EXHIBIT O: Building Emergency Response Plan for Construction and Operations

Smart Campus^{E} Facility Project

Emergency Plan for Construction and Operations

ENGIE Buckeye Operations

Alberici Constructors, Inc.

Columbus, OH

Exhibit Contents:

- **Emergency Action Plan (Construction)**
- **Site Specific Safety Plan (Construction)**
- **Emergency Management Plan (Operations)**

EMERGENCY ACTION PLAN (EAP)

Smart Campus^{E} Facility Project

ENGIE Buckeye Operations

Columbus, OH

Emergency Cell Phone Contacts:

- Onsite Safety Managers: Louis Mitchell (251) 599-4675
- Project Director: Mike Rhoda (314) 733-2433
- ACI Safety Director: Bo Cooper (314) 606-9417

DISCLAIMER: This written site-specific emergency action plan is provided as a consultation and compliance aid. It is not a legal interpretation of 29 CFR 1926.35. The employer and/or user is fully responsible for compliance with the above stated standards and the General Duty clause of the Occupation Safety and Health Act of 1970.

SCOPE AND APPLICATION

This emergency response plan has been developed for Alberici to comply with OSHA standards 29 CFR 1926.35. It will be used in all emergency situations which may occur on this job site. This plan will cover emergencies such as fires, medical emergencies, accidents/incidents, severe weather, chemical spills or other emergency situations requiring emergency response action.

This plan will be reviewed annually and updated as necessary.

All new employees will be instructed in this plan before they begin their initial work assignment.

1. RESPONSIBILITIES

1.1 Project Director/Manager: Responsible for implementation of this plan

1.2 Safety: The department shall communicate regulatory requirements and provide input to and perform review of this plan.

1.3 Superintendents and Crew Foremen: Shall assist the Project Manager in implementing this plan and help coordinate the plant's response to emergency situations.

1.4 In the event of an emergency, all operations will cease. The following employees are to remain in the workplace to shutdown critical operations before they evacuate:

- Louis Mitchell – Safety Manager
- Mike Rhoda – Project Director

Emergency Response Team - Roles and Responsibilities

Primary Emergency Response Team (ERT) Roles:

- Incident Commander – Lead Emergency Response Team operations.
- First Responders – ACI ERT Medical Trained Group
- Incident Responders – Assigned ACI ERT
- Emergency Vehicle Escorts – ACI ERT/ACI Safety
- Traffic/Roadway Controllers - ACI ERT/ACI Safety
- High Angle Responders – ACI ERT. Notify Columbus Fire Dept. for additional assistance if needed.
- Roll Call Personnel – ACI General Foremen

*Note: ACI ERT will define team member roles with Emergency Response Team

Secondary ERT Roles:

- Crane / Man-lift Operators

2. TRAINING

2.1 All personnel at the OSU CHP Project shall have awareness training on applicable emergency response procedures, including evacuation procedures. Annual refresher training is required. Re-training is required when site conditions change in such a way that may render current evacuation routes and procedures outdated or unfeasible.

2.2 No employees are assigned to perform medical or rescue duties during emergency evacuation situations. Emergency Response teams will be notified at the time an emergency occurs and evacuation is ordered.

2.3 Designated Emergency Response Team will conduct group meetings and drills during the OSU CHP construction project.

3. PRE-EMERGENCY PLANNING

3.1 Local emergency response providers should be notified of the nature of construction operations and of any special hazards of which they should be aware. Columbus Fire Department shall be contacted and invited to tour the CHP Project site. This will be managed by ACI and designated Emergency Response Team. Due to changing site conditions the Columbus Fire Dept First Responders will be invited to tour the project every 4-6 months.

4. EMERGENCY NOTIFICATION AND EVACUATION INFORMATION

Alberici Crisis Management Plan - OSHA 1926.35

4.1 Medical, Fire Emergency and other incident notification procedures:

- In the event of any type of emergency, the employee must notify their foreman or supervisor immediately. The foreman or supervisor must then immediately notify the Safety Department and provide situation details. The Safety Department will respond to the emergency and contact the site manager and inform them of the situation. The site manager or his designee will notify EBO site manager.

4.2 Emergency Evacuation Plan:

- Evacuation Gathering Place: Parking lot for equestrian center, south of project lot.
- Take Shelter Area: Enclosed and grounded office trailer, break trailers

- Emergency Response Team will support traffic control in case construction site personnel need to evacuate.

4.3 Emergency Contact Information:

- Site Emergencies: Alberici Safety – Radio Channel 1
- Louis Mitchell: 251-599-4675
- Columbus Fire Dept: 911
- Poison Control Center: 1-800-222-1222
- National Response Center: 1-800-424-8802
- Spills: ENGIE Operations
- Hospital Emergency Care:
  Ohio State University Hospital
  410 W 10th Ave, Columbus, OH 43210
  614-293-8333 (Emergency Room)
- Non-emergency Contact Information:
  T.B.D.

5. HAZARDS

Potential emergency situations which may require evacuation on this job site are:

1. Fires
2. Chemical release
3. Workplace violence
4. Inclement weather
5. High Winds

5.1 **Structural or chemical fire:** When hand held fire extinguishers are ineffective, Alberici safety will Columbus Fire Dept (911) and request assistance.

Alberici personnel will report to their break quarters for roll call and wait for instructions of further actions if needed. If it is determined that movement to another rally point is needed, the Safety Manager will determine and announce which Rally Point will be selected based on the location of the fire and the current environmental conditions. All site personnel are required to move to the announced Rally Point and sign in with their Supervisor for a 2nd roll call. All personnel must be accounted for.

NOTE: Alberici personnel will receive instructive training in the use of fire extinguishers for incipient fires. They are not trained to fight fully engaged fires. The Columbus Fire Dept. will be notified for assistance when fires are too large for hand held extinguishers to be effective.

5.3 **Chemical Release and Spills**:

- **Gas Release:**
  The Safety Manager will determine and announce which Rally Point will be selected based on position of the gas leak and the current environmental conditions. All site personnel are required to move to the announced Rally Point and sign in with their Supervisor. ERT members will report to their assigned locations.
  EBO Construction Supervisor will be notified.
- **Hazardous Substance Spills:**
  All spills and accidental releases of chemicals should be immediately reported to Alberici's Safety office. If required, a HAZMAT Team will be notified for assistance. The hazards of the chemical shall be determined by referencing the SDS (Safety Data Sheet) and/or other available information. Appropriate personal protective equipment (PPE) as found on the SDS shall be used by personnel who may come into contact with the spilled chemical. A spill kit will be kept on all motorized construction equipment to enable quick response to oil leaks or fuel spills.

5.4 **Inclement Weather:**

- **Thunder/Lightning**
  Craft Management & Personnel will be notified by ACI Safety Department after hearing thunder, seeing lightning or perceiving any other warning signs of approaching thunderstorms. Weather warning applications, NWS, weather.gov, weather radio and other sources will be used to monitor approaching storms and lightning strike distance. Personnel will be notified to allow adequate time to reach safe shelter. Personnel will take shelter within grounded structures such as office trailers, break conex or other enclosed structures. Personnel will remain in the shelter until the lighting is greater than 10 miles away.

  Lightning Monitoring and Response
  - ➢ 30 Mile Warning – Used to inform crane operators, man lift operators and personnel working in exposed elevated positions that a storm with potential lightning is approaching. This announcement is for information purposes only; the intent is that personnel working at elevated positions or performing crane operations understand that lightning activity is imminent.
  - ➢ 20 Mile Lightning Warning – Used to alert all personnel involved with crane operations, man lift operations and those personnel working at exposed elevated locations to stop work, exit elevated positions and/or secure loads due to inbound lightning activity.
  - ➢ 6 Mile Lightning Stand Down – Used to alert all site personnel that a storm containing lightning activity is inbound. All personnel will move to an enclosed, grounded structure without delay.
  - ❖ Count the time from the flash to the bang—for each 5 seconds between seeing a flash and hearing the bang, the lightning is 1 mile away (activate

lightning safety plan at count of 30 seconds or 6 miles away) and don't resume activities for 30 minutes after last sound of thunder.

- ✓ The Safety Department will notify all trades when to take shelter and give an **"all-clear"** announcement when work is to commence outside. *Ultimately, you are responsible for your own safety.*

The following areas are **PROHIBITED** from use during 6 Mile Lightning Alerts

- ✓ Welding shacks

5.5 High Wind Condition Response:

- Lightweight, loose materials will be secured and protected from dislodgement
- Workers performing at heights exposed to wind conditions that affect their balance will be removed from those positions that are unprotected from high winds
- Cranes: Manufacturers Wind Charts will be referenced and used to determine rated load reductions, cessation of operation, boom retraction and lowering. Operators shall be given authority to cease operation at their discretion. Judgement and experience of qualified operators, job planners and supervisors must be used to compensate for effect of wind on lifted load and boom by reducing ratings, reducing operating speeds or a combination of both.

5.6 Tornado Warning Response

- Upon notification from ACI safety and management, personnel will muster in their respective craft break area for a head count. After all are accounted for, a determination will be made if evacuation is needed.

6. SITE EVACUATION

- In the event of an emergency requiring full evacuation, employees will assemble in their respective trade break trailer for roll call and instruction.

7. EMERGENCY ACTIONS

There are 3 types of Emergency Actions –

1. **Code Red**
2. **Code Blue**
3. **Lightning Stand-Down**

7.1 Code Red Emergency Actions are for Incidents and/or Accidents

Code Red Emergency Actions are intended to alert personnel that a significant jobsite accident or incident has taken place. All personnel must respond appropriately to the

specific type of accident or incident in order for Emergency Services to properly respond. EBO construction supervisor will be alerted for all code red emergencies.

Code Red Emergency Action Alerts will be made for:

1. Medical Emergency
2. Structural or Chemical Fire
3. Fall Arrest Events
4. Gas Leak detected
5. Chemical spill

Code Red Emergency Action Alerts will sound like this:

- *"Attention all site personnel, Code Red Medical, Code Red Medical. (Followed by a description of injury and location. Report to your break conex.)"*
- *"Attention all site personnel, Code Red Fire, Code Red Fire". (Followed by a description of the fire type and location) "All personnel report to your break conex"*
- *"Attention all site personnel, Code Red Fall Arrest, Code Red Fall Arrest. Aerial lift and crane operators stand by at your current locations and await further instructions. The high angle rescue team has been alerted"*
- *"Attention all site personnel, Code Red Gas Leak, Code Red Gas Leak. Extinguish all flames immediately; stop all welding and spark producing activities. All personnel report to OGS instruction rally point."*
- *"Attention all site personnel, Code Red Chemical Spill, Code Red Chemical Spill". All personnel report to your break conex."*

7.2 Code Blue Emergency Actions are for Weather Evacuations

Code Blue Emergency Actions are intended to alert personnel that a site wide evacuation has been ordered. All personnel are to report to their Foreman or Supervisor for roll call and then make their way to the parking lot and leave the job site without delay.

A Code Blue Emergency Action Alert will sound like this:

"Attention all site personnel, a Code Blue Evacuation has been ordered. Please report to your break conex and supervisor. Exit the jobsite without delay."

8.0 FALL ARREST EVENTS

Fall arrest events where personnel are not capable of self-rescue. All site personnel are required to move to their assigned break trailers and await further instructions. ERT members will report to their assigned locations. Alberici man lift and crane operators will stand by at their current locations and await further instructions.

Smart Campus^{E} Facility Project

Site-Specific Safety Plan

ENGIE Buckeye Operations

Alberici Constructors, Inc.

Columbus, OH

Revision A

Plan Authors and Emergency Cell Phone Contacts:

- **Onsite Safety Manager: Louis Mitchell (251-599-4675)**
- **Project Director: Mike Rhoda (314-733-2433)**
- **Alberici Safety Director: Bo Cooper (314-606-9417)**
- **Emergency Weather and Site Condition Hotline (314-733-xxxx)**
- **Site Message Service for Medical Issues or Absences (314-733-xxxx)**

October 21, 2019

To: All ALBERICI and Subcontract employees

Re: Smart Campus CHP Facility

In accordance with ALBERICI Constructors project requirements, this document has been prepared and will be used to administer, direct, and coordinate the safety process on this project.

ALBERICI, is dedicated to providing our employees, other contractors and subcontractors a 100% safe and healthful work environment and, as a minimum, meet the requirements of Occupational Health and Safety Act of 1970 “General Duty Clause” to furnish each of our employees employment and a place of employment which is free from recognized hazards that cause or are likely to cause death or serious physical harm to our employees. It is vitally important for work crews to **pre-plan** safety into all aspects of their work.

In addition, ALBERICI will take all precautionary measures to protect the public from injury and to protect property. To demonstrate ALBERICI’s commitment to the health and safety of our employees, ALBERICI Executive Leadership and Safety Director will make periodic jobsite safety observation tours. Further we are supported by ENGIE’s safety program, safety staff, and executive safety leadership to further enhance our safety program and culture.

Construction is a unique industry in terms of challenges and rewards. Construction methods and techniques have improved and consistently increase the efficiency and productivity of the industry. As other methods improve, effective preventative measures must be identified and successfully applied in order to reduce our direct and indirect costs of doing business as they directly relate to reduction in accident frequency.

ALBERICI has prepared this program to provide minimum safety guidelines for all employees and subcontractors on this project. It is not intended to include all safety requirements, identify all hazards, and identify all procedures for all subcontractors or specific situations that arise. As additional hazards are found or introduced this plan can be updated at any time and must be complied with by all subcontractors. The program includes policies and procedures for the safe operation of equipment, fire protection, emergencies, training, record keeping, environmental protection, material handling and storage and personal protective equipment.

It is essential that each subcontractor implement an effective and aggressive Safety and Health Program to cover their portion of the work. In addition to the project's Safety and Health Program, each subcontractor must ensure compliance with Federal Occupation Safety and Health Standards, applicable federal, state and local regulations, ENGIE’s minimum requirements for contractors, and OSU’s site specific safety requirements. In case of a conflict, the more stringent standard or regulation will apply.

Accidents can be prevented through planning, training and a cooperative effort in all areas of our operations. This Safety and Health Program is intended to supplement and enforce the individual programs of each subcontractor and to coordinate the overall safety effort. It will be understood that the ultimate responsibility for providing a safe workplace rests with each individual subcontractor.

We want each employee and subcontractor to understand that the safety and health of all persons involved with this project is of essential interest to the goal of its successful completion. Teamwork and coordination is a vital key to success, if we are going to meet these objectives. We are certain that we can depend upon your cooperation and support in this effort.

“WE ARE COMMITTED TO PROVIDING A 100% SAFE WORK ENVIRONMENT IN A ZERO INJURY CULTURE OF SAFETY”

Table of Contents

Safety and Health Plan Qualification

This ALBERICI Site Specific Project Safety and Health Plan has been developed and submitted to meet the ENGIE's (EBO) specific requirements for their OSU CHP Project. It is ALBERICI'S intent to work with ENGIE to implement/supplement their corporate safety program as designed and administered by their safety staff. The goal of the document is to create a unified safety plan that encompasses the more stringent program requirements of all parties and outlines their implementation for the CHP project.

ALBERICI will use full-time, dedicated, competent, and trained onsite safety staff in combination with ENGIE's Safety Department in accomplishing the "Goal Zero" incidents on this project. This safety staff along with ALBERICI management and supervision will instill ALBERICI's safety culture into every project participant.

I. SAFETY AND HEALTH PROGRAM

Introduction

This ALBERICI Project Safety and Health Plan provides an administrative structure which ALBERICI employees, our subcontractors, and the Owner/ENGIE contractors present on the jobsite will follow for the safety and health of their employees, other individuals affected by their activities, and for the protection of property and plant operations. The Project Safety and Health Program does not relieve subcontractors of their responsibilities with respect to specific Environmental or Occupational Safety and Health Regulations; instead, this program provides consistency among various individual programs.

Definitions

- **Competent Person**: One who is capable of identifying existing and predictable hazards and conditions in the surrounding or working area that are unsanitary, hazardous, or dangerous and is authorized to take prompt corrective measures to eliminate them. By way of training or experience, a competent person is knowledgeable of applicable standards related to a specific operation.
- **Hazardous Material**: Any material that may be potentially harmful to personnel or poses an environmental risk.
- **ENGIE Environmental Manager:** Owner's duly authorized environmental manager with responsibilities for the Site/Plant.
- **Project Manager**: ALBERICI's Project Manager
- **Safety Manager (s)**: Alberici's Safety Manager(s), OSHA 500 and/or CSP certified.
- **ENGIE Safety Manager**: Owner's site safety manager.
- **Subcontractor**: Any contractor performing work under contract with Alberici, whether directly or indirectly. (Secord tier subcontractor.)

A. Safe Ring Program Elements

The words "Plan, Communicate, Observe, Improve" are very simple. Yet they say volumes about what it takes to work safely and to continuously improve—and they represent the foundation of the Safe Ring program established by Alberici to foster a safe and productive work environment.

Consistent implementation on a diverse range of project sites since the programs' inception has provided compelling evidence that the Safe Ring program is functioning as a protective ring for our Employees, Subcontractors and Customers. Consistent site implementation coupled with rigorous program documentation, assessment and evaluation has provided hard data upon which to base program refinements and truly realize the elusive concept of continuous improvement.

The organization-wide commitment using and refining the Safe Ring program brings our work closer to achieving ZERO Injuries, ZERO Accidents and ZERO Incidents.

The Project Safety and Health Program (Safe Ring) includes the following major elements:

1. A Project Safety and Health Plan that will establish the minimum safety and health guidelines and requirements.
2. Responsibilities of all management personnel.
3. Minimum responsibilities for individual self-perform and subcontractor scopes. Each subcontractor shall schedule a pre-construction safety meeting with the Project Management Staff. The meeting should be scheduled at least one week before mobilizing on the project site. If this requirement is not met, the Project Manager will prohibit the subcontractor from working until requirements are met.
4. Review of each subcontractor's Safety and Health Program to ensure minimum requirements are met.
5. Monitoring of subcontractor's activities for general compliance with the Project's Safety and Health Program.
6. Procedures for advising subcontractors of safety and health violations, up to and including termination, issuance of violation notices, and corrective action or abatement required.
7. Required safety training, inspections, accident and injury reporting.

B. ALBERICI Team Responsibilities

Every member of ALBERICI work crews will be responsible for ensuring that the Safety and Health Program is followed. The team members will communicate all safety expectations to subcontractors, vendors, and anyone directly involved in the project. The following team members have specific responsibilities:

Project Director: The Project Director will have the overall responsibility for developing and administering a Safety and Health Program for employee protection and accident prevention on the Project. He may delegate authority to expedite and facilitate any application of the Program.

Project Manager: The Project Manager will be responsible for ensuring that all subcontractors aggressively manage the Safety and Health Program. They are responsible for project safety process review with the Owner Representative.

Project Safety Manager: The Safety Manager(s) will act as technical advisors to the Project Management and will be responsible for monitoring and coordinating the overall Safety and Health Program. These individuals have the authority to enforce mandatory safety and health requirements. The ALBERICI Safety Manager(s) will be responsible for directing and insuring the compliance to all site specific safety requirements, conducting and/or coordinating Toolbox meetings with documentation.

ALBERICI safety staffing plan is based on maintaining full time coverage while work is being performed on site. Louis Mitchel will be the primary Safety Manager onsite.

An ALBERICI Safety Manager will be on site at all times work is being performed with the understanding that there may be short intervals of time (Sickness, travel days, holidays, etc.) when that role may be delegated to other experienced onsite staff members. In the event of a scheduled long-term absence a substitute safety manager or director will be utilized.

A subcontract safety representative will be required from all subcontractors. A full-time subcontractor safety manager may be required at the discretion of ASOVJ based on subcontractor performance and workforce level.

The subcontractor safety coordinators will report through the ALBERICI Safety Manager and shall be active participants in the on-site safety committee and site walkthrough.

The intent of the site safety staffing plan is to ensure that there is appropriate safety professional support for the entire site workforce utilizing both ALBERICI and subcontractor integrated full time safety professionals. Because of daily fluctuations in manpower and staffing needs, sickness, or timing a daily or weekly 50/1 ratio may not be continuously met. ALBERICI is committed to a 50/1 ratio evaluated on an hourly basis of craft hours per month/safety professional hours per month. This method of measurement eliminates issues with absences or interruptions of hiring due to a daily safety ratio. For example, the project would not be prevented from hiring the 51st person on a Thursday when the 2nd safety manager was not starting until the following Monday. Over the course of the month the 50/1 ratio will be required. Deviations below the 50/1 ratio for periods longer than 1 day will require notification to and approval from ENGIE Project Manager and ENGIE Safety Manager.

Safety professional staffing needs and requirements will be coordinated with the ENGIE Project Manager and ENGIE Safety Manager.

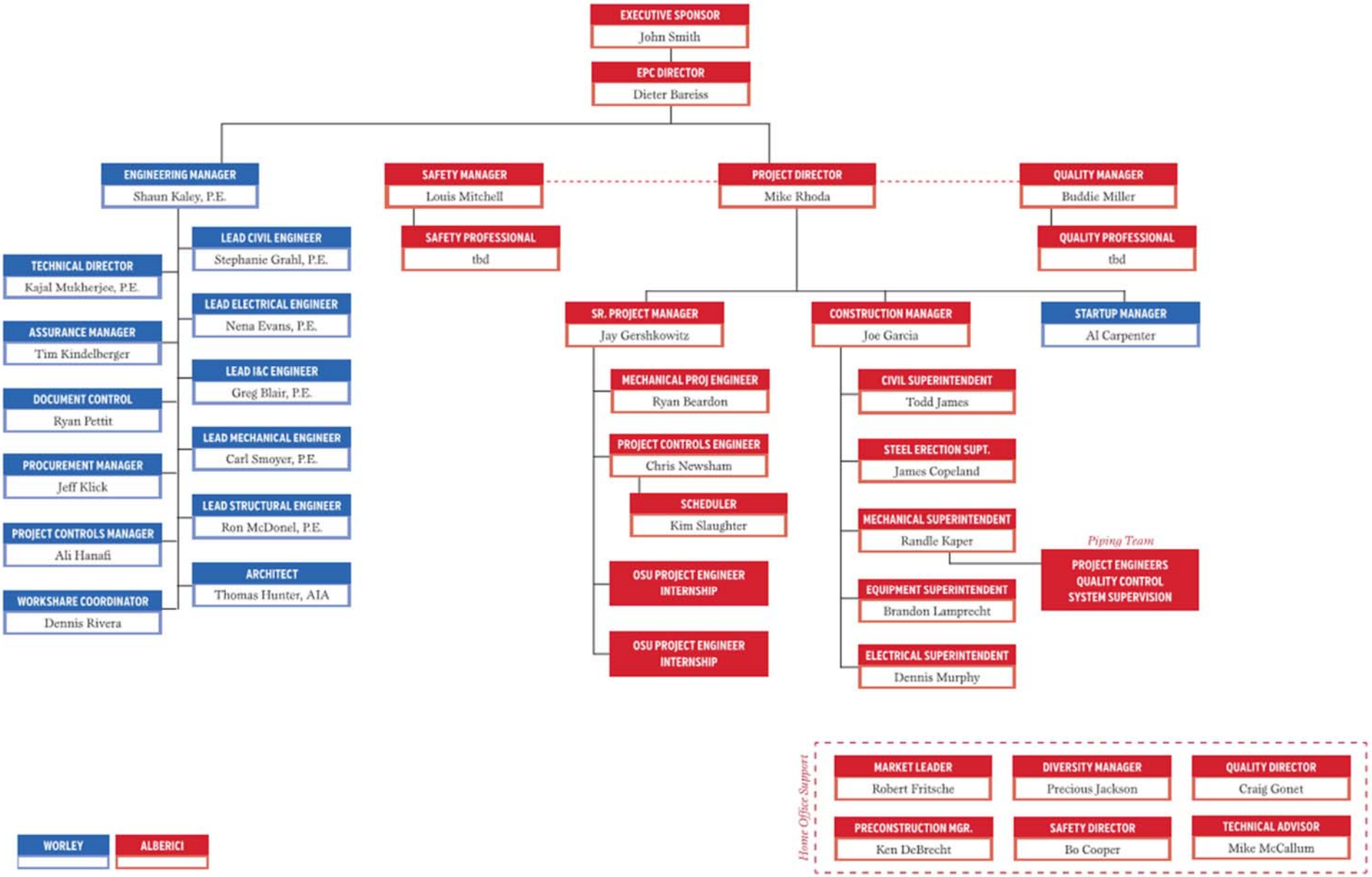
ALBERICI Supervision: All ALBERICI Supervision shall be responsible for supervision of their workforce and their Subcontractors to ensure compliance with Project Requirements. At any time, ALBERICI authorizes all their employees to stop any work that places people in imminent danger or would result in major loss or damage to equipment, property or the environment until the condition is corrected.

Any ALBERICI Project Management Team Member has the responsibility and authority to take prompt measures to abate any hazard. ALBERICI Project Management Team Members are all authorized to act as a competent person (having the training and knowledge) to identify and control existing and predictable hazards.

All Subcontractor field and office management staff hold the same responsibilities for their workforce and will be expected to follow the same policies and procedures as outlines. As part of ALBERICI's Safety Management Program for the OSU Project site. The subcontractor safety representative personnel will report to ALBERICI's safety managers.

First Aid: In accordance to the US Department of Labor legal requirement, ALBERICI will maintain company owned first aid supplies. ALBERICI will have certified First Aid trained personnel on site. ALBERICI will also have an AED in the main office trailer as per company requirement. ALBERICI will also have certified

employees trained to use an AED. ALBERICI will also maintain blood borne pathogen clean up supplies as part of the company required First Aid kits. All first aid incidents shall be reported to ENGIE Safety Manager and written documentation to follow within 24 hours.


EXECUTIVE SPONSOR
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EPC DIRECTOR
Dieter Bareiss
ENGINEERING MANAGER
Shaun Kaley, P.E.
SAFETY MANAGER
Louis Mitchell
SAFETY PROFESSIONAL
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Mike Rhoda
QUALITY MANAGER
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TECHNICAL DIRECTOR
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ASSURANCE MANAGER
Tim Kindelberger
DOCUMENT CONTROL
Ryan Pettit
PROCUREMENT MANAGER
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PROJECT CONTROLS MANAGER
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Dennis Rivera
LEAD CIVIL ENGINEER
Stephanie Grahl, P.E.
LEAD ELECTRICAL ENGINEER
Nena Evans, P.E.
LEAD I&C ENGINEER
Greg Blair, P.E.
LEAD MECHANICAL ENGINEER
Carl Smoyer, P.E.
LEAD STRUCTURAL ENGINEER
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Thomas Hunter, AIA
SR. PROJECT MANAGER
Jay Gershkowitz
MECHANICAL PROJ ENGINEER
Ryan Beardon
PROJECT CONTROLS ENGINEER
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OSU PROJECT ENGINEER INTERNSHIP
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Dennis Murphy
STARTUP MANAGER
Al Carpenter
Home Office Support
MARKET LEADER
Robert Fritsche
DIVERSITY MANAGER
Precious Jackson
QUALITY DIRECTOR
Craig Gonet
PRECONSTRUCTION MGR.
Ken DeBrecht
SAFETY DIRECTOR
Bo Cooper
TECHNICAL ADVISOR
Mike McCallum
WORLEY
ALBERICI

C. Improvement Observations

1. Daily inspections for the detection of hazardous conditions and safe work culture are conducted. As conditions are identified, the observer (regardless of company or position) has the responsibility to point out the unsafe act or condition in the field and discuss means to correct the behavior with the applicable worker or work crew. Improvement observations will be documented on a weekly basis within the CRIS system.
2. All supervision, on site, including subcontractors will actively participate in the observation process for improving safety performance through objective measurements.
3. Contractors may be required to choose all applicable improvement observations covering specific work activities to be conducted. Upon the completion of choosing the observations to be conducted, a written list noting these specific observations shall be submitted to the ALBERICI Safety Manager for review and approval.
4. Observations will be shared with the ALBERICI Safety Manager no later than the end of the shift on the date it is conducted. Observations made by either subcontractors, contractors or ALBERICI will be provided to ENGIE.
5. ALBERICI will provide observation training to all Subcontractor Project Management and Supervision personnel as needed.
6. Failure for subcontractors to submit the specified documentation in this program may be considered an infraction of the ALBERICI Site Safety Policy and could result in a Safety Protection Notice.

D. Weekly Safety Meetings

1. One “all hands” meeting will occur weekly. The topics of these meetings will be jobsite updates and topics that apply to all site personnel and may include some demonstration or training activities such as fall protection or dropped objects.
2. There is also a separate once a week trade specific Safe Talk (Toolbox Talk) shall be conducted and documented for all crews on site. This includes all ALBERICI and subcontractors.
3. Documentation for these meetings shall include the following: subcontractor name (if applicable), date, time, attendance, a detailed summary of the safety talk (including any accidents, incidents or near misses and a review of the last safety training session) and who conducted the meeting.
4. This documentation shall be maintained, and a copy furnished to the Safety Manager. All copies shall be submitted no later than the end of the work shift on the dates conducted.

E. Safe Cards

1. A daily Safe Card (shift pre-start) meeting will be conducted and documented by each ALBERICI Foreman and Subcontractor Foreman for his or her employees.
2. Daily "Stretch don't Strain" program will be completed as a group after the talk and prior to work tasks. An additional Safe Card meeting must be conducted anytime the scope of work has changed for that crew.
3. Documentation is to be sent in daily to the ALBERICI Site Safety Office and shall include; subcontractor's name (if applicable), date, time, attendance, the foreman who lead the huddle and the items discussed.
4. All copies shall be available for review no later than the end of the first designated break on the dates conducted.
5. ALBERICI will provide Safe Card training to all Subcontractor Project Management and Supervision personnel.
6. Failure to submit the specified documentation in this program may be considered an infraction of the ALBERICI Site Safety Policy and could result in a Safety Protection Notice.

F. PHD'S (Project Hazard Development)

Will be created for:

1. The scope of work set out in the contract documents.
2. Each critical task that has to be performed.
3. The analysis must include major hazards and hazard control measures.
4. All PHD's (Jobsite Safety Hazard Analysis) are to be submitted 3-5 days prior to work starting, as part of all Contractors' jobsite safety plan.

Hazards to be analyzed include the following: (This list is not intended to be all- inclusive.)

- Electrical Hot Work (Lock-Out)
- Form work
- Operation of Powered Elevating Platforms (Aerial Lifts)
- Operation of Powered Equipment
- Pouring or pumping concrete
- Rebar placement
- Rigging and Hoisting Operations
- Steel Erection
- Use of Ladders
- Welding and Cutting Operations
- Work Above Six (6) Feet

5. Will be reviewed, prior to the start of any new task that has not previously been done. All crew members will sign that they have reviewed and understand the PHD.
6. New crew members must have PHD instruction by foreman and added to the signature list.
7. The Daily Safe Card (JHA) is required to reference the applicable PHD that has previously been reviewed by the crew. The safety managers will review the daily Safe Cards to ensure that the hazards identified on the PHD are being reviewed and identified daily by the foreman and crew on their Safe Card.

G. Safety/Health- Audits and Inspections

Formal daily inspections are the responsibility of all ALBERICI Project Management staff and all Contractors and subcontractors on the project. Corrective actions should be addressed at the time of the inspection. Work operations, equipment storage areas and facilities should be evaluated. The following will be addressed during each inspection:

1. Unsafe or unhealthy acts or conditions will be noted and reported to the Project Management or Safety Manager.
2. Serious or repetitive violations will be documented on the Safety Protection Policy form. A copy will be submitted to the Safety Manager and the subcontractor's Project Management. It is the responsibility of the subcontractor to take corrective action as indicated on the form.
3. In cases of imminent danger, it is required to immediately stop that portion of the work affected until the hazardous condition(s) are corrected.
4. In accordance with ALBERICI **ZERO TOLERANCE POLICY**, the ALBERICI Project Manager or his designee will discipline and/or remove employees from the Project site who violate established rules and regulations. This will include immediate removal for serious violations such as drugs, fighting, misconduct and refusal to follow the Safety and Health policies.
5. **Rules To Live By Program (RTLB) - "**It is the expectation that the ALBERICI and its subcontractors will enforce our RTLB program and discipline the RTLB violators. Violations of other safe work practices also may result in permanent barring from all ENGIE Facilities."

    a. Any ALBERICI or Subcontractor employees not in compliance with this jobsite safety plan can be removed from the project upon written reasonable request by ENGIE to the ALBERICI Project Manager or Project Director.

6. ENGIE "Rules to Live By" is the equivalent of the five ALBERICI Zero Tolerance Policies.
7. The "Rules to Live By" and Zero Tolerance Policies are focused on activities that have the potential to produce a fatality or serious injury. While there are many hazards that can produce serious injuries, the items listed below are so significant that a single

violation warrants immediate intervention by ALBERICI.

8. Actions determined to be in violation of these rules may result in removal from the OSU facilities:

   - **Fall Protection** – Alberici Constructors will adopt the 4 feet trigger height rule for fall protection within the established OGS boundary. This is an opportunity to implement a more stringent and better practice rule. The 6 feet rule will apply outside of the boundary.

     - Fall protection will be required 100% of the time for all employees working at elevated work locations that are four (4) feet above ground or floor level within the established boundary and six (6) feet outside of the boundary.

     - The 4 feet rule for all protection should be planned in advance of scheduled work above floor or ground level within the boundary.

     - Violation of the 4 feet rule shall constitute a warning only and will not be an automatic termination as would be the case when the 6 feet rule (RTLB) is violated.

   - **Lock Out / Tag Out** – Violation of a tag, lock or tag-out device that is used for employee protection.
   - **Electrical Safety (Rubber PPE)** – Failure to follow the proper procedures and wear proper personal protective equipment when working on energized equipment.
   - **Confined Space Entry** – Failure to evaluate a confined space prior to entry.
   - **Trenching and Excavation** – Entering an excavation greater than **4** feet deep that has not been properly analyzed and protected by a competent person.

9. ALBERICI will lead periodic (at least weekly) group safety audits of the work area with the Contractors and subcontractors participating. These audits will focus on high risk, repetitive activities.

10. All project employees and supervisors will conduct daily pre-start inspections of their own work areas. Corrective actions must occur prior to exposing any worker to hazards which may be present in the work area. These hazards must be addressed in daily pre-start meetings.

11. ALBERICI Project team members and ALBERICI Field Supervision shall perform spot audits of conditions and behaviors and record findings and corrections on Safety Observation Cards.

12. The findings on the cards will be used to conduct safe talks and the information will be shared with crafts persons to foster safe work practice and compliances.

13. Corrective Action – Contractor/Subcontractor shall comply immediately with all safety directives, verbal or written. Direction must be based on content of this plan or OSHA guidelines. If Contractor/Subcontractor delays or refuses to comply with such directives the ASJOV and/or Owner will take the following action steps:

    - Cease the operation.

- Correct the situation and back charge the responsible party.
- Stop payment for the work being performed.
- Permanently remove the responsible manager or supervisor from the Project.
- Willful or repeated violations or lack of cooperation to these procedures shall be considered a breach of contract and grounds for contract termination.

H. Safety Training

1. All ALBERICI direct-hire employees and ALBERICI subcontractor employees shall view the ENGIE contractor safety orientation as part of their site-specific orientation prior to commencing work. Copies of Acknowledgement forms for the orientations will be kept by ALBERICI's safety office and provided to ENGIE Construction Safety Representative on a weekly basis.

2. Anyone actually performing work on the construction site will be required to attend the full site-specific orientation attached as Section 1 of Appendix A. Site visitors and all personnel not performing work will be required to attend the visitor site specific orientation attached as Section 2 of Appendix B and be escorted at all times.

3. All ALBERICI direct-hire employees and ALBERICI subcontractor employees shall attend a safety orientation conducted by the Project management staff before commencing work at OSU. The safety orientation's purpose is to communicate the basic safety requirements specifically for the Project Site. These "new hire" orientations must be scheduled with the appropriate Project Management staff before arriving on site.

4. This policy requires that all Project Managers, Superintendents, Foremen AND Crew Members complete site-specific orientation for the following subjects:
   - Confined Space Entry (Permit and Non-Permit)
   - Electrical Hazards (ARC Flash & PPE Requirements)
   - Fall Protection
   - Hazard Communication (required by all)
   - Injury/Incident Reporting
   - ENGIE Site Specific Safety Rules
   - Lockout/Tagout
   - Safe Ring
   - Trenching and Excavation

Anyone not meeting this requirement will not be allowed to proceed with work onsite.

I. Drug and Alcohol Screening Program

ALBERICI is committed to providing our employees with a 100% drug-free and safe work environment. ALBERICI employees and our subcontractors will be required to provide documentation of negative pre-employment drug screen or documentation of current participation in a random drug testing program as most union locals now

provide.

1. Contractors working at this site shall adhere to the following program testing requirements. Compliance with this Program is mandatory.

2. The unlawful manufacture, distribution, dispersion, possession or use of a controlled substance, or alcohol on company premises during the scope of a scheduled work day is dangerous to health and safety, substantially interferes with the conduct of company business, and seriously jeopardizes the safety, health, welfare and security of all employees and is subject to immediate termination

3. The objective of this policy is to provide consistent, objective, fair and manageable procedures for drug screening of employees for the presence of drug.

4. The purpose is to assist in the identification of those individuals who may have substance abuse problems. It also increases on-the-job safety and productivity by denying access to individuals whose abilities, may be impaired by drugs or alcohol.

5. Substance abuse testing documentation will be maintained in the project construction office.

6. Regardless of any prescription held, the use of or possession of medical marijuana is prohibited during employment by ALBERICI, or its Contractors or subcontractors.

J. Project Specific Drug Testing Requirements

1. ALBERICI Employees and Subcontractors will be required to follow this same protocol.

2. **Initial Test:** All individuals will be required to provide documentation of negative pre-employment drug screen taken before arrival onsite or documentation of current participation in a random drug testing program.

   a) If an individual is unable to provide documentation on date of hire of a pre-employment drug test or random program, ALBERICI may decide at its sole discretion either to perform an onsite instantaneous drug test for that individual or send the individual away without hiring until they are able to provide the documentation.
   b) A non-negative test that is caused by a valid employee's prescription is considered a negative test result.
   c) A non-negative instantaneous test will be sent to the offsite lab for evaluation. Unless the non-negative result is from a valid prescription, the employee cannot be employed or return to site until lab test returns as a negative test result. A positive substance abuse test will result in termination and permanent non-hire status.

3. T**esting For Cause**: All individuals may be tested for cause for illegal drugs, substances, and alcohol when a reasonable suspicion exists that the employee appears to be under the influence of illegal drugs or substances and /or alcohol.

4. **Post-Accident:** All individuals will undergo post-accident, incident, or near miss substance

abuse screening. All individuals who are involved in any equipment or property damage accident will be screened.

5. **Physician Prescribed Medications**: Physician prescribed medications are not excluded from this policy. Employees will be asked to produce evidence/documentation of any physician prescribed medications that cause a positive test result.

K. Discipline

1. A positive substance abuse test will result in termination and permanent non-hire status for the OSU ALBERICI project.
2. Any attempts by the employee being tested or another employee attempting to circumvent this ALBERICI and owner requirement will also result in termination from the project and permanent non-hire status for the OSU ALBERICI project.

L. Recognition Program and Site-Specific Safety Initiatives

1. ALBERICI believes that those individuals and groups with excellent safe work habits should be acknowledged and set as examples for others to follow. ALBERICI and ENGIE will establish a recognition program based upon prior successful programs that will include items such as:
    - "On the spot" gift cards for individuals or groups that have shown exceptional safety awareness and leadership.
    - Recognition luncheons and/or raffles for safe months of work, reaching safety milestones and goals or schedule milestones being reached without a recordable injury.
2. Executive Safety Committee Meetings
3. Interactive site craft safety surveys
4. Craft Safety Slogan Contest program including gift cards and posted banners for the best slogans
5. Steward and Business Agent walkthroughs and meetings
6. Third Party Demonstrations on Fall Protection, Dropped Object, Etc.
7. OSHA Outreach for possible partnership

M. Stretch Don't Strain Program

(Introduction and Discussion)

This program has been designed by ALBERICI and has been compiled through the research and work of the HEALTH SOUTH Industrial Outreach Program.

ALBERICI employees have very strenuous jobs. The work they do often requires quick responses,

fast reflexes, sheer physical strength, excellent balance and adaptability in what can be a changeable situation. Because of the nature of the work, employees need to be in the best physical, mental and psychological shape possible.

Injuries can happen for a number of reasons but most often happen when one or more of these vital functions are lacking. The following information and exercises may greatly assist the employee to be in the best physical and mental shape possible. This, hopefully, will give him/her the psychological confidence necessary to attack various work and life situations.

The Stretch Don't Strain stretching program has a variety of whole-body activities, focusing on traditional muscle group stretching and balance activities. The stretches are not calisthenics, are not strenuous and are designed to warm up muscle groups and help prevent injuries. If any of the stretches cause pain, the employee may want to consult his/her personal physician.

The Stretch, Don't Strain stretching program has shown to reduce preventable strains and strains as a result of work activities. Worker's Compensation injuries for back strains were reduced by 50% the first year of the program, and employees who routinely stretch find that they are more flexible in performing their work activities.

Some of the stretches are more difficult than others. Some stretches may be hard to perform initially, but the employee is encouraged to do the best he/she can. They will be surprised how quickly they improve.

Stretch Don't Strain videos and hard copies are part of the program.

N. Stretching Outline

I. Introduction

A. Keeps muscles supple
B. Prepares one for improvement
C. Helps make a daily transition from inactivity to vigorous activity without undue strain
D. Stretching when done correctly is NOT STRESSFUL or PAINFUL
E. Everybody can stretch

II. Why Stretch?

A. Reduces muscle tension
B. Helps coordination
C. Increases range of motion
D. Prevents injuries
E. Makes strenuous activities much easier
F. Develops body awareness
G. Promotes circulation
H. Promotes feeling of well-being.

III. How to Stretch

A. Relax sustained stretch
B. NEVER BOUNCE or OVERSTRETCH

C. The Easy Stretch
D. The Developmental Stretch

IV. When to Stretch

A. Before starting the day
B. During the day
C. After prolonged sitting or standing or activity
D. When you feel stiff
E. When there is time and when it is convenient
F. Strive for consistency

V. Breathing

A. Slow rhythmical and under control
B. Exhale as you develop the stretch
C. Breathe slowly during the hold time
D. NEVER HOLD YOUR BREATH

VI. Counting

A. Count if you need to

VII. Conclusion

A. Keep it enjoyable and pain-free
B. Always listen to your body. If these stretches create unusual discomfort, you may want to consult your personal physician.

O. Disciplinary Policy

Purpose: ALBERICI, is committed to providing its employees and Subcontractors with a 100% safe and healthful environment in which to work. The achievement of this goal depends upon the positive actions and attitudes of all employees and their willingness to contribute to an overall team effort.

For the protection of all employees, subcontractors' employees, each individual has an obligation to work by and obey all rules, programs and policies established by the company. Accordingly, violations of such rules, programs or policies will be dealt with as follows:

A. Class1 – Serious or Life-Threatening Offense --- Immediate Termination

Class 1 is an offense that puts a person in extreme danger and in flagrant disregard of safety practices and the safety program. Some examples are, but not limited to: horseplay, threatening someone, fighting, testing positive for drugs or alcohol, direct and undisputable violation of a zero-tolerance category, or directing someone, with intent, to violate safety practices.

The first substantiated Class I offense for an employee will result in a termination from the OSU Project.

A. Fall Protection: (RTLB) **This is a Zero Tolerance category**

- Employees working at elevations 4 (four) feet or above are required to use fall protection. (For example, a stable platform with guardrails or a personal fall arrest system – at a fall height of four to 16 feet, the personal fall arrest system must be the harness and a **retractable lanyard,** and an anchor point capable of supporting 5000 pounds of force).
    - Alberici Constructors will adopt the 4 feet trigger height rule for fall protection within the established OGS boundary. This is an opportunity to implement a more stringent and better practice rule. The 6 feet rule will apply outside of the boundary.
    - Fall protection will be required 100% of the time for all employees working at elevated work locations that are four (4) feet above ground or floor level within the established boundary and six (6) feet outside of the boundary.
    - The 4 feet rule for all protection should be planned in advance of scheduled work above floor or ground level within the boundary.
    - Violation of the 4 feet rule shall constitute a warning only and will not be an automatic termination as would be the case when the 6 feet rule (RTLB) is violated.
- Pre-plan all work from heights to establish 5000 lb. anchorage points and proper fall protection methods.
- Personal fall protection shall be a full body harness with double lanyard or retractable(s). 100% Fall protection is required on this project
- Work performed at leading edges above 6 (six) feet shall require fall protection.
- When creating floor openings and holes, securely cover them with structural strength material capable of supporting twice the anticipated load and securing them from dislodgement.
- Floor covers shall be marked with orange paint "Floor Hole – Keep Off".
- Fall Protection is required when working from ladders at heights greater than 6' (six feet).
- Fall Protection will be required in hazardous conditions, involving falls less than 6' (six feet), fall hazards where the employee is exposed to moving equipment, working over equipment, vats or other objects posing a safety hazard.
- ***The 100% fall protection requirement also applies to steel erection and all scopes of work on the project. Nothing is exempt.***

B. Confined Space Entry **This is a Zero Tolerance category**

- There are two types of confined space:

1. A permit-required confined space (Vessels, pits, ducts, manholes or other closed or semi- closed space not intended for continuous occupancy.)
2. A non-permit confined space (Large excavations, trenches, vessels, where adequate,

continuous air exchange can take place without restriction.)

- Only trained and authorized personnel can take part in a Permit Required Confined Space entry.
- Permit Required Confined Space Entry permits are required before working in a vessel, pit, duct or other closed or semi-closed space not intended for continuous human occupancy.
- Regardless of the type of confined space, the air must be monitored prior to entry, and in the case of permit spaces, continuously.
- All Confined Space Entry requires pre-planning.
- Only the Site Project Manager or competent designee can issue permits for construction personnel.
- Consult your supervisor before performing any work in a confined space.

C. Trenching & Excavations: (RTLB) **This is a Zero Tolerance category**

- No personnel will be allowed entry into an excavation until a competent person has reviewed it.
- All excavations shall be safely shored or sloped and barricaded at depths greater than 5'. (five feet)
- Prior to beginning any excavation, drilling, digging, or trenching, ALBERICI and its excavation subcontractor must ensure that all underground utilities have been located, verified, and marked.

D. Lock- Out/ Tag out: (RTLB) **This is a Zero Tolerance category**

Lockout/Tagout Procedure and PHD must be developed, implemented, followed, and documented under the direct supervision of an ALBERICI Safety manager for every distinct type of work to occur onsite to protect workers from sustaining injuries as a result of the inadvertent release of hazardous energy. This policy applies for all electrical, pneumatic, steam, fluid, hydraulic, pneumatic and stored energy sources.

a. OSHA standards and the specific work area LO/TO procedure and PHD are to be followed when hazardous energy requires lock out. A general LO/TO procedure for all work on site is not acceptable.
b. Lock out requires all affected employees to work under their own
c. Locks either locking out the specific equipment or locking out a lock box of master keys. Locks must be safety red padlocks.
d. ALBERICI will strictly monitor all lock out activities.

E. Knowingly Using Equipment That Is Under Capacity **This is a Zero Tolerance category**

- Using a fork truck to lift more than its stated capacity.
- Using a crane to lift more than its stated capacity.
- Loading a trailer with more than its stated capacity.
- Loading a rope, chain, or cable with more than its rated capacity.
- Loading come-a-long beyond its rated capacity.

B. Class 2 -Less Serious or Non-Life Threatening Offense

- A Class 2 offense is one that would not cause death, serious injury, or major property damage. ALBERICI will have the sole discretion in making the determination. Examples of an employee committing a class 2 offense include: not wearing foam lined eye protection, not having a guard or handle on a grinder, not using a GFCI, not using double eye protection where required, not wearing gloves or the proper type gloves, not wearing hearing protection where required. This is just a few of the many possible offenses and this list is not all-inclusive.

- The **first** substantiated Class II offense for an employee will result in a written warning to the employee.
    a) After being cited with a Class II offense, if the employee works without another Class II offense for a period of 12 consecutive months, the employee's record will be cleared of Class II offenses.
- The **second** substantiated Class II offense for an employee within a 12-month period will result in a suspension from work on all ALBERICI projects for three (3) consecutive scheduled workdays.
    a) Upon returning to work after the three-day suspension the employee shall complete a re-orientation of the Project Safety Rules.
    b) The employee shall also conduct a Safe Card Meeting two times a week for one month under the direction of the on-site safety manager.
- The **third** substantiated Class II offense for an employee within the same 12-month period will result in a termination from the OSU Project.

P. Discipline –Other Conditions

The following additional conditions are for clarification purposes only and are not meant to be all-inclusive. The final discretion in making any determination relating to safety violations will be solely ALBERICI Project Manager or designated representative. Severity of the violation may warrant action to be taken up to and including termination.

1. Offenses can be observed and reported by any ALBERICI management employee. Reports of offenses must be given to a member of ALBERICI project management staff.
2. An offense does not have to be observed to be considered a recordable offense. If an offense can be substantiated by facts, it will be considered a recordable offense.
3. The employee or employees who violate the site Safety Program will be charged with an offense regardless of whether their action was willful or unintended. **It is the employee's obligation to know the rules and regulations**. The company is to respond to the employee's request for information and/or equipment in order to work safely, *but in no event is the employee to put him or herself in an unsafe work situation.*
4. **Any supervisory or management employee who observes an offense and does not actively attempt to rectify the offense will be judged as having also committed the offense.**

5. If any employee disputes the determination of an offense or how an offense is classified, the employee may appeal the determination or classification first to the ALBERICI Project Manager who shall consult with the Project Director. The Project Director shall make the final determination. All decisions of the ALBERICI Project Director are final.

6. This Safety Disciplinary Action Program does not supersede or replace disciplinary action requirements including termination of employment status due to non-safety work rule infraction such as, but not all inclusive: tardiness, excessive absenteeism, insubordination issues, etc.

Q. Workplace Violence

- ALBERICI recognizes that violence in the workplace is a growing nationwide problem necessitating a firm response. The costs of workplace violence are great, both in human and financial terms. ALBERICI believes that the safety and security of all employees is paramount.
- ALBERICI is committed to maintaining a safe, healthful, and efficient working environment where employees and customers are free from the threat of violence regardless of source or type.
- Acts or threats of physical violence, including intimidation, harassment and/or coercion, that involve or affect the organization, or occurs in the course of business conducted on or off ENGIE property, will not be tolerated. The prohibition against threats and acts of violence applies to all persons involved in ALBERICI operations, including, but not limited to, employees, contract workers, temporary employees, customers, vendors, tenants and anyone else on ALBERICI property.
    1. ALBERICI will not tolerate, condone or allow any discriminatory harassment of any of its employees by Leaders, employees, customers, vendors or others with whom ALBERICI does business. ALBERICI has zero tolerance for such harassment.
    2. ALBERICI will not tolerate verbal, written or physical conduct that harasses, disrupts or interferes with another's work performance or which creates an intimidating, offensive or hostile environment.

Examples of behavior which violates this policy include, but are not limited to:

- Slurs, quips, or negative stereotyping.
- Threatening, intimidating or hostile acts that relate to race, color, religion, creed, gender, national origin, sexual orientation, age, disability, veteran status, marital status or any other category protected by applicable law.
- Written or graphic material (including but not limited to graffiti) that is placed on walls, bulletin boards or elsewhere on Company premises, or circulated or displayed in the workplace, that denigrates or shows hostility or aversion toward an individual or group because of race, color, religion, creed, gender, national origin, sexual orientation, age, disability, veteran status, marital status, or any other category protected by applicable law.
- Jokes, pranks or other forms of humor that are demeaning or hostile with regard to race, color, religion, creed, gender, national origin, sexual orientation, age, disability, veteran status, marital status or any other category protected by applicable law.
- Retaliation or disparate treatment against employees who report or submit a complaint

regarding harassment and/or inappropriate behavior, or who participate in an investigation of any reported harassment.

The type of behaviors described above are examples of harassment based on race, color, religion, creed, gender, national origin, sexual orientation, age, disability, veteran status, marital status or any other category protected by applicable law, and all are unacceptable not only in the workplace, but also in any other work-related settings such as business trips or business-related social events.

ALBERICI will not tolerate verbal, written or physical conduct that harasses, disrupts or interferes with another's work performance or which creates an intimidating, offensive or hostile environment.

A. Reporting Workplace Violence or Criminal Behavior

An employee wishing to report workplace violence and other criminal behavior shall contact their immediate supervisor. The immediate supervisor shall document the complaint in writing and immediately contact the Project Director and/or Project Manager.

In the event the employee does not feel comfortable reporting the prohibited behavior to their supervisor, the employee shall contact the Project Director, Project Manager, and/or Human Resources department and report the issue.

In either case, the ALBERICI representative shall investigate the compliant and take appropriate steps. When the investigation is completed, the representative shall contact the employee that initiated the complaint and provide a summary of findings and steps taken.

II. ALBERICI and ENGIE MANDATORY PROJECT RULES AT OSU PLANT

The following safety and health rules are a partial list of general regulations that will apply to all work. Any employee who carelessly or callously disregards these rules or other applicable safety and health regulations will be subject to disciplinary action including termination.

1. Safety is a condition of your employment - It is expected that all workers know all work rules and have had proper training. If this is not the case, workers are not to proceed with work until they do understand or until they have had training.
2. ENGIE has the following “Rules to Live By”: Lockout/Tag Out; working on electrical; excavation and trenching; and fall protection. If any employee is in violation of the Rules to Live by (RTLB) they will be subject to disciplinary action. Violation of the “Rules to Live By” may be grounds for termination, and a lifetime ban from all ENGIE Projects.
3. Personal protective equipment such as hard hats, eye, face, hearing and respiratory protection will be furnished by ALBERICI and each subcontractor and used as required. Hard hats, safety glasses with foam lined protection, and steel toe work boots are required at all times.
4. 100% fall protection will be required for all employees working at elevated work locations that are six feet or more above the floor or grade level. Employees working from aerial work platforms must use fall arresting equipment at all times.
5. All occupational injuries and illnesses, no matter how slight, must be reported to your supervisor immediately. ENGIE Safety Manager and Project Manager are to be notified immediately by

phone. Written report to ENGIE within 24 hours. A doctor's release for any personnel taken in for medical evaluation is required prior to returning to work. Anyone going off site for medical evaluation will be required to have a mandatory drug screen.

6. Submitting false or fraudulent information when reporting an accident or injury is unlawful and will be cause for removal from job site.
7. Fighting, gambling, horseplay and other misconduct are not permitted. In addition, attacks or threatened attacks upon another employee will not be tolerated.
8. The use, possession, of intoxicants or drugs on the job is prohibited. Any employee reporting for work intoxicated or under the influence of intoxicating liquor or drugs will not be allowed to work and will be administered disciplinary action which could result in immediate termination.
9. Owner facilities/areas are OFF LIMITS and NOT AVAILABLE for ALBERICI or its subcontractors use, including cafeterias, break rooms, and restrooms. Please respect the Plant's areas, and use only facilities authorized for our use.
10. Keep clear of all equipment. Avoid pinch points and the blind areas. Be alert to avoid being under swinging or suspended loads.
11. Be always alert for and heed all information and warning signs.
12. For outdoor work, full body clothing will be required to avoid sunburn and exposure to sparks and hazardous chemicals. T-shirts with short sleeves will be required as a minimum during hot weather. Shorts and sleeveless shirts are prohibited.
13. Do not use compressed air to "dust off" yourself or clean any area of your body.
14. Unless authorized, do not attempt to repair or tamper with equipment that is not functioning properly. Report malfunctions to your supervisor.
15. Workers should immediately report unsafe conditions to their supervisor. No worker will be required, or knowingly permitted, to work in an unsafe area unless the work involved is to correct the hazard, and then only after all safety precautions are implemented.
16. Whenever anyone is required to work on or near electrical equipment or circuitry, appropriate tagging will be placed to identify all controls deactivating the circuit, and the circuit will be locked out, when possible.
17. No one will be allowed to jump on or off any equipment or vehicles, while the equipment is stationary or moving.
18. Misuse of tools and equipment or circumventing safety devices can result in injury to yourself or others. Do not use make shift or "jury-rigged" tools or equipment to perform your job.
19. All fire protection and emergency equipment must be plainly marked and must be kept free of obstruction for emergency use.
20. No stickers or writing on Hard Hats other than ALBERICI issued project stickers.
21. Unless specifically authorized by ENGIE plant manager, all firearms, weapons and explosives are prohibited within the work area and parking lot.
22. Report all unsafe and unhealthy practices and conditions to your supervisor.

23. Only authorized and properly trained and supervised personnel are permitted to operate equipment, vehicles, valves, electrical switches and similar machinery.
24. Ride only in vehicles designated and designed for transporting personnel.
25. Do not smoke in areas marked **"NO SMOKING"** or near flammable or combustible materials or their storage areas. Smoking is only permitted in designated areas.
26. Store and transport gas cylinders in a secure, upright position, with their valve caps secure. Oxygen and fuel gases must be segregated and stored 20 feet apart or have a half hour firewall.
27. Always maintain good housekeeping. Keep waste, debris and rubbish cleaned up.
28. Place all lunch papers, cups, cans and other litter in trash receptacles. Discard and/or store all oily rags, waste and similar combustible materials in metal containers provided for that purpose.
29. Riding loads; slings, the ball, crane hook or other material hoisting equipment is prohibited except in an emergency.
30. Keep all machinery guards, guardrails and other protective devices in place and in good operating order.
31. Be always alert to conditions and work processed in your area and surrounding areas and of the presence of other workers and equipment so that you can foresee and avoid potential dangers.
32. Work area guidelines and regulations for environmental protection must be strictly followed. All hazardous material must be properly handled, stored and disposed of.
33. Employees must strictly follow all energy lock out and confined space entry procedures.
34. Everyone will be responsible for ensuring that employees are not exposed to any hazardous chemical liquid, gas or fume.
35. Everyone must comply with the OSHA standard for Lead in Construction.
36. Only ALBERICI and subcontractor management, superintendents, and safety personnel will be allowed to have and use cell phones in the work area or others given written permission by ALBERICI project manager.
37. Operate a vehicle or equipment and use of the phone at the same time is prohibited.
38. Stop and remain stationary to make/take your calls.
39. Craft workers can use cell phones during official morning break and lunch break in the craft buildings. Cell phones must remain in lunch boxes at all other times.
40. All employees are required to park in the designated parking areas. Only ALBERICI or subcontractor owned company vehicles shall be allowed on the construction site. All others shall use the employee parking lot designated for the construction site.
41. Pedestrian traffic is limited to the defined walkways and road crossings. Plant roadways are not to be used for pedestrian traffic.
42. No personal radios of any kind are allowed on site.
43. Willfully damaging or defacing Company or project property is prohibited.

44. Threatening or abusive language directed at fellow employees, supervisors or Owner representatives is grounds for disciplinary action including termination.
45. Posting notices is prohibited.
46. Any theft or vandalism shall be reported to the Owner's Security Department immediately.
47. Theft of any nature or form is cause for immediate dismissal and may result in prosecution.
48. All employees will remain in the work area in which the contract work is being carried out.
49. Any and all discrimination or harassment will not be tolerated. Prohibited harassment include, but are not limited to, unwelcome physical conduct that is sexual in nature, inappropriate remarks, jokes, or comments that are sexual in nature, racial in nature, or otherwise derogatory, pornographic materials of any kind, and displays or graffiti which could be perceived as harassing such as depictions of the Confederate battle flag, KKK paraphernalia, swastikas, and ropes tied in the configuration of nooses. All incidents must be reported immediately to the ALBERICI Project Manager.
50. Employee's vehicles, lunch boxes, and toolboxes may be inspected at any time.
51. Owner has the right to remove any Contractor or Subcontractor personnel from the site at its own discretion.
52. All employees shall report any suspicious activities in or around the Owner's facility.

III. SUBCONTRACTORS' RESPONSIBILITIES

A. General

1. Each subcontractor will be directly responsible for implementing and maintaining their own Safety and Health Program to prevent their employees from working in surroundings or under working conditions which are unsanitary, hazardous or dangerous to their safety or health. The subcontractor's safety plan must meet or exceed ALBERICI's Safety Plan and the subcontractor's safety plan must be reviewed and approved by ALBERICI's Safety Department, prior to coming onsite.

2. Each subcontractor will ensure that all lower tier subcontractors are notified of their safety and health responsibilities with regard to regulations in effect on this Project and that they comply with the requirements identified herein.

B. Safety Personnel and Site-Specific Safety and Health Program Requirements

1. Prior to commencement of work, each subcontractor will prepare their own Site-Specific Safety and Health Program and a copy will be submitted to the ALBERICI Project Manager or his designee for review and approval.

- This Safety and Health Program must include a Hazard Communication Program and the Safety Data Sheets for any chemicals/materials brought onto the Project site.
- A copy of all subcontractor safety documentation will be provided to ENGIE.

2. Subcontractors shall designate a competent person to act as their site safety representative. This person shall be responsible for the administration of the subcontractor's safety program and will have the authority to carry out the provisions of this Safety and Health Program and their own safety program. The name and qualifications must be submitted to the ALBERICI Project Manager prior to commencing with work. Dependent upon the size and duration of the contract, an individual whose sole responsibility is that of managing safety may be required.

3. Prior to the commencement of work, each subcontractor will meet with the Project Manager to discuss safety and health requirements and to develop an understanding of the measures required in order to perform each work phase in a safe manner. This does not negate the requirement to have PHD's for any specific work.

C. Specific Subcontractor Responsibilities

1. Participate in orientation and coordination meetings.
2. Address any safety issues.
3. Cooperate fully with ALBERICI and ENGIE Health Policies and Procedures.
4. The ALBERICI Project Manager will continually update and post an Emergency Action Plan (EAP) that will address changing site conditions, medical emergencies, fire evacuations, and severe weather.
5. The Mandatory Safety and Health Rules attached to this portion will be posted in a conspicuous location along with emergency phone numbers, required posters, and other important bulletins.
6. All federal, state, and applicable local laws and regulations will be adhered to. These include but are not limited to: The Occupational Safety and Health Regulations for the Construction Industry, applicable General Industry Laws and Regulations, and the safety and health policies and procedures outlined in this Safety and Health Program.
7. Daily Report including man hours and any safety related items.
8. Weekly report with the following statistics:

Activity	This Week	YTD 201#	JTD
Safety Meetings (All Hands)	0	0	0
Safety Observations	0	0	0
Documented Safety Discipline	0	0	0

Near Misses / Incidents	0	0	0
JSA / Risk Assessment	0	0	0
First Aid/Doctor Cases	0	0	0
OSHA Recordable	0	0	0
Restricted Work Cases	0	0	0
Days Away from Work	0	0	0
Lost Day Cases	0	0	0
Total Work Hours	0	0	0
Recordable Incident Rate		0.0	0.0
Lost Time Incident Rate		0.0	0.0

D. Safety Orientation and Training Program

1. General

- Each subcontractor will establish and administer an active safety and health training program that will comply with OSHA and/or any other federal, state, local regulations, and this site-specific safety program.
- Each subcontractor will be responsible for orienting their employees to the hazards particular to their type of work and the job site. (i.e., specifics of hoisting and rigging). Each subcontractor must complete ENGIE's subcontractor orientation.
- Each subcontractor shall also attend an ALBERICI Site Specific orientation for OSU.
- The orientation documentation will be maintained, and copies furnished to the ALBERICI Project Manager or his designee.
- It is the responsibility of the contractors to train their own employees in the New Hazard Communication Standards.

2. Safety Meetings

- Coordination Meetings will be used to review past activities and accident records; to plan for new or changed operations and to establish safe working procedures for anticipated hazards.
- A weekly Safety Tool Box Training Meeting shall be conducted by subcontractors for all their employees.
    - Training documentation shall be submitted each week to ALBERICI Project Management. The documentation will include: subcontractor's name, date, time, attendance, a detailed safety training talk and the person who conducted the meeting. The Subcontractor will maintain the report.

E. Safety and Health Inspections

- Each subcontractor will establish an effective jobsite inspection program to control and eliminate safety and health hazards. This program will include provisions for a daily work place inspection to be conducted by a competent person.
- All first-tier subcontractors will be required to submit a daily jobsite inspection report to the ALBERICI Project or Safety Manger.
- Subcontractors will send representatives to actively participate in the job wide site safety inspections and actively participate.

F. Fire Protection Plan

1. General

- Subcontractors will work with ALBERICI to maintain the overall project Fire Protection Plan consistent with the requirements under state and/or federal OSHA standards and the NFPA.
- Essential considerations for Fire Protection will include but not be limited to:
    a) Job site preparation.
    b) Housekeeping upkeep to keep means of egress free from the accumulation of stored materials and debris and to reduce the likelihood of fire.
    c) Properly stored flammable liquids and materials. The ALBERICI Construction and Safety Manager must approve the designated location for flammable liquids, compressed gas cylinders, and flammable materials. Storage areas will also be subject to change by ENGIE.
    d) Adequate jobsite fire protection including multipurpose fire extinguishers in every break structure, every man lift, and within 25’ of all hot work.
    e) Minimizing inherent construction fire hazards by containing all “fire” (i.e. cutting, grinding, or welding falling debris to the work area.
    f) Installation of permanent safeguards as construction progresses.
    g) Adequate indoctrination and training of employees regarding evacuation plan, escape routes, and emergency phone numbers for contacting OSU Security.

G. First Aid and Medical Facilities

All Contractors will provide first aid kits for their crews in accordance with OSHA Federal Register. Each contractor and/or subcontractor shall have any of their employees that require first aid, AED, or medical attention go through the ALBERICI project safety office. This process is mandatory to manage medical treatment(s) and to help track and trend future incidents from occurring.

1. It shall be the responsibility of each subcontractor to implement first aid procedures in accordance with the federal and state safety regulations.

2. By Federal Law, each ALBERICI Subcontractor is to have at least one person qualified and certified current, to provide first aid and CPR, on site, anytime their crews are working. The name(s) of those individuals with training and documentation of that training must be included and updated when conditions change, in their site Safety Plan.

H. Recordkeeping Requirements

1. In the event of a serious injury, fatality or catastrophe, it will be the responsibility of the subcontractor to notify the ALBERICI Project Manager immediately.
2. Subcontractors must notify other authorities such as, insurance carrier, federal, state and local agencies as required.
3. OSHA reporting requirements are to call the OSHA hotline number within 8 hours of a fatality or catastrophic event (as defined by OSHA). ALBERICI Project Management shall notify ENGIE immediately as well.

OSHA Emergency Notice:

If you have an EMERGENCY (EX: to report a fatality or imminent life threatening situation)

Please contact OSHAs toll free number immediately:

1-800-321-OSHA (6742)

TTY 1-877-889-5627

DO *NOT* SEND EMAIL.

4. In case of any occupational injury or illness, it is the responsibility of the subcontractor to complete a detailed first report of injury and an accident investigation report.

- If the injury requires any outside sourced treatment; that treatment must be documented, mandatory drug testing shall be completed, and a report of the treatment with a return to work statement included.
- One (1) copy of this report will be submitted to the Project Manager within 24 hours of the injury or illness. Any injury report that is not thorough and complete will not be accepted.
- Each subcontractor will maintain other safety and accident records and reports on the project site or as required by the OSHA regulations.

5. All contractors and subcontractors must immediately notify ALBERICI Project Management of all Near Misses, property damage, and complete a root cause analysis. ALBERICI Project Manager will forward a report to ENGIE Project and Safety Managers within 24 hours.

6. ALBERICI will maintain their Log of Occupational Injuries and Illnesses (OSHA 300) and post the Job Safety and Health Protection workplace poster (OSHA 300 or state equivalent) and any other safety and health posters required by the State, such as the "Right to Know" poster in the ALBERICI jobsite trailer or poster board.

7. ALBERICI will maintain all Safety Data Sheets (SDS), in the ALBERICI jobsite trailer, including copies of SDS required by our subcontractors at any tier. These will be paper and electronic copies accessible.

    - Subcontractors shall submit copies to ALBERICI as well as maintain their own SDS files onsite.
    - Copies of SDS will be sent to ENGIE prior to the items use onsite.

8. ALBERICI will maintain in the project trailer all verification of direct-hire and subcontractor employees required training and certifications specific to the scope of work required. I.e. CCO, aerial lift, fork lift, rigging, signaling etc.

9. Subcontractors will be required to provide proof of training for their employees prior to starting work.

10. Subcontractors are responsible to maintain all:

    - Accident and incident reports.
    - Provide copies of drug screen for any offsite medical attention or property damage.
    - Documentation of inspections, documentation of training, documentation of Tool Box Talks (Safe Talks) and all other documentation required by the Jobsite Safety Plan.
    - All reports must be auditable and available upon their request.

11. ALBERICI will submit a weekly Project Health and Safety Statistics to the ENGIE CRIS system per project requirements.

12. ALBERICI will notify ENGIE immediately, and in writing of any OSHA recordable injuries/illnesses, first aids/doctor visits, near misses, fires, spills, etc.

13. ALBERICI will maintain the following log and be included in reporting:

Activity	This Week	YTD 201#	JTD
Safety Meetings (All Hands)	0	0	0
Safety Observations	0	0	0
Documented Safety Discipline	0	0	0
Near Misses / Incidents	0	0	0
JSA / Risk Assessment	0	0	0
First Aid Cases	0	0	0
OSHA Recordable	0	0	0
Restricted Work Cases	0	0	0
Days Away from Work	0	0	0
Lost Day Cases	0	0	0
Total Work Hours	0	0	0
Recordable Incident Rate		0.0	0.0
Lost Time Incident Rate		0.0	0.0

I. Environmental Protection

1. All employees will become familiar with and comply with the specific methods for controlling environmental problems, preventing pollution, and preventing health hazards associated with a hazardous environment.

    - All ALBERICI employees will be trained as part of orientation in understand SDS.
    - Copies of all SDS of ALBERICI and Subcontractor materials will be maintained in the ALBERICI Office trailer as they arrive.
    - Copies of SDS will be sent to ENGIE prior to the use of the item onsite.

2. All hazardous substances will be handled, used, stored, and disposed of in accordance with the manufacturer's instructions and with federal, state and local regulations and standards.
3. Disposal of all waste generated by ALBERICI in the scope of work will be coordinated with ENGIE to track and properly transport waste in compliance with Federal regulations and Wisconsin Department of Natural Resources requirements.
4. All construction activities involving disturbing asbestos containing materials, lead coatings or material, or other hazardous materials must be completed in strict accordance with Occupational Health and Safety Regulations, and the Environmental Protection Agency (EPA) guidelines.

    - Lead identification and abatement at tie in locations will be done by ALBERICI.
    - ALBERICI will identify to ENGIE personnel, locations in their scope of work where potential tie-ins are necessary to determine whether Asbestos containing materials are present.
    - If asbestos materials are present, the owner will abate before anyone proceeds.

5. Immediate notification of major incidents shall be made to ENGIE as soon as possible.
6. Major incidents include fatalities, injury and near miss incidents having the potential to cause a serious injury, property damage, fatality, fires, explosions and environmental incidents such as spills of hazardous materials or release of toxic, dust, fibers, etc. to the atmosphere.

IV. Safety and Health Procedures

This section contains specific safety and health procedures for various subjects. From time to time, these procedures may be revised, updated and/or supplemented as the conditions on the Project change or as required regulations dictate. Compliance with these procedures is essential to ensure the safety of all persons working at OSU and in order to protect the equipment, materials, and the facilities on the Project from damage. Any questions should be directed to the Project Management Team.

These safety procedures do not take the place of mandatory OSHA or federal, state and local safety and health standards, but rather supplement them. In case of conflict, the more stringent standard shall apply.

i. Health and Sanitation

1. Water
    a) ALBERICI will provide an adequate supply of potable water for all employees.
    b) Portable containers will be kept tightly closed (seal and date) and maintained in a sanitary condition.
    c) Any container used for drinking water will be clearly marked and will not be used for any other purpose.
    d) Common drinking cups are prohibited. Paper cups shall be supplied and disposed of in waste receptacles.

2. Toilets
    a) Adequate toilet facilities will be provided and maintained by ALBERICI and the sewage disposed of in accordance with the appropriate sanitary requirements under good public health practices and standards.

ii. Housekeeping and Clean-Up

1. Overall Responsibility

    a) ALBERICI and its subcontractors, at the crew level, will keep work and storage areas free from debris and/or rubbish.
    b) Combustible scrap and debris will be removed from the work areas disposed of in a safe manner.
    c) Form and scrap lumber, building debris and other waste will be kept clear from work areas, access ways, scaffolding, work platforms, and in and around buildings and other structures.
    d) This effort will take place continually through the shift by all crews.

2. ALBERICI will provide metal, wood, and plastic containers for recyclables as well as trash disposal containers. Subcontractors and ALBERICI employees will separate their recyclables.
3. Covered containers will be provided for food scraps and lunch remains.
4. ALBERICI laborers will sweep and maintain the concrete slabs and pathways.

    a) Extension cords will be hung overhead, on cord trees, or underneath covers. No cords will be strung out on the ground.

b) All management personnel will maintain a constant check on housekeeping conditions. Excessive debris, materials, and housekeeping hazards will be cleaned up immediately.
c) Nails or other protruding metal in boards, form lumber or timbers will be, removed, hammered down or bent over.
d) Final Clean-Up: Upon completion of work, each subcontractor will remove all temporary buildings, construction equipment and tools, and surplus materials that are their property.
e) Other items will include:
    - Clean-up and disposal of all rubbish and debris resulting from work.
    - Removal of all surplus material, equipment and tools that are not in the Owner's designated storage locations.

iii. Material Handling and Storage

1. All materials and equipment shall be stored in a safe manner.
2. Materials stored in tiers will be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.
3. All materials and tools will be passed, not dropped, from one level to the next or transported by use of the proper rigging, rope, or chute.
4. Loose and/or all light materials stored on roofs, in open areas or where there is the potential for damage or falling on workers will be properly secured.
5. Compressed gas cylinders will be secured in an upright position and capped when not in use. It shall be prohibited to lay cylinders on their sides. Storage of compressed gas cylinders must be in accordance with local, state and federal regulations.
6. Rigging equipment will be inspected prior to use.
7. Rigging equipment not in use will be properly stored to avoid damage and deterioration.

iv. Personal Protective Equipment

1. **Head Protection**: All construction areas will be considered "hard hat" areas at all times during the project.

    - All Employees and visitors will be required to wear hard hats (with the brim forward) at all times except when inside break trailers.
    - Hard hats shall be high visibility color and only company issued project stickers on them.
    - All welding hoods and face shields shall be of the type that fit on/over hard hats.

2. **Lifelines, Full Body Harnesses and Lany**ards: Employees working 4 feet above the ground or floor, on steep slopes or otherwise subjected to falls from heights not protected by, guardrails or safety nets will be secured by a fall arrest system (full body harness, lanyard, retractable lifeline, etc.).

    - Alberici Constructors will adopt the 4 feet trigger height rule for fall protection within the established OGS boundary. This is an opportunity to implement a more stringent and better practice rule. The 6 feet rule will apply outside of the boundary.
    - Fall protection will be required 100% of the time for all employees working at elevated work locations that are four (4) feet above ground or floor level within the established boundary and six (6) feet outside of the boundary.
    - The 4 feet rule for all protection should be planned of scheduled work above floor or ground level within the boundary.
    - Violation of the 4 feet rule shall constitute a warning only and will not be an automatic termination as would be the case when the 6 feet rule (RTLB) is violated.

3. **Eye Protection**: Approved foam lines safety glasses or foam lined prescription glasses with permanent side shields will always be worn in the construction work area and behind face shields, welding hoods, etc.

    - Other forms of eye protection such as, goggles face shields, welding hoods, etc. will be worn as necessary.

    a) The following activities will be closely monitored for the required eye protection:
        - Chipping concrete, stone or metal.
        - Drilling or working under dusty conditions.
        - Handling or working with hazardous liquids (such as chlorine), powders or substances (such as glass).
        - Sand or water blasting.
        - Using abrasive wheels, portable grinders or files.
        - Using power actuated fastening or nailing tools.
        - Waterproofing.
        - Welding, burning or cutting with torches.
        - Working near any of the operations listed above.
        - Working with any materials subject to scaling, flaking or chipping.
        - Working with compressed air or other gases.

4. **Hearing Protection**: Appropriate earplugs or earmuffs will be provided and worn by employees and visitors when exposed to noise greater than 85 decibels. When welding overhead, ears must be protected from inadvertent sparks or slag from entering the ear canal.

5. **Gloves**: ALBERICI will provide gloves to its employees.
    - Subcontractors are required to provide appropriate gloves to their employees. At all times, gloves will be kept with each worker and must be worn.
    - Gloves must be specific for the task and should not be used when operating devices with rotating shafts.
6. **Respirators**: Approved respirators shall be used when excessive dust, mist, fumes, gases or other atmospheric impurities are harmful to health. All contractors are responsible for following the OSHA Respiratory Standard.

7. **Shirts**: Shorts and sleeveless shirts are prohibited. Long sleeves may be necessary when performing certain activities, but in no circumstances will sleeve length be less than 4 inches from seam.

8. Reflective vests, shirts or jackets meeting current ANSI Class II requirements must be worn except when performing hot work.

9. **Shoes**: Proper footwear, good sturdy leather work boots with hard soles and steel or composite toes must be worn on this project.
    - When ice is present on walkways, slip on over boot spikes should be used on common walkways from vehicles to the work area and around the project site. Once on the elevated work and steel these spikes should be removed.

10. **Safety data sheets (SDS)**: SDS shall be referenced to identify the proper personal protective equipment as needed.

v. Equipment and Vehicles

1. Prior to use at OSU all cranes and hoisting equipment will be inspected by a competent person to meet the manufacturers, state and federal safety standards.
    - This inspection will be documented, and a copy will be given to the ALBERICI Project Manager.
    - All cranes will have to be operated by a documented Certified Crane Operator (CCO) by the National Commission for the Certified Crane Operators.

2. A thorough, annual inspection of the hoisting machinery shall be made by a third-party qualified person. A record of the dates and results of all inspections for each hoisting machine (including personnel and material hoists) will be maintained and a copy will be provided to the ALBERICI Project Manager.
3. No ALBERICI employees or subcontractors will operate ENGIE equipment or vehicles.
4. No ALBERICI employees or subcontractors will hoist, move, or use ENGIE property, material, or equipment without the written permission of ENGIE Project Manager and ALBERICI Project Manager.

5. All self-propelled construction equipment, except for light service trucks, panels, pickup, station wagons, crawler-type cranes, power shovels and draglines will be equipped with an automatic back-up alarm.
6. Seat belts will be installed in all motor vehicles equipped with roll over protective structures.
    - The operators must wear the seat belts while operating or in the seat of the equipment.
    - In vehicles equipped with passenger seats, seatbelts shall be worn by those passengers.

7. All vehicles and equipment brought onto the jobsite will be clearly identified with Contractor's logo or name and have current testing and be certified to be in safe operating condition. Any vehicle or equipment deemed unsafe will be immediately removed from the work and not allowed back on site until all corrections are made and the vehicle has been re-inspected.

8. Vehicles brought on site will be parked in designated parking areas. All vehicles will be backed into parking slot and, when available, spotters will be utilized.

9. Roll-over protective structures (ROPS) will be installed on crawler and rubber-tired dozers, scrapers, bottom dump and end dump trucks, motor compactors, bobcats, front end loaders and water trucks with the tank lower than the cab. ROPS will be installed on all the above types of equipment or under certain conditions as listed in the Occupational Safety and Health Standards for the Construction Industry.

10. Aerial work platforms shall be inspected, repaired, and kept in proper working condition in accordance with manufacturer and owner's operating or maintenance and repair manuals.

11. Aerial Platforms/Man lifts: Operators will always be tied off by means of a lanyard or personal type retractable lanyard (retractable hanging from back of employee not basket) so as not to allow the operators to be ejected from the basket.

12. Employees must be trained and deemed competent by a third-party company after an initial operational exam in an aerial work platform or present a training certification card attesting to the employee having the minimum qualifications needed to operate the lift. The ALBERICI Project Management staff or ENGIE representative can request to see this documentation at any time.

13. All equipment that will be operated on site will be required to be inspected prior to each shift. Any deficiencies found in the equipment will render the equipment unusable until the deficiencies have been repaired. The inspection must be documented.

14. Fork trucks will be operated only by trained operators.

vi. Hand Tools

1. Hand and power tool inspection should be included in the weekly project site inspections and Safe Talks, as well as in daily walk-through observations of the work area. Tool use should be included in the appropriate PHD.

2. Hand tools are non-powered. They include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse or improper maintenance. Some examples:
    - Using a screwdriver as a pry bar may cause the screwdriver to break and fly, hitting the user or other employees.
    - If a wooden handle on a tool such as a hammer or an axe is loose, splintered or cracked, the head of the tool may fly off and strike the user or another worker.

3. A wrench must not be used if its jaws are sprung because it might slip.

4. Impact tools such as chisels, wedges or drift pins are unsafe if they have mushroomed heads. The heads might shatter on impact, sending sharp fragments flying.

5. Employees and the employer are responsible for the safe condition of tools and equipment. Employees are required to notify project management when tools are defective or require replacement.

6. Appropriate personal protective equipment—safety glasses or goggles, face shields, gloves and so forth—shall be worn because of hazards that may be encountered while using hand tools. Each task and tool must be evaluated, and the appropriate PPE reflected in the PHD.

7. Around flammable substances, sparks produced by iron and steel hand tools can be a dangerous ignition source. Where this hazard exists, spark-resistant tools made from brass, plastic, aluminum or wood shall be used.

vii. Power Tools

1. There are several types of power tools, including electric, pneumatic, liquid-fuel, hydraulic and powder-actuated. Power tools may have a cord, hose, or be battery operated. Power tools can be hazardous when improperly used.

2. Employees shall be trained in the use of all tools—not just power tools. They shall understand the potential hazards as well as the safety precautions to prevent those hazards from occurring. Power tool users shall observe the following general precautions:
    - Power tools should be sent to the project site with manufacturer's instructions. If the instructions/operating manual is missing, contact the warehouse for a replacement m a n u a l .

3. If a guard or handle comes with the tool, it must be used with the guard or handle.
4. Never yank the cord or the hose to disconnect it from the receptacle.

5. Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits, wheels and cutters.
6. Secure work with clamps or a vise, freeing both hands to operate the tool.
7. Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the user's manual for lubricating and changing accessories.
8. All portable electric tools that are damaged shall be removed from use, tagged "Do Not Use" and returned to the warehouse for repair.
9. Brace or secure the tool to prevent it from binding up and/or kicking back.
10. Use of a GFCI is required
11. Whip checks to be used on all compressed air hose connections.
12. No power tools with lockable triggers allowed on the Site.

viii. Welding and Cutting

1. Welding or cutting shall not be done in hazardous areas.
    - Stored cylinders, flammable fuel or combustible materials will be either moved to be more than 35' away or covered, shielded or guarded from sparks, slags and open flame.

2. Gas cylinders will be properly protected and used in a safe manner. Mandatory procedures will include, but not be limited to the following:
3. Oxygen and fuel gas cylinders will be segregated in storage by a 5-foot, 2-hour firewall or twenty feet of distance.
4. A suitable cylinder truck, chain or other secure fastening will be used to keep cylinders from being knocked over while in use. Securing the bottles to each other will not meet this requirement.
5. Gas cylinders either full or empty shall be secured in an upright position.
    - When not in use, the valves will be closed, and the valve protection cap will be in place. This requirement also includes storage within the cages on site.
    - Oxygen cylinders, valves, couplings, regulators, hose apparatus will be kept free of and away from oil, grease or other flammable liquids.
    - Petroleum products in the presence of oxygen under pressure may ignite violently.

6. Cylinders will be protected from sources of heat, open flame or sparks.
7. Storage areas for flammable gas cylinders will be posted with "NO SMOKING" signs.
8. Suitable fire extinguisher equipment will be immediately available.

9. The extinguishers will be required to be dry chemical ABC extinguishers.
10. Flashback arresters shall be used for oxygen/ fuel gas welding and cutting operations. These devices will be used and maintained in accordance with the manufacturer's instructions.
11. All torches will be removed from enclosed spaces and gas turned off at the regulator during breaks and at the end of shift.
12. All welding, cutting and burning operations will have a fire extinguisher **within 25 feet of work.**
13. All persons performing hot work will arrange fire blankets or use shielding or deflection to prevent fire from falling below the level of their feet (or the base of a ladder / base of equipment they are working from)

ix. Fall Protection (RTLB*)

1. Fall protection will be required 100% of the time for all employees working at elevated work locations that are six (6) feet above a floor or ground.

    - It also applies to certain hazardous conditions involving less than six- foot fall hazards when the employee is exposed to moving equipment, working over equipment, or other objects posing a safety hazard.

    - No employee or work operation is exempt from the 100 % fall protection requirement.

2. When physical means cannot be provided, such as engineering and design controls to eliminate the employee hazards, then the use of personal fall protection equipment must be implemented. Full body harnesses with double shock absorbing lanyards, or in certain cases, retractable lanyards with double locking snap hooks will be worn for fall arrest.

3. All engineering and design controls such as guard railing, hand railing, nets, and covers, must meet OSHA regulations and be installed under the direction of a competent person.

4. All existing man-hole covers and hatches on the project site must be inspected by a competent person and determined to be capable of withstanding two times the maximum intended load. There may be instances where the covers/hatches must be replaced, repaired or properly barricaded to meet the OSHA Standards.

5. Any location where there are openings in walking/working surfaces or where grating must be cut out of an existing walking/working surface must utilize “ENGIE Floor Opening Permit.” Openings must be identified, and work crews alerted to new or existing opening prior to work in the area.

6. All equipment used as part of a personal fall protection system is required to be inspected by the user before each use and marked to show the equipment is only to be used as fall protection practices. Any equipment that has ever been used in materials hoisting cannot be used as part of a personal fall protection system.

x. Electrical (RTLB*)

1. All temporary and permanent electrical work, installation, testing and maintenance and all electrical equipment and appliances will conform to the requirements of the National Electrical Safety Code, OSHA and other industry, federal and local codes and standards.

2. Only qualified electricians with full knowledge of the code requirements will be allowed to perform electrical work.

3. All temporary and permanent electrical installation and facilities will be subject to inspection and approval by a qualified person.

4. Subcontractor employees shall not be permitted to be in proximity to any part of an electric circuit that they may contact unless the employee is protected against electric shock by de-energizing the circuit and locking and tagging it, or unless the employee working on an energized circuit is guarded by insulation, insulated tools, or insulating matting or blankets sufficient to protect against the voltage involved. When working on live circuits, the contractor/subcontractor need to evaluate the arc flash hazard exposure and take appropriate steps to protect the worker(s). [SH-Alliant]

5. ALBERICI and subcontractors shall ensure that all live parts of electrical equipment operating at 50 volts or more are properly guarded against accidental contact.

6. Extension cords used with portable electrical tools and appliances will be approved three-wire type cord. Cords with the ground prongs removed or rendered inoperative will be removed from service.

7. All contractors and subcontractors shall provide and use ground-fault circuit interrupters on all 110/120V electric circuits.

8. Extension cords shall not be permitted in standing water or snow.

9. Extension cords must be routed to avoid pedestrian and equipment traffic or treed at a height of 7'or greater if routing is not possible.

10. A temporary light shall be equipped with a guard to prevent accidental contact with the bulb.

11. All electrical tools and cords shall be inspected for defect before each use. A monthly cord and tool evaluation will be performed, and each piece of equipment marked according to the color for the month. This is the responsibility of everyone onsite.

12. Damaged cords (e.g. cut cords, exposed wiring, electrical/duct tape cords, missing prongs on plugs) shall be removed from service immediately tagged or otherwise rendered inoperable.

13. Prior to cutting into an electrical line, workers will be required to perform "Live Dead Live" checks to make certain the line they are cutting into is not energized. Workers will make sure their detectors are working by testing it on a live line. They will then test the line to be cut to confirm it is dead. Then another test of the device on a live line to ensure the detector is properly working will be performed.

xi. Ladders and Scaffolds

1. Training

ALBERICI will ensure that their employees and subcontractors are trained (by a competent person) for all these specific items.

a) The nature of fall hazards in the work area;
b) The correct procedures for erecting, maintaining, and disassembling
c) the ladders and scaffolds to be used;
d) The proper construction, use, placement, and care in handling of all ladders and scaffolding;
e) The maximum intended load-carrying capacities of ladder and scaffolds used.
f) In addition, retraining shall be provided for each worker as necessary.

2. General Ladder Safety Training

a) Ladders should be maintained free of oil, grease, and other slipping hazards.
b) Ladders shall not be loaded beyond the maximum rated load.
c) Ladders shall be used only for the purpose for which they are designed.
d) Non-self-supporting ladders should be pitched 1 foot out from the support structure for every 4 feet of ladder height.
e) Fixed ladders should be attached at 90 degrees perpendicular to the floor or surface.
f) Ladders should not be used on slippery surfaces unless secured from movement.
g) All ladders shall be secured to prevent accidental movement, whether by tying off or another worker holding.
h) A barricade shall be used, if needed, to keep traffic activities away from the ladder.
i) The area around the top and bottom of the ladders should be kept clear. Maintain 3 feet of clearance.
j) Ladders should not be moved, shifted, or extended while in use.
k) Ladders should have nonconductive side rails where exposed to energized electrical sources.
l) The top or top step of a stepladder is not a step or a seat and shall not be used as such.
m) Cross bracing on the rear section of stepladders should not be used for climbing.
n) Ladders should be inspected by a competent person for visible defects on a periodic basis and after any incident that could affect its safe use.
o) Single rail ladders should not be used.
p) When ascending or descending a ladder, the worker should face the ladder.
q) Each worker should always have at least one hand in contact with the ladder when moving up or down the ladder (3-point contact)
r) Ladders should not be placed in front of doors that open toward the ladder unless the door is safely locked or otherwise guarded.
s) Stepladders shall be used in the fully opened position.
t) Aluminum ladders are prohibited on the project due to their ability to conduct electricity.
u) Ladders with broken or missing rungs, broken or split side rails or other faulty or defective construction will not be used. Defective ladders must be tagged and taken out of service.
v) Workers working more than 6’ above the surface below on ladders, need to used fall restraint or protection.
w) Work taking place next to the edge of a building or elevated platform creates a situation where the worker may elevate themselves with ladders above existing fall protection barricades. Therefore, although the surface the ladder is on may be less than 6 ft. below them, the fall hazard over the barricade is more than 6 ft. and the worker use fall restraint or additional protection such as an additional top rail.

xii. General Scaffold Safety

a) Scaffolds will be designed by a competent person and will be constructed and loaded in accordance with that design.
b) Scaffolds will be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection.
c) ALBERICI and its Subcontractor shall submit the name(s) and copies of the certification of the competent person for scaffolds to the ALBERICI Safety Office.
d) All scaffolds on site will be required to be inspected by a competent person prior to use each day/shift.
e) Danger Tags (Red)-Shall be applied to all scaffolds being erected, dismantled or altered. Access to these scaffolds is limited to the erectors and dismantlers only, and fall protection is mandatory for fall hazards greater than 6'.
f) Caution Tags (Yellow)-Shall be applied to all scaffolds which are incomplete in some regard, i.e. missing guardrails on one or both ends or may have a hole in the platform where piping will be placed. Employees will be directed on the tag that fall protection is required because of the scaffold's being incomplete.
g) Passed Inspection (Green)-Shall be applied when the scaffold has been inspected and has been found to be fully planked or decked, proper top rail, mid-rail, proper access ladder and scaffolding above 4' height contains toe boards.
h) Scaffolds shall be inspected by a competent person daily. The inspection shall be documented.

xiii. Steel Erection

This project will follow the Federal OSHA Subpart R Steel Erection Standard.

1. Hoisting and Rigging

a) A daily pre-shift inspection of cranes shall be conducted by an onsite competent person.
b) The onsite competent person shall complete documented daily inspections.
c) The Operator is responsible for those operations under the Operator's control.
d) Only certified Operators by the National Commission for the Certified Crane Operators shall operate cranes.
e) Operators shall be directed by one signalman or one radioman.
f) The Operator will have the final say on whether a load is safe to pick or not. At no time will an Operator be overruled on determination of a load being unsafe.
g) A qualified rigger shall inspect the rigging prior to each shift, and periodically during use. Only qualified riggers are permitted to rig loads or must oversee the rigging of all loads. These qualified riggers training shall be documented. Softeners should be used to protect from sharp edges.

h) Qualified signal persons are the only workers permitted to signal the crane operators while hoisting materials.

2. Working "Under" Loads

For the times when the design and sequence of assembling the units prevents selected erection crews and equipment setters from incidental exposure to hoisted loads; a specific hoisting and rigging plan will be used and safety precautions incorporated into a PHD.

a) Routes shall be preplanned to assure no employee is required to work under a suspended load except:
   - Connectors
   - Employees responsible for hooking/unhooking the load

b) The ground area under overhead work shall be barricaded to ensure no unauthorized entry into work area.

c) If the design of a structure absolutely prevents an employee in the erection crew from not working under a load:
   - Materials shall be rigged to prevent unintentional displacement.
   - Hooks shall have self-closing latches.

d) Multiple Lift Rigging, "Christmas Treeing", is an acceptable procedure once submitted and approved by ENGIE and ALBERICI. The following minimum requirements will be incorporated into the procedure.

   1. Can hoist a maximum of 5 members on one crane hook.
   2. Only structural members to be hoisted.
   3. A multiple lift rigging assembly shall be used.
   4. Each independent choker shall have its own hook and latch and be connected to the collector ring.
   5. There shall be a minimum of seven feet between each member.
   6. A tagline shall be utilized on members being hoisted.
   7. All rigging components shall be designed with a five to one safety factor.
   8. The total load shall not exceed the rated capacity of the hoisting and or rigging equipment.
   9. The rigging assembly shall be rigged with the members attached at their center of gravity and maintained reasonably level; rigged from top down; and rigged at least 7 feet apart.

3. Structural Steel Assembly

a) Structural stability shall always be maintained.
b) There may be no more than 8 permanent floors between the erection floor and upper-most permanent floor.
c) No more than 4 floors or 48 feet of unfinished bolting above the uppermost-unfinished floor.
d) A fully planked or decked floor within 2 floors or 30 feet.
e) The installation of decking shall be out in front of installers.
f) Decking shall not be hoisted by its banding.
g) Decking shall be landed on supports to allow for un-banding.
h) All decking and other materials shall be secured at the end of each shift.
i) All roof and floor openings shall be covered, or hand railed. The cover shall be properly secured and identified with the proper sign during the decking process.
j) Holes and openings shall not be cut in decking until absolutely necessary, and then shall be covered or protected immediately.
k) Spaces around columns shall be protected
l) Floor decking shall be laid tightly and secured.
m) No one shall be allowed on partially decked or unsecured decking except for those individuals responsible for the installation of the decking. Perimeter of fully decked floors shall be protected by a cable handrail system.
n) All contractors will be required to use the Floor/Handrail/Grating Removal Permit when the practice of removing a piece of flooring, handrail, grating or otherwise altering an area of a structure that has been deemed safe for access. The permit will be filled out prior to the work starting and must be posted in the barricade area of work.

4. Beams and Columns

a) During the final placing of solid web structural members, the load shall not be released from the hoisting line until the member is secured with two (2) bolts per connection and wrench tight.
b) Diagonal bracing shall be secured by two (2) bolts per connection and wrenched tight.
c) Double connections at columns and/or at beam webs over a column shall have two (2) bolts and shall remain connected to the first member.
d) Each column splice will be designed to resist a 300lb. Load applied eccentrically from the column face at the top of the column in each direction.
e) Perimeter safety cables shall be installed after each floor is completely decked.
f) Perimeter safety cables shall consist of two ½-inch diameter wire rope cables at 42-45 inches above the finished floor and at the midpoint.
g) Perimeter safety cable where joined together shall be looped and a minimum of three (3) Crosby Clamps utilized.

h) Turnbuckles will be used to ensure that no more than a 2-inch deflection will occur in perimeter safety cables.
i) Orange Snow Fence shall be secured along the perimeter to provide warning.

5. Open Web Steel Joist

a) Steel joists that span 60 feet or less, shall be strong enough to hold one person to release the hoisting line.
b) When steel joist are landed on the structure, they shall be secured to prevent unintentional displacement prior to installation.
c) Steel joists will not be used for an anchorage point for a fall arrest system unless written approval is obtained from the structural engineer.
d) One end of steel joist shall be attached to the support structure before an employee is allowed on the steel joist.
e) Any loads placed on steel joist shall not exceed load capacity.
f) No construction loads shall be allowed on steel joist until after the bridging is installed and anchored and all joist bearing ends are attached.

6. Falling Object Protection

a) All materials aloft which are not in use must be secured from accidental displacement.
b) ALBERICI crews or Subcontractors shall ensure that no other construction processes take place below steel erection unless adequate overhead protection for the employees working below is provided.
c) Perimeter barricade tape protection and notification with "Overhead work" signs shall be placed around the perimeter ground area below overhead steel erection work. Perimeter shall be outside of where falling objects would land.
d) Do not allow employees to think an area is safe because tools are tethered. Keeping non-crew members out of the controlled access zone is critical as dropped bolts and nuts from heights are as dangerous as items that can be tethered such as hand tool.
e) Workers part of overhead steel erection work will be required to secure personal hand tools able to be tethered to reduce chances of falling objects. Large tools such as Torque Guns should not be tethered to the employee as the danger of the falling tool pulling the worker off balance and causing the employees fall is greater than the tool falling into the controlled access overhead work zone

7. Fall Protection: RTLB*

a) The use of Fall Arrest Systems in association with the steel erection portion of this project shall follow the ALBERICI policy of **100% Fall Protection.**
b) Fall protection systems on an ALBERICI project shall include:
    1. Perimeter safety cable
    2. Guardrail systems
    3. Retractable cables
    4. Beam clamps

5. Personal fall arrest systems.

c) No one will not be exempt from the 100% fall protection requirement on this project.
d) A controlled decking zone (CDZ) where metal deck is initially being installed and forms the leading edge of the work area shall be established and maintained.
e) Each employee working at leading edges in a CDZ shall be protected from fall hazards, by being tied off to an acceptable anchorage.
f) Access to the CDZ will be limited to those engaged in leading edge work.
g) CDZ boundaries must be designated and clearly marked.
h) During initial placement, deck panels must be on structural supports.
i) There shall be no more than 3000 sq. ft. of unsecured decking.
j) Covers for roof and floor openings must support twice the intended load.
k) All covers must be secured.
l) All covers will be marked with high visibility paint and the word
m) "Hole" or "Cover", or attacked signs stating such.
n) Purlins and girts shall not be used as anchorage points for fall arrest systems unless approved by the structural engineer.

8. **Training**

a) Fall hazard training will be provided, by the onsite competent person, for ALBERICI employees. Subcontractors must provide training as required and provide documentation for all training completed.

b) Hazard recognition training shall include the following:
   1. Use and operation of fall protection systems.
   2. Correct procedures for installation.
   3. Use and maintenance of fall protection systems.
   4. Correct procedures to prevent falls.

c) Training shall be provided for multiple lift procedures.
d) Structural steel Connector training shall include:
   1. The nature of the hazard
   2. Access
   3. Proper connecting techniques
   4. Work practices required.

e) Controlled Decking training shall include:
   1. The nature of the hazards
   2. Access
   3. Proper installation techniques
   4. Work practices required.

f) All employees shall be required to attend daily Safe Card meetings.
g) Each employee working in a CDZ (controlled decking zone) shall be trained on

the nature of the hazards present.

xiv. Trenching and Excavating (RTLB*)

1. Prior to making an excavation, the subcontractor will obtain approval from the ALBERICI Project Manager or designated representative. Each subcontractor must have a competent person on site to evaluate each trench or excavation and determine the necessary precautions to take. The competent person's name and qualifications must be submitted to the ALBERICI Project Manager.

2. Each Subcontractor having requirements to work in a trench or excavation shall have their Project Manager, Superintendent, and General Foreman complete a training program for trenching and excavation.

3. All trenches and excavations 20 feet or greater in depth will have shoring, support systems or other protective systems, designed and approved by a registered professional engineer.

4. When persons are required to work in trenches or excavated areas over 4 feet deep, the sides shall be sloped or shored to comply with applicable standards to prevent cave-ins. Trench boxes, hydraulic shoring or other suitable means may be used to protect against cave-ins.

5. Daily inspections of excavations, the adjacent areas, and protective systems shall be made by a competent person for evidence of a situation that could result in cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions prior to each shift. The ALBERICI Project Management shall be notified if a hazardous atmosphere or condition is encountered. Inspection must be done a Competent Person
6. In excavations and trenches in which any person is required to enter, excavated or other materials will be effectively stored or retained at least two (2) feet from edge of excavation.

7. Additional precautions such as additional sloping, shoring and/or bracing will be taken to prevent slides or cave-ins when excavations or trenches are made in locations adjacent to back filled excavations, or where excavations are subjected to vibrations from traffic, the operations or machinery, or any other source.

8. Adequate barricades, signage, and lighting will be provided as required to protect all employees and the public in the vicinity of trenching and excavation operations.

9. Prior to opening an excavation or trench, the Project Director or designated representative, Owners representative and the utility companies will be notified of the proposed work.

10. If utility or underground lines not previously identified are encountered, the

subcontractor will cease work immediately and consult with the ALBERICI Project Manager or designated representative before proceeding with the work.

11. The subcontractor will be responsible for safeguards necessary to ensure the stability of adjacent structures and to ensure for the safety of all employees working in the area.

12. When employees are required to work in trenches over four (4) feet deep, adequate means of exit, such as a ladder, steps, or ramp will be provided and located so as to require no more than twenty-five (25) feet of lateral travel. Ladders will extend at least thirty-six (36) above the edge of the trench.

13. All trenching and excavating will be in accordance with local, state and Federal Occupational Safety and Health Standards.

14. Any digging or planned excavation requires a permit before the activity begins. Hydro Excavating may be required to locate known utilities. Permits may be requested from the Construction Supervisor.

xv. Fire Prevention

1. Smoking will only be allowed in designated smoking areas.

2. In each field office and temporary structure, ALBERICI will provide and maintain fire-fighting equipment as required by Federal Regulations and in accordance with National Fire Codes issued by NFPA.

3. All fire extinguishers will be inspected monthly and documented on the fire extinguishers tag. Fire extinguishers shall be inspected/tested annually by a third party certified to perform such activities.

4. Trash receptacles shall be emptied regularly. Flammable and combustible materials shall be disposed of properly (at minimum in metal containers with sealing lids) and emptied daily.

xvi. Welding and Burning

The following is the procedure for the protection of employees and equipment from injury and damage from fire that could occur from welding and burning operations.

1. A general new construction site wide hot work permit will be kept up to date between ALBERICI and ENGIE detailing the building hot work zone, all fire extinguisher locations, and contact person for ALBERICI, and evacuation procedures.
2. Subcontractors will request area hot work permits to ALBERICI. ALBERICI will add its subcontractors to the master new construction hot work permit.
3. Work inside the plant will require individual and daily hot work permits.
4. Inspect the area for fire hazards before starting work.

5. ALBERICI and its subcontractors are required to provide fire-fighting equipment for standby during welding and burning operations as needed. Permanent firefighting equipment furnished by ENGIE is for emergencies only and does not alleviate ALBERICI's or its subcontractor's responsibility for providing standby firefighting equipment.
6. Each worker is responsible to protect buildings, equipment, electrical cables and personnel from falling sparks or molten metal. This can be accomplished by;
7. Moving the equipment
8. Protecting the equipment with fire resistant blanket and having a fire watch present.

9. Questions or assistance in complying with procedures can be directed to the ALBERICI Project Manager and Safety Manager.

xvii. Permit Required Confined Space Entry - General Requirements

1. Before work begins in a manhole, vault, tank, or other confined spaces, ALBERICI and subcontractors shall submit a written confined space entry procedure to the ALBERICI Project Manager. The confined space procedure shall comply with 29 CFR 1910.146 and any other pertinent requirements shall be followed. The procedure shall include, but is not limited to:

    - Testing the air for adequate oxygen content and to ensure safe level of any hazardous fumes, gases or vapors.
    - Employee confined space training must be conducted and documented.
    - Use of the attendant system with a qualified person staying outside of the confined space.
    - Ventilation and/or cleaning methods where hazardous conditions are found.
    - Emergency rescue plan.

2. Equipment or circuits that are de-energized will be removed and rendered inoperative and will have signed tags attached and locked out at all points where such equipment or circuits can be energized.

xviii. Confined Space Permit Procedures

Purpose and Scope

The purpose of this procedure is to establish minimum safety standards for personnel involved in entering and working in permit and non-permit required confined spaces. This procedure will apply to everyone.

Definitions

A Permit Required Confined Space is any space not designed for continuous human occupancy that has limited openings for entry and exit. The space may have limited

ventilation that could accumulate a hazardous atmosphere containing toxic gases, flammable gases or an oxygen deficiency. Permit Required Confined spaces include, but are not limited to, sewer manholes, sewer lines, tanks, vaults, grain storage bins and pits.

Responsibilities

a. **Project Manager**: The Project Manager is responsible for assuring compliance with confined space work procedures established.
b. **Project Superintendent**: The assigned ALBERICI Project Superintendent along with the ALBERICI Project Safety Representative will assist the subcontractor's management in evaluating confined space work activities to determine the hazards associated with a confined work space and take approved appropriate safe guards.
c. **Safety Representative**: will regularly evaluate these activities to verify compliance with ALBERICI and OSHA confined space regulations.

Requirements

Prior to allowing personnel into any confined work space the following prerequisites will be completed:

a) The safety representative will:

1. Test the enclosed work environment for oxygen deficiency, flammable and/or toxic atmosphere. The following are unsafe conditions that would prevent entry:

   - Oxygen concentration less than 19.5% or greater than 23.5% oxygen (normal air is 21% oxygen).
   - Flammable gas concentration greater than 10% of the lower explosive limit.
   - Toxic gas concentrations greater than their Threshold Limit Values. Examples are: Hydrogen Sulfide
   - 10ppm, Carbon Monoxide - 50ppm and Chlorine - 1ppm.

2. Ensure that on-going monitoring with audible alarms for oxygen deficiency and periodic monitoring for flammable/toxic gases is conducted while work is being done in the confined space. If unsafe concentrations are detected, all workers must exit the space immediately. All air monitoring results must be recorded on the confined space permit.
3. Ensure that there is adequate full-time communication between workers in the confined space and with the workers on the outside of the confined space.
4. Ensure that you have personnel who are trained in fire protection, rescue and first aid.
5. Not proceed with any work in confined spaces without the approval of the ALBERICI Project Manager.

6. The confined space must always be ventilated with a forced air blower, if natural air flow is not present. If air tests show an unsafe condition, even with the proper ventilation, no entry is allowed.

7. Prevent the potential introduction of hazardous material into the workspace through inter-locking piping ducts, vents, drains, etc. by isolation and/or physical lock out of such systems.

8. De-energize and lock out machinery, heaters, fans or other potentially hazardous equipment that is directly connected to the confined spaces.

9. Instruct workers of hazards and precautions associated with the confined work area. Provide protective equipment prior to occupancy of the work area. Stress any limitations of the protective equipment, for example, mechanical respirators do not supply oxygen and therefore must not be worn in oxygen deficient atmosphere.

10. When respirators are required, all individuals will meet the medical requirements outlined OSHA and receive formal respirator training and fit tests.

11. If an active manhole is to be entered, a self-contained breathing apparatus must be immediately available for the safety stand-by.

12. An approved safety harness and lifelines will be attached to all workers entering a confined space. The other end of the lifeline will be tied off outside of the space for non-entry rescue. If possible, an appropriate mechanical device (tripod with manually operated winch) will be used for rescue

13. Solitary work in confined spaces is not allowed.

Special Requirements

1. Confined spaces where moisture or water accumulation occurs will be provided with either pneumatic tools and/or low voltage (12-volt maximum) electrical devices if possible. Ground fault circuit interrupters will be used on all electrical tools and equipment.

2. All hot work such as burning, cutting, welding, grinding, etc. requires approval of the ALBERICI Project Manager or the site Safety Manager.
    - Additional flammable testing will be conducted prior to and during all hot work in confined spaces.
    - Forced air ventilation will be provided while hot work is being done.
    - If sufficient ventilation cannot be obtained, personnel will be provided with, trained in the use of, and required to wear self-contained breathing apparatus or approved air-line respirators.

3. Compressed gas and/or fuel cylinders will not be introduced to the enclosed work area. Cylinders and welding machines will be left outside of the confined space and blocked if on wheels.

4. The torch and tank valves will be closed whenever hot work is suspended and all gas supply hoses such as acetylene and oxygen will be immediately removed. This includes coffee and lunch breaks or any time the torch and hoses are left unattended.

xix. Energy Lockout Procedure (RTLB*)

1. Lockout/Tagout Procedure and PHD must be developed, implemented, followed, and documented under the direct supervision of an ALBERICI Safety manager for every distinct type of work to occur onsite to protect workers from sustaining injuries as a result of the inadvertent release of hazardous energy. This policy applies for all electrical, pneumatic, steam, fluid, hydraulic, pneumatic and stored energy sources.
2. OSHA standards and the specific work area LO/TO procedure and PHD are to be followed when hazardous energy requires lock out. A general LO/TO procedure for all work on site is not acceptable.
3. Lock out requires all affected employees to work under their own locks, either locking out the specific equipment or locking out a lock box of master keys. Locks must be safety red padlocks.
4. ALBERICI will strictly monitor all lock out activities.

xx. Asbestos Exposure Control

1. ALBERICI will identify to ENGIE, locations in their scope of work where potential tie-ins are necessary to determine whether ACM are present.
2. ENGIE will take any and all precautions to discover and label all ACM (Asbestos Containing Material) at OSU that may be encountered during the scope of work.
3. In the event any material is *suspected* to be ACM, work shall stop, the material in question shall remain undisturbed, and notification of the discovery of potential ACM shall be made to the ENGIE Construction Supervisor. ENGIE will abate any hazardous materials affecting construction activities.

Asbestos Overview

OSHA regulates exposure to asbestos in great detail.

ALBERICI is not licensed and will not perform asbestos installation or abatement work.

The OSHA regulations are found at 29 CFR 1926.1101. There may be additional federal, state and local regulations as well.

Whenever asbestos is encountered or even suspected in areas where we are working, work shall stop, and the ENGIE Safety Supervisor should be contacted immediately for assistance. Special licensing and certification are required to perform asbestos- related work. ***Under no circumstances are ALBERICI employees to remove or disturb any asbestos containing material (ACM).***

There may be times, however, when we encounter asbestos, either during demolition work or in

the midst of work by other contractors on site. The following information is provided to acquaint our personnel with the basics of asbestos and the hazards associated with it, in order to recognize and control potential exposures. The information is not intended to make an employee qualified to work with or around asbestos containing materials.

Multi-Employer Work Sites

1. On multi-employer worksites, an employer performing work that involves asbestos is required to inform all other employers that asbestos is on site, as well as the requirements pertaining to regulated areas.
2. The contractor is also required to notify other employers, including ALBERICI, of measures taken to assure other companies' employees are not exposed to asbestos.
3. Our employees who are potentially exposed to asbestos are required to comply with applicable protective measures. We may choose to remove our employees from the area until the hazards no longer exist.
4. If we are working near another contractor or owner who is performing asbestos- related work, we are required to "take steps on a daily basis to ascertain the integrity of the other employer's enclosure and/or the effectiveness of the control method relied on by the asbestos contractor." (OSHA Standard 1926.1101(d).) This measure ensures that our employees are not exposed to friable asbestos as the result of another contractor's failure to perform its duty to contain asbestos fibers.

Regulated Areas

1. All asbestos-related work must be performed in "regulated areas."
2. Regulated areas are required to be identified by signs and have warnings posted. We are not to enter any regulated areas because that may expose our employee to asbestos fibers.

Initial Exposure Assessment

1. If asbestos is suspected in our work area, we must request the owner to provide evidence that the area is free of asbestos containing materials.
2. If we still have concerns, samples should be taken and analyzed by an independent, recognized laboratory before we start work in the area. The Safety Department can assist in contacting an appropriate agency.
3. All employers performing asbestos-related work are required to perform an initial exposure assessment when work begins and to perform periodic monitoring as the work progresses.
4. If we are working in the same general area where asbestos-related work is underway or planned, we should request a copy of the protocol for their exposure assessments and the results of the required air sampling.
5. This information should be forwarded to the Safety Department for evaluation. If asbestos levels exceed the Permissible Exposure Limit (PEL), we will discontinue work

until we are assured there is no exposure to our employees.

Subcontracting Asbestos-Related Work

1. There may be instances where we encounter asbestos in our work when owners, or other contractors, request we subcontract the loading, transportation, removal or abatement of asbestos-containing material after it is removed from a building. Should this occur, the Risk Management or Safety Department should be contacted before any agreement are made. Generally, we will not perform any type of work related to asbestos, but we will review each instance on its merits.

xxi. Lead Exposure Control

Employee Information and Training

1. If an exposure to lead exists or is created by our scope of work, ALBERICI will provide information concerning hazards of lead exposure through an employee training program.

Determining the Existence of a Hazard

1. In the limited areas where ALBERICI ties into, modifies, or is exposed to existing OSU plant steel and equipment it will have the areas tested for lead ahead of any activity. If lead is found, notification will be provided to owner. A lead abatement company will then remove the hazard.

xxii. Respiratory Protection Program

In the event the scope of work at OSU generates respirable dust that is measured to be or has traditionally found to be at or above permissible exposure levels to ALBERICI Employees, all or parts of the following Respiratory Protection provisions shall be employed, and the requirements will be included in the task PHD.

Respiratory Protection Program Administration of Responsibilities

1. Effective program administration includes the following:
    a) An assessment to determine the nature and degree of actual or potential exposure
    b) Respirator selection using the guidelines set forth by the American Industrial Hygiene Association or by another decision logic system
    c) Employee training
    d) Respirator fitting (to be completed at established medical clinic)
    e) Maintenance, cleaning and storage
    f) Purchasing and inventory control
    g) Emergency use planning
    h) Medical surveillance
2. Program evaluation if the project anticipates using respirators voluntarily, i.e.; the use of

filtering face pieces (dust masks) they must provide the information to their employees on their use and limitations, but they do not need a written respiratory protection program in place.

General

The Occupational Health and Safety Administration (OSHA) General Industry Standard for Respiratory Protection § 29 CFR 1910.134 requires that a Respiratory Protection Program be established and administered by the employer. The procedures required by OSHA are outlined in this section.

Guidelines

1. The guidelines in this program are designed to help reduce employee exposures against occupational dusts, fumes, mists, radon nuclide, gases and vapors.
2. The primary objective is to prevent personal exposures above the PEL to these contaminants.
3. Where feasible, exposure to contaminants will be eliminated by engineering controls (such as general and local ventilation, enclosure or isolation, and substitution of a less hazardous process or material). Administrative controls, such as job rotations should also be considered.
4. When effective engineering controls and administrative controls are not feasible, use of personal respiratory equipment may be required to achieve this goal.

Responsibilities

1. Management

a) It is ALBERICIs and its subcontractor's responsibility to determine what specific applications require use of respiratory equipment. This determination is based on specific hazard identification, estimated exposure and factors affecting respirator performance.

b) Only NIOSH-certified respirators that provide the required protection factors for the specific contaminant(s) will be selected and provided to operational personnel. Employees shall be provided with appropriate training and instructions on all equipment.

2. Management/Supervisory

a) Superintendents, supervisors, foremen or forewomen, or group leaders of each area are responsible for ensuring that their subordinates comply with all facets of the respiratory protection program, including respirator training, inspection and maintenance. The training must be comprehensive, understandable, and recur annually and more often if necessary.

b) Training components must include selection and use of the respirator, limitations and

capabilities of the respirator, cleaning and maintenance, inspection, proper doffing and donning of the respirator, and medical signs and symptoms that could interfere with the use of a respirator.

3. Employees

a) It is the responsibility of all employees to be aware of the respiratory protection requirements for their work area (as explained by management). Employees are also responsible for wearing the appropriate respiratory equipment according to proper instructions and for maintaining the equipment in a clean and operable condition.

b) Employees shall:
- Guard against damage to equipment.
- Report any malfunction of the equipment.
- Not borrow or use any respirator for which they have not been fit-tested or use other equipment not assigned to them.

Issuance of Respirators

1. Medical approval is required for individual use of all required respirators prior to fitting or issuance.

2. During the physical examination, performed by a Physician or other Licensed Health Care Professional (PLHCP), there may be criteria which prohibit the wearing of respirators. They include the following:

   a) Ruptured or perforated eardrums prohibit issuance of half-mask respirators
   b) Pulmonary or cardiac problems may prohibit issuance of half-mask respirators or use of SCBA or air-supplied full-face respirators
   c) Deficient olfactory sense must be noted

3. Anyone with a beard, chin whiskers or long sideburns will not be fit-tested to wear a half-mask or full faced respirator.

4. Fitting of half-mask respirators (covering the nose and mouth only) is a requirement of ANSI standards and OSHA regulations governing use of respirators. Each employee must be fitted with the appropriate type of half-mask respirator. Fitting will be done by qualified personnel using appropriate test methods.

5. Fitting information will be recorded.

6. The properly fitted respirator will be issued and the make and model documented.

7. Records will be in the Safety Department office.

8. After an employee has been fitted with the correct respirator for the task and hazard, the appropriate cartridge(s) will be issued.
9. The respirator must be cleaned and properly stored at the end of each shift, if it is worn.
10. Cartridges must be replaced at the first indication of breakthrough, as evidenced by odor inside the mask.
11. Cartridges used to protect against benzene must be changed at the end of the shift.

Nature of Hazard

The following is a general guide for atmospheres containing specific contaminants.

1. **Oxygen-deficient atmospheres-**Only self-contained breathing apparatus or an airline respirator supplied from cylinders shall be used in any atmosphere that is deficient in oxygen. For the purpose of this procedure, any atmosphere that tests lower than the normal 19.5% of oxygen is oxygen deficient.
2. **Immediately Dangerous to Life and Health atmospheres (IDLH)-**Only self- contained breathing apparatus or supplied-air masks shall be used in atmospheres where gases are present in concentrations that would rapidly endanger a person.
3. **It is not ALBERICI policy to require personnel to enter oxygen-deficient or IDLH atmospheres. If these conditions are present, contact a member of the Safety Department as soon as they are discovered.**
4. **Not immediately hazardous atmospheres-**Chemical cartridge respirators shall be used for gaseous contaminants. Mechanical filter respirators shall be worn as protection against particulate matter.

Restrictions

In areas where the user, with failure of the respiratory protective equipment, could be overcome by toxic or oxygen-deficient atmosphere:

1. At least one additional person shall be present.
2. Communications—whether visual, voice, or signal line—shall be maintained.
3. A plan shall be implemented whereby one individual will be unaffected by any likely incident and have the proper equipment to be able to assist the other in case of an emergency without entering the work area.
4. Vessel entry is not permitted, even with appropriate respiratory equipment, in areas that test above 10% of the lower exposure limit (LEL).

***FOR SELECTION OF RESPIRATORY EQUIPMENT AND APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE), CONSULT THE SAFETY DATA SHEET (SDS) FOR THE CONTAMINANT OF CONCERN.**

Maintenance and Care of Respiratory Equipment

A. Requirements

1. The OSHA standard requires that employers provide each respirator user with a respirator that is clean, sanitary, and in good working order. These requirements are a vital part of any successful respiratory protection program. To ensure that the respirator remains serviceable and delivers effective protection, a maintenance program must be in place prior to respirator use.
2. The OSHA respirator standard strongly emphasizes the importance of a good maintenance program, but permits its' tailoring to the type of facilities, working conditions, and hazards involved.

3. All programs are required to include at a minimum:
   a) Cleaning and disinfecting procedures;
   b) Proper storage;
   c) Regular inspections for defects (including leak check); and
   d) Repair methods.

4. In addition to the OSHA requirements, the manufacturer's instructions for inspection, cleaning, and maintenance of respirators should be consulted to ensure that the respirator continues to function properly. A proper maintenance program ensures that the worker's respirator remains as effective as when it was new.

B. Cleaning and Disinfecting

1. Cleaning and sanitizing respirators are necessary to prevent skin irritation, dermatitis, and to encourage worker acceptance. Where the contaminant is a dust, mist, or fume, build-up on the respirator face piece seal or within the respirator will reduce the protection provided by the respirator because the contaminant is in the breathing zone or has compromised the seal.
2. In addition, the build-up of contamination on the respirator can contribute to the deterioration of the respirator's materials, which can lead to reduced protection. Full face pieces' must be cleaned to ensure that employees can see through the face piece.

3. Respirators that are issued for the exclusive use of an employee must be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.

4. Respirators used by more than one employee must be cleaned and disinfected prior to being used by a different individual.

5. Respirators maintained for emergency use as well as respirators used in fit testing and training, must be cleaned and disinfected after each use. The employer must use the procedures recommended by the respirator manufacturer, if they are equivalent in effectiveness to the OSHA method.

C. Storage

1. All respirators must be stored so that they are protected against damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals.
2. When respirators are packed or stored, the face piece and exhalation valve must be stored in a manner that will prevent deformation. Each respirator should be positioned so that it retains its natural configuration. Synthetic materials and even rubber will warp if stored in an unnatural shape, thus affecting the fitting characteristics of the face piece.

3. Respirators intended for emergency use must be kept accessible to the work area, but not in an area that might itself be involved in the emergency because such an area may become contaminated or inaccessible.

    a) Emergency-use respirators must be stored in compartments or covers that are clearly marked to indicate that they contain emergency respirators and stored according to any applicable manufacturer instructions.

D. Inspection

1. To ensure the continued reliability of respiratory equipment, it must be inspected on a regular basis. The frequency of inspection and the procedures to be followed depend on whether the respirator is intended for non-emergency, emergency, or escape use only.

2. The OSHA standard requires that all respirators used in non-emergency situations be inspected before each use and during cleaning.
    a. Respirators designated for use in an emergency situation are to be inspected at least monthly and in accordance with the manufacturer's instructions and checked for proper function before and after each use.
    b. Emergency escape-only respirators must be inspected before being carried into the workplace.

3. For all respirators, inspections must include a check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube, and cartridges, canisters, or filters. In addition, the elastomeric parts must be evaluated for pliability and signs of deterioration.

4. For SCBA's, which require monthly inspections, the air and oxygen cylinders must be maintained in a fully charged state and recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. In addition, the regulator and warning devices must be inspected to ensure that they function properly.

5. For respirators that are maintained for use in emergencies, the OSHA standard requires certifying the respirator by documenting the date that the inspection was performed, the name or signature of the inspector, the findings of the inspection, any required remedial action, and a serial number or other means of identifying the inspected respirator. This information must be provided on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is stored in the form of inspection reports (paper or electronic). The information must be maintained until it is replaced following a subsequent certification.

E. Repair

1. Respirators that fail to pass inspection or are otherwise found to be defective, must be removed from service, and discarded, repaired, or adjusted.

2. Repairs or adjustments to respirators must be done only by appropriately trained personnel, using only the respirator manufacturer's NIOSH-approved parts designed for that respirator.

3. The repairs also must be made in accordance with the manufacturer's recommendations and specifications regarding the type and extent of repairs to be performed.

4. Because components such as reducing and admission valves, regulators, and alarms are complex and essential to the safe functioning of the respirator, they are required to be adjusted and repaired only by the manufacturer or a technician trained by the manufacturer.

F. Storage of Respiratory Equipment

1. Respiratory protective equipment shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals.

2. Respiratory protective equipment placed in a work area shall be stored in clearly marked compartments that are always quickly accessible.

3. Respiratory protective equipment shall be stored so that the face piece and exhalation valve will rest in a position and function will not be impaired.

4. Respiratory protective equipment shall not be stored in places such as lockers or tool boxes unless the equipment is protected in cases or cartons.

5. To ensure an effective respiratory protection program, Safety Department representatives will monitor and evaluate various operations to assure that respiratory protective equipment is properly selected, used, cleaned and maintained.

6. Anyone desiring assistance with this procedure should contact the Safety Department.

G. Fit Testing of Respiratory Devices

1. Fit tests are required to be performed on all users of quarter-, half- and full-face masks where cartridges, canisters or high efficiency particulate (HEPA) filters will be used.

2. Fit tests will not be required for airline units operated at a constant flow, pressure demand or SCBA used in emergency situations.

3. Fit tests **will not be performed** on persons with full beards, mutton-chop sideburns or large mustaches. These persons will not be permitted to use demand units of any kind (quarter-, half- or full-face mask with dust filter, cartridge or canister units).

4. Glasses may also affect a worker's ability to use respirators; however, contact lenses must not be used while wearing a respirator.

5. Fit tests are to be performed in a plastic test enclosure (supported), using high-efficiency dust filters on the appropriate mask. The tests will be performed using irritant smoke tubes.

   a) Record of test date, type of mask, name, badge number or employee number and test results should be made.
   b) The size and model of mask issued is recorded on person's fit test record. **Only the same make, model and size of respirator used in the fit test shall be provided in field operations.** For example, if a person was fit test for a medium half-face MSA respirator, they can only wear a medium half-face MSA respirator.

H. Fit Test

1. Allow worker to select mask.

2. Install high-efficiency dust filters.

3. The worker shall remove his or her glasses and put on mask.

4. Check mask for leaking inhalation, exhalation valves, straps, condition of materials, cracks, checks, tears and other defects

5. The worker is to enter test enclosure, close eyes to prevent irritation.

6. Inject test atmosphere with irritant smoke following the protocols outlined in the OSHA Respiratory Protection Standard:
7. Stand at ease.
8. Have the person tilt their head up, down, side to side, and try to talk.
9. Remove person from test atmosphere and record results.
10. Inspect mask for indication of leakage.
11. Document the fit test on the associated Fit Test Form.

xxiii. Barricades

Erection of all hard barricades and or use of red danger tape shall be erected where necessary to identify hazards. They should not normally be placed in an area that will interfere with ENGIE Plant Operations. If a barricade will impact plant operations, please contact ALBERICI Project Manager immediately.

1. All established barricades will be accompanied with an identification tag notifying employees who constructed the barricade, reason for barricade, and expiration of barricade.
   a) Barricade shall be identified with the reason; the location; the duration; and a name and contact of a responsible party to answer any Owner questions.

2. Barricades will be taken down at end of shift, or when the existing hazards are removed.
   a. **Red "danger" barricade** tape shall be designated areas that may not be entered.
   b. **Yellow "caution" barricade tape** shall be used to warn other employees that there are existing hazards in the work area. Employees may enter through these barricades with permission.
   c. **Green barricade tape** shall be used to warn personnel of possible exposure to hexavalent chromium.
   d. **Yellow and magenta tape** shall be used to warn personnel of radiation hazards.

3. Areas requiring barricades but not limited to:
   a. Excavations
   b. Fabrication areas
   c. Floor Openings/Leading Edges (attendant must be present until hard barricade is installed)
   d. Hot Work
   e. Overhead work
   f. Scaffolding work
   g. Swing radius

xxiv. Critical Lift

1. ALBERICI will submit in advance critical lift picking parameters to ENGIE for information. Critical lifts require the signatures of the ALBERICI Safety Department, Project Manager, and Superintendent.
2. ALBERICI or its subcontractor shall be responsible for any and all engineering, drafting, field sketches, and field layout required for temporary supports, rigging, removals, and installation of all material. All engineered supports and rigging shall be reviewed by the Owner.
3. The critical pick lifting parameters document must be filled out prior to lift and be maintained at the site in the project safety files.
4. At OSU CHP, the following conditions will trigger critical pick requirements:
    a) Lift exceeds 75% of the rated capacity of the crane.
    b) Lift requires the use of more than one crane.
    c) In no case shall a multiple crane lift be performed in excess of 75% of any one of the crane's individual load rated capacity at the planned radius.
    d) Any lift over an existing building that cannot be completely evacuated prior to the lift.
    e) Any lift involving the hoisting of personnel.
    f) The item to be lifted requires exceptional care in handling because of size, weight, close-tolerance installation, high susceptibility to damage or another unusual factor, such as being non-rigid.
    g) The lifted item, although non-critical, requires exceptional care in handling because it is being lifted above a critical item.
5. Critical Lift Plan
    a) ALBERICI shall provide a detailed lifting and rigging plan for all lifts identified as critical.
    b) Prior to executing lift, lift plans must be submitted to the Owner for information.
    c) A copy of the lift plan must be onsite during the lift and must have been reviewed with all personnel involved with the lift, including the Owner's Construction Supervisor.
    d) The Owner's Construction Supervisor shall be provided enough notice to allow him/her to witness the Critical Lift.
6. A Critical Lift Plan shall contain the following, as applicable, but is not limited to:

a) Identify the location and area of the unit and the activity where the picks are to be made. Identify the items to be lifted.

b) Weight of the lifted item and total weight of the load (for mobile cranes, see the manufacturer's instructions regarding components and attachments that must be considered as part of the load).

c) Special precautions, if any (such as outrigger or track cribbing for mobile cranes).

d) Evaluation of hazards associated with the lift that may include ground support, soil conditions, allowable soil bearing capacity, underground utilities that could be damaged or suddenly collapse, maximum permissible wind speed and any other physical obstruction.

e) A list of each piece of equipment, accessory, and rigging component (e.g., slings, shackles, spreader bars, yokes) to be used for the lift. (This list shall identify each piece of equipment by type and rated capacity).

f) Designated checkpoints, hold points and estimated instrument readings, as relevant, so that job progress can be checked against the plan.

7. Rigging sketch(s), include the following:
   a) Lift point identification
   b) Method(s) of attachment
   c) Center of gravity location
   d) Load vectors
   e) Sling angles
   f) Accessories used
   g) Other factors affecting the equipment capacity
   h) Rated capacity of equipment in the configuration(s) in which it will be used. (For cranes, many factors affect rated capacity, including boom length, boom angle and work area.)
   i) If rigging points are attached to existing structural steel, it is the responsibility of the Contractor's engineer to confirm that the additional loads do not overstress the existing structure, and to design additional bracing/reinforcement if required.
   j) Calculations

xxv. Operated Equipment Operating Procedures

1. Certified Crane Operator (CCO) designation by the National Commission for the Certified Crane Operators, is a requirement for all employees who will be operating a crane.
2. Certified crane operators will adhere to the ASME B30 physical requirements throughout their certification period
3. Only qualified individuals will be appointed to direct and signal the operator.
4. Riggers will be determined as being competent after evaluation by employer. The employer will officially qualify that person to perform rigging procedures.

5. The operator shall:

   a) Not engage in any practice that may divert his or her attention while engaged in crane operations. This includes talking on a phone, (with or without hands-free equipment) listening to a radio station or listening to or watching television during the activity of moving or operating the crane.

   b) Not operate the crane if physically or mentally unfit or taking prescription drugs that may affect judgment.

   c) Not respond to any signal that is unclear or is given by anyone other than appointed signalmen. Exception: The operator shall respond to a stop signal given by anyone.

   d) Not permit trainees to make initial lift. The operator shall perform the first lift to determine lift stability, crane function and general safety.

   e) Have final responsibility and control over the crane operations.

   f) Whenever there is any doubt as to safety, the operator shall have the authority to stop and refuse to handle loads until a qualified person has determined that safety has been assured.

   g) Be familiar with the crane and its care, the operator's manual and load charts. He or she shall be responsible for notifying his or her supervisor of any needed adjustments or repairs, and for logging his or her findings in the crane log.

   h) Shall, upon request, demonstrate his or her ability to determine total load weight and its relationship to the crane load charts.

   i) Mobile cranes shall have booms lowered or secured at the end of each workday. Crawler cranes shall lower booms ahead of severe weather.

   j) The operator cannot leave the controls while a load is suspended; unless the requirements of 1926.1417(e) are met. This does not apply to working gear (rigging, welders, compressors, etc.) that are negligible to the capacity of the crane.

6. Assembly and Disassembly

   a) Assembly/Disassembly requires supervision by a qualified and competent person.

   b) It should contain specific work procedures that require a crew instruction meeting before work begins. The meeting should consist of wind and weather considerations, weights of all components, and the manufacturer's prohibitions.

   c) The Assembly/Disassembly Director must understand the applicable assembly/disassembly procedures.

   d) Before commencing assembly/disassembly operations, the responsible superintendent must ensure that the crew members understand all the following:

      1. Their tasks.
      2. The hazards associated with their tasks.

3. The hazardous positions/locations that they need to avoid

xxvi. Environmental Stresses

Heat Stress

1. ALBERICI regularly educates employees on the hazards and symptoms of heat stress. Identifying the first indications of heat stress is a key element. Employees will be encouraged to take regular water breaks, find shaded areas, wear light clothing, work in pairs, etc.
2. As it pertains to site situations, relative humidity, wet bulb temperature, etc., ALBERICI will monitor heat stress conditions to ensure the health and safety of its employees. In the event weather in the area indicates prolonged exposures to extreme heat; cooling tents may be erected. A focused heat stress communication program will be developed to educate the workforce about heat stress symptoms.

Cold Stress

1. ALBERICI regularly educates employees on the hazards and symptoms of cold stress. Identifying the first indications of cold stress is a key element. Employees will be encouraged to become acclimated to the colder weather as it arrives.
2. Where there is opportunity to make the work environment warmer, or get into a warmer environment, it will be noted and acted upon. PPE recommendations will be provided to employees to help them adapt to cold weather conditions.
3. Work activities will be considered to help reduce any cold stress from occurring on site. A focused cold stress communication program will be developed to educate the workforce about cold stress symptoms.

COMBINED HEAT AND POWER PLANT (CHP)

Building Emergency Action Plan (BEAP)

Department(s):

- **ENGIE Buckeye Operations**
- **Ohio State Energy Partners**

Building Name: CHP
Building #: TBD
Address:600-610 Vernon L. Tharp St
Columbus, Ohio 43210

Reviewed and Updated: 10/21/2019

Table of Contents

SECTION 1: INTRODUCTION

This is the Building Emergency Action Plan (BEAP) for the Combined Heat and Power Plant (CHP). This is to provide emergency information pertaining to evacuation, shelter in place, Run/Hide/Fight, and other emergencies specific to this building. For questions regarding this document please contact the OSU Emergency Management Department at 614-247-4911 or via email at emergencymanagement@osu.edu.

This plan was developed to provide for the safety of the occupants of CHP. This plan is required by university policy (OSU Occupational Health & Safety Policy – 3.61); the Ohio Fire Code – 1301:7-7-04 (D) Section 404 Fire Safety & Evacuation Plans; and the Occupational Safety and Health Administration (OSHA) standard 29 CFR 1910.38 as required by the Ohio Revised Code, Chapter 4167 (Public Employees Risk Reduction Act). This plan is intended for use by departments that occupy university facilities and should be completed as a building plan that includes all departments and areas of the building. This plan is managed and coordinated through the Office of Public Safety, Emergency Management and Fire Prevention with the assistance of Environmental Health and Safety.

It is expected departments will customize the appendices and complete this plan to meet their specific needs, operations and locations. Additional appendices can be added to customize the plan for building or department specific needs.

The BEAP correlates with the larger Ohio State University Comprehensive Emergency Management Plan (CEMP) for campus operations during large scale or campus-wide emergencies and departmental specific business continuity plans for departmental operations during departmental or campus emergencies.

The evacuation of university facilities presents unique situations and challenges. Some facilities may house only one department or college office whereas other facilities may contain business space for numerous departments. Additionally, the space occupied in university facilities may contain a wide range of uses including administrative office space, classroom space, lecture halls, conference rooms, laboratories, academic office space, etc. It is difficult to know at any given time the exact number of occupants in any university facility. Timely and responsible evacuation often becomes the responsibility of a few key individuals.

Different emergencies require different protective actions to keep people safe. The unpredictable nature of emergencies requires quick action and clear thinking to avoid injury. This document contains building specific information for protecting yourself during most emergencies, but will not provide an absolute solution for every circumstance. During an actual emergency university personnel and first responders may supplement these plans with detailed instructions via our emergency communications protocols. Any specific instructions given during an incident are to take precedence.

1.1 Before an Emergency (Pre-Plan)

1. Know how to get help.
2. Know where the fire alarm pull stations are located in your area and how to use them.
3. Know where the exits/stairways are located in your given area and how to access them.
4. Know where fire extinguishers are located in your area. Ensure they are not blocked and that you feel confident using them. Ensure that you are able to lift the extinguishers in your given area.
5. Keep the exits clear of any obstructions at all times.
6. If you may need any **special assistance** during an evacuation, notify and discuss it with the Office of Disability Services, 614-292-3307. Do **not** wait until an actual emergency occurs.
7. Faculty and staff should advise their students how to respond to alarms and where evacuation routes are from their classrooms, labs, or offices. They should also participate in planning for assisting any student who may have difficulty during an evacuation.

This should be done within the first two weeks of class.

1.2 Protective Measures/Actions:

Evacuations:

For some emergencies, the best option is to leave the building or area. For example, the safest place away from a fire or hazardous materials spill (occurring inside the building) would be outside of that building.

Shelter in Place:

For some emergencies, evacuation will **NOT** be the appropriate **immediate** response. Evacuation during a tornado or for an outdoor hazardous materials leak may actually place people in greater danger than if they were to stay inside.

Run/Hide/Fight (Threat of Armed Intruders/Violence)

Run	Hide	Fight
• Have an escape route and plan in mind. • Leave your belongs behind • Keep your hands visible.	• Your second option should be to hide. • Do not huddle together as it makes one easy target. • Lock and barricade doors and shut off lights.	• Fighting is a last resort to be used only when your life is in imminent danger. • Attempt to incapacitate the active shooter. • Find an object to use as a weapon such as chair.

1.3 Buckeye Alert

The Buckeye Alert system is a text/email/phone alert system designed to inform faculty, students, staff and parents of potential emergencies. The Buckeye Alert website is https://dps.osu.edu/alert-notices. OSU Department of Public Safety encourages you to sign up for this service.

SECTION 2: COORDINATION

2.1 Purpose

This plan establishes procedures and duties, promotes planning and provides training information for building emergencies.

2.2 Scope

This plan applies to all employees and/or building occupants.

2.3 Coordination with other Emergency Plans

This BEAP document is a key component to departmental and/or building safety planning. However, it is not intended to replace the university Comprehensive Emergency Management Plan, Business Continuity Planning or other emergency planning required by university policy or regulatory agencies. This BEAP must be coordinated with these and other emergency/safety documents

2.4 OSU Comprehensive Emergency Management Plan

The OSU Comprehensive Emergency Management Plan (CEMP) outlines procedures and duties for a coordinated response to emergencies occurring on Campus. The Department of Public Safety manages the CEMP.

2.5 Coordination with Departmental Business Continuity Plans

Business Continuity Plans outline procedures to be followed in case of catastrophic incidents affecting normal operations at The Ohio State University. This BEAP is not a replacement for departmental Business Continuity Planning. It should be included as an attachment to Business Continuity Plans and reviewed/updated when Business Continuity Plans are reviewed/updated.

SECTION 3: EXPECTATIONS FOR DEPARTMENTS AND EMPLOYEES

3.1 Employees, Faculty and Staff

- Being familiar with the BEAP procedures
- Participating in training.
- Inform students, visitors, contractors, and new employees of these procedures and what to do in the case of a building alarm or emergency.
- When the fire alarm sounds, evacuate the building and report to the designated evacuation assembly point.
- If interested, volunteer for special positions such as the Building Coordinator or an Evacuation Coordinator.

3.2 Special Positions

Building Coordinator is an ENGIE Buckeye Operations LLC employee and have been appointed to serve in these positions. The operator in the central control room of the CHP at any given time also carries the Evacuation Coordinator appointment and related duties.

3.3 Building Coordinator Responsibility and Control

The Building Coordinator acts as the liaison with responding emergency services. He/she is responsible to update and communicate this plan to the ENGIE Buckeye Operations employees as necessary.

3.4 Building Coordinator Duties

Assist in the preparation and maintenance of this BEAP and ensure a copy of the completed plan is available to building occupants.

Coordinate with building/department administrators (liaisons) responsible for employee, student, contractor and/or visitor health and safety.

Review this plan at least annually and confirm it is current.

Ensure emergency services (DPS and EHS) are notified after all actual building emergencies as appropriate. False alarms do not need to be reported to EHS.

3.5 Evacuation Coordinator Duties

Become familiar with this BEAP. It contains the function and activities of building staff during emergencies, how these activities mesh with responding emergency personnel, information about the building and its protection systems and who is responsible for filling special position duties as part of the plan.

Distribute copies of this plan to occupants and coworkers.

Know where persons with disabilities are located and what their alarm responses are. Persons with mobility disabilities may use areas of refuge or individual rooms during a fire alarm. The Areas of Refuge may be identified on evacuation plans found in Appendix D. Report the location(s) of persons with disabilities to emergency responders.

Coordinate with other Evacuation Coordinators to avoid duplication of tasks.

Become familiar with primary and secondary evacuation routes.

Know where hazardous conditions or situations (i.e., flammable, radioactive, etc.) are and provide the information to emergency responders through the Building Coordinator.

Know where the fire alarm pull stations are and how to report an alarm.

Know how the alarm system responds. For most low-rise buildings (less than six stories), the alarm sounds throughout the building and all occupants must evacuate. For most high-rise buildings (more than six stories), the alarm sounds for the floor above, the floor below, and the floor that activated the alarm (pull station, smoke detector, etc.). Persons with physical disabilities should respond utilizing one of the evacuation options listed in this document.

During a fire alarm, report to the evacuation assembly point, act as a liaison with responding emergency service, and do the following:

1. Report problems including missing or trapped individuals to responding emergency personnel.
2. Provide information about the building layout, systems, processes, and special hazards to Facilities Operations & Development, OSUDPS, CFD and other emergency personnel.
3. Coordinate with building administrators on building occupancy and operation issues.

Take direction from Public Safety personnel and provide assistance when requested. When Public Safety personnel make an "ALL CLEAR" determination, the Building Coordinator notifies the Evacuation Coordinators that the occupants may reenter the building.

SILENCING OF THE ALARM IS NOT CONSIDERED AN ALL CLEAR SIGNAL.

3.6 Classroom Instructor's Responsibility

The CHP is an industrial facility with no classrooms for student instructions.

3.7 Student Residential Units Responsibilities

The CHP is an industrial facility with no student residential units.

SECTION 4: EVACUATION EMERGENCIES

4.1 When to evacuate*

- Anytime you hear the fire alarm in your building.
  (Evacuation is **MANDATORY** during fire alarms)
- If you smell smoke, or know an actual fire is burning.
- If you can safely escape an armed aggressor situation.
  - 6.7 Armed Intruder/Active Shooter/Workplace Violence
- When instructed to do so by Public Safety personnel.

4.2 When not to evacuate**

- When a tornado warning is given.
- When it is unsafe to do so (i.e. an armed aggressor nearby). ***
  - 6.7 Armed Intruder/Active Shooter/Workplace Violence
- During a power failure.
- When instructed not to evacuate by Public Safety personnel.

4.3 What to do if you must evacuate

1. Listen carefully to instructions of floor coordinators and Public Safety personnel.
2. Remain calm and **quiet** (keep talking to a minimum so instructions can be clearly heard).
3. If the source of the emergency is present in the immediate area, leave all belongings and exit immediately. Otherwise, when the fire alarm sounds or evacuation is ordered quickly (i.e. a couple of seconds, not minutes) gather essential personal belongings only if it can be done safely (I.D., keys, purse, wallets, etc.) and proceed out of the building.
4. Close all doors that you pass through as you leave.
5. Exit via stairwells, DO NOT use elevators.
6. Proceed to the buildings evacuation assembly point unless instructed to an alternate location by your Building Coordinator or Public Safety personnel.
7. Alert emergency personnel of anyone who may need assistance evacuating.

*Certain circumstances may prevent safe evacuation. If this happens, move away from the danger and find shelter in an area with a window to allow rescue. Try to notify rescuers of your location via cell phone or hanging something out the window.

**These situations require you to stay put initially. Emergency personnel will direct you as to when it is safe to evacuate.

***The presence of an armed aggressor is a stressful situation that requires quick, rational decision-making. If you are unable to evacuate you may need to take additional protective actions such as locking your door or hiding under a desk. 6.7 Armed Intruder/Active Shooter/Workplace Violence

4.4 Notification of a Fire or Emergency

- The preferred method to notify occupants in the building of a fire or other evacuation related emergency is through the building's fire alarm system.
- Alternative methods may include the Buckeye Alert system or word of mouth (bullhorn).

4.5 Description of Notification Systems

The fire alarm system when activated will produce an audio signal as well as visual strobes alerting building occupants to evacuate.

4.6 Accountability of Employees and Occupants

In an effort to provide better accountability, the Evacuation Coordinator will quickly check for occupants that are not evacuating as they proceed to the exit, if safe to do so. Once outside the Evacuation Coordinator will move to the evacuation assembly point and relay the information to the arriving Public Safety personnel and emergency responders.

4.7 Return Policy

Evacuees will return to the facility once Public Safety personnel have issued an "all clear" through the Building Coordinator.

4.8 Evacuation Assembly Point

The location for evacuees to gather to check in with their departments and await further instructions is:

Location
Click for Descriptions of Evacuation Locations
Click for evacuation overview maps.

SECTION 5: EMERGENCY EVACUATION FOR PERSONS WITH DISABILITIES

The following are general guidelines for evacuation procedures for persons with disabilities. Faculty, staff, students and visitors who may need additional assistance should develop their own evacuation plans and identify their primary and secondary evacuation routes from each building they use. They should:

- Be familiar with evacuation options,
- Seek evacuation assistants who are willing to assist in case of an emergency,
- Ask supervisors, instructors, the Office of Emergency Management, or Environmental Health and Safety about evacuation plans for buildings.

Most OSU buildings have accessible exits at the ground level floor that can be used during an emergency. However, if you are located on floors that are above or below the ground level you may need to access a stairwell in order to reach the buildings exits. Elevators cannot be used during an emergency because they have been shown to be unsafe in emergencies and in some buildings; they are automatically recalled to a predetermined floor.

5.1 Evacuation Options

During an evacuation, building occupants have two evacuation options.

1. **Horizontal Evacuation:** Some buildings may be connected to other buildings via ramps, tunnels, or bridges. If this is the case moving to an unaffected adjacent building may be the safest option.
2. **Stairway Evacuation:** using steps to move people from top or bottom floors to a floor that allows an individual to exit the building.

Individuals that are unable to use the two above options have the following options.

1. **Stay in Plac**e*:* unless danger is imminent, remaining at your current location may be the best option. Ensure there is an exterior window, a telephone, and a solid or fire-resistant door.
    a. With this approach, make sure someone who is evacuating knows your current location and that they relay this location to on site emergency personnel once outside. You may also contact emergency personnel by dialing 9-1-1 and report your location directly.
        i. Public Safety Personnel will determine the necessity for evacuation. If required they will assist.
    b. The Stay in Place approach may be more appropriate for sprinkler protected buildings or buildings where an “area of refuge” is not nearby or available.
    c. A “solid” or fire-resistant door can be identified by a fire label on the jam and frame.
        i. Non-labeled 1 3/4 inch thick solid core wood doors hung on a metal frame also offer good fire resistance.

2. **Area of Refuge:** are safe areas in a building due the way it was constructed/designed examples include: fire rated stairwells, hallways, rooms, or pressurized areas.
    a. If your current location does not offer protection for the given emergency moving to a safer location should occur.
    b. Usually, the safest areas of refuge are:
        i. Pressurized stair enclosures, common to high-rise buildings,
        ii. Open-air exit balconies.
        iii. Fire rated corridors or vestibules adjacent to exit stairs,
        iv. Many campus buildings feature fire rated corridor construction that may offer safe refuge.
        v. Taking a position in a rated corridor next to the stair is a good alternative to a small stair landing crowded with the other building occupants using the stairway.
    c. For assistance in identifying Areas of Refuge, contact the Office of Emergency Management, emergencymanagement@osu.edu.

5.2 Disability Guidelines

Prior planning and practicing of emergency evacuation routes are important in assuring a safe evacuation.

5.3 Mobility Impaired – Wheelchair

Persons using wheelchairs should stay in place, or move to an area of refuge with an evacuation assistant when the alarm sounds. The evacuation assistant should then proceed to the evacuation assembly point outside the building and tell the arriving Public Safety personnel of their location of the person location. If alone, he/she should call 9-1-1 with their location and the area of refuge they are headed to.

If the stair landing is chosen as the area of refuge, please note that many campus buildings have relatively small stair landings and wheelchair users are advised to wait until the heavy traffic has passed before entering the stairway.

Trained Public Safety personnel should conduct stairway evacuation of wheelchair users. Only in situations of extreme danger should untrained people attempt to evacuate wheelchair users. Moving a wheelchair down stairs is never safe.

5.4 Mobility Impaired - Non-Wheelchair

Persons with mobility impairments, who are able to walk independently, may be able to negotiate stairs in an emergency with minor assistance. If danger is imminent, the individual should wait until the heavy traffic has cleared before attempting the stairs. If there is no immediate danger (detectable smoke, fire, or unusual odor), the person may choose to stay in the building, using the other options, until Public Safety personnel arrive and determine if evacuation is necessary.

5.5 Hearing Impaired

Hearing impaired people will be allowed to enter the CHP only with an escort, who shall be an ENGIE Buckeye Operations employee, and will lead the visually impaired visitor during an evacuation.

5.6 Visually Impaired

Visually impaired people will be allowed to enter the CHP only with an escort, who shall be an ENGIE Buckeye Operations employee, and will lead the visually impaired visitor during an evacuation.

5.7 Persons with Functional Needs

Building occupants that may need assistance during a building emergency are encouraged to self-identify themselves. A functional need is defined as, "the needs of an individual who under usual circumstances is able to function on their own or with support systems. However, during an emergency, their level of independence may be challenged."

Any individual that has self-identified himself or herself will have their information included within this BEAP in Appendix I: Persons with Functional Needs if they wish. In addition, a special personal emergency action plan may also be created.

SECTION 6: EMERGENCY PROCEDURES

6.1 Fire

(Note: This section is to be used for fire alarm activations, discovery of a fire, or when a general evacuation is required).

When an alarm sounds, begin immediate evacuation –

- When a fire alarm is activated evacuation is mandatory
- Follow the evacuation plan as outlined in Appendix D.
- Close doors behind you.

If a fire is discovered, activate the nearest pull station and call 9-1-1.

Use R.A.C.E. – Rescue – Alarm – Confine – Extinguish/Evacuate).

- Do not attempt to fight the fire yourself, unless;
  - You have been trained in the use of firefighting equipment.
  - It is safe to do so;
    - The room is not filled with smoke,
    - You have a clear escape path,
    - The alarm is actively sounding,
    - You have an idea of what is burning and have the proper extinguisher.
- If the fire is too large or the proper use of a fire extinguisher is not familiar or uncomfortable;
  - Sound the alarm,
  - Close the door behind you and evacuate.

If the fire alarm does not work, call 9-1-1 and notify occupants verbally of the emergency and the need to evacuate. Public Safety personnel need to confirm all occupants are notified.

Remember: Hazardous equipment and processes should be shut down unless doing so presents a greater hazard. Close doors before leaving.

Evacuate via the nearest stairwell or grade level exit. Do not block/wedge exit doors in an open position. The doors must remain closed to keep smoke out and keep them safe for evacuation and fire personnel. Leaving doors open makes the stairwells dangerous and unusable. Building occupants who are unable to evacuate should use one of the options detailed in 5.1 Evacuation Options

Do not use the elevators— when an alarm is sounded many of the elevators will be automatically be recalled to a pre-determined floor and shut-off.

Go to your pre-determined Evacuation Assembly Point (EAP) as outlined in Appendix D. You may have more than one EAP depending on the size of the building.

At the EAP, **account for personnel** and report to the Building Evacuation Coordinators if any occupants are unaccounted for and may be trapped. Floor Evacuation Coordinators will report to the Building Coordinator who will relay this information to Public Safety personnel.

If you become trapped by smoke, shelter in place, stay low, cover your mouth with a wet cloth, stay near a window, open it but do not break it, hang something out the window to let Public Safety personnel know you are there and put something in cracks around the door, phone 9-1-1 if possible.

Special Instructions for Evacuation Coordinators during a Fire

Be familiar with at least two evacuation routes from the assigned floor and plan to use the alternate route if the primary is not accessible during an evacuation emergency.

Description of Notification Systems

The fire alarm system when activated will produce an audio signal as well as visual strobes alerting building occupants to evacuate.

6.2 Chemical Spills or Release (Indoors)

Qualified laboratory personnel who have been trained and are properly equipped to handle the situation may clean up small spills that do not endanger workers in the immediate area. Chemical spill guidelines have been established and are available in the University Chemical Management Guidebook.

ENGIE Buckeye Operations employees should take into consideration the following:

1. The hazards of the chemical(s) involved
2. The amount of the chemical(s) involved
3. Spill locations
4. Availability of spill cleanup materials or kits

If the spill is large, if the chemical is not easily identified, if the chemical is extremely hazardous or if there has been a fire, explosion or personal injury involved, then:

1. Evacuate all personnel from the area
2. If the entire building requires evacuation, activate the building fire alarm system and evacuate utilizing the fire evacuation procedure.
3. Report the spill to:
    a. Central control room of the CHP
    b. Ohio State Public Safety- Dial 9-1-1
    c. EHS- Dial 614-292-1284
4. When placing an emergency call:
    a. Give your name.
    b. Give your location (room and building)
    c. Give the phone number you are using
    d. Describe the emergency/injuries
    e. If possible, remain in vicinity, away from danger, to assist emergency responders
    f. Measures should be taken to prevent people from entering the contaminated area.
    g. Meet the emergency responders and provide information and assistance as needed.

6.3 Hazardous Materials Incident (Outdoors)

This section should be implemented in the event of a major hazardous material incident that occurs outside the building. In this type of event (i.e., train derailment, tractor-trailer accident, etc.). The Ohio State Department of Public Safety uses two strategies for protecting citizens during hazardous material emergencies; The Ohio State Department of Emergency Management will send out alert broadcasts of the proper emergency procedures.

Shelter in Place

The first strategy Public Safety personnel may use is Shelter-in-Place. Under this strategy, everyone in the building should stay in the building until the all clear is given. Employees will take the following actions:

1. Close all windows and doors.
2. Turn personal heating/cooling systems off, if possible.
    a. Main building systems will be adjusted from members of FOD.

The Building Coordinator will ensure these actions are completed. The Building Coordinator and/or Evacuation Coordinators will also conduct a roll call to ensure all personnel are protected.

The Building Coordinator should monitor emergency.osu.edu for updates in real time. Additional, follow up messages will be sent out by OSU's Emergency Management Department as the conditions warrant them. The Building Coordinator will also announce the all clear when declared by Public Safety personnel.

If you or someone becomes ill, they should call 9-1-1 immediately.

If advised by public safety personnel, the Building Coordinator will direct personnel to open doors and windows and allow the building to air out after the all clear is given. The Building Coordinator will also direct personnel to reactivate their personal heating/cooling system.

Special attention should be given and procedures developed if disabled personnel occupy the building.

Evacuation

The second strategy that Public Safety personnel may use is Evacuation. This action may include one of the following items:

1. Walking to an assembly area to be evacuated by public transportation
2. Walk or drive away from the area using travel direction determined by Public Safety personnel.

Building Coordinator will ensure these actions are completed as directed by Public Safety personnel. The Building Coordinator and/or Floor Emergency Coordinators will also ensure all personnel have evacuated the building.

If you or someone becomes ill, they should call 9-1-1 immediately.

Special attention should be given and procedures developed if disabled personnel occupy the building.

6.4 Explosion

If an explosion occurs

What you should do:

1. Get under a sturdy table or desk if objects are falling around you. When they stop falling, leave quickly, watching for obviously weakened floors and stairways. As you exit from the building, be especially watchful of falling debris.
2. Leave the building as quickly as possible. Do not stop to retrieve personal possessions or make phone calls. Do not use elevators.
3. Once evacuated, find a way to receive emergency communications from the university's administration or other jurisdictional agency.
4. Follow any instructions given by administrators or on scene emergency responders.
5. Consider the possibility that the explosion was not an accident, be aware of your surroundings and note any suspicious behavior.

Once you are out:

a) Gather away from the building near your evacuation assembly point, if safe to do so.
b) Do not stand in front of windows, glass doors, or other potentially hazardous areas.
c) Move away from sidewalks or streets to be used by emergency officials or others still exiting the building.

If you are trapped in debris:

a) If possible, use a flashlight to signal your location to rescuers.
b) Avoid unnecessary movement so you do not kick up dust.
c) Cover your nose and mouth with anything you have on hand. (Dense-weave cotton material can act as a good filter. Try to breathe through the material.)
d) Tap on a pipe or wall so Public Safety personnel can hear where you are. If possible, use a whistle to signal rescuers.
e) Shout only as a last resort. Shouting can cause a person to inhale dangerous amounts of dust.
f) Slow your breathing and do not panic.

What Will Happen:

1. Public Safety personnel will provide updated information as it becomes available.
2. Rescuers will work to treat the injured and extricate survivors.
3. You may be required to provide witness statements or other information to aid in determining the cause of the explosion.

6.5 Earthquakes

Although earthquakes are rare in Central Ohio, they can occur without warning. Some earthquakes are instantaneous tremors and others are significant sustained events followed by aftershocks. Once a significant earthquake begins, building occupants must take immediate action. Individuals should take emergency action on their own and additional actions will be implemented after the quake stops. If indoors, watch for falling objects such as light fixtures, bookcases, cabinets, shelves and other furniture that might slide or topple. Stay away from windows. If in danger, get under a table or desk, into a corner away from windows or into a structurally strong location such as a corridor wall. Stay inside under cover until the shaking stops.

If you are indoors:

1. **"DUCK, COVER and HOLD!"** If you are not near a strong desk or table, drop to the floor and cover your head and neck with your arms.
    a. Do not seek cover under laboratory tables or benches, chemicals could spill.
2. Avoid windows, heavy objects, or things hanging from the walls.
3. **Do NOT** try to exit the building during the earthquake. Many fatalities occur when people try to exit the building, and are hit by falling debris.
4. **Do NOT** use elevators.
5. If you use a wheelchair, lock the wheels and cover your head.

If you are outdoors:

1. Stay away from buildings: Falling debris can catch a wind gust and travel great distances.
2. Avoid power lines, tress, and other objects that have the ability to fall or do damage. Move to a clear area if you can safely walk.

Once the earthquake is over:

1. Check the area around you for injuries, or unstable structures or objects. Do not move seriously injured people unless they are in immediate danger. Listen for people who may be trapped or unable to move from danger. Only attempt to help them if it is safe to do so. Report any injured or trapped people immediately.
2. Be cautious of fires, downed power lines, or structural damage. If you are trained how to use a fire extinguisher, then put out small fires as soon as possible.
3. Avoid cell phone usage unless you are reporting injuries. This helps to free the lines for people who may be trapped or injured.

If you are trapped:

1. If possible, use a flashlight to signal your location to rescuers.
2. Avoid unnecessary movement so you do not kick up dust.
3. Cover your nose and mouth with anything you have on hand. (Dense-weave cotton material can act as a good filter. Try to breathe through the material.)
4. Tap on a pipe or wall so rescuers can hear where you are. If possible, use a whistle to signal rescuers.
5. Shout only as a last resort. Shouting can cause a person to inhale dangerous amounts of dust.
6. Slow your breathing and do not panic.

6.6 Armed Intruder/Active Shooter/Workplace Violence/Robbery

The OSU Campus Community may become aware of a violent act by the sounds of an explosion, gunfire, scuffling or by observation of events that could only be intentional acts of violence. Other types of communication such as telephone, email, public address system, or Buckeye Alert.

Life-threatening acts should be reported immediately by calling Ohio State Public Safety at 911

Different types of workplace violence / terrorism require different actions:

- **Explosion** – If an explosion occurs in the building, occupants should evacuate using the same evacuation plan and procedures as they would for a fire.
- **Physical Threat** – If someone's, actions pose a physical threat to you, get away from the perpetrator, evacuate the area and call 9-1-1 from a safe location.
- **Toxic or Irritant Gas** – Immediately evacuate the building using the same evacuation plan and procedures for fire. Acquire medical attention if necessary.
- **Hostage Situation** – If possible, immediately vacate the area, take no chances to endanger the life of the hostage. Contact Ohio State Public Safety at 9-1-1 immediately.
- **Biological / Chemical Threats (Suspicious packages, letters or substances)** – Biological or chemical threats targeting individuals or departments can be controlled by screening incoming materials and by following the procedures outlined in this document.
- **Gunshots/Active Shooter/Armed Aggressor** – An active shooter/armed aggressor is a person who is actively threatening lives or apparently prepared to threaten lives in a populated area. These situations require immediate law enforcement resources to stop the shooting/aggression and mitigate harm to victims. Responding law enforcement agencies will provide information and direction if this occurs. The following are suggestions that may be followed, depending on the situation, in the event of an active shooter on campus:

Do NOT pull the fire alarm. If you hear the fire alarm do NOT evacuate, this could be a ploy to get people to come out of their offices/classrooms/etc.

1. **Run— When an armed aggressor is in your vicinity:**
    a. If there is an escape path, attempt to evacuate.
        i. Help others escape if possible.
        ii. Evacuate- whether others agree to or not.
        iii. Leave your belongings behind.
    b. Keep your hands visible as you leave the building.
    c. Call 9-1-1 when you are safe.
2. **Hide— If evacuation is not possible, find a place to hide:**
    a. Proceed to a room that can be locked.
        i. If the cannot be locked try and secure the door.
    b. Close and lock all windows and doors, and turn off all the lights.
    c. Blockade the door if possible.
    d. Silence your cell phone.
    e. Hide behind large objects.
    f. If possible, get down on the floor where you are not visible from outside the room.
    g. Do not huddle together.
    h. Your hiding place should;
        i. Be out of the shooter's view,
        ii. Provide protection if shots are fired in your direction,
        iii. In addition, not trap or restrict your options if you must move quickly.

3. **Fight— As a last resort, and only if your life is in danger:**
    a. Attempt to incapacitate the active shooter/ armed aggressor.
    b. Act with physical aggression.
    c. Improvise weapons,
        i. Fire extinguishers, books, chairs, etc.
    d. No matter what, be sure to commit to your actions.

When Public Safety personnel arrives be sure to:

- Remain calm and follow instructions,
- Keep your hands visible at all times,
- Avoid pointing or yelling,
- Know that help for the injured is on its way.

If you see or know where an active shooter/armed aggressor is located, dial 9-1-1, if possible and safe to do so and alert Public Safety personnel to the shooter's location. If you cannot speak, leave the line open so the dispatcher can listen to what is taking place because the operator can often determine a location without a caller speaking.

In the event someone is hurt and/or a fire is caused by these events, contact at 9-1-1, if possible and safe to do so.

The Ohio State Department of Public Safety will coordinate the building's security during an incident and will inform the occupants once the building has been cleared for occupancy.

Robbery— The taking of money or goods in the possession of another, from his or her person or immediate presence, by force or intimidation. You should always comply with the demand of the perpetrator and contact Public Safety personnel at 9-1-1, when it is safe to do so. The responding agencies will provide information and direction.

The following are steps that should be followed in the event of a robbery:

- Do not resist or interfere. Comply with the demands of the robber. Do not offer anything that the robber has not asked to have.
- If one is available **AND** it is safe to do so, pull the handle on a panic device. This will silently alert Public Safety.
- If it is safe to do so, call 9-1-1. Provide details on the exact location, what has taken place, if a weapon was seen or a threat made and the general direction of travel of the robber. Provide as much descriptive information as possible.
- Go to a secure place and await Public Safety personnel. **DO NOT** attempt to follow the person. Do not discuss the description or the events with anyone until Public Safety personnel arrive.
- Do not touch anything at the scene of the crime.

6.7 Suspicious Packages, Letters, or Substances

A suspicious package is defined as anything that is out of place and cannot be accounted for or any item suspected of being an explosive device.

Typical signs that should trigger suspicion:

a) Packages that have a powdery substance on the outside.
b) Packages that are unexpected or from someone unfamiliar to you.
c) Packages that have excessive postage, handwritten or poorly typed address, incorrect titles, or titles with no name, or misspelling of common words.
d) Have no return address, or does not seem legitimate.
e) Are of unusual weight given their size, or are oddly shaped.
f) Are marked with "personal" or "confidential."
g) Have strange odors or stains.

What you should not do if you encounter a suspicious package:

- **DO NOT** pass the letter or package to others to examine.
- **DO NOT** touch, smell, taste or try to analyze the substance.
- **DO NOT** disturb any contents in the letter or package. Handling the letter / package may only spread the substance inside and increase the chances of it getting into the air.
- **DO NOT** ignore the threat, it must be treated as real until properly evaluated.
- **DO NOT** leave the building until instructed to do so.

If you find/receive a suspicious package:

1. Relax and remain calm
2. Do not open the letter or package.
3. Contact Ohio State Public Safety at 614-292-2121.
4. REMAIN AT THE SITE UNTIL PUBLIC SAFETY PERSONNEL ARRIVE WITH INSTRUCTIONS.
    a. Public Safety / Healthcare responders can evaluate the risk to those in the room at the time of potential exposure, as well as any impact on the remainder of the building.

If you inadvertently open, a suspicious package/letter or it is leaking a liquid or unknown substance:

1. Immediately set the item down gently at the location where it was opened.
2. Contact Ohio State Public Safety at 614-292-2121.
3. All potentially exposed persons should wash exposed skin surfaces with soap and water.
4. Shut down any fans, air conditioners, or heaters, if possible.
5. Move to an area within the building adjacent to the initial exposure and wait for arriving Public Safety personnel. Example: hallway outside original room.
6. Do not allow others into the area.

Public Safety / Healthcare responders can evaluate the risk to those in the room at the time of potential exposure, as well as any impact on the remainder of the building. Based upon that risk assessment, further emergency measures may be implemented as necessary. If the risk is found to be minimal, other areas of the facility will not be disrupted and any necessary actions to return the affected area to normal activity will begin as soon as possible.

If you have any further questions, please contact Ohio State Public Safety at 614-292-2121 or The Office of Environmental Health and Safety at 614-292-1284.

6.8 Utility Outages

In the event of a CHP trip and a consequent loss of power, the control room operator's primary duty is to ensure that the uninterruptible power system (UPS) provides power to the emergency systems until the emergency diesel generator starts and provides energy to the critical systems and the plant is safely shut down. All plant shut down shall follow the Original Equipment Manufacturer's (OEM's) safety instructions.

If anyone is trapped on an elevator, immediately call the Facilities Operations & Development Service2Facilities at 614-292-4357, or if there is a medical emergency or danger to the health of those who are trapped, call Ohio State Public Safety at 9-1-1.

The fire alarm system and emergency exit signs and lighting, which are on battery backup will remain functional for approximately 24 hours in the event of generator failure.

6.9 Medical Emergencies

What you should do if you see or find a medical emergency

What to do:

1. Check the area for your own safety. Be aware of unusual sights, smells, sounds, or behaviors.
    a. If there is anything unusual, do NOT attempt care, call Ohio State Public Safety at 9-1-1, and report the situation.
2. If the scene is safe, only then approach the victim.
    a. Determine if the victim is conscious and breathing.
    b. If they are conscious, ask if they need assistance, and what the problem is.
    c. Note any unusual behavior, bleeding, trouble breathing, or anything else that may indicate that that person needs more assistance.
3. Call The University Public Safety Department at 9-1-1. And give the dispatcher the following information;
    a. Your name,
    b. Type of emergency,
    c. Location of the victim,
    d. Condition of the victim,
    e. Dangerous conditions,
    f. Age of the victim,
    g. And any other information you have gathered during your assessment.
4. Only attempt care if you are trained to do so. If you are not trained, then simply stay with the victim until help arrives.
5. Comfort the victim and try not to move him or her until emergency medical personnel arrive. Practice universal precautions – protect yourself from blood or body fluid exposures.
6. Have someone wait for arriving first responders' outside
7. If the victim is a staff member notify his or hers supervisor if able.
8. If applicable, an employee accident report should be completed.

6.10 Elevator Emergencies

What you should do for an elevator entrapment:

1. Use the elevator phone or cell phone to call Service2Facilities 614-292-4357.
    a. Tell the dispatcher your name and that you are stuck in an elevator.
    b. Tell the dispatcher what building you are in and which elevator (if known).
    c. Tell the dispatcher if others are in the elevator with you and how many.
2. If the elevator you are in has no phone or it does not work, push the "emergency" or "bell" button until you hear acknowledgement that help is on the way.
3. Do not attempt to exit the elevator through a hatch or pry the doors open.
4. Do not exit the elevator if the doors open and you are between floors, unless instructed to do so by emergency personnel. The elevator could move, endangering your life.
5. Never attempt to exit an elevator that has stalled.

What will occur once Dispatch is notified:

1. Facility Services will respond and allow safe exit from the elevator. The fire department or elevator company will be called if further help is needed.

6.11 Flooding and Water Damage

In the event of flooding or water damage from a source inside the building:

1. Notify Service2Facilities by calling 614-292-4357.
    a. Tell the dispatcher the location of the incident including building name, floor, and room number.
    b. Tell the dispatcher the areas affected.
    c. Tell the dispatcher the cause of the incident, if known.
    d. Tell the dispatcher the time flooding began, if known.
2. Attempt to stop the leak from the source if it is safe to do so.
    a. Beware of any electrical sources present. Do not attempt to unplug or remove an electrical appliance from a flooded area.
3. Protect objects in jeopardy by taking essential steps to avoid or reduce immediate water damage.
    a. Cover objects in plastic or move small or light objects out of danger.

In the event of flooding from a source outside of the building:

1. Prepare for the possibility of widespread flooding from the Olentangy River or from heavy rain by monitoring weather forecasts.
    a. Adhere to advice relayed by the National Weather Service in Wilmington and Ohio State's Division of Emergency Management and Fire Prevention.
    b. Follow @NWSILN and @OSU_EMFP on Twitter for the latest information.
2. Take precautions by protecting objects in jeopardy.
    a. Cover objects in plastic or move small or light objects out of danger.
3. In the event of imminent flooding, contact your department head to determine if you need to report to work.

In the event of flash flooding:

1. Prepare for the possibility of flash flooding by monitoring weather forecasts.
    a. Adhere to advice relayed by the National Weather Service in Wilmington and Ohio State's Division of Emergency Management and Fire Prevention.
    b. Follow @NWSILN and @OSU_EMFP on Twitter for the latest information.
2. Once flash flooding begins, with or without warning, immediately evacuate to a higher floor until given more direction by public safety personnel.

6.12 Bomb Threat

A person may become aware of a bomb threat by a telephone call, e-mail, letter, etc. This person should gather as much information as possible once they become aware. Please see the information card in Appendix C. Once all the possible information has been gathered, notify Ohio State Public Safety by dialing 9-1-1.

After notifying the Department of Public Safety, the person should then notify his or her supervisor, the Building Coordinator and the Department Chairperson/Director as quickly as possible.

A decision will be made to determine if a building evacuation is warranted. If it is warranted, evacuation should take place as outlined in the fire emergencies section. Occupants should not touch any suspicious or unfamiliar objects. Occupants should note the location and description of any suspicious, unusual or out of place objects and report such observation to the emergency responders. Occupants should not conduct any type of search of the building unless asked to do so by Public Safety personnel. If building occupants are asked to conduct a search, Public Safety personnel will provide instructions on how to proceed. Usually, those individuals most familiar with the areas will be asked to conduct the search.

If an explosion does occur, building occupants should leave the building using the same evacuation plan and procedures as they would for a fire.

The Ohio State University Department of Public Safety or the Building Coordinator/Department Chair/Director will manage the building's security during a bomb threat. This group will also contact building occupants and advise them on when to return to work if an evacuation occurs.

Bomb Threat Assessment (Evacuation) Procedure

The general policy will be to review each situation or circumstances as it presents itself. A decision to evacuate or not to evacuate will be reached by consensus among authorized building/facility officials and members from the Department of Public Safety.

A key component of this policy is that the considerations of people will take precedence over that of property.

In all aspects of this policy, as the situation allows itself or as is appropriate, the most senior University Public Safety official will communicate the nature of the situation and consult with either the Senior Vice President for Administration and Planning and/or Business and Finance, the Provost and the Office of the President.

6.13 Severe Weather Emergencies

Severe weather can include tornado, high wind, thunderstorms, flash flood or winter weather, such as snow, hail, and sleet. Severe weather is monitored by the OSU Emergency Management Department. Usually no action is required when there is severe weather. If action is necessary, the OSU Emergency Management Department will issue emergency alerts through all the emergency communications methods available. Remain calm and wait for further instruction and updates.

Severe Weather Alerts and Action

The National Weather Service has defined severe weather alerts that are of concern.

a) Severe Thunderstorm Watch:

Definition: Issued when conditions are favorable for the development of severe thunderstorms, which may produce large hail and/or high winds, in and close to the watch area.

Action: Continue your normal activities, but keep an eye to the sky and an ear to the radio or TV, and for OSU emergency communications.

b) Severe Thunderstorm Warning:

Definition: Issued when either a severe thunderstorm is indicated by radar or a spotter reports a thunderstorm producing hail one inch or larger in diameter and/or winds equal or exceed 58 miles an hour.

Action: Review this severe weather action plan. Stay away from windows and avoid going outside. Continue normal activities but be prepared to move to better shelter, if advised. Continue to stay alert for emergency communications.

c) Flash Flood Watch:

Definition: Issued to indicate current or developing hydrologic conditions that are favorable for flooding in and close to the watch area, but the occurrence is neither certain or imminent.

Action: Continue your normal activities, but stay alert to the radio or TV, and for OSU emergency communications.

d) Flash Flood Warning:

Definition: Issued to inform the public, emergency management and other cooperating agencies that flash flooding is in progress, imminent, or highly likely.

Action: Continue your normal activities, but stay alert to the radio or TV, and for OSU emergency communications. Watch for signs of flooding in or around the lowest levels of the building.

e) Winter Weather Advisory:

Definition: Issued when a low pressure system produces a combination of winter weather (snow, freezing rain, sleet, etc.) that present a hazard, but does not meet warning criteria.

Action: Continue your normal activities, but stay alert to the radio or TV, and for OSU emergency communications.

f) Winter Storm Watch:

Definition: Issued when there is a potential for heavy snow or significant ice accumulations, usually at least 24 to 36 hours in advance. The criteria for this watch can vary from place to place.

Action: Continue your normal activities, but stay alert to the radio or TV, and for OSU emergency communications.

g) Winter Storm Warning:

Definition: Issued when a winter storm is producing or is forecast to produce heavy snow or significant ice accumulations. The criteria for this warning can vary from place to place.

Action: Stay indoors. Avoid unnecessary travel. Continue your normal activities, but stay alert to the radio or TV, and for OSU emergency communications.

h) Tornado Watch:

Definition: Issued when conditions are favorable for the development of tornadoes in and close to the watch area.

Action: Review this severe weather action plan. Continue normal activities but be prepared to move to better shelter. Continue to stay alert for emergency communications. Stay away from windows and avoid going outside.

i) Tornado Warning:

Definition: Issued when a tornado is indicated by radar or sighted by spotters.

Action:

1. In the event of a tornado, or tornado warning, do not wait for instruction. Move to your severe weather shelter, which is:

Directions
Travel to the CHP plant basement near the Steam Turbine condensate pumps.

- If you cannot make it to the above location, try to move to the lowest level possible and find any interior area that does not have windows or glass (i.e. a bathroom). Close office doors as you leave, and if you have any emergency kit already prepared, bring it. The greatest threats from high tornado winds are roof failure, breaking glass, and flying debris.

2. **Do not use** elevators, and stay away from windows and doors with glass in them.
3. Sit or crouch in an inner hall or room.
4. Do not leave the severe weather shelter area until the "**all-clear**" is given from emergency personnel or from updated alerts from the Department of Emergency Management.
5. If someone is trapped or injured, report it to the Department of Public Safety at 9-1-1 and give them as much information as possible.

SECTION 7: TRAINING AND REVIEW

7.1 Employee Orientation

New ENGIE Buckeye Operations employees must be informed of the BEAP as part of their orientation as new employees. This initial plan and all significant revisions to the plan will be routed to all personnel via the Building Coordinator.

7.2 Review of the BEAP

On an annual basis, the Building Coordinator will review the BEAP to ensure employee listings, emergency phone numbers, and the Building Coordinators information is current. An updated copy of the BEAP should be sent to emergencymanagement@osu.edu.

7.3 Training

Upon implementation of the BEAP and periodically thereafter, all ENGIE Buckeye employees must be informed of the BEAP and should attend training.

APPENDIX A: QUICK REFERENCE GUIDE

EMERGENCY EVENT	WHAT YOU SHOULD DO
When calling **9-1-1** or **614-292-2121** provide the following information: • Type of emergency • Location (building and room number) • Your name	**Call 9-1-1 for all emergencies.** Dialing 9-1-1 from a mobile telephone on main campus results in the call going to the City of Columbus – please indicate you are on OSU's main campus. If elevators are inoperable, people in wheelchairs should be moved to the closest safe area and await assistance. Alert 9-1-1 for the need for assistance. **Building Coordinator: Brad Coy**
Fire	Immediately stop what you are doing and exit area. (do not use elevators) Pull closest fire alarm pull station. (If the alarm is not already activated) Report to the evacuation assembly point: • **Parker Food Science and Technology Building parking lot** Remain at the assembly point until given the all clear to re-enter the building
Tornado	Upon notification of a tornado warning from the National Weather Service please report to your building's designated tornado shelter: • Travel to the CHP basement near the steam turbine condensate pumps.
Medical Emergency	Call Ohio State Public Safety at **9-1-1**. Provide the following information to the dispatcher: • Your name, • Type of emergency, • Location of the victim(s), • Condition of the victim(s), • **Any dangerous conditions.** Monitor the injured person until EMS arrive.
Hazardous Materials Incident Occurring Outside	Upon notification of an incident: close all windows and doors. Stay in the building until given the all clear or instructed to do so by Public Safety personnel.
Bomb Threat	Contact Ohio State Public Safety at **9-1-1**. Report anything suspicious to responding Public Safety personnel. If ordered to evacuate the building and you notice anything out of the ordinary inform Public Safety personnel immediately. Be sure to take all-important belongings (purses, wallets, medication, briefcases, etc.) with you when exiting because reentry to the building might not be possible for several hours.
Violent Incident (Armed Aggressor/ Active Shooter)	**Run**— Remove yourself from the danger zone as quickly as possible if safe to do so. Notify Ohio State Public Safety and building occupants of the situation if safe to do so. **Hide**— Secure your room, by locks, furniture, etc. Turn off lights and silence your cell phone. Notify Ohio State Public Safety and building occupants of the situation if safe to do so. **Fight**— Find items to use to distract the attacker. Prepare to swarm the attacker.
Utility Emergency	**Contact Service2Facilities**— 614-292-4357

APPENDIX B: RESPONSIBLE INDIVIDUALS

Building Coordinator
Name: Brad Coy
Room Number: N/A
Phone Number: 740-502-4559

Alternate Building Coordinator
Name: Gregg Garbesi
Room Number: N/A
Phone Number: 530-902-7181

Floor Evacuation Coordinator
Name: CHP control room operator
Room Number: N/A
Phone Number: TBD

Appendix B.1: University Resource List

University Department:	Phone:	Web Address:
Central Alarm Center (Dispatch/Security Alarm)	Police Emergency **911**	OSU Communications Center
	Police Non-Emergency **614-292-2121**	OSU Communications Center
	Central Alarm Center **614-292-6677**	OSU Communications Center
Service2Facilites	**614-292-4357**	OSU Service2Facilities
Environmental Health & Safety	**614-292-1284**	OSU EHS
OSU Transportation & Traffic Management	**614-292-7433**	OSU TTM
Office of the Chief Information Officer	**614-688-4357**	OSU OCIO
Facilities and Operations Development	**614-292-4357**	OSU FOD
Department of Public Safety	**614-247-6300**	OSU DPS
Central Campus Security Services	**614-292-6677**	OSU Central Campus Security
Office of Student Life	**614-292-9334**	OSU Student Life
Student Safety Service	Request a Safe Ride **614-292-3322**	OSU Student Safety Service
The Ohio State University Wexner Medical Center	Transfer Center **614-293-5123**	OSU Wexner Medical Center
	Medical Center Security **614-293-8500**	OSU Medical Center Security
Ohio State University Police Division	**614-292-2121**	OSU Police Division
Ohio State University Emergency Management and Fire Prevention Division	Emergency Management **614-247-4911**	OSU Emergency Management
	Fire Prevention **614-247-3473**	OSU Fire Prevention
	Building Emergency Action Plans **614-688-2863**	Building Emergency Action Plans (BEAPs)
OSU Purchasing	**614-292-2694**	OSU Purchasing
Lenel	**614-292-7462** **614-292-1415**	N/A

APPENDIX C: BOMB THREAT (EXPLOSIVE DEVICE) DATA CARD

This section (or a similar one) should be used when a bomb threat is received via the telephone.

The Ohio State University
Department of Public Safety

Explosive Device
Data Card

PLACE THIS CARD UNDER YOUR TELEPHONE

QUESTIONS TO ASK:

1. When is the explosive device set to explode?
2. Where is it right now?
3. What does it look like?
4. What kind of explosive device is it?
5. What will cause it to explode?
6. Did you place the explosive device?
7. Why?
8. What is your address?
9. What is your name?

EXACT WORDING OF THE THREAT:

_____

_____

_____

_____

Sex of Caller:____ Race/Nationality:_____

Number at which call was received:_____

Time:_____
Date:_____

CALLER'S VOICE:

_____ Calm	_____ Nasal
_____ Angry	_____ Stutter
_____ Excited	_____ Lisp
_____ Slow	_____ Raspy
_____ Rapid	_____ Deep
_____ Soft	_____ Ragged
_____ Loud	_____ Clearing throat
_____ Laughter	_____ Deep breathing
_____ Crying	_____ Cracking voice
_____ Normal	_____ Disguised
_____ Distinct	_____ Accent
_____ Slurred	_____ Familiar

If voice is familiar, whom did it sound like?

_____

BACKGROUND SOUNDS:

_____Street Noises	_____Animal Sounds
_____Voices	_____Clear
_____PA system	_____Static
_____Music	_____Local
_____House Sounds	_____Long Distance
_____Office Sounds	_____Phone Booth
_____Factory Sounds	_____Other:

THREAT LANGUAGE:

_____ Well spoken	_____ Incoherent
_____ Foul	_____ Taped
_____ Irrational	_____ Read

REMARKS:_____

_____

_____

Immediately call The Ohio State University
Public Safety Department at 9-1-1
Give responding officers this completed card.
Date:_____ Name:_____

Position:_____ Phone #:_____

APPENDIX D: BUILDING EVACUATION MAPS

To be issued after final design completion.

Evacuation Guidelines

- In case of fire or other emergency requiring evacuation, activate the nearest fire alarm pull station.
- Notify the Department of Public Safety by calling **9-1-1** from a safe location.
- Follow department specific procedures, if available.
- Assist those unable to evacuate on their own (if safe to do so).
- Report anyone trapped, needing assistance, or staying behind to keep critical processes operational to emergency response personnel.
- Go to the **EVACUATION ASSEMBLY POINT**:
  - Insert location
- Report anyone known missing or trapped inside the building. Share this information with Emergency Responders.

Safety Guidelines

- Be familiar with your building's exits, fire alarm, and fire extinguisher locations.
- Only use fire extinguishers if you know how, and it is safe to do so.
- Keep fire doors closed to prevent the spread of smoke and fire.
- Be familiar with department specific emergency procedures, if available, and know your role.
- In case of a tornado warning, proceed to the lowest level possible and keep away from outside doors and windows.

Floor number
Building Name/Number
Building address

APPENDIX E: STAIRWELL & ELEVATOR INFORMATION (TO BE COMPLETED AFTER FINAL DESIGN OF THE CHP)

Stairwells

Location	*Floor Access	Roof Access	Standpipe	Exit

Elevators (TO BE COMPLETED AFTER FINAL DESIGN OF THE CHP)

Elevator Number	Elevator Location	*Floors Access	Notes

***Floor Access Key**

Number	Description
B	Basement, Lowest Level
G	Ground
1	1st floor
2	2nd floor

Notes

Any special information in regards to the building.

APPENDIX F: AREAS OF REFUGE AND ASSEMBLY LOCATIONS

Assembly Locations

1. Areas of Refuge

   If you are unable to evacuate for any reason please go with a floor coordinator or other building occupant to an area of refuge that is away from any obvious danger. The floor coordinator/other building occupant will then go to the building evacuation assembly point and notify the on-site emergency personnel of your location. Emergency personnel will determine if further evacuation is necessary.

   AREAS OF REFUGE:

Floor Number:	Location(s):
Basement Floor	Steam turbine condensate pumps
First Floor	Electrical switchgear room
Second Floor	Central control room

2. Outside Assembly Point

   The assembly point(s) should be an open area away from the building and out of the way of responding emergency personnel. Occupants meet after evacuation so they may be accounted for or lend assistance as needed. There may be more than one assembly point depending on the size of the building and the location of the exits.

   SUGGESTED ASSEMLY POINTS:

Type:	Location:
Outside- 1	Parker Food Science and Technology Building parking lot
Outside- 2	OSU Veterinary Hospital parking lot

APPENDIX G: HAZARDOUS CHEMICAL SPILL CLEANUP GUIDELINES

You Clean up the Spill

For chemical spills which do not involve injury, do not represent a fire or life hazard, are less than one gallon and for which you have the proper training and proper personal protective equipment to do the cleanup, you clean up the spill. If there are any questions concerning a particular spill situation, contact EHS.

EHS Cleans up the Spill

For all other chemical spill situations, including those for which you have any questions or doubts about your ability to clean up the spill, first call the CHP central control room, and then call Environmental Health and Safety (EHS) at 614-292-1284. The situation will be evaluated and a proper response will follow. After normal business hours, contact EHS by calling 9-1-1. Report all injuries, fires, explosions and potential life-threatening situations first to 9-1-1, then to EHS. If the chemical spill is too large for the University Spill Response Team to clean up, the Columbus Fire Department HazMat Team and/or private contractors will be called in to handle the cleanup procedures.

Planning for Chemical Spill Emergencies

Prepare an Emergency Telephone Sheet

The sheet should contain the following information and should be posted by each telephone;

- Name and phone number of on-site emergency personnel,
- Emergency telephone number: 9-1-1,
- Environmental Health and Safety telephone number: 614-292-1284,
- Location of the fire extinguishers,
- Location of the spill control equipment,
- Location of the fire alarm.

Train all employees in chemical spill procedures when they are first hired and periodically thereafter. Document training and have the employee and supervisor sign the documentation form to certify that the training was given. Keep the certification forms on file.

You can assist EHS by drawing a map of your lab or service area and clearly labeling where chemicals and waste chemicals are stored. Fire extinguishers, eyewashes, spill kits, exit routes and any additional hazards should be clearly marked. Keep a copy of the map in the main office of your department and send a copy to EHS. If an emergency does occur, your main office or EHS could provide advance warning to emergency response personnel of hazards in the room. Update these maps whenever chemical management practices change in the room.

Hazardous Chemical Spill Cleanup Guidelines

Chemical spill or hazardous materials emergency situations should be handled in the following the following manner RESCUE, CONFINE, REPORT, SECURE, CLEANUP.

Rescue

Just as you are not to reenter a burning building, do not go back in to an area where a chemical spill has occurred. In many documented cases, rescuers not wearing proper protective equipment have been overcome by toxic or asphyxiating fumes trying to rescue other victims and died as a result. Do not make this mistake.

As you leave an area involved in a chemical spill, assist people exiting the area by doing the following:

- Evacuate personnel from the spill area,
- Direct personnel to the nearest fire exit. Do not use the elevators,
- Attend to victims,
- Provide First Aid;
    - Remove victim from spill area to fresh air (but do not endanger your own life by entering areas with toxic gases),
    - Immediately remove contaminated clothing,
    - Wash skin with water,
    - Flush skin and/or eyes with water for at least 15 minutes,
        - (You may not feel any immediate effect from a chemical spill, but it is important to wash quickly and thoroughly because many chemicals can cause severe tissue damage which is not apparent until hours later).
- Get medical attention for victims.
- Chemical spills over large body areas;
    - Remove contaminated clothing while under a shower,
    - Flood affected body area with water for 15 minutes,
    - Resume water wash if pain returns,
    - Wash off chemicals with water; do not use neutralizing chemicals, creams, lotions or salves,
    - Make sure medical personnel understand exactly what chemical is involved.

Confine

- Close all doors,
- Isolate area,
- Establish exhaust ventilation if possible,
    - Contact maintenance staff via Service2Facilities 614-292-4357 to assist.
- Without exposing yourself to the fumes open windows if possible.

Report

- Call 9-1-1;
    - For spills that involve injury requiring medical treatment,
    - For spills that involve fire or explosion hazards,
    - For spills which are potentially life threatening,
    - For all large chemical spills after work hours (4:30 PM -7:30 AM).
- Call EHS at 614-292-1284;
    - For chemical spill situations that do not require 9-1-1 assistance

- For spills of one gallon or more of any chemical, or any quantity of a highly reactive or toxic material,
- For spills of an unknown chemical,
- For spills that you do not have proper training or proper personal protective equipment to do the cleanup,
- For spills for which you have any questions or doubts about your ability to clean up the spill.

When calling EHS the following information will be requested;

- Your name, telephone number, and location
- Location of the incident
- Time and type of incident
- Name and quantity of the material involved
- The extent of injuries, if any
- The possible hazards to human health or the environment outside the facility
- Other hazards that may be encountered in the area, such as large quantities of stored chemicals (particularly oxidizers, flammables, and air-born toxic or irritant materials), radioactive materials, biohazards, etc.

Secure

Until emergency responders arrive on the scene, secure the spill site and prevent people from entering the contaminated area.

- Lock doors leading to the chemical spill and post signs on the doors warning of the spill (if necessary),
- Post staff at commonly used entrances to the spill site, so they can warn people to use other routes,
- For large outdoor chemical spills, keep upwind and uphill from the site.

Cleanup

Based on the chemical spill situation described in "Who Cleans up the Spill" section, decided who will do the cleanup. If you are going to do the cleanup, follow the procedures listed in the section below.

What to do when YOU clean up a Spill

If you have proper training, proper personal protective equipment and the proper materials to absorb and clean up the chemical spill; and, if no one is injured, the spill is contained and the spill is not life threatening or a fire or explosion hazard; follow the following procedures:

10. Perform all the procedures in the RESCUE, CONFINE, REPORT and SECURE sections.
11. When cleaning up the spill yourself, locate the spill kit.
12. Choose appropriate personal protective equipment.
    a. Always wear protective gloves and goggles.
    b. If there is a chance of body contact, wear an apron or coveralls.
    c. If the spill is on the floor, wear protective boots or shoe covers.
    d. If there are inhalation hazards, wear a respirator. If a respirator is used, the person wearing the respirator must meet all of the requirements set forth in 29 CFR

1910.134. (These include but are not limited to fit testing and medical exams).

13. Remove ignition sources.
    a. Turn off hot plates, stirring motors and flame sources.
    b. Shut down all other equipment.
    c. If unable to shut off sources of ignition, notify the emergency responders.
14. Confine or contain the spill.
    a. Cover with an absorbent mixture.
    b. Clean up minor spill with paper towels or a sponge if they will not react.
    c. Sweep solid materials into a dustpan, and place in a sealed container.
    d. If it is an acid/base spill, first add a neutralizing agent.
    - Small amounts of inorganic acid/base:
        - Use a neutralizing agent and then absorbent material.
    - Small amounts of other materials:
        - Absorb with non-reactive material (vermiculite, sand, towels, Floor-Dri).
    - Large amounts of inorganic acid/base:
        - Neutralize and call for help.
    - Large amounts of other materials:
        - Make a judgment call, dependent upon the amount, toxicity and reactivity; you may handle it yourself or call for help.
15. Spills that require special handling:
    a. Acid chlorides:
        i. Use Oil-Dri, Zorb-all, dry sand, etc.
        ii. Avoid water and sodium bicarbonate.
    b. Mercury:
        i. Even small mercury spills can become huge cleanup projects due to the mercury easily breaking into many small pieces and spreading easily to large areas. It is suggested that EHS be called to clean up even very small mercury spills. EHS also has the capability of conducting mercury vapor monitoring to ensure safe levels of mercury vapor following a cleanup.
    c. Alkali metals:
        i. Smother in dry sand.
        ii. Put in a hood.
        iii. If possible, dispose of by slow addition of isopropanol.
    d. White (Yellow) Phosphorus:
        i. Blanket with wet sand or wet absorbent.
16. Remove absorbent material with a broom and dustpan.
    a. Place in a plastic bag or other appropriate container.
    b. If the spilled chemical is a volatile solvent, transfer the plastic bag to a fume hood for storage until the material can be picked up.
    c. If a material is a non-volatile hazardous chemical, dispose of the material as a hazardous chemical waste.
    d. If the spilled material is a non-volatile non-hazardous chemical, contact EHS to determine the appropriate disposal method.
17. Wet mop the spill area.

EHS Comments

Questions may arise as to what constitutes a large spill requiring EHS or other parties to cleanup or oversee the cleanup procedures and what are the limitations of commercially available spill cleanup kits.

A “large” chemical spill can be as small as a few milliliters if the material is a highly volatile, toxic or reactive compound spilled in a confined space. Many times you will have to make a professional judgment as to the severity of the spill. When in doubt, you can always call EHS at 614-292-1284 for advice or assistance.

Chemical spill cleanup kits are a must in the laboratory and other service areas that use chemicals. The kits are very useful if you and your fellow workers know how to use them properly. Chemical absorbents or neutralizers can be used quickly and effectively to contain a spill. Use these items if your personal safety is not in jeopardy. If in your judgment a respirator is necessary to clean up the spill, secure the room and call EHS to aid in the spill cleanup.

Be aware of the fact that while you may be in a well ventilated room, the Lower Explosion Limit (LEL) of a chemical may be reached at the surface of the spill and you want to avoid any sparks or sources of ignition when doing the cleanup. The protective equipment in a spill kit will not protect you from a flash fire. Many times the best way to handle the spill of a highly volatile compound, such as diethyl ether or chloroform, is to open the windows and fume hoods, leave the room, close the doors and let the room air out. In these cases, call EHS at 614-292-1284, so they can send someone to monitor the situation. If in your professional opinion, there is a strong risk of fire or explosion, call 9-1-1 and EHS for fire department backup, pull the building alarm and evacuate the building. In most cases of a chemical .bottle breaking in a laboratory, you will not need to call the fire department.

Do not forget that any person who needs to wear a respirator must be fit tested, have a medical exam and meet the requirements of 29 CFR 1910.134.

APPENDIX H: FIRE EXTINGUISHER LOCATIONS (TO BE DETERMINED AFTER DETAILED DESIGN OF THE CHP IS FINALIZED)

The following locations have been identified as having portable fire extinguishers nearby:		

APPENDIX I: PERSONS WITH FUNCTIONAL NEEDS

The following information has been voluntarily provided by those who have self-identified themselves as having a functional need. This information, since it is part of the BEAP, will be shared with employees within this building.

A functional need is defined as, "the needs of an individual who under usual circumstances is able to function on their own or with support systems. However, during an emergency, their level of independence may be challenged."

	Name	Primary Location	Phone	Name.#
Person with Functional Need				
Evacuation Assistant				
Special Need				

APPENDIX J: UNUSUALLY HAZARDOUS LOCATIONS AND KEY PERSONNEL

NOT APPLICABLE

APPENDIX K: FACILITY AND UTILITY INFORMATION

TO BE DETERMINED AFTER THE DETAILED DESIGN OF THE CHP

EXHIBIT P: Acentech Baseline Ambient Sound Survey

ACENTECH

33 Moulton Street
Cambridge MA 02138
617 499 8000
acentech.com

16 May 2019

TRC *** via email: MSponsler@trccompanies.com ***
690 Taylor Road – Suite 100
Gahanna, OH 43230

Attention: Mike Sponsler
Senior Project Manager

Subject: Baseline Ambient Sound Survey
OSU Combined Heat and Power Project
Columbus, OH
Acentech Project No. 631983

Dear Mr. Sponsler:

INTRODUCTION

At your request, Acentech conducted a series of ambient sound measurements near the proposed location of a planned new combined heat and power project (Project) at The Ohio State University (OSU) in Columbus, OH. The purpose of our measurements was to characterize the existing ambient sound levels near the Project perimeter.

For this study, Alex Odom of Acentech visited the project area on 6 and 7 May 2019, met with TRC staff, discussed the measurement program, and conducted sound measurements following the baseline ambient sound monitoring protocol established by TRC, enclosed. Figure 1 is an aerial photograph that displays the Project area and measurement locations. The pertinent results of our recent measurements and observations are summarized in this letter.

PROJECT OVERVIEW

The Project consists of two (2) Siemens SGT 700 combustion turbine generators to be located inside of buildings, with a nominal capacity of 85 to 105 MW; inlet air cooling; low NOX burner; two (2) heat recovery steam generators; supplemental duct burners for increased steam production; SCR; oxidation catalyst; one (1) condensing steam turbine generator with an extraction for process steam; processed water supply from main campus to CHP; electrical interconnection to the existing OSU Substation; and interconnection to existing Columbia Gas natural gas lines.

We understand that all immediately adjacent properties to the project area are controlled by the State of Ohio (OSU or ODOT). The closest occupied structures not controlled by OSU are across SR 315 at the Lifeline of Ohio, an organ donor facility, and an apartment building (Stadium View), located southwest of the Lifeline building.

MEASUREMENT AND RESULTS

Meteorological Conditions

The weather conditions during our site visit were favorable for the measurement of sound. Meteorological conditions are shown in Table 1.

Measurement Locations

We obtained our sound measurements at the following locations (1 to 4), which are shown in Figures 1 and 2:

- Location 1 – OSU Veterinary Hospital, about 200 ft. south of Project.
- Location 2 – OSU Department of Food Technology Building, about 200 ft. north of Project.
- Location 3 – Martha Morehouse Medical Plaza, about 0.12 miles southwest of Project.
- Location 4 – Lifeline of Ohio, about 0.22 miles south of Project.

Measurement Equipment

Table 1 lists the type of acoustic instruments used for our recent sound measurements. The sound level meter was equipped with a windscreen and mounted on a tripod about five feet above the ground. Calibration of each system was performed in the field before and checked after the monitoring period. All monitoring procedures conformed to industry-accepted practices.

Results

At each location, we measured the L90 (background) overall A-weighted sound level and octave band sound pressure levels (31.5 Hz – 8000 Hz octave bands). The L90 level represents the amplitudes that were exceeded 90 percent of the time; this metric is commonly used to establish background sound levels. Similar statistical metrics exist that represent the sound levels exceeded x% of the time (e.g., L10 is exceeded 10% of the time). The “energy-average” sound levels, often called “equivalent sound levels” or Leq, were also measured.

At all four locations, there was significant traffic noise from SR 315. Traffic was steady during most of the day, and continued with less volume during the nighttime period. During daytime monitoring, there were frequent airplane fly-bys. Some measurements included noise from birds.

At Location 1, local sources included rooftop equipment on the Veterinary Hospital and ground level fans on the nearby greenhouse. At times, a high-pitched noise was audible from an unknown source on the Veterinary Hospital. During the day, additional intermittent local traffic and land care activity influenced the measurements.

At Location 2, sources included local traffic and an oscillating tonal noise, likely due to a fan on the Food Technology Building.

Location 3 was dominated by traffic noise, and was directly adjacent to a rail line. At night, an outdoor cooling unit located on the ground at the nearby OSU Adventure Recreation Center was audible.

Location 4 had the most direct line-of-sight to the SR 315. During quieter times, the above-mentioned high-pitched noise from the Veterinary Hospital was audible here. A train pass-by, directly adjacent to Location 4, was recorded during the nighttime measurements.

Table 3 summarizes the overall A-weighted sound levels (15-minute L90 values) measured at each location. Additional statistical metrics (Leq, L99, L50, L10, and L1) are shown in Table 4. These additional statistical metrics demonstrate the fluctuations in sound levels observed at each location. The L1 is typically representative of the nominal maximum. The Leq will be controlled by traffic noise. For example, in one 15-minute period at Location 1 in the morning, sound levels ranged from 56 dBA (L99) to 70 dBA (L1). This large difference is a result of short duration high sound level events such as planes flying overhead or other local activity. At the same location at night, sound levels ranged from 54 dBA (L99) to 61 dBA (L1). This smaller spread in the data indicates that sound levels are steadier at night.

Table 5 and Figures 3 to 6 show the octave band sound pressure levels (15-minute L90 values) measured at each location during different times of day. We will keep additional statistics in octave band form on file. From each of these figures, a tone exists at 1000 Hz that lessens in the nighttime data. This tone is a result of traffic noise, and reduces at night with lower traffic levels. This tone was also more significant at locations with more direct line-of-sight to the highway (Locations 2-4).

****

We trust that these data suitably document the current sound environment near the proposed OSU CHP. Please contact us (Jim at 617-499-8018 and Alex at 617-499-8027 direct) if you have any questions regarding this report or our study.

Sincerely yours,

ACENTECH

James D. Barnes, F. INCE Alex Odom

Figures 1-6
Tables 1-4
Noise Study Area - Quick Facts Sheet by TRC for ENGIE (4/17/2019)

FIGURE 1.

AERIAL VIEW SHOWING PROPOSED FACILITY AND MEASUREMENT LOCATIONS 1 TO 4.

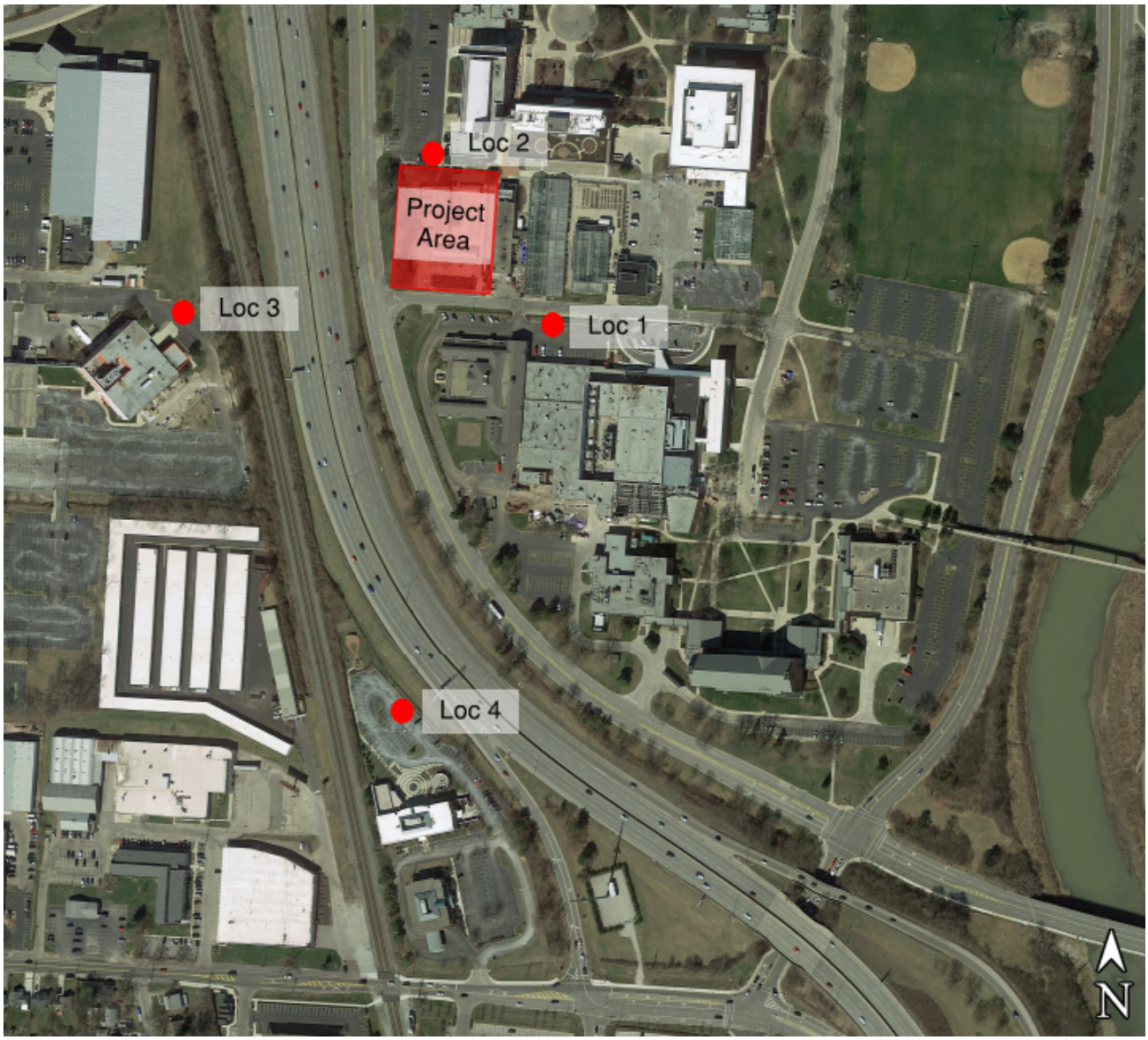


FIGURE 2

VIEW FROM LOCATION 1 LOOKING N.

VIEW FROM LOCATION 2 LOOKING S TO FACILITY.

VIEW FROM LOCATION 3 LOOKING NE TO FACILITY.

VIEW FROM LOCATION 4 LOOKING NE.

FIGURE 3.

L90 OCTAVE BAND SOUND PRESSURE LEVELS AND OVERALL A-WEIGHTED SOUND LEVELS MEASURED AT LOCATION 1.

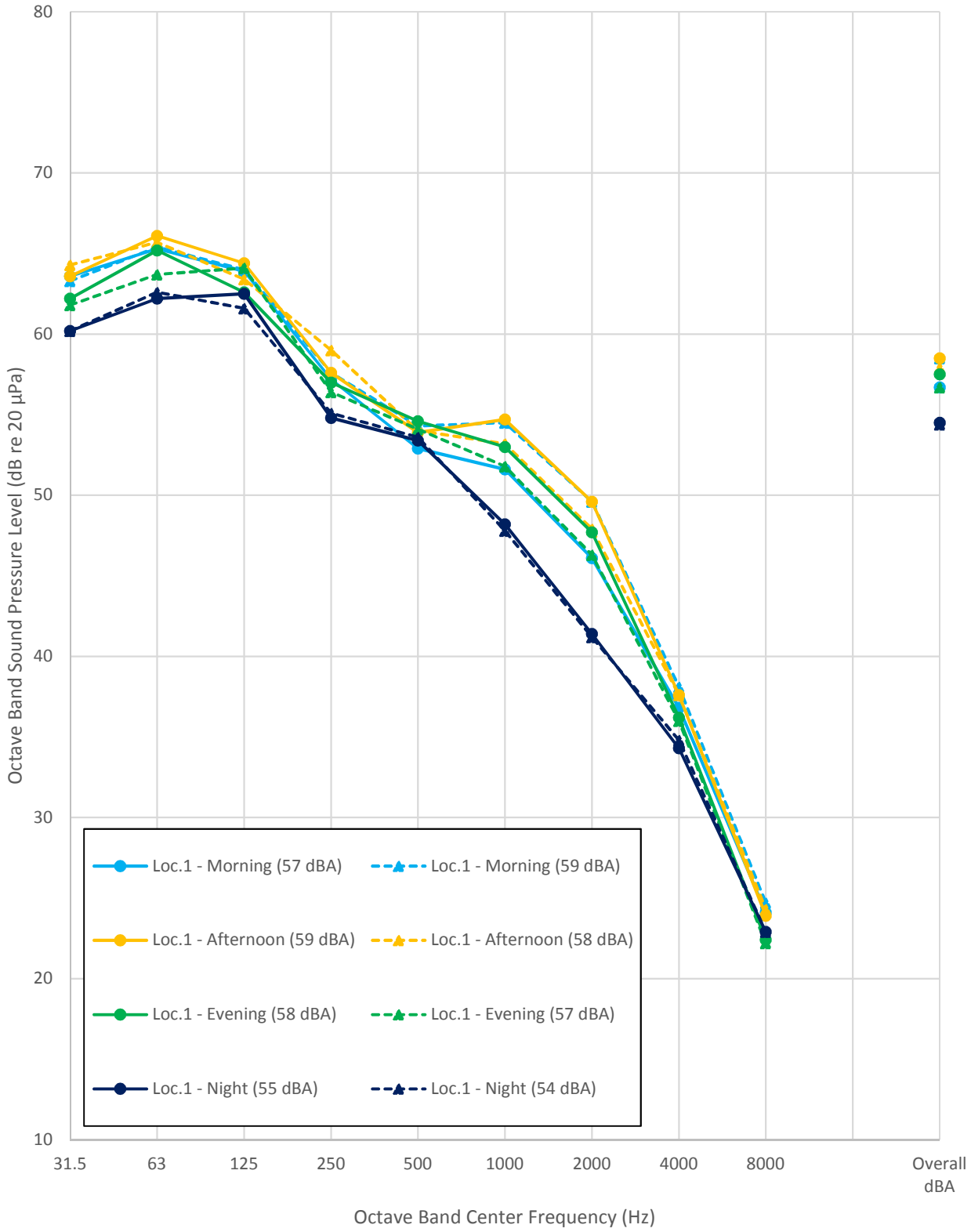


FIGURE 4.

L90 OCTAVE BAND SOUND PRESSURE LEVELS AND OVERALL A-WEIGHTED SOUND LEVELS MEASURED AT LOCATION 2.

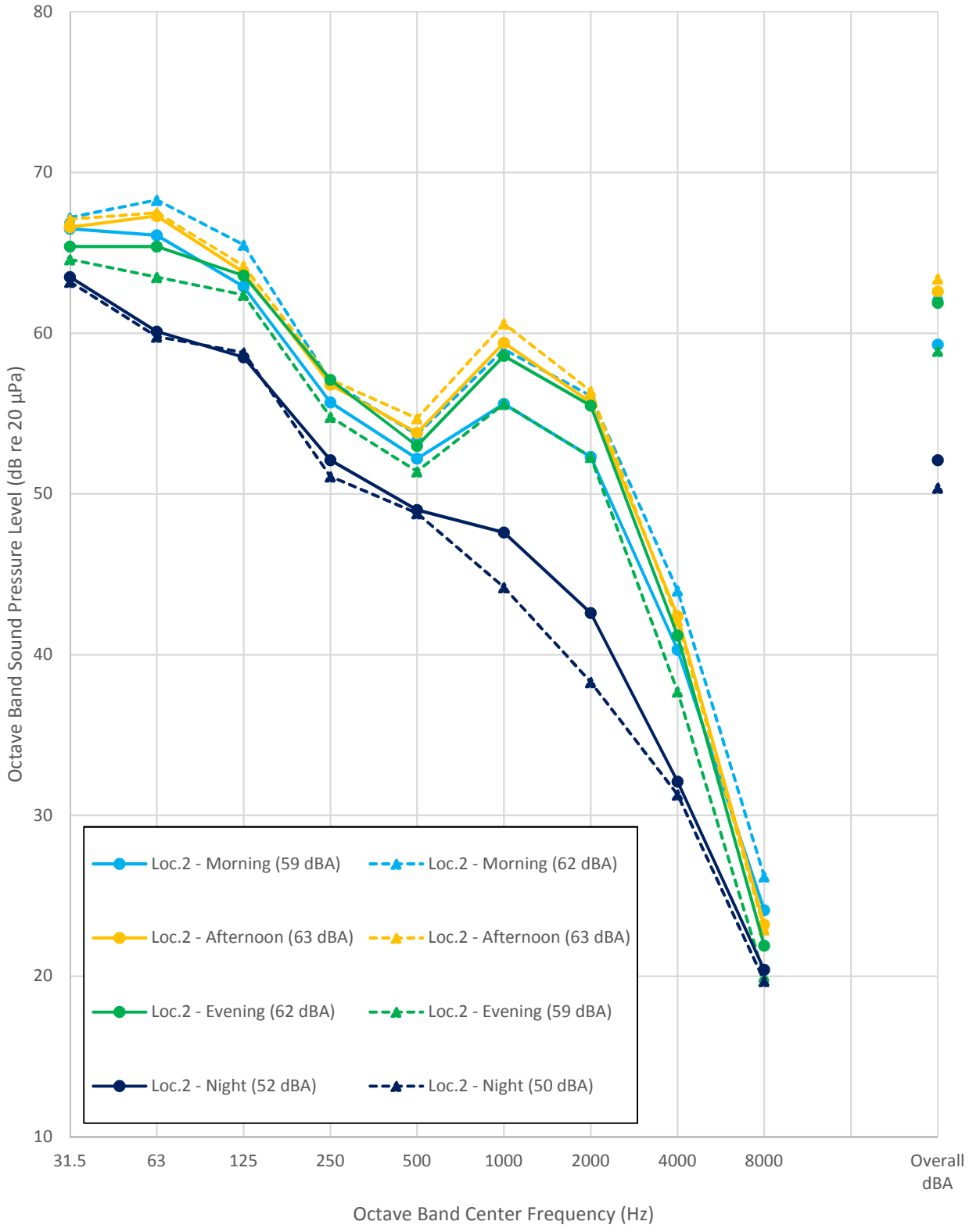


FIGURE 5.

L90 OCTAVE BAND SOUND PRESSURE LEVELS AND OVERALL A-WEIGHTED SOUND LEVELS MEASURED AT LOCATION 3.

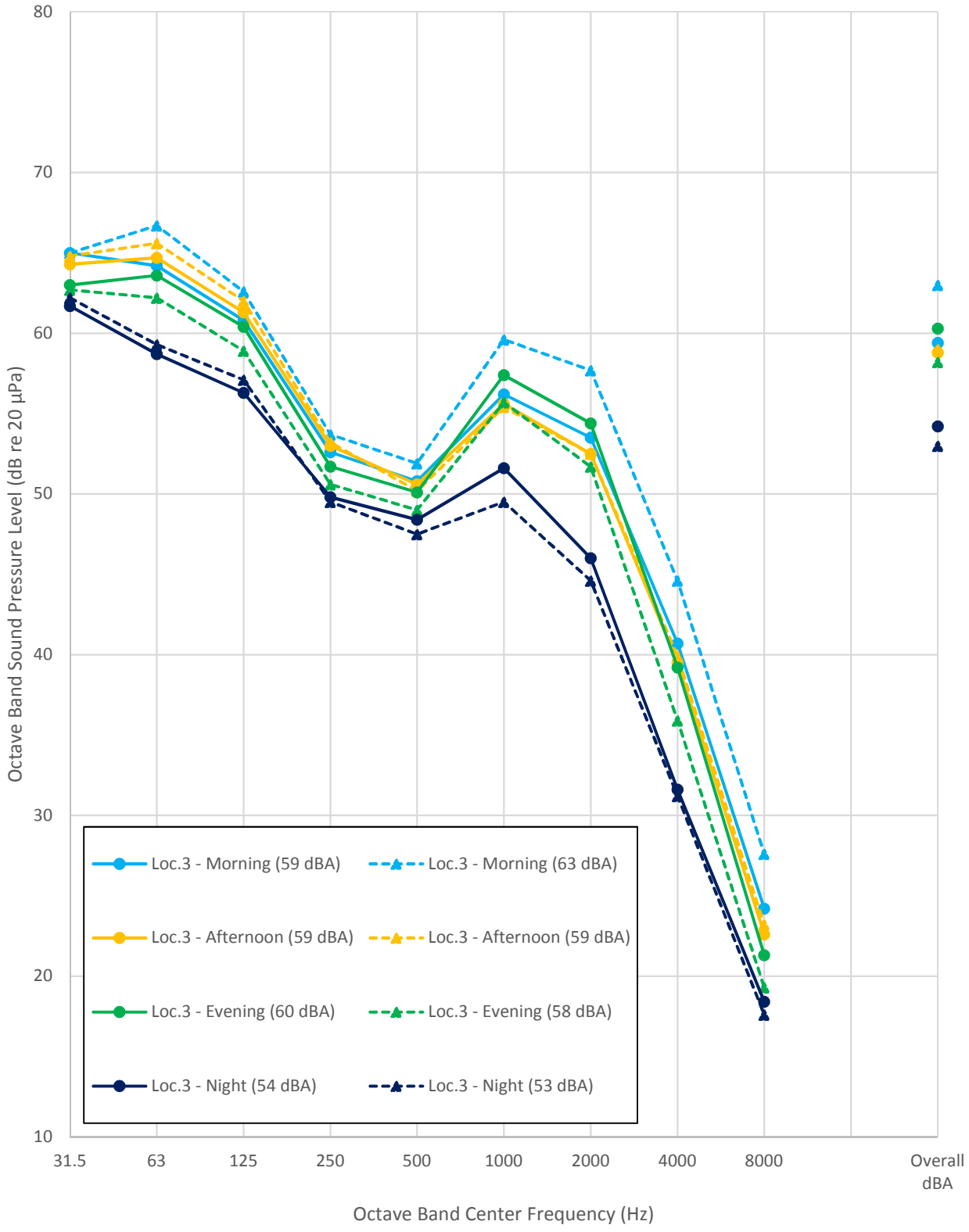


FIGURE 6.

L90 OCTAVE BAND SOUND PRESSURE LEVELS AND OVERALL A-WEIGHTED SOUND LEVELS MEASURED AT LOCATION 4.

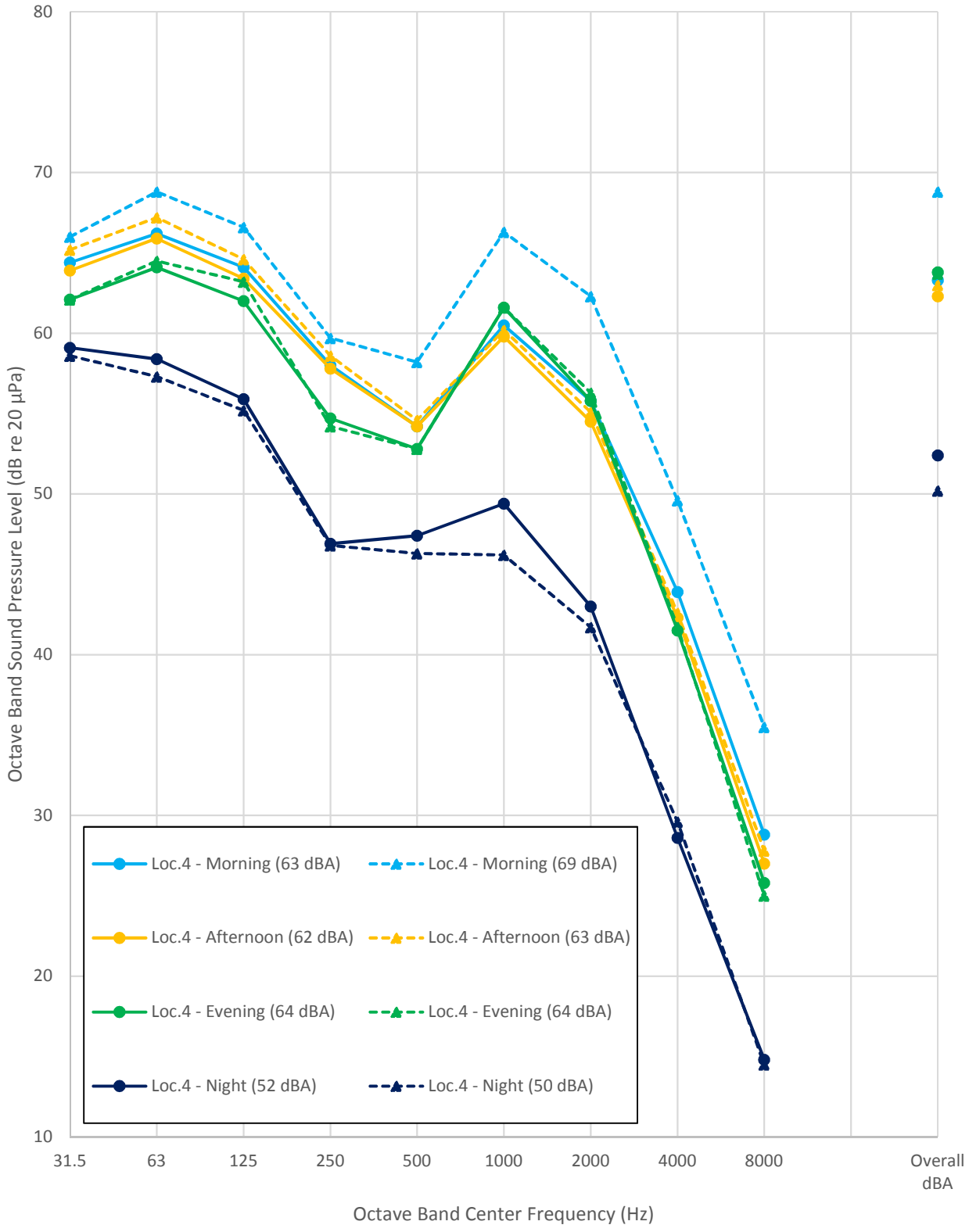


TABLE 1.

METEOROLOGICAL CONDITIONS

Date/Time	Temperature (°F)	Wind Speed	Sky Condition
5/6/2019 (6 am – 12 pm)	71	0- 3 mph, calm	Fair
5/6/2019 (12 pm – 6 pm)	73	8-10 mph, SSW	Partly Cloudy
5/6/2019 (6 pm – 12 am)	74	0-3 mph, calm	Partly Cloudy
5/7/2019 (12 am – 6 am)	61	0-3 mph, SE	Partly Cloudy
5/7/2019 (6 am – 12 pm)	56	5-7 mph, SW	Fair

TABLE 2.

TYPE OF ACOUSTIC INSTRUMENTATION USED FOR SOUND MEASUREMENTS ON 6 AND 7 MAY 2019.

Instrument Type	Manufacturer	Model
Precision Sound Level Meter and Octave Band Analyzer	Rion	NA-28
Preamplifier	Rion	NH-23
1/2" Microphone	Rion	UC-59
Acoustic Calibrator	Rion	NC-74

TABLE 3.

BACKGROUND (L90) SOUND LEVELS MEASURED ON 6 AND 7 MAY 2019.

Location	Time of Day	Date/Time	Sound Level 15-min L90 (dBA)
1	Morning	5/7/2019 8:07	59
2		5/7/2019 8:26	62
3		5/7/2019 8:45	63
4		5/7/2019 9:05	69
1		5/6/2019 10:07	57
2		5/6/2019 10:26	59
3		5/6/2019 10:53	59
4		5/6/2019 11:15	63
1	Afternoon	5/6/2019 12:28	59
2		5/6/2019 12:46	63
3		5/6/2019 13:09	59
4		5/6/2019 13:37	62
1		5/6/2019 14:04	58
2		5/6/2019 14:21	63
3		5/6/2019 14:43	59
4		5/6/2019 15:05	63
1	Evening	5/6/2019 19:48	58
2		5/6/2019 20:06	62
3		5/6/2019 20:25	60
4		5/6/2019 20:46	64
1		5/6/2019 21:07	57
2		5/6/2019 21:27	59
3		5/6/2019 21:48	58
4		5/6/2019 22:08	64
1	Night	5/7/2019 0:44	55
2		5/7/2019 1:03	52
3		5/7/2019 1:23	54
4		5/7/2019 1:43	52
1		5/7/2019 2:03	54
2		5/7/2019 2:22	50
3		5/7/2019 2:42	53
4		5/7/2019 3:02	50

TABLE 4.

STATISTICAL SOUND LEVELS MEASURED ON 6 AND 7 MAY 2019.

Location	Time of Day	Statistical Metrics (dBA)					
		Leq	L99	L90	L50	L10	L1
1	Morning	62	58	59	60	65	70
2	Morning	65	61	62	64	66	68
3	Morning	64	62	63	64	66	67
4	Morning	71	68	69	71	72	74
1	Morning	62	56	57	59	66	70
2	Morning	62	58	59	61	64	70
3	Morning	62	58	59	61	64	66
4	Morning	68	60	63	66	70	78
1	Afternoon	62	57	59	60	64	69
2	Afternoon	69	61	63	65	68	77
3	Afternoon	61	58	59	61	63	67
4	Afternoon	67	59	62	66	69	72
1	Afternoon	60	57	58	60	63	66
2	Afternoon	67	62	63	66	69	72
3	Afternoon	62	58	59	61	64	72
4	Afternoon	67	61	63	66	69	74
1	Evening	60	57	58	59	62	67
2	Evening	64	60	62	64	67	69
3	Evening	62	59	60	62	64	65
4	Evening	67	60	64	67	69	71
1	Evening	59	56	57	58	59	68
2	Evening	62	57	59	61	64	69
3	Evening	62	56	58	62	65	67
4	Evening	67	62	64	66	69	71
1	Night	56	54	55	55	57	61
2	Night	56	51	52	55	58	62
3	Night	59	52	54	58	61	65
4	Night	59	50	52	58	63	67
1	Night	55	54	54	55	56	58
2	Night	59	50	50	53	58	74
3	Night	64	51	53	57	69	76
4	Night	58	49	50	55	61	67

TABLE 5.

L90 OCTAVE BAND SOUND PRESSURE LEVELS MEASURED ON 6 AND 7 MAY 2019.

Loc.	Description	Octave Band Center Frequency (Hz)									Overall Sound Level (dBA)
		31.5	63	125	250	500	1000	2000	4000	8000	
		Sound Pressure Level (dB)									
1	Morning	63	65	64	58	54	55	50	38	25	59
2	Morning	67	68	66	57	54	59	56	44	26	62
3	Morning	65	67	63	54	52	60	58	45	28	63
4	Morning	66	69	67	60	58	66	62	50	36	69
1	Morning	64	65	64	57	53	52	46	37	24	57
2	Morning	67	66	63	56	52	56	52	40	24	59
3	Morning	65	64	61	53	51	56	54	41	24	59
4	Morning	64	66	64	58	54	61	56	44	29	63
1	Afternoon	64	66	64	58	54	55	50	38	24	59
2	Afternoon	67	67	64	57	54	59	56	42	23	63
3	Afternoon	64	65	61	53	51	56	53	40	23	59
4	Afternoon	64	66	63	58	54	60	55	42	27	62
1	Afternoon	64	66	63	59	54	53	48	38	24	58
2	Afternoon	67	68	64	57	55	61	56	42	23	63
3	Afternoon	65	66	62	53	50	55	53	40	23	59
4	Afternoon	65	67	65	59	55	60	55	43	28	63
1	Evening	62	65	63	57	55	53	48	36	22	58
2	Evening	65	65	64	57	53	59	56	41	22	62
3	Evening	63	64	60	52	50	57	54	39	21	60
4	Evening	62	64	62	55	53	62	56	42	26	64
1	Evening	62	64	64	56	54	52	46	36	22	57
2	Evening	65	64	62	55	51	56	52	38	20	59
3	Evening	63	62	59	51	49	56	52	36	19	58
4	Evening	62	65	63	54	53	62	56	42	25	64
1	Night	60	62	63	55	53	48	41	34	23	55
2	Night	64	60	59	52	49	48	43	32	20	52
3	Night	62	59	56	50	48	52	46	32	18	54
4	Night	59	58	56	47	47	49	43	29	15	52
1	Night	60	63	62	55	54	48	41	35	23	54
2	Night	63	60	59	51	49	44	38	31	20	50
3	Night	62	59	57	50	48	50	45	31	18	53
4	Night	59	57	55	47	46	46	42	30	15	50

Subject: Noise Study Area – Quick Facts Sheet
Date: 04/17/2019
Prepared by: TRC for ENGIE

Quick Facts

An overview map of planned noise monitoring locations are in Figure 1. Figure 2 shows a zoomed view of locations.

Operations:

- A tripod mounted noise meter will be placed at each location (Figure 3).
- The meter will be attended by a specialist for 15 minutes, four times per day. When monitoring is complete, the specialist will remove the meter and move to the next monitoring location.
- Monitoring will occur in four intervals, i.e. morning: 6am – noon; afternoon: noon to 6pm; evening/night: 6pm – midnight; late night: midnight – 6am.
- A Larson Davis 831 sound level meter ("SLM") will be used, which meets the requirements for ANSI Type 1 precision sound level meter.

Schedule:

- Monitoring will occur 1-3 days.
- A minimum total of two segments of 15 minutes will be obtained during each day interval, i.e. a total of 8 segments
- April to May 3, 2019 is targeted for the study.

Local Impact:

- No ground or vegetation disturbance will be required.
- A non-OSU entity is proposed to be monitored, due to the Ohio Power Siting Boards focus on impacts to properties that are not participating in the project.
- Morehouse Medical Plaza is proposed to be monitored due to the sensitive nature of medical care.

Access and Traffic:

- A truck or car will be parked near each noise meter location for no more than a half hour before moving on to the next location.

Locations:

- Lifeline of Ohio, an organ donor facility is located approximately 0.22 miles from the project site. Proposed monitoring location: adjacent to parking lot and building.
- The Martha Morehouse Medical Plaza monitoring location will be adjacent to the parking lot, approximately 0.12 miles from the Project.
- The University's Veterinary Hospital is located approximately 200 feet from the Project. Monitoring will be conducted outside the runway for the horses on the north side of the building.
- The Department of Food Technology building is immediately adjacent to the northern boundary of the project, 200 feet from the proposed project. The meter will be located on the sidewalk or lawn southwest of the building.
- Slight locational adjustments may be made based on site specific circumstances identified in the field.

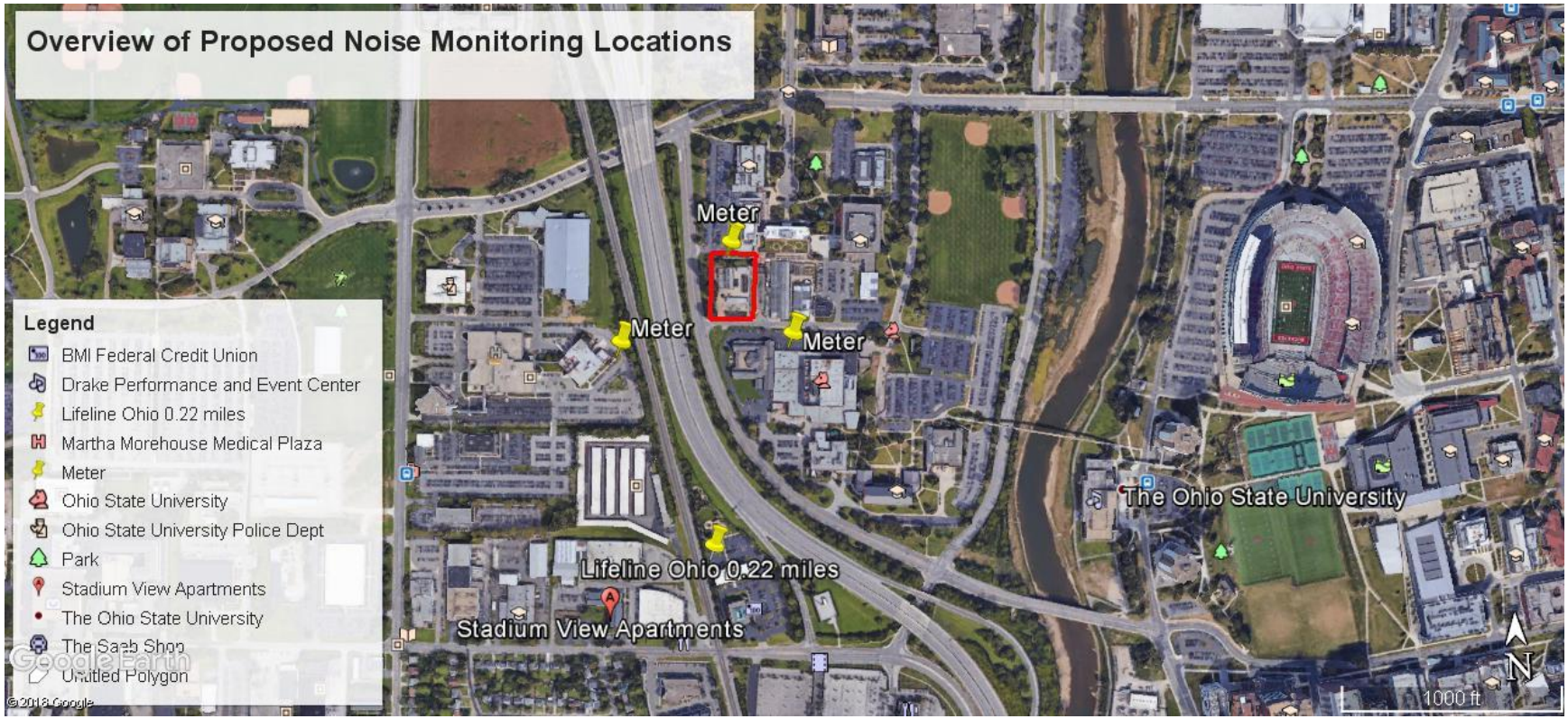


Figure 1: Overview Map of proposed noise meter locations.

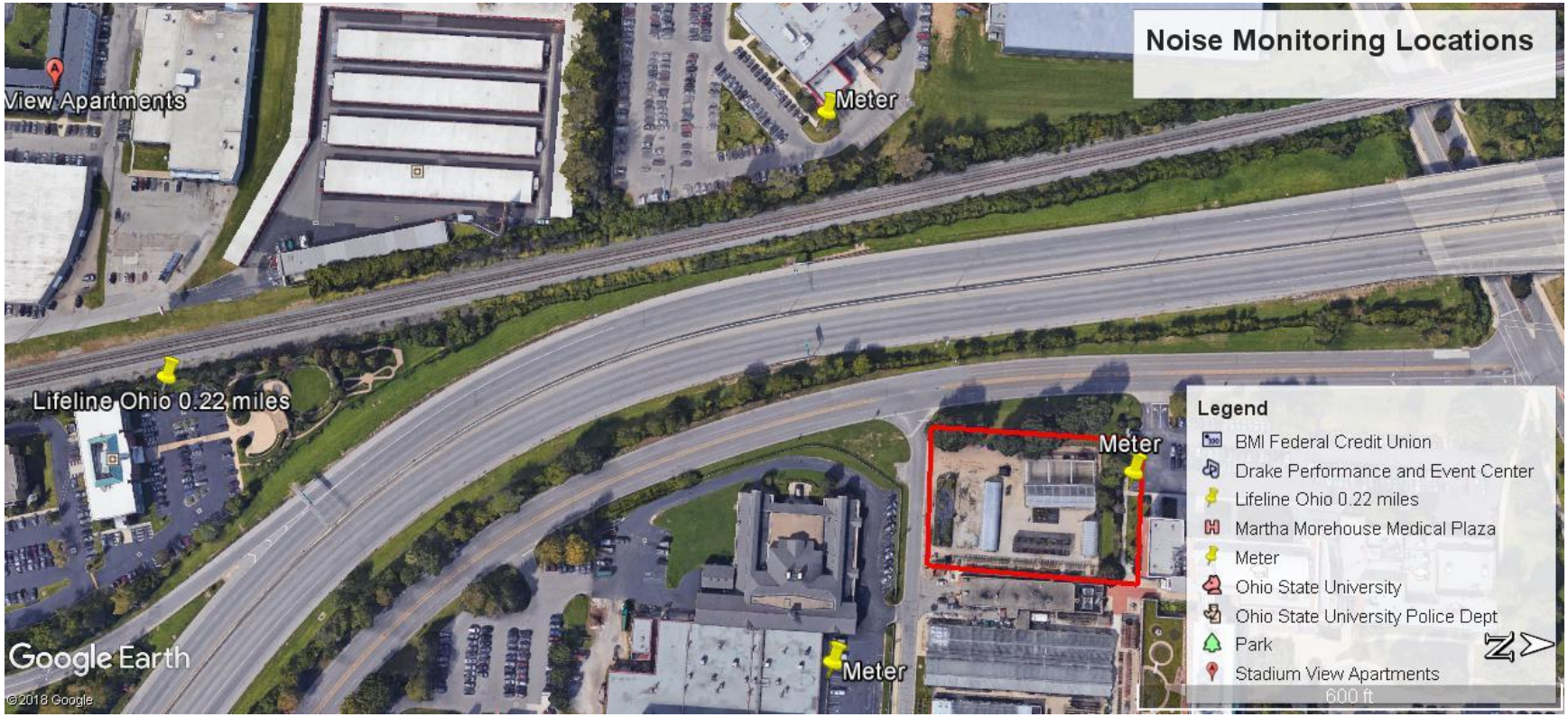


Figure 2: Zoom view map of proposed noise meter locations to be mounted on a tripod and attended by a specialist for 15 minute intervals, four times per day.

Figure 3: Tripod mounted noise meter.

EXHIBIT Q: CTL Geotechnical Report

CTL Engineering, Inc.
2860 Fisher Road, Columbus, Ohio 43204-3538
Phone: 614/276-8123, Fax: 614/276-6377
Email: ctl@ctleng.com

April 24, 2019

Engie Services, Inc
304 Annie & John Glenn Avenue, Suite 200
Columbus, Ohio 43210

Attention: Donte Stoner

Reference: Subsurface Exploration
Ohio State Energy Partners- Phase II
NE Corner of Vernon L Tharp Street & John H Herrick Drive
The Ohio State University Campus
Columbus, Ohio
CTL Project No: 19050050COL

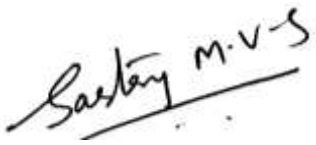
Dear Mr. Stoner:

CTL Engineering, Inc. has completed the preliminary geotechnical exploration report for the above referenced project. We are providing an electronic version (PDF file) of the report via email. We understand this preliminary geotechnical exploration report is for providing initial information for the design of the proposed building and equipment. Once the design information is determined, a supplemental geotechnical exploration should be performed to address the specific design information of the planned facility.

Thank you for the opportunity to be of service to you on this project. If you have any questions, please contact our office.

Respectfully Submitted,

CTL ENGINEERING, INC.



Sastry Malladi, P.E
Project Manager

SUBSURFACE EXPLORATION

OHIO STATE ENERGY PARTNERS-PHASE II
NE CORNER OF VERNON L THARP ST. & JOHN H HERRICK DR.
THE OHIO STATE UNIVERSITY CAMPUS
COLUMBUS, OHIO
CTL PROJECT NO. 19050050COL

PREPARED FOR:

ENGIE SERVICES, INC.
304 ANNIE & JOHN GLENN AVENUE
SUITE 200
COLUMBUS, OHIO 43210

PREPARED BY:

CTL ENGINEERING, INC.
2860 FISHER RD.
COLUMBUS, OHIO 43204
Phone 614-276-8123
Fax 614-276-6377

April 24, 2019

TABLE OF CONTENTS

I. PROJECT LOCATION AND DESCRIPTION

The project site is located on the NE corner of Vernon L Tharp Street & John H Herrick Drive in The Ohio State University campus in Columbus, Ohio. It is understood that the site is being looked at for the development of a combined heat and power plant with two gas turbine generators and one steam turbine generator.

At the time that this report was prepared, a preliminary layout of the facility and equipment was provided to us without the proposed foundation load profile. However, a preliminary gross weight of the heavy equipment that will be placed inside the facility was provided to us. Based on provided weights, it is understood that the gross weight of the gas turbine and associated equipment will be about 233 tonnes. It is assumed that the proposed building will be a slab on grade type of structure.

CTL is providing preliminary recommendations from the borings that are completed to date. Once the foundation load profile is available and additional test borings are drilled, an additional report will be prepared and submitted.

II. SUBSURFACE EXPLORATION

A total of twelve (12) test borings, designated as BH-01 through BH-12 were originally planned for this project. However, borings BH-01 and BH-11 have been removed from the scope of work during planning meetings.

Five (5) borings, designated as BH-02, BH-03, BH-06, BH-08 and BH-12, are completed to date. The borings were drilled at the approximate locations shown on the Boring Location Map in Appendix A, and as presented below in *Table 1*. The test borings were extended to depths ranging from 63.5 feet to 99.0 feet below grade. GPS coordinates of the boring locations were obtained using Google Earth™ computer software, internet based satellite imagery, and a handheld GPS unit. Ground surface elevations at boring locations were interpolated from the Google Earth Imagery.

Table 1 – Boring Locations, Depths, Elevations, and Coordinates

Boring No.	Surface Elevation (ft.)	Latitude	Longitude	Borehole depth (feet)
BH-02	751.0	40.001902°	-83.029456°	99.0
BH-03	749.0	40.001925°	-83.028989°	96.0
BH-06	751.0	40.002098°	-83.029082°	87.5
BH-08	749.0	40.002339°	-83.028808°	80.0
BH-12	751.0	40.002451°	-83.029387°	63.5

Global Positioning Coordinates (GPS) of the boring locations are of the NAD83 datum having an accuracy of 3± meters (10 feet).

The borings were drilled with truck mounted drill rigs utilizing hollow stem augers (HSA) between April 10 and April 18, 2019. Standard penetration tests were conducted using a 140-pound hammer falling 30 inches to drive 2-inch O.D. split barrel samplers for 18 inches. The hammers on the rigs have rod energy ratios of 70.7 and 77.8 percent.

Soil samples obtained from the field operations were preserved in glass jars, visually classified in the field and laboratory, and tested for natural moisture content. Representative soil samples were subjected to laboratory tests including Atterberg limits, grain size distribution, hand penetrometer and resistivity testing.

III. SITE GEOLOGY

According to the Ohio Department of Natural Resources, Physiographic Regions of Ohio Map, the site is located within the Columbus Lowland Till Plain physiographic region of Ohio. According to Bedrock Geologic Map of Ohio (2006), the underlying bedrock is mapped as Devonian age Columbus Limestone. Soils at the site generally consist of alluvium over glacially deposited sand and gravel with interbedded layers of glacial till.

Cobbles and boulders of various sizes were also deposited by the glaciers in this area. According to web based mapping from United States Department of Agriculture, Natural Resources Conservation Service, the project area majorly contains Celina-Urban land complex, 2 to 6 percent slopes (CfB) and Udorthents-Urban land complex, gently rolling (Ut) soils. According to the Soil Survey of Franklin County, Ohio, United States Department of Agriculture, these soils exhibit moderately high permeability.

According to the Ohio Department of Natural Resources (ODNR) Ohio Karst Areas map, probable karst areas are not mapped within the project area.

According to mapping from the ODNR Website, no underground mines have been mapped in the project area.

IV. FINDINGS

A. Visual Observations

The ground surface in the vicinity of the proposed building is a relatively flat grass and gravel covered area. At the time of drilling, no signs of surface water retention were noted across the site. However the existing subgrade was soft in some areas. Existing utilities were located across the site.

B. Subsurface Conditions

Due to the presence of existing utilities, vacuum excavation was performed to a depth of 6.0 feet below grade in borings BH-03 and BH-08. Borings BH-02 and BH-17 exhibited 5 to 17 inches of topsoil at the surface. Boring BH-06 exhibited 7 inches of gravel near the surface.

Below the vacuum excavation limits or below the surface materials, the borings exhibited native cohesive and granular soils to depth ranging from 13.5 to 23.5 feet below the existing grade. The cohesive soils were described as lean clay (CL) with varying amounts of sand and gravel or sandy silt (ML), and the granular soils were described as silty sand (SM), clayey sand (SC) or clayey gravel (GC). These soils exhibited corrected standard penetration (N_{60}) values ranging from 1 to 38 blows per foot (bpf), with natural moisture content values ranging from 9 to 49 percent.

Below the near surface soils, the borings exhibited granular soils described as silty sand (SM), clayey sand with gravel (SC), silty clayey sand (SC-SM), well graded sand with gravel (SW), well graded sand with clay and gravel (SW-SC), poorly graded sand with clay (SP-SC), well graded gravel with sand (GW), clayey gravel with sand (GC) or well graded gravel with clay and sand (GW-GC) extending downwards to the drilled depths. Cobbles and boulders were encountered within the drill depths. These deposits exhibited N_{60} values ranging from 12 bpf to 50 blows for 1 inch of penetration, and natural moisture content values ranging from 2 to 19 percent.

All borings except BH-02 were terminated upon encountering auger refusal on boulders. Below the soil overburden, boring BH-02 encountered limestone bedrock at 98.5 feet. However, the limestone was not cored. The limestone exhibited a N_{60} value of 50 blows for 1 inch of penetration. Boring BH-02 was terminated at this level.

Groundwater and soil cave-in levels were measured in the test borings as indicated in Table 2 below.

Table 2 - Groundwater Levels

Boring No.	Groundwater Depth (feet)		Soil Cave-In Depth (feet)
	During Drilling	At Completion	
BH-02	13.5	10.6	68.7
BH-03	28.3	17.7	63.4
BH-06	8.5	8.5	38.5
BH-08	34.0	26.7	48.6
BH-12	28.0	26.7	29.0

V. DISCUSSION

At the time that this report was prepared, a preliminary layout of the facility and equipment was provided to us without the proposed foundation load profile. However, a preliminary gross weight of the heavy equipment that will be placed inside the facility was provided to us. Based on provided weights, it is understood that the gross weight of the gas turbine and associated equipment will be about 233 tonnes. It is assumed that the proposed building will be a slab on grade type of structure.

Foundation Support

Weak soils were encountered to depths ranging from 6.0 feet to 13.5 feet in borings BH-02, BH-03 BH-06 and BH-12. In boring BH-08, the weak soils were encountered to a depth of 23.5 feet below grade. If the proposed building were to be supported directly onto these materials, then there would be a potential for excessive total and/or differential settlements.

Due to vibration from the equipment, there is a potential for settlements of the underlying native soils below the shallow foundations. Therefore, it is CTL's opinion that shallow foundations may not be suitable for this project. Therefore, it is recommended that proposed building and potentially some equipment within the building be supported onto deep foundations.

Several different deep foundation systems including drilled shafts (caissons), driven piles, or augercast piles could be considered for this project.

Once the proposed load profile is determined, and once additional borings are performed, CTL can provide recommendations for the deep foundation alternatives.

VI. RECOMMENDATIONS FOR ADDITIONAL SUBSURFACE EXPLORATION

Once the design information is determined, a supplemental geotechnical exploration should be performed to address the specific design information of the planned facility.

VII. CHANGED CONDITIONS

The evaluations, conclusions, and recommendations in this report are based on our interpretation of the field and laboratory data obtained during the exploration, our understanding of the project and our experience with similar sites and subsurface conditions using generally accepted geotechnical engineering practices. Although individual test borings are representative of the subsurface conditions at the boring locations on the dates drilled, they are not necessarily representative of the subsurface

conditions between boring locations or subsurface conditions during other seasons of the year.

In the event that changes in the project are proposed, additional information becomes available, or if it is apparent that subsurface conditions are different from those provided in this report, CTL Engineering should be notified so that our recommendations can modified, if required.

VIII. TESTING AND OBSERVATION

During the design process, it is recommended that CTL Engineering work with the project designers to confirm that the geotechnical recommendations are properly incorporated into the final plans and specifications, and to assist with establishing criteria for the construction observation and testing.

CTL Engineering is not responsible for independent conclusions, opinions and recommendations made by others based on the data and recommendations provided in this report. It is recommended that CTL be retained to provide construction quality control services on this project. If CTL Engineering is not retained for these services, CTL shall assume no responsibility for compliance with the design concepts or recommendations provided.

IX. CLOSING

The report was prepared by CTL Engineering, Inc. (Consultant) solely for the use of the Client in accordance with an executed contract. The Client's use of or reliance on this report is limited by the terms and conditions of the contract and by the qualifications and limitations stated in the report. It is also acknowledged that the Client's use of and reliance of this report is limited for reasons which include: actual site conditions that may change with time; hidden conditions, not discoverable within the scope of the assessment, may exist at the site; and the scope of the investigation may have been limited by time, budget and other constraints imposed by the Client.

Neither the report, nor its contents conclusions or recommendations, are intended for the use of any party other than the Client. Consultant and the Client assume no liability for any reliance placed on this report by such party. The rights of the Client under contract may not be assigned to any person or entity, without the consent of the Consultant which consent shall not be unreasonably withheld.

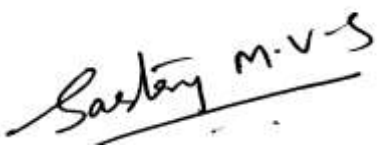
This geotechnical report does not address the environmental conditions of the site. The Consultant is not responsible for consequences or conditions arising from facts that were concealed, withheld, or not fully disclosed at the time the assessment was conducted.

To the fullest extent permitted by law, the Consultant and Client agree to indemnify and hold each other, and their officers and employees harmless from and against claims, damages, losses and expenses arising out of unknown or concealed conditions. Furthermore, neither the Consultant nor its employees shall be liable to the Owner in an amount in excess of the available professional liability insurance coverage of the Consultant. In addition, Client and Consultant agree neither shall be liable for any special, indirect or consequential damages of any kind or nature.

The Consultant's services have been provided consistent with its professional standard of care. No other warranties are made, either expressed or implied.

Respectfully Submitted,

CTL ENGINEERING, INC.

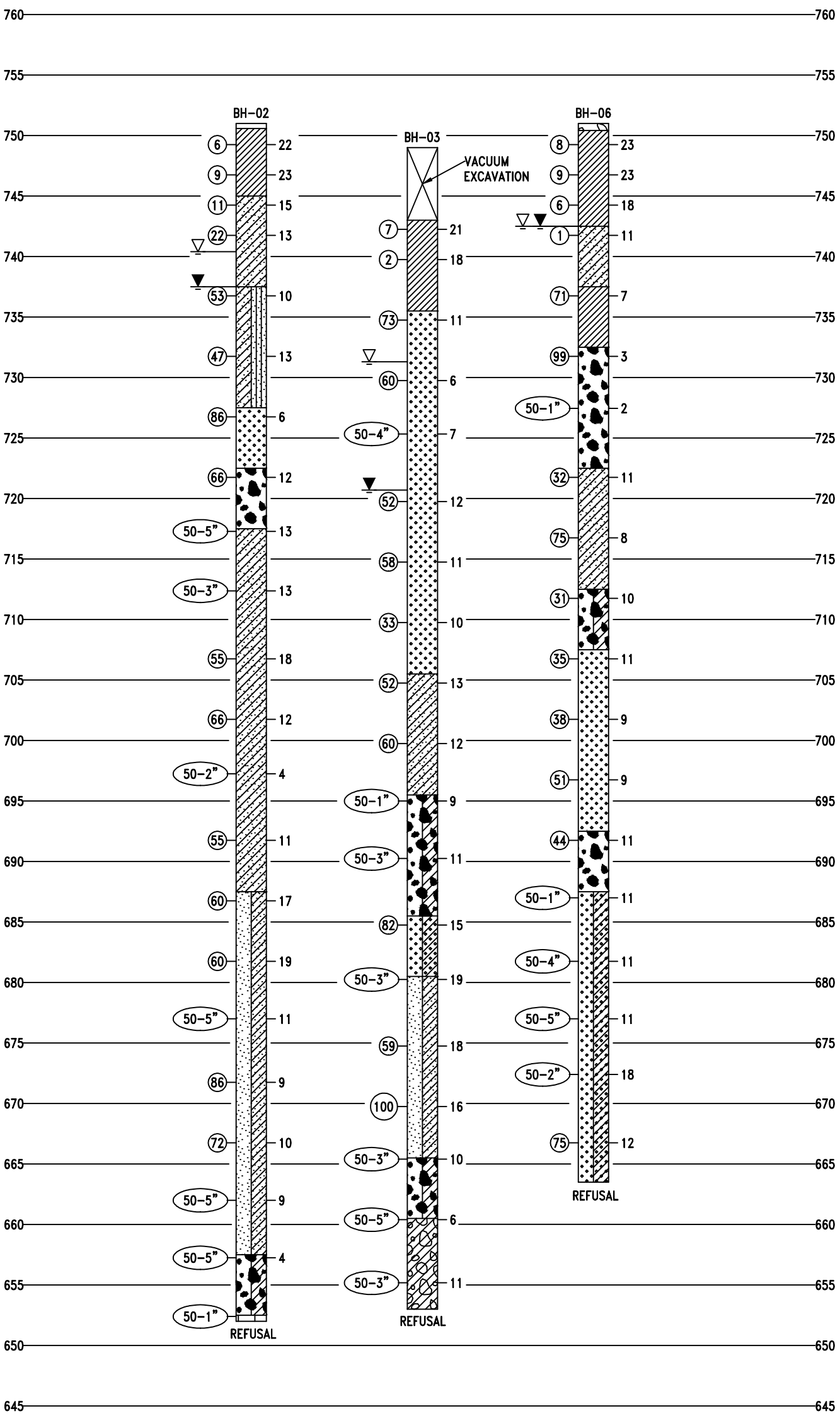


Sastry Malladi, P.E
Project Manager

Joe Grani, P.E.
Technical Reviewer

APPENDIX A
BORING LOCATION MAP/SOIL PROFILE SHEETS

CTL ENGINEERING INC.	LEGEND	BORING LOCATION MAP		
	As Shown			
	Date	ENGIE SERVICES INC.		
	4/23/2019	OHIO STATE ENERGY PARTNERS - PHASE II		
CTL ENGINEERING, INC.	Scale	VERNON L THARP ST & JOHN H HERRICK DR, COLUMBUS, OHIO		
GEOTECHNICAL ENGINEERS	As Shown			
*TESTING * INSPECTION*	Drawn By	Reviewed By	Page	Project No.
LABORATORY SERVICES	AC	SM	1 of 3	19050050COL



NOTE: IN GENERAL, COBBLES AND BOULDERS WERE ENCOUNTERED IN ALL BORINGS IN GRANULAR DEPOSITS AT AND BELOW ELEVATION 735.0 FEET.

TOPSOIL
ASPHALT
CONCRETE
BASE COURSE
FILL
GW
GP
GM
GC
GW–GM
GW–GC
GP–GM
GP–GC
GC–GM
SW
SP
SM
SC
SW–SM
SW–SC
SP–SM
SP–SC
SC–SM
ML
CL
CL–ML
CH
MH
OH
PT
OL
SANDSTONE
SHALE
LIMESTONE

LEGEND

- ▼ GROUND WATER DURING DRILLING
- ▽ GROUND WATER AT COMPLETION OF DRILLING
- N–▽ GROUND WATER AT "N" HOURS AFTER COMPLETION
- —W MOISTURE CONTENT IN PERCENT (w)
- (N_{60}) STANDARD PENETRATION NORMALIZED TO 60% DRILL ROD ENERGY

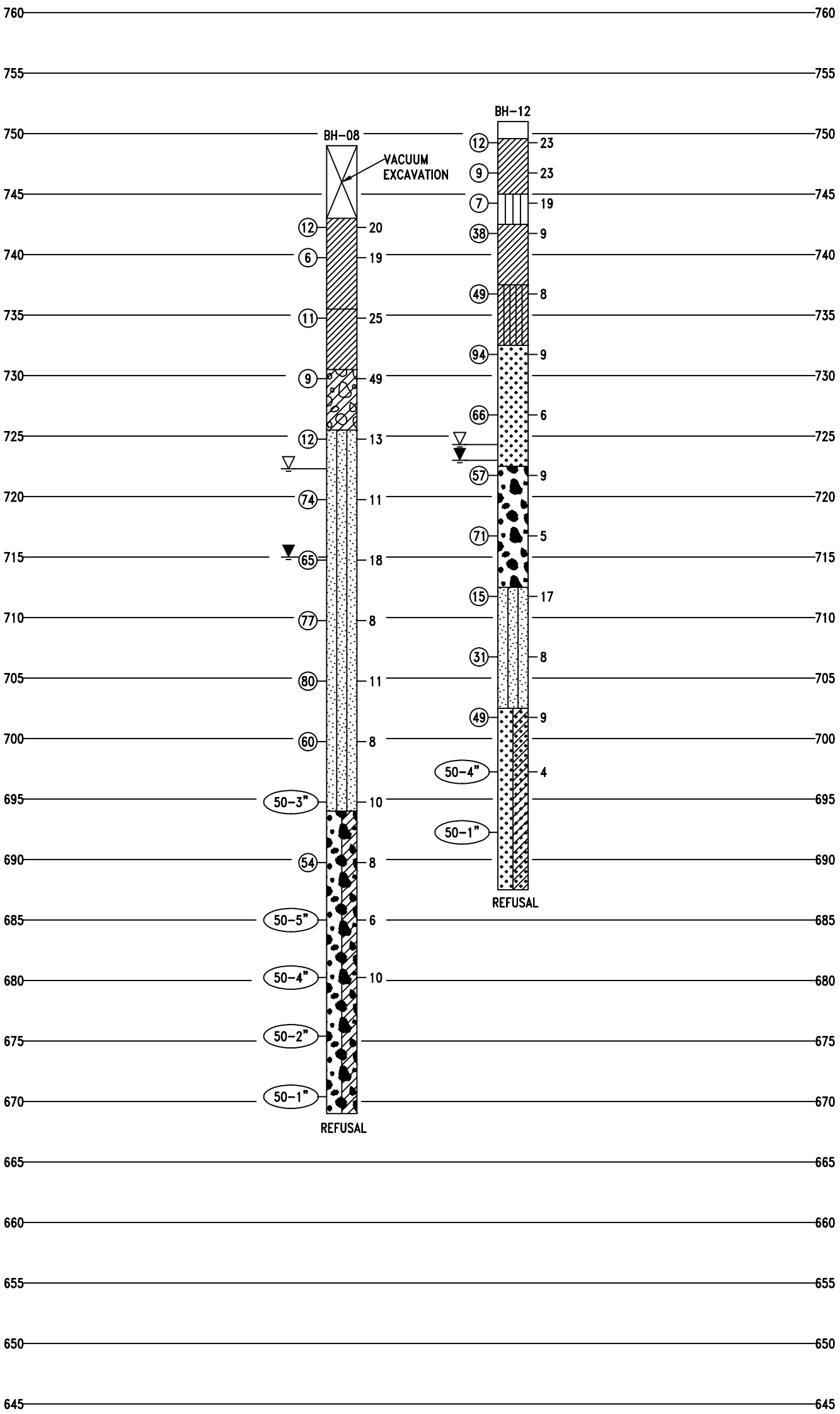
NOTE: GROUND SURFACE ELEVATIONS AT BORING LOCATIONS WERE OBTAINED FROM GOOGLE EARTH IMAGERY.

CTL ENGINEERING INC.
CONSULTING ENGINEERS
TESTING * INSPECTION
LABORATORY SERVICES
CTL ENGINEERING

SOIL PROFILE

DATE	SCALE	
04-23-19	AS SHOWN	ENGIE SERVICES INC. OHIO STATE ENERGY PARTNERS PHASE II VERNON L THARP STREET & JOHN H HERRICK DRIVE COLUMBUS, OHIO

DRAWN BY	REVIEWED BY	PAGE	PROJECT NO.
N.K.S	AC	2 OF 3	19050050COL



NOTE: IN GENERAL, COBBLES AND BOULDERS WERE ENCOUNTERED IN ALL BORINGS IN GRANULAR DEPOSITS AT AND BELOW ELEVATION 735.0 FEET.

TOPSOIL
ASPHALT
CONCRETE
BASE COURSE
FILL
GW
GP
GM
GC
GW–GM
GW–GC
GP–GM
GP–GC
GC–GM
SW
SP
SM
SC
SW–SM
SW–SC
SP–SM
SP–SC
SC–SM
ML
CL
CL–ML
CH
MH
OH
PT
OL
SANDSTONE
SHