load transfer platform between the footing and the rigid inclusion. This technique will not only improve the bearing capacity and help control the settlement of the existing ground but also the capacity to resist the uplifting (tensile loads) or lateral forces.

Please note that these stabilization options are proprietary, design-build solutions performed by specialty geotechnical contractors that may offer cost savings over the mass over excavation and deep foundation methods. Rii can provide contact information for the various specialty geotechnical contractors that perform such work if the owner is interested in pursuing this option.

4.4 Slab-on-Grade Recommendations

Floor slabs within the project area (storage room, outdoor classrooms, and around the stage area) may be placed on the newly placed controlled fill, or improved ground provided that the subgrade has been proof rolled and prepared in accordance with Section 4.6.

Floor slabs should be designed and constructed as “floating” slabs that are structurally independent of building foundations. Adequate expansion joints should be incorporated into the floor slabs near the foundations so that the floor slabs do not impose additional loads on the foundations. The expansion joints would also allow the foundations and floor slabs to settle independently of each other.

Provided that the slab-on-grade is prepared in accordance with Section 4.6, a **modulus of subgrade reaction, K, of 120 pounds per cubic inch (pci) should be used** in the design of concrete floor slabs at this site (i.e. storage room, outdoor classrooms, and around the stage area). The use of vapor barriers or capillary breaks is recommended for two reasons:

- The installation of sheet vapor barriers or capillary breaks retards moisture migration from the soil subgrade into the concrete floor slab, reducing the moisture content of the floor slab and subsequently reducing the possible problems with the adhesion of vinyl floor tile (if applicable).

- In areas where no vinyl tile will be installed, vapor barriers or granular capillary breaks will reduce the likelihood of differential shrinkage of the floor slabs that can cause floors to curl.

Therefore, per ACI specifications, it is recommended to place a 6-mil visqueen capillary break over a minimum of 6.0-inches fine aggregate below all concrete slabs.

The subgrade soils should be thoroughly proof rolled to identify any soft, wet, or weak zones prior to placement of subbase stone or concrete.

4.5 Seismic Site Classification

Based on the soil conditions at the site, as indicated by the test borings and estimated from local geological references, the seismic analysis and design procedures for the proposed structure should be based on **Site Class D** (stiff soil profile) per the current Ohio Building Code.

4.6 Construction Considerations

The site work shall conform to the local specifications. If local specifications are not available, the latest ODOT CMS should be implemented. Site preparation should begin with general clearing, including the complete removal of all topsoil, vegetation, debris, existing concrete, unsuitable existing fill materials (as determined by a geotechnical engineer or an experienced soil technician), or any otherwise unsuitable materials from within the footprint of the proposed structure.

Prior to placing engineered fill, and/or the slab-on-grade, the proposed subgrade surfaces should be thoroughly proofrolled with sufficient proofrolling apparatus (preferably a fully loaded tandem axle dump truck). A geotechnical engineer or an experienced soil technician should be present during proofrolling. Deflection, cracking or rutting of the subgrade surface during a proofroll indicates inadequate subgrade stability.

Areas of excess yielding should be stabilized using one of the following options: 1) scarifying, drying and recompacting, 2) mixing wet soil with dry soil, 3) undercutting unsuitable surficial soil and replacing it with controlled engineered fill, 4) modifying the soil by adding a chemical such as lime, cement or lime kiln dust, or 5) using a geogrid subgrade reinforcement system in conjunction with granular fill. Other methods of subgrade stabilization are available and certainly may be effective (both physically and economically) in stabilizing the soil. The adequacy of any stabilization method should be verified through the construction of a test section. All proposed subgrade surfaces should be shaped to promote positive drainage, with a minimum slope of 2 percent or 0.25 inches per foot. Adequate drainage is necessary for maintaining the stability of the subgrade. Care should be taken during final grading so that no areas of potential ponding or standing water remain at the subgrade surface.

After materials are excavated to design grade, proper control of subgrade and new fill compaction should be performed by the geotechnical engineer and/or his/her representative. Generally, materials utilized for engineered fill should free of waste construction debris and other deleterious materials and meet the following requirements:

- Maximum Dry Density per ASTM D698 > 110 pcf
- Liquid Limit < 40
- Plasticity Index < 15
- Organic Matter < 3 percent
- Maximum Particle Size < 3 inches
- Silt Content (between 0.075 and 0.005 mm) < 45 percent

Compacted granular fill shall meet the above specification and additionally shall have a maximum 35 percent passing the No. 200 sieve.

Due to the uncontrolled nature of the fill material encountered within the entire project area, attributed to spoils from mining operations, the site's soils are generally not considered to be suitable for reuse as structural fill in their current condition. Rii recommends further laboratory testing as well as close monitoring by a representative of the geotechnical engineer during excavation and fill placement to determine suitability of the in-situ mine spoils for use as structural fill.

Underground utilities should be bedded in crushed granular stone, such as No. 57 or No. 8 stone, extending from 4.0 inches below the pipe to the springline of the pipe or 12.0 inches above the pipe for concrete and PVC pipe, respectively. The stone will serve as a leveling course and will provide a stable working platform. Compaction of backfill material within trench excavations located beneath any structure area should be performed at no less than 98 percent of Standard Proctor using granular backfill placed in lifts no thicker than 8.0 inches.

4.6.1 Excavation Considerations

All trenching and excavation procedures should follow applicable Occupational Safety and Health Administration (OSHA) standards, including adequate safety precautions conforming to OSHA standards for the personnel installing underground lines. During excavation, if slopes cannot be laid back to OSHA Standards due to adjacent structures or other obstructions, trench boxes or temporary sheeting or shoring may be required. Table 4 should be utilized as a general guide for implementing OSHA guidelines when estimating excavation back slopes at the various boring locations. Actual excavation back slopes must be field verified by qualified personnel at the time of excavation in strict accordance with OSHA guidelines.

Table 4. Excavation Back Slopes

Soil	Maximum Back Slope	Notes
ALL Uncontrolled Cohesive Fill Material	2.0 : 1.0	None

For the soil types encountered in the borings, the "in-situ" unit weight (γ), cohesion (c), effective angle of friction (φ'), and lateral earth pressure coefficients for at-rest conditions (k_o), active conditions (k_a), and passive conditions (k_p) have been estimated and are provided in Table 5 and Table 6.

Table 5. Estimated Undrained (Short-term) Soil Parameters for Design

Soil Type[1]	γ (pcf) [2]	c (psf)	φ'	k_a	k_o	k_p
ALL Uncontrolled Cohesive Fill Material	115	1,750	0°	N/A	N/A	N/A
ALL Uncontrolled Granular Fill Material	120	0	28°	0.36	0.53	2.77
Compacted Cohesive Engineered Fill	120	2,000	0°	N/A	N/A	N/A
Compacted Granular Engineered Fill	130	0	33°	0.30	0.46	3.39

1. *Due to the nature of the uncontrolled fill, conservative parameters were estimated for all the cohesive fill materials regardless of their consistency and for all the granular fill materials regardless of their relative density.*
2. *When below groundwater table, use effective unit weight, $\gamma' = \gamma - 62.4$ pcf and add hydrostatic water pressure.*

Table 6. Estimated Drained (Long-term) Soil Parameters for Design

Soil Type	γ (pcf) [1]	c (psf)	φ'	k_a	k_o	k_p
ALL Uncontrolled Cohesive Soil	115	0	26°	0.39	0.56	2.56
ALL Uncontrolled Granular Soil	120	0	28°	0.36	0.53	2.77
Compacted Cohesive Engineered Fill	120	0	28°	0.36	0.53	2.77
Compacted Granular Engineered Fill	130	0	33°	0.30	0.46	3.39

1. *Due to the nature of the uncontrolled fill, conservative parameters were estimated for all the cohesive fill materials regardless of their consistency and for all the granular fill materials regardless of their relative density.*
2. *When below groundwater table, use effective unit weight, $\gamma' = \gamma - 62.4$ pcf and add hydrostatic water pressure.*

These parameters are considered appropriate for the design of all subsurface structures and any excavation support systems. Subsurface structures (where the top of the structure is restrained from movement) should be designed based on at-rest (k_o) conditions. For proposed temporary retaining structures (where the top of the structure is allowed to move), earth pressure distributions should be based on active (k_a) and passive (k_p) conditions. The values in these tables have been estimated from correlation charts based on minimum standards specified for compacted engineered fill materials. These recommendations do not take into consideration the effect of any surcharge loading or a sloped ground surface (a flat surface is assumed). Earth pressures on excavation support systems will be dependent on the type of sheeting and method of bracing or anchorage.

4.6.2 Groundwater Considerations

Based on the groundwater observations made during and at the completion of drilling, groundwater may be encountered during construction of deep foundations, but is not anticipated during construction of shallow foundations and slab-on-grade elements. Where/if groundwater is encountered, proper groundwater control should be employed and maintained to prevent disturbance to excavation bottoms consisting of cohesive soil, and to prevent the possible development of a quick or "boiling" conditions where soft silts and/or fine sands are encountered. It is preferable that the groundwater level, if encountered, be maintained at least 36.0 inches below the deepest excavation. A proper dewatering system will be required to maintain a dry, workable condition within the excavations for the proposed waterline. Based on the soil conditions encountered at borings, Rii anticipates conventional sump and pump methods may be sufficient for groundwater control in local area.

5.0 LIMITATIONS OF STUDY

The above recommendations are predicated upon construction inspection by a qualified soil technician under the direct supervision of a professional geotechnical engineer. Adequate testing and inspection during construction are considered necessary to assure adequate construction of the structure foundations and slab subgrade.

Our recommendations for this project were developed utilizing soil information obtained from the test borings that were made at the proposed site. At this time we would like to point out that soil borings only depict the soil conditions at the specific locations and time at which they were made. The conditions at other locations on the site may differ from those occurring at the boring locations.

The conclusions and recommendations herein have been based upon the available soil information and the preliminary design details furnished by a representative of the owner of the proposed project. Any revision in the plans for the proposed construction from those anticipated in this report should be brought to the attention of the geotechnical engineer to determine whether any changes in the foundation or earthwork recommendations are necessary. If deviations from the noted subsurface conditions are encountered during construction, they should also be brought to the attention of the geotechnical engineer.

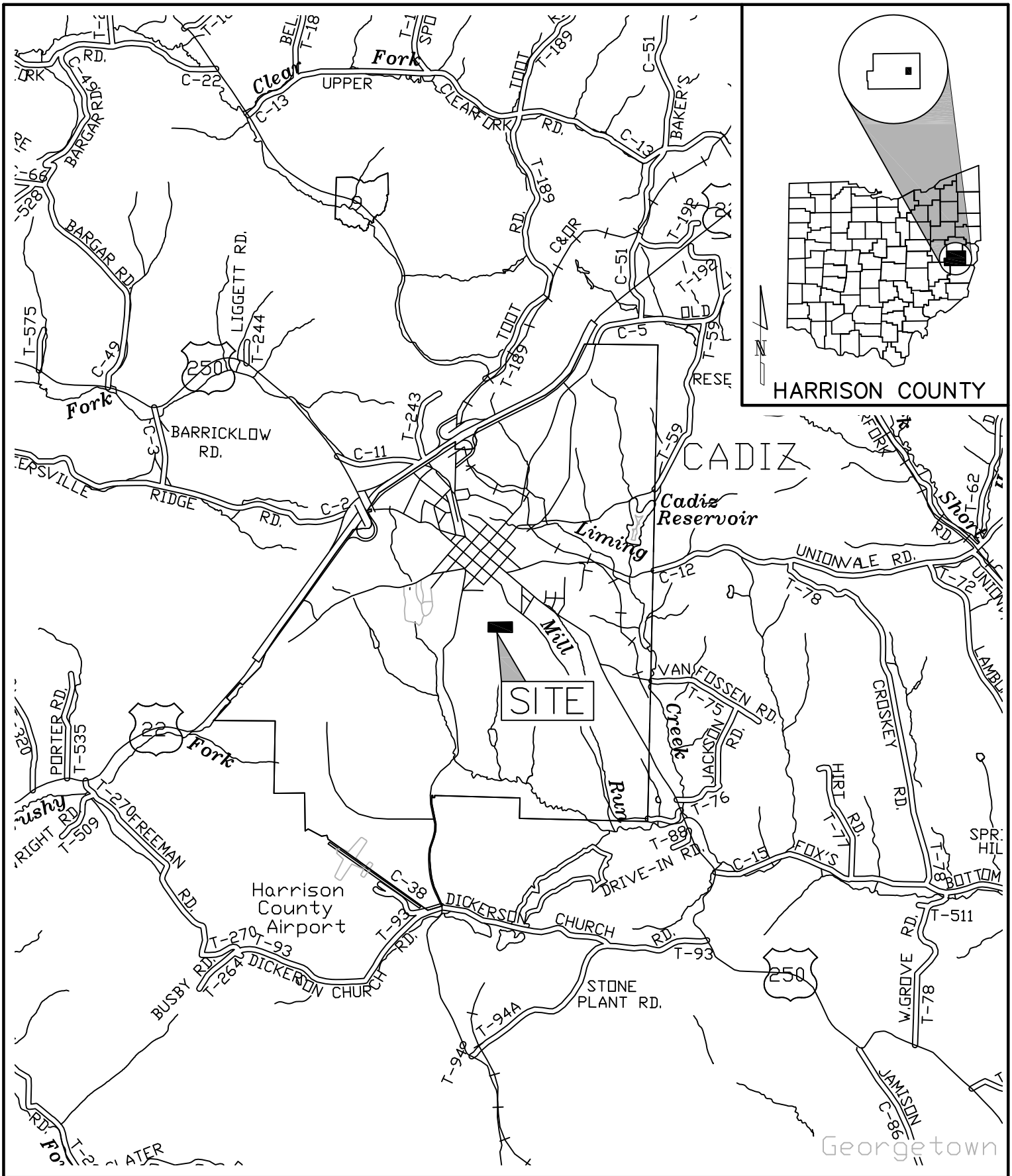
The scope of our services does not include any environmental assessment or investigation for the presence or absence of hazardous or toxic materials in the soil, groundwater, or surface water within or beyond the site studied. Any statements in this report or on the test boring logs regarding odors, gases, staining of soils or other unusual conditions observed are strictly for the information of our client.

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with generally accepted geotechnical

engineering principles and practices. Resource International is not responsible for the conclusions, opinions or recommendations made by others based upon the data included.

Appendix I

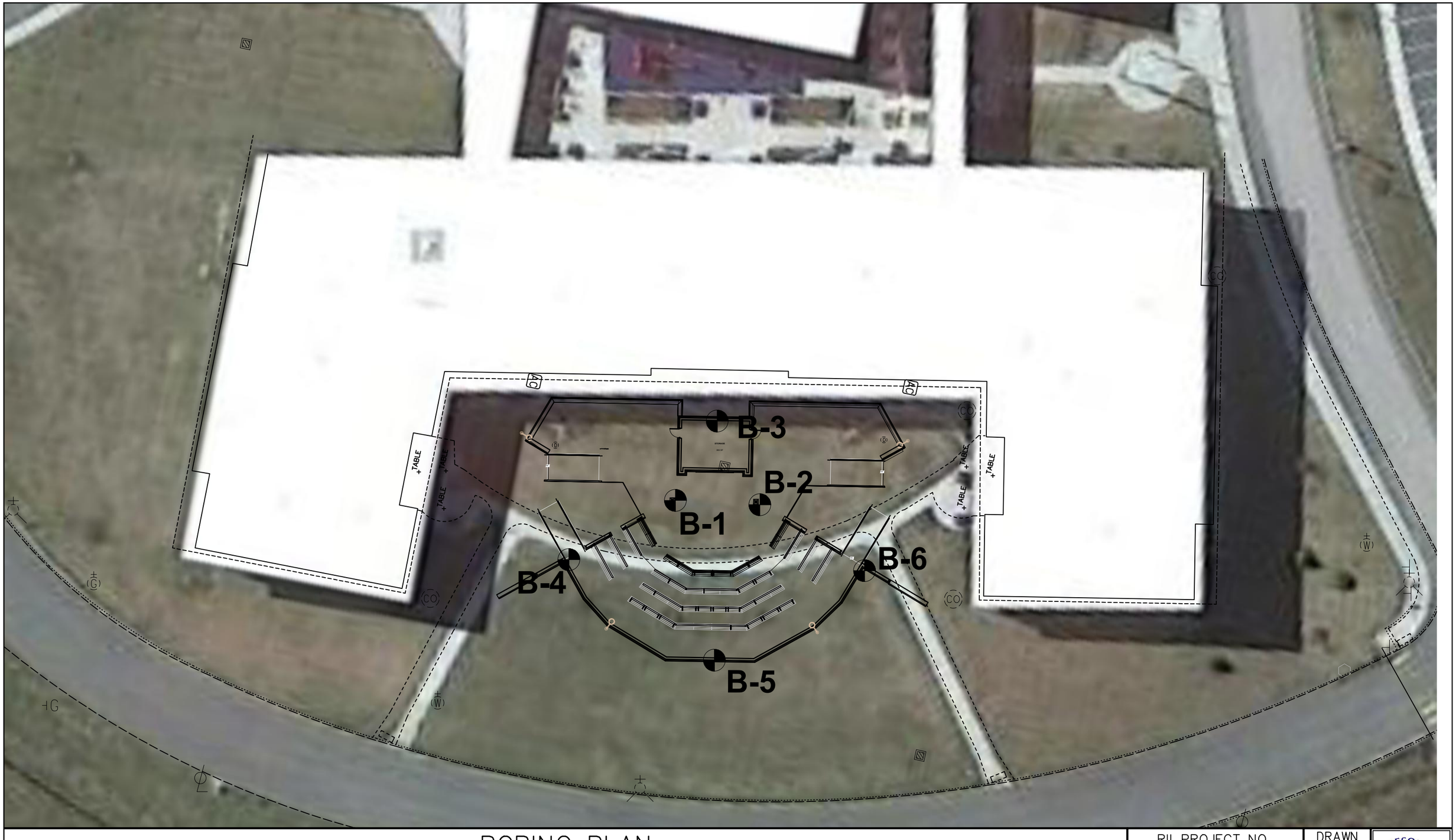
VICINITY MAP AND BORING PLAN



VICINITY MAP
HARRISON CENTRAL JR./SR. HIGH SCHOOL OUTDOOR CLASSROOM
HARRISON, OHIO

RII PROJECT NO. W-22-057	DRAWN JAS
SCALE: 1"=5000' (0, 2500, 5000)	REVIEWED DEK
	DATE 06-6-22

RESOURCE INTERNATIONAL Rii



BORING PLAN
HARRISON CENTRAL HIGH SCHOOL OUTDOOR CLASSROOM
HARRISON COUNTY, OHIO

RII PROJECT NO. W-22-057	DRAWN JAS
SCALE: 1"=30' (0, 15, 30)	REVIEWED DEK
	DATE 06-6-22

RESOURCE INTERNATIONAL Rii

Appendix II

DESCRIPTION OF SOIL TERMS

DESCRIPTION OF SOIL TERMS

The following terminology was used to describe soils throughout this report and is generally adapted from ASTM 2487/2488.

Granular Soils – USCS GW, GP, GM, GC, SW, SP, SM, SC, ML (non-plastic)
The relative compactness of granular soils is described as:

Description	Blows per foot – SPT (N_{60})		
Very Loose	Below		5
Loose	5	-	10
Medium Dense	11	-	30
Dense	31	-	50
Very Dense	Over		50

Cohesive Soils – USCS ML, CL, OL, MH, CH, OH, PT
The relative consistency of cohesive soils is described as:

Description	Unconfined Compression (tsf)		
Very Soft	Less than		0.25
Soft	0.25	-	0.5
Medium Stiff	0.5	-	1.0
Stiff	1.0	-	2.0
Very Stiff	2.0	-	4.0
Hard	Over		4.0

Gradation - The following size-related denominations are used to describe soils:

Soil Fraction		Size
Boulders		Larger than 12”
Cobbles		12” to 3”
Gravel	coarse	3” to ¾”
	fine	¾” to 4.75 mm (¾” to #4 Sieve)
Sand	coarse	4.75 mm to 2.0 mm (#4 to #10 Sieve)
	medium	2.0 mm to 0.42 mm (#10 to #40 Sieve)
	fine	0.42 mm to 0.074 mm (#40 to #200 Sieve)
Silt		0.074 mm to 0.005 mm (#200 to 0.005 mm)
Clay		Smaller than 0.005 mm

Modifiers of Components – The following modifiers indicate the range of percentages of the minor soil components:

Term	Range		
Trace	0%	-	10%
Little	10%	-	20%
Some	20%	-	35%
And	35%	-	50%

Moisture Table - The following moisture-related denominations are used to describe cohesive soils:

Term	Range
Dry	0% to 10%
Damp	>2% below Plastic Limit
Moist	2% below to 2% above Plastic Limit
Very Moist	>2% above Plastic Limit
Wet	≥ Liquid Limit

Organic Content – The following terms are used to describe organic soils:

Term	Organic Content (%)
Slightly organic	2-4
Moderately organic	4-10
Highly organic	>10

Bedrock – The following terms are used to describe bedrock hardness:

Term	Parameter
Very Weak	Can be carved with knife and scratched by fingernail.
Weak	Can be grooved or gouged with knife readily.
Slightly Strong	Can be grooved or gouged 0.05 in deep with knife.
Moderately Strong	Can be scratched with knife or pick.
Strong	Can be scratched with knife or pick with difficulty.
Very Strong	Cannot be scratched by knife or pick. Hard repeated blows of hammer to detach specimen.
Extremely Strong	Cannot be scratched by knife or pick. Hard repeated blows of hammer to chip hand specimen.

DESCRIPTION OF ROCK TERMS

The following terminology was used to describe the rock throughout this report and is generally adapted from ASTM D5878 and the ODOT Specifications for Geotechnical Explorations.

Weathering – Describes the degree of weathering of the rock mass:

Description	Field Parameter
Unweathered	No evidence of any chemical or mechanical alteration of the rock mass. Mineral crystals have a right appearance with no discoloration. Fractures show little or not staining on surfaces.
Slightly Weathered	Slight discoloration of the rock surface with minor alterations along discontinuities. Less than 10% of the rock volume presents alteration.
Moderately Weathered	Portions of the rock mass are discolored as evident by a dull appearance. Surfaces may have a pitted appearance with weathering "halos" evident. Isolated zones of varying rock strengths due to alteration may be present. 10 to 15% of the rock volume presents alterations.
Highly Weathered	Entire rock mass appears discolored and dull. Some pockets of slightly to moderately weathered rock may be present and some areas of severely weathered materials may be present.
Severely Weathered	Majority of the rock mass reduced to a soil-like state with relic rock structure discernable. Zones of more resistant rock may be present but the material can generally be molded and crumbled by hand pressures.

Strength of Bedrock – The following terms are used to describe the relative strength of bedrock:

Description	Field Parameter
Very Weak	Can be carved with knife and scratched by fingernail. Pieces 1 in. thick can be broken by finger pressure.
Weak	Can be grooved or gouged with knife readily. Small, thin pieces can be broken by finger pressure.
Slightly Strong	Can be grooved or gouged 0.05 in deep with knife. 1 in. size pieces from hard blows of geologist hammer.
Moderately Strong	Can be scratched with knife or pick. 1/4 in. size grooves or gouges from blows of geologist hammer.
Strong	Can be scratched with knife or pick with difficulty. Hard hammer blows to detach hand specimen.
Very Strong	Cannot be scratched by knife or pick. Hard repeated blows of geologist hammer to detach hand specimen.
Extremely Strong	Cannot be scratched by knife or pick. Hard repeated blows of geologist hammer to chip hand specimen.

Bedding Thickness – Description of bedding thickness as the average perpendicular distances between bedding surfaces:

Description	Thickness
Very Thick	Greater than 36 inches
Thick	18 to 36 inches
Medium	10 to 18 inches
Thin	2 to 10 inches
Very Thin	0.4 to 2 inches
Laminated	0.1 to 0.4 inches
Thinly Laminated	Less than 0.1 inches

Fracturing – Describes the degree and condition of fracturing (fault, joint, or shear):

Degree of Fracturing

Description	Spacing
Unfractured	Greater than 10 feet
Intact	3 to 10 feet
Slightly Fractured	1 to 3 feet
Moderately Fractured	

Aperture Width

Description	Width
Open	Greater than 0.2 inches
Narrow	0.05 to 0.2 inches
Tight	Less than 0.05 inches

Surface Roughness

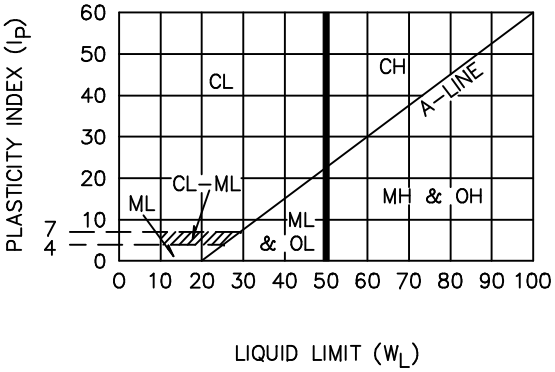
Description	Criteria
Very Rough	Near vertical steps and ridges occur on surface
Slightly Rough	Asperities on the surfaces distinguishable
Slickensided	Surface has smooth, glassy finish, evidence of Striations

RQD – Rock Quality Designation (calculation shown in report) and Rock Quality (ODOT, GB 3, January 13, 2006):

RQD %	Rock Index Property Classification (based on RQD, not slake durability index)
0 – 25%	Very Poor
26 – 50%	Poor
51 – 70%	Fair
71 – 85%	Good
86 – 100%	Very Good

UNIFIED SOIL CLASSIFICATION SYSTEM
(ASTM D 2487)

MAJOR DIVISION			GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA	
COARSE-GRAINED SOILS MORE THAN 50% RETAINED ON 75μm (NO. 200) SIEVE	GRAVELS 50% OR MORE OF COARSE FRACTION RETAINED ON 4.75 mm (NO. 4) SIEVE	CLEAN GRAVELS	GW	WELL-GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	CLASSIFICATION ON BASIS PERCENTAGE OF FINES LESS THAN 5% PASS 75 μm SIEVE GW, GP, SW, SP MORE THAN 12% PASS 75 μm SIEVE GM, GC, SM, SC 5% TO 12% PASS 75 μm SIEVE BORDERLINE CLASSIFICATION REQUIRING USE OF DUAL SYMBOLS	$C_U = D_{60}/D_{10}$ GREATER THAN 4 $C_Z = \frac{(D_{30})^2}{D_{10} * D_{60}}$ BETWEEN 1 AND 3
			GP	POORLY GRADED GRAVELS AND GRAVEL-SAND MIXTURES, LITTLE OR NO FINES		NOT MEETING BOTH CRITERIA FOR GW
		GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES		ATTERBERG LIMITS PLOT BELOW "A" LINE OR PLASTICITY INDEX LESS THAN 4
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES		ATTERBERG LIMITS PLOT ABOVE "A" LINE AND PLASTICITY INDEX GREATER THAN 7
	SANDS MORE THAN 50% OF COARSE FRACTION PASSES 4.75 mm (NO. 4) SIEVE	CLEAN SANDS	SW	WELL-GRADED SAND AND GRAVELLY SANDS, LITTLE OR NO FINES		$C_U = D_{60}/D_{10}$ GREATER THAN 6 $C_Z = \frac{(D_{30})^2}{D_{10} * D_{60}}$ BETWEEN 1 AND 3
			SP	POORLY GRADED SANDS AND GRAVELLY SANDS, LITTLE OR NO FINES		NOT MEETING BOTH CRITERIA FOR SW
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES		ATTERBERG LIMITS PLOT BELOW "A" LINE OR PLASTICITY INDEX LESS THAN 4
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES		ATTERBERG LIMITS PLOT ABOVE "A" LINE AND PLASTICITY INDEX GREATER THAN 7

MAJOR DIVISION		GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA
FINE-GRAINED SOILS 50% OR MORE PASSES 75 μm (NO. 200) SIEVE	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS	ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS	 PLASTICITY CHART FOR THE CLASSIFICATION OF FINE-GRAINED SOILS
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDS OR SILTS, ELASTIC SILTS	
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
		OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY	
HIGHLY ORGANIC SOILS		PT	PEAT, MUCK AND OTHER HIGHLY ORGANIC SOILS	FIBROUS ORGANIC MATTER; WILL CHAR, BURN, OR GLOW

Appendix III

BORING LOGS:

B-1 through B-6

BORING LOGS

Definitions of Abbreviations

AS = Auger sample

HP = Unconfined compressive strength as determined by a hand penetrometer (tons per square foot)

LOI = Percent organic content (by weight) as determined by ASTM D2974 (loss on ignition test)

PID = Photo-ionization detector reading (parts per million)

QR = Unconfined compressive strength of intact rock core sample as determined by ASTM D2938 (pounds per square inch)

QU = Unconfined compressive strength of soil sample as determined by ASTM D2166 (pounds per square foot)

RC = Rock core sample

REC = Ratio of total length of recovered soil or rock to the total sample length, expressed as a percentage

RQD = Rock quality designation – estimate of the degree of jointing or fracture in a rock mass, expressed as a percentage:

$$\frac{\sum \text{segments equal to or longer than 4.0 inches}}{\text{core run length}} \times 100$$

S = Sulfate content (parts per million)

SPT = Standard penetration test blow counts, per ASTM D1586. Driving resistance recorded in terms of blows per 6-inch interval while letting a 140-pound hammer free fall 30 inches to drive a 2-inch outer diameter (O.D.) split spoon sampler a total of 18 inches. The second and third intervals are added to obtain the number of blows per foot (N_m).

N_{60} = Measured blow counts corrected to an equivalent (60 percent) energy ratio (ER) by the following equation: $N_{60} = N_m*(ER/60)$

SS = Split spoon sample

2S = For instances of no recovery from standard SS interval, a 2.5 inch O.D. split spoon is driven the full length of the standard SS interval plus an additional 6.0 inches to obtain a representative sample. Only the final 6.0 inches of sample is retained. Blow counts from 2S sampling are not correlated with N_{60} values.

3S = Same as 2S, but using a 3.0 inch O.D. split spoon sampler.

TR = Top of rock

USCS = Unified Soil Classification System per ASTM D2487

W = Initial water level measured during drilling

▼ = Water level measured at completion of drilling

Classification Test Data

Gradation (as defined on Description of Soil Terms):

GR = % Gravel
SA = % Sand
SI = % Silt
CL = % Clay

Atterberg Limits:

LL = Liquid limit
PL = Plastic limit
PI = Plasticity Index

WC = Water content (%)

RESOURCE INTERNATIONAL, INC.

PROJECT: W-22-057	DRILLING FIRM / OPERATOR: RII / SB	DRILL RIG: CME 750X (310218)	NORTHING 220790.482	**EXPLORATION ID**
NAME: Harrison Central High School Outdoor Classroom	SAMPLING FIRM / LOGGER: RII / J.K.	HAMMER: Automatic	EASTING: 2389172.215	**B-1**
CLIENT: The Thrasher Group, Inc.	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/31/22	ELEVATION: 1220.3 ft.	PAGE
START: 5-25-22 END: 5-25-22	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.2	COMPLETION DEPTH: 47.0 ft.	1 OF 2

ELEV. 1220.3	DEPTHS	SAMPLE ID	SPT/ RQD	N_{60}	REC (%)	HP (tsf)	MATERIAL DESCRIPTION AND NOTES	GRADATION (%) GR	SA	SI	CL	ATTERBERG LL	PL	PI	WC	USCS CLASS	BACK FILL
1220.0							0.3'- Topsoil (4.0")										
	1	SS-1	6 5 6	15	92	4.0	**FILL**: Very stiff, gray to brownish gray **SANDY LEAN CLAY**, damp to moist.									CL (V)	
	2																
	3						-Fragments of shale, limestone and cinders in SS-1 and SS-2										
	4	SS-2	5 5 6	15	33	3.5										CL (V)	
	5																
	6						-Root fibers in SS-2 and SS-3										
	7	SS-3	10 11 28	55	69	4.0		12.6	33.9	21.4	32.2	39	20	19	18	CL	
1212.3	8																
	9	SS-4	8 8 14	31	78	4.5+	**FILL**: Hard, gray **SANDY LEAN CLAY**, damp.									CL (V)	
	10																
	11																
	12	SS-5	7 8 10	25	0												
	13	2S-5A	12	-	100	4.5+	-Limestone fragments in 2S-5A and SS-6									CL (V)	
	14	SS-6	7 8 6	20	64	4.5+									13	CL (V)	
	15																
	16																
1203.3	17																
	18						**FILL**: Dense, gray **POORLY GRADED GRAVEL**, moist.										
	19	SS-7	7 18 9	38	44											GP (V)	
	20						-Limestone fragments throughout										
	21																
1198.3	22																
	23						**FILL**: Very stiff to hard, brownish gray to gray **SANDY LEAN CLAY**, dry to damp.										
	24	SS-8	8 5 14	27	56	2.25										CL (V)	
	25																
	26						-Limestone, sandstone, and coal fragments present throughout										
	27																
	28																
	29	SS-9	6 6 8	20	89	4.25										CL (V)	

NAME: Harrison Central High School Outdoor Classroom	PROJECT NO.: W-22-057	ELEVATION: 1220.3 ft.	START: 5/25/22	END: 5/25/22	PG 2 OF 2	B-1

ELEV. 1190.3	DEPTHS	SAMPLE ID	SPT/ RQD	N_{60}	REC (%)	HP (tsf)	MATERIAL DESCRIPTION AND NOTES	GRADATION (%) GR	SA	SI	CL	ATTERBERG LL	PL	PI	WC	USCS CLASS	BACK FILL
	31						**FILL**: Very stiff to hard, brownish gray to gray **SANDY LEAN CLAY**, dry to damp. *(same as above)*										
	32																
	33																
	34	SS-10	8 12 13	35	81	3.5									7	CL (V)	
	35 ▽																
	36																
1183.3	37																
	38						**FILL**: Medium dense to very dense, dark gray **POORLY GRADED GRAVEL**, wet.										
	39	SS-11	5 9 9	25	67		-Limestone and shale fragments present throughout									GP (V)	
	40																
	41																
1178.3	42	SS-12	50/2"	-	100		**LIMESTONE** : gray, slightly weathered, strong, medium bedded, carbonaceous, fossiliferous, narrow, very rough, very blocky, good.										
	43						-QU @ 42.0' = 4,582 psi										
	44	RC-1	51		75											CORE	
	45																
	46																
1173.3 EOB	47																

NOTES: Groundwater initially encountered @ 35.5'; Cave-in depth @ 16.2'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: Compacted with the auger 75 lbs bentonite chips and soil cuttings

RESOURCE INTERNATIONAL, INC.

PROJECT: W-22-057	DRILLING FIRM / OPERATOR: RII / SB	DRILL RIG: CME 750X (310218)	NORTHING 220818.462	**EXPLORATION ID**
NAME: Harrison Central High School Outdoor Classroom	SAMPLING FIRM / LOGGER: RII / J.K.	HAMMER: Automatic	EASTING: 2389167.823	**B-2**
CLIENT: The Thrasher Group, Inc.	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/31/22	ELEVATION: 1220.4 ft.	PAGE 1 OF 2
START: 5-25-22 END: 5-25-22	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.2	COMPLETION DEPTH: 33.4 ft.	

ELEV. 1220.4	DEPTHS	SAMPLE ID	SPT/ RQD	N_{60}	REC (%)	HP (tsf)	MATERIAL DESCRIPTION AND NOTES	GRADATION (%) GR	SA	SI	CL	ATTERBERG LL	PL	PI	WC	USCS CLASS	BACK FILL
1219.9							0.5'- Topsoil (6.0")										
	1						**FILL**: Very stiff to hard, gray to brownish gray **SANDY LEAN CLAY**, damp to moist.										
	2	SS-1	6 9 7	22	94	3.5	-Root fibers in SS-1									CL (V)	
	3																
	4	SS-2	3 4 8	17	53	4.5+										CL (V)	
	5																
	6																
	7	SS-3	6 7 6	18	72	4.25										CL (V)	
	8																
	9						-Shale, limestone and coal fragments present throughout										
	10	SS-4	3 4 5	13	81	3.0									19	CL (V)	
	11																
	12	SS-5	4 7 5	17	61	3.0										CL (V)	
	13																
	14	SS-6	6 5 6	15	53	3.0		12.9	30.6	24.0	32.5	40	20	20	16	CL	
	15																
	16																
1203.4	17																
	18						**FILL**: Medium dense to very dense, gray and dark gray to gray **SILTY GRAVEL WITH SAND**, moist.										
	19	SS-7	12 13 11	34	89											GM (V)	
	20																
	21																
	22																
	23																
	24	SS-8	21 50/5"	-	27		-Cobbles @ 23.5'									GM (V)	
	25																
	26																
	27																
	28						-Shale, limestone, and coal fragments present throughout										
	29	SS-9	13 9 10	27	56											GM (V)	

NAME: Harrison Central High School Outdoor Classroom	PROJECT NO.: W-22-057	ELEVATION: 1220.4 ft.	START: 5/25/22	END: 5/25/22	PG 2 OF 2	B-2

ELEV. 1190.4	DEPTHS	SAMPLE ID	SPT/ RQD	N_{60}	REC (%)	HP (tsf)	***MATERIAL DESCRIPTION AND NOTES***	GRADATION (%) GR	SA	SI	CL	ATTERBERG LL	PL	PI	WC	USCS CLASS	BACK FILL
	31						**FILL**: Medium dense to very dense, gray and dark gray to gray **SILTY GRAVEL WITH SAND**, moist. *(same as above)*										
	32																
1187.0	33 EOB	SS-10	50/4"	-	0		Auger refusal @ 33.4'										

NOTES: Groundwater not encountered duting drilling; Cave-in depth @ 23.4'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: Compacted with the auger 100 lbs bentonite chips and soil cuttings

RESOURCE INTERNATIONAL, INC.

PROJECT: W-22-057	DRILLING FIRM / OPERATOR: RII / SB	DRILL RIG: CME 750X (310218)	NORTHING 220798.727	**EXPLORATION ID**
NAME: Harrison Central High School Outdoor Classroom	SAMPLING FIRM / LOGGER: RII / J.K.	HAMMER: Automatic	EASTING: 2389143.321	**B-3**
CLIENT: The Thrasher Group, Inc.	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/31/22	ELEVATION: 1220.3 ft.	PAGE
START: 5-26-22 END: 5-26-22	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.2	COMPLETION DEPTH: 40.0 ft.	1 OF 2

ELEV. 1220.3	DEPTHS	SAMPLE ID	SPT/ RQD	N_{60}	REC (%)	HP (tsf)	MATERIAL DESCRIPTION AND NOTES	GRADATION (%) GR	SA	SI	CL	ATTERBERG LL	PL	PI	WC	USCS CLASS	BACK FILL
1220.0							0.3'- Topsoil (4.0")										
	1	SS-1	19 11 7	25	92	4.5+	**FILL**: Very stiff to hard, gray to brownish gray **SANDY LEAN CLAY WITH GRAVEL**, moist.									CL (V)	
	2																
	3																
	4	SS-2	4 5 8	18	33	4.5+		19.7	27.5	22.0	30.8	39	19	20	17	CL	
	5																
	6																
	7	SS-3	4 4 5	13	19	4.5+										CL (V)	
	8	2S-3A	8	-	100	2.5										CL (V)	
	9	SS-4	3 4 5	13	83	3.0									18	CL (V)	
	10																
	11																
1208.3	12																
	13						**FILL**: Very stiff to hard, gray to brownish gray **SANDY LEAN CLAY WITH GRAVEL**, moist to very moist.										
	14	SS-5	5 7 8	21	83	4.5+										CL (V)	
	15																
	16																
	17																
	18																
	19	SS-6	3 8 6	20	89	4.5+										CL (V)	
	20						-Limestone, shale and coal fragments present throughout										
	21																
	22																
	23																
	24	SS-7	5 4 7	15	100	4.5+									23	CL (V)	
	25						-Water added to augers @ 25.0'										
	26																
	27																
	28																
	29	SS-8	4 6 9	21	56	3.0										CL (V)	

NAME: Harrison Central High School Outdoor Classroom	PROJECT NO.: W-22-057	ELEVATION: 1220.3 ft.	START: 5/26/22	END: 5/26/22	PG 2 OF 2	B-3

ELEV. 1190.3	DEPTHS	SAMPLE ID	SPT/ RQD	N_{60}	REC (%)	HP (tsf)	*MATERIAL DESCRIPTION AND NOTES*	GRADATION (%) GR	SA	SI	CL	ATTERBERG LL	PL	PI	WC	USCS CLASS	BACK FILL
	31						**FILL**: Very stiff to hard, gray to brownish gray **SANDY LEAN CLAY WITH GRAVEL**, moist to very moist. *(same as above)*										
	32																
	33																
	34	SS-9	7 5 5	14	50	3.0										CL (V)	
	35																
	36																
1183.3	37																
	38						**FILL**: Very dense, gray **SILTY SAND WITH GRAVEL**, very moist.										
	39	SS-10	8 50/3"	-	89		-Limestone and shale fragments in SS-10									SM (V)	
1180.3	EOB 40						Auger Refusal @ 40.0'										

NOTES: Groundwater not encountered duting drilling; Cave-in depth @ 14.6'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: Compacted with the auger 50 lbs bentonite chips and soil cuttings

RESOURCE INTERNATIONAL, INC.

PROJECT: W-22-057	DRILLING FIRM / OPERATOR: RII / SB	DRILL RIG: CME 750X (310218)	NORTHING 220759.609	**EXPLORATION ID**
NAME: Harrison Central High School Outdoor Classroom	SAMPLING FIRM / LOGGER: RII / J.K.	HAMMER: Automatic	EASTING: 2389198.988	**B-4**
CLIENT: The Thrasher Group, Inc.	DRILLING METHOD: 4.5" CFA	CALIBRATION DATE: 3/31/22	ELEVATION: 1220.7 ft.	PAGE
START: 5-25-22 END: 5-25-22	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.2	COMPLETION DEPTH: 20.0 ft.	1 OF 1

ELEV. 1220.7	DEPTHS	SAMPLE ID	SPT/ RQD	N_{60}	REC (%)	HP (tsf)	MATERIAL DESCRIPTION AND NOTES	GRADATION (%) GR	SA	SI	CL	ATTERBERG LL	PL	PI	WC	USCS CLASS	BACK FILL
1220.4							0.3'- Topsoil (4.0")										
	1	SS-1	6 5 7	17	78	4.5+	**FILL**: Very stiff to hard, brownish gray **SANDY LEAN CLAY**, damp.									CL (V)	
	2																
	3																
	4	SS-2	3 4 7	15	81	4.0									16	CL (V)	
	5						-Shale and coal fragments present throughout										
	6	SS-3	5 5 8	18	100	3.0										CL (V)	
1212.7	7																
	8	SS-4	50/3"	-	100		**FILL**: Very dense, brownish gray **POORLY GRADED GRAVEL**, moist.									GP (V)	
	9						-Cobbles @ 8.5'										
	10																
	11						-Limestone fragments present throughout										
1208.7	12						**FILL**: Hard, gray to brownish gray **SANDY LEAN CLAY WITH GRAVEL**, damp.										
	13																
	14	SS-5	11 12 14	36	78	4.5+										CL (V)	
	15																
	16																
	17																
	18																
	19	SS-6	10 10 11	29	50	4.25	-Shale fragments in SS-6									CL (V)	
1200.7	EOB 20																

NOTES: Groundwater not encountered duting drilling

ABANDONMENT METHODS, MATERIALS, QUANTITIES: Compacted with the auger 75 lbs bentonite chips and soil cuttings

RESOURCE INTERNATIONAL, INC.

PROJECT: W-22-057	DRILLING FIRM / OPERATOR: RII / SB	DRILL RIG: CME 750X (310218)	NORTHING 220814.294	**EXPLORATION ID**
NAME: Harrison Central High School Outdoor Classroom	SAMPLING FIRM / LOGGER: RII / J.K.	HAMMER: Automatic	EASTING: 2389221.769	**B-5**
CLIENT: The Thrasher Group, Inc.	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/31/22	ELEVATION: 1219.5 ft.	PAGE
START: 5-26-22 END: 5-26-22	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.2	COMPLETION DEPTH: 23.2 ft.	1 OF 1

ELEV. 1219.5	DEPTHS	SAMPLE ID	SPT/ RQD	N_{60}	REC (%)	HP (tsf)	MATERIAL DESCRIPTION AND NOTES	GR	SA	SI	CL	LL	PL	PI	WC	USCS CLASS	BACK FILL
1219.0							0.5'- Topsoil (6.0")										
	1 2	SS-1	9 8 6	20	100	3.5	**FILL**: Very stiff, brownish gray to gray **SANDY LEAN CLAY**, damp.									CL (V)	
	3						-Coal and shale fragments present throughout										
1215.0	4	SS-2A	14 8	35	53	3.5	-Root fibers in SS-2								12	CL (V)	
	5	SS-2B	17				**FILL**: Medium dense, brownish gray **POORLY GRADED GRAVEL**, moist.									GP (V)	
	6 7	SS-3	11 9 10	27	28		-Cobbles @ 6.0'									GP (V)	
1212.0	8	2S-3A	12	-	100	4.5+	**FILL**: Hard, dark gray to gray and brownish gray **SANDY LEAN CLAY**, damp.	6.4	25.3	26.6	41.7	43	21	22	18	CL	
	9	SS-4	7 9 11	28	92	4.5										CL (V)	
	10 11 12 13						-Coal, shale and limestone fragments present throughout										
	14 15	SS-5	11 9 7	22	56	4.5+										CL (V)	
	16 17 18																
	19 20	SS-6	6 6 8	20	89	4.5+										CL (V)	
	21 22																
1196.3	23 EOB	SS-7	50/2"	-	0		Auger refusal @ 23.2'										

NOTES: Groundwater not encountered duting drilling; Cave-in depth @ 18.9'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: Compacted with the auger 75 lbs bentonite chips and soil cuttings

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RESOURCE INTERNATIONAL, INC.

PROJECT: W-22-057	DRILLING FIRM / OPERATOR: RII / SB	DRILL RIG: CME 750X (310218)	NORTHING 220857.334	**EXPLORATION ID**
NAME: Harrison Central High School Outdoor Classroom	SAMPLING FIRM / LOGGER: RII / J.K.	HAMMER: Automatic	EASTING: 2389182.225	**B-6**
CLIENT: The Thrasher Group, Inc.	DRILLING METHOD: 3.25" HSA	CALIBRATION DATE: 3/31/22	ELEVATION: 1220.3 ft.	PAGE
START: 5-26-22 END: 5-26-22	SAMPLING METHOD: SPT	ENERGY RATIO (%): 84.2	COMPLETION DEPTH: 15.0 ft.	1 OF 1

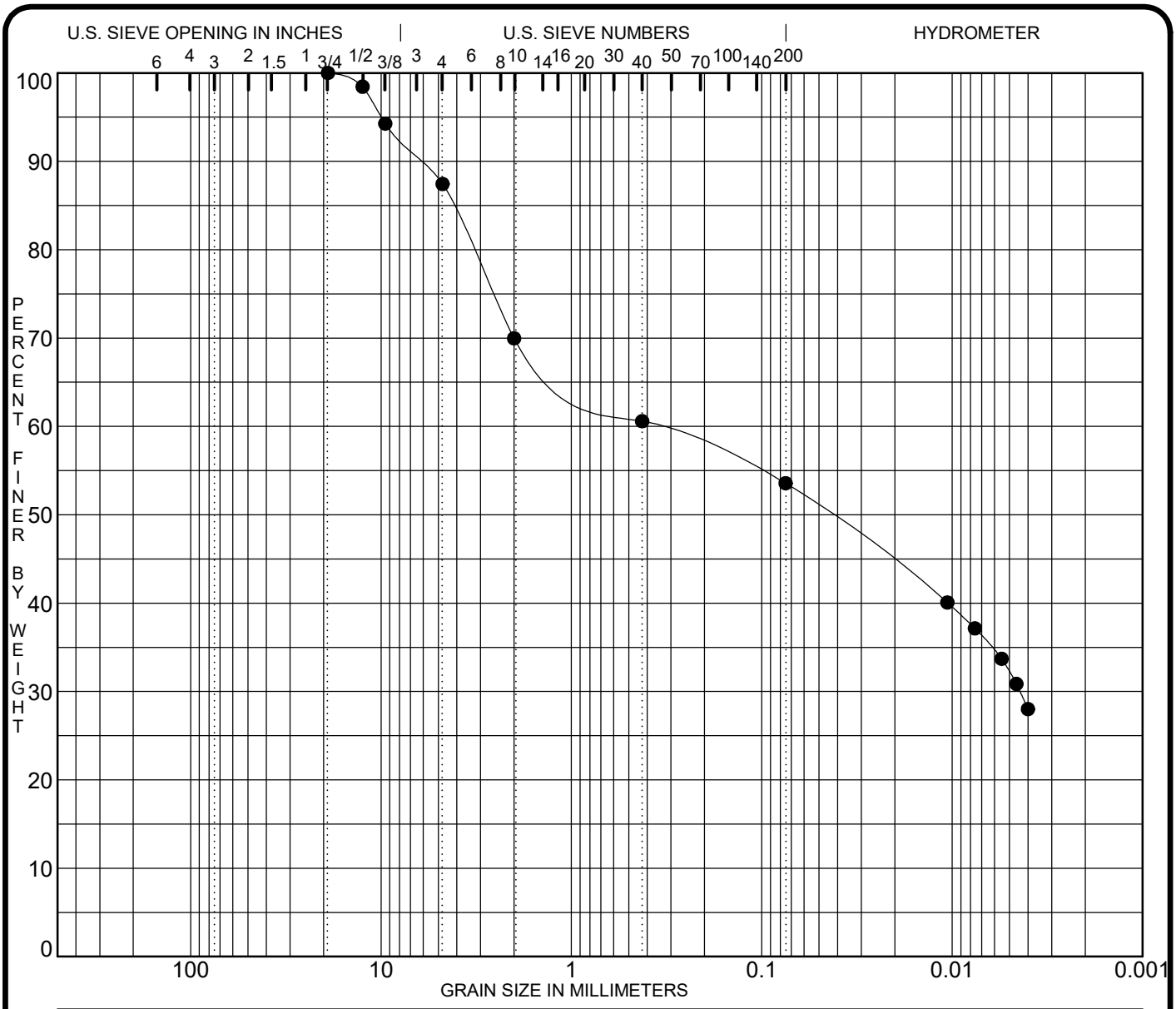
ELEV. 1220.3	DEPTHS	SAMPLE ID	SPT/ RQD	N_{60}	REC (%)	HP (tsf)	MATERIAL DESCRIPTION AND NOTES	GRADATION (%) GR	SA	SI	CL	ATTERBERG LL	PL	PI	WC	USCS CLASS	BACK FILL
1219.9							0.4'- Topsoil (5.0")										
	1	SS-1	7 8 8	22	81	4.5+	**FILL**: Very stiff to hard, gray **SANDY LEAN CLAY WITH GRAVEL**, damp.									CL (V)	
	2																
	3																
	4	SS-2	4 5 50/5"	-	50	3.0										CL (V)	
	5																
	6																
	7	SS-3	5 8 12	28	50	4.0									13	CL (V)	
	8						-Coal and shale fragments present throughout										
	9	SS-4	6 6 8	20	83	4.0										CL (V)	
	10																
	11																
	12																
	13																
	14	SS-5	8 24 50/5"	-	79	4.5+										CL (V)	
1205.3	EOB 15																

NOTES: Groundwater not encountered duting drilling; Cave-in depth @ 9.1'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: Compacted with the auger 12.5 lbs bentonite chips and soil cuttings

Appendix IV

LABORATORY TEST RESULTS



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

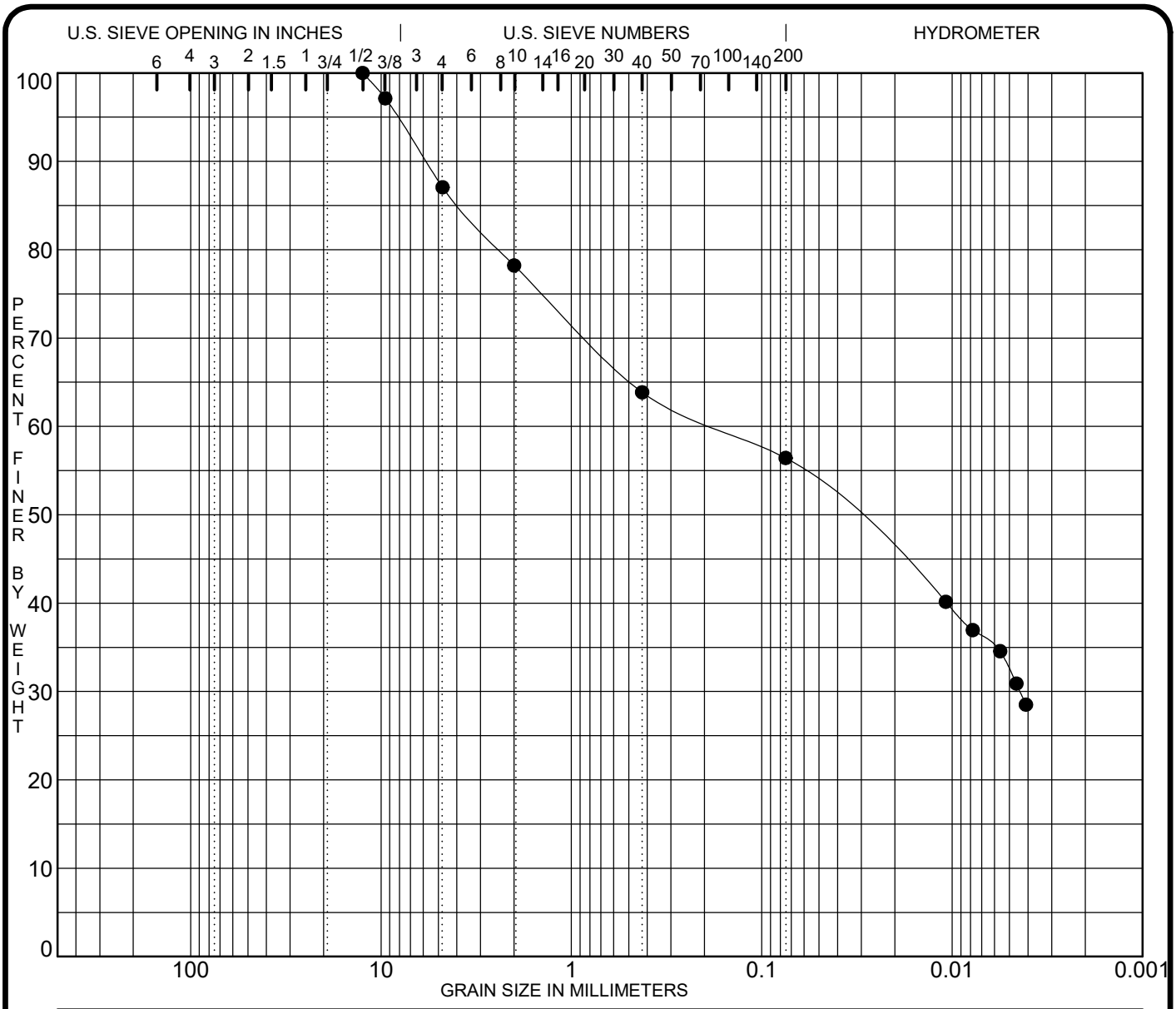
	Specimen ID	Depth	Classification	MC%	LL	PL	PI	Cc	Cu
●	**B-1**	**6.0**	**SANDY LEAN CLAY CL**	**18**	**39**	**20**	**19**		

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel coarse	%Gravel fine	%Sand coarse	%Sand medium	%Sand fine	%Silt	%Clay
●	**B-1**	**6.0**	**19.00**	**0.37**	**0.004**		**0.0**	**12.6**	**17.5**	**9.4**	**7.0**	**21.4**	**32.2**

PROJECT **Harrison Central High School Outdoor Classroom** PROJECT NO. **W-22-057**

GRADATION CURVES

Resource International, Inc.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	MC%	LL	PL	PI	Cc	Cu
●	**B-2**	**13.5**	**SANDY LEAN CLAY CL**	**16**	**40**	**20**	**20**		

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel coarse	%Gravel fine	%Sand coarse	%Sand medium	%Sand fine	%Silt	%Clay
●	**B-2**	**13.5**	**12.50**	**0.17**	**0.004**		**0.0**	**12.9**	**8.8**	**14.4**	**7.4**	**24.0**	**32.5**

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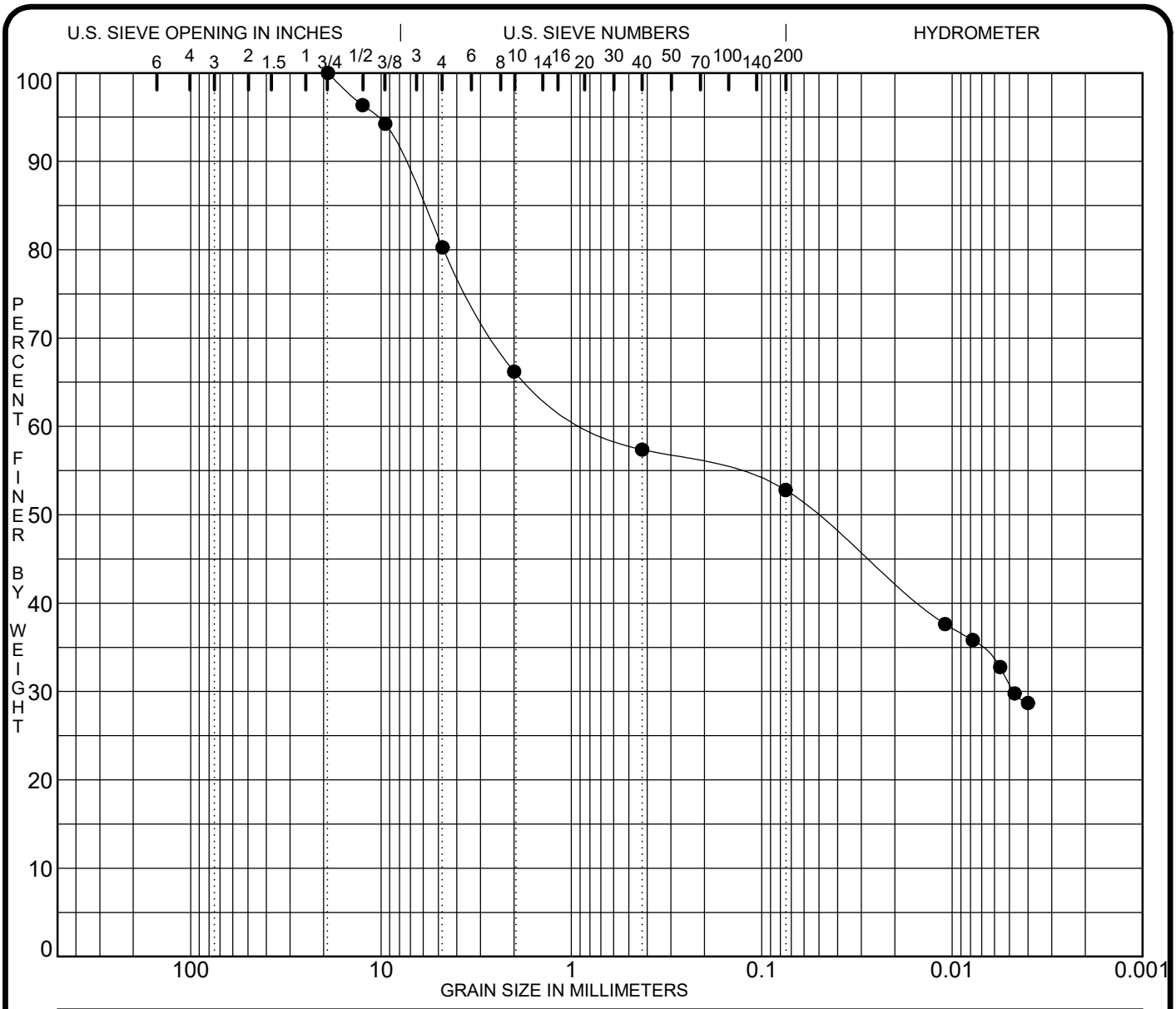

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	MC%	LL	PL	PI	Cc	Cu
●	**B-3**	**3.5**	**SANDY LEAN CLAY with GRAVEL CL**	**17**	**39**	**19**	**20**		

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel coarse	%Gravel fine	%Sand coarse	%Sand medium	%Sand fine	%Silt	%Clay
●	**B-3**	**3.5**	**19.00**	**0.67**	**0.005**		**0.0**	**19.7**	**14.1**	**8.8**	**4.6**	**22.0**	**30.8**

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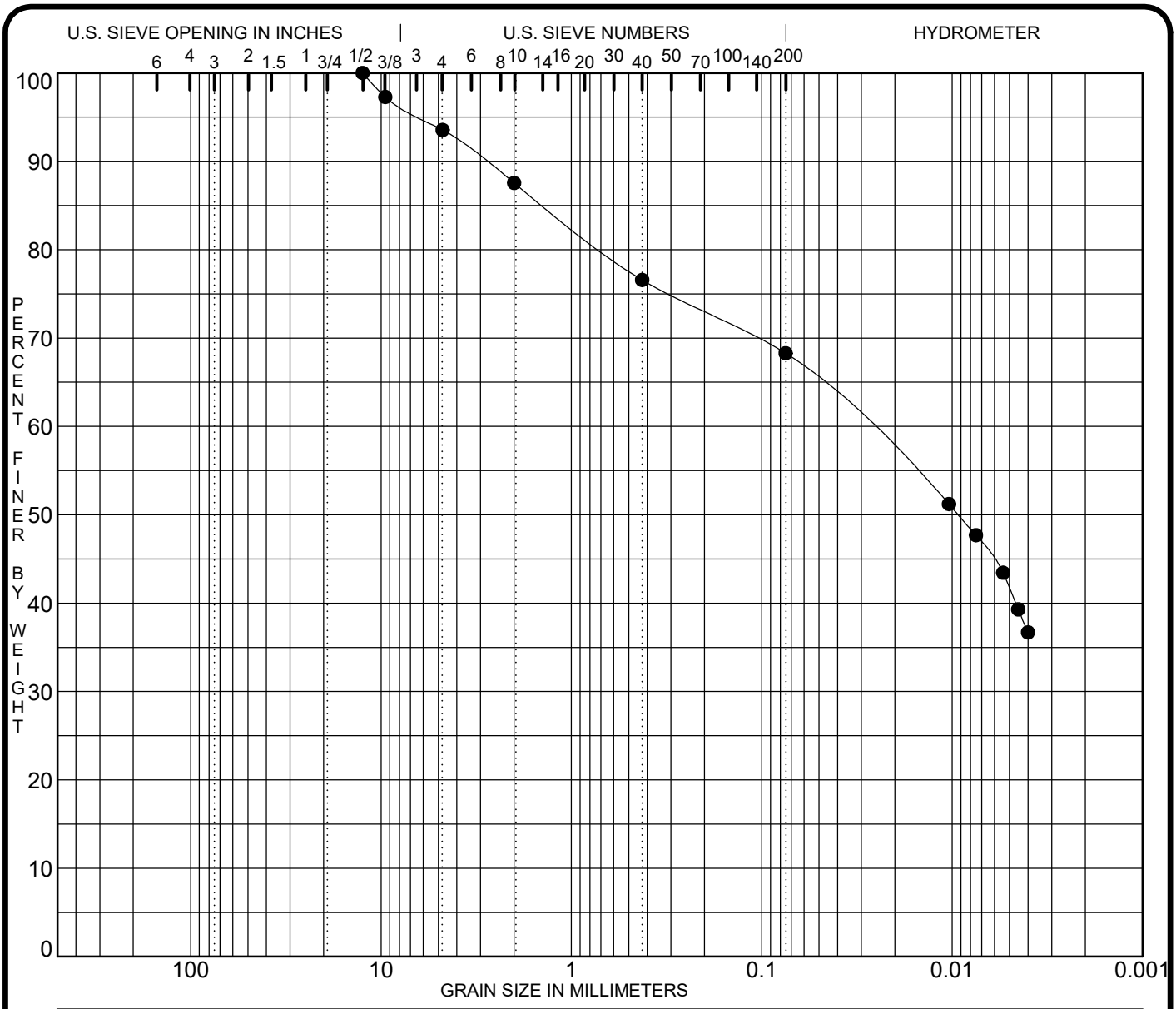

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Depth	Classification	MC%	LL	PL	PI	Cc	Cu
●	**B-5**	**7.5**	**SANDY LEAN CLAY CL**	**18**	**43**	**21**	**22**		

	Specimen ID	Depth	D100	D60	D30	D10	%Gravel coarse	%Gravel fine	%Sand coarse	%Sand medium	%Sand fine	%Silt	%Clay
●	**B-5**	**7.5**	**12.50**	**0.03**			**0.0**	**6.4**	**6.0**	**11.0**	**8.3**	**26.6**	**41.7**

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GRADATION CURVES

Resource International, Inc.

RESOURCE INTERNATIONAL, INC.
Engineering Consultants

6350 Presidential Gatew.
Columbus, OH 43231
Phone (614) 823-4949

9885 Rockside Road
Cleveland, OH 44125
Phone (216) 573-0955

4480 Lake Forest Drive
Cincinnati, Ohio 45242
Phone (513) 769-6998

Unconfined Compressive Strength of Intact Rock Core Specimens

(ASTM D 7012-14)

Project: Harrison Central HS Outdoor Classroom
Project No.: W-22-057
Date of Testing: 6/7/2022
Test Performed by: KL/EM

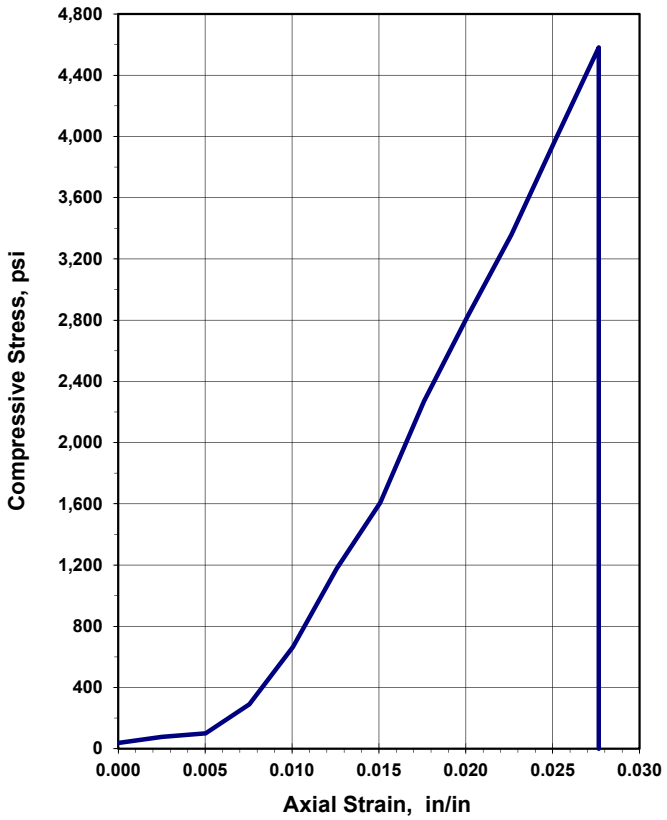
Rock Description: Gray Limestone
Rock Formation:

Boring No.:	B-1		Average Length:	3.978	in
Sample No:	RC_1		Average Diameter:	1.987	in
Depth (ft):	42.0	feet	Length to diameter ratio:	2.002	
Moisture condition:	As received		Cross Sectional Area:	3.101	in^2
Sample Mass:	518.52	grams	Volume:	0.0071	ft^3
Testing Temperature:	22	°C	Unit Weight (sample specimen)*:	160.13	lbs/ft3
Rate of Loading:	46.1	lbs/sec	Failure Load:	14,207	lbs
Testing Time:	308	sec	Axial Strain at Failure:	0.0277	in/in
(Rate 2-15 min			Compressive Strength:	4,582	psi

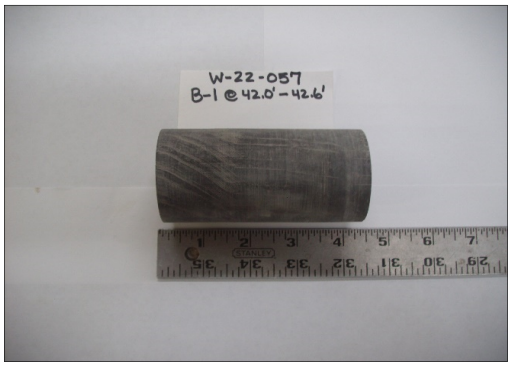
Sample Preparation: Per ASTM D4543

**Actual test sample used for unit weight prior to testing.*

Unconfined Compression Test



Before Testing



After Failure

REMARKS: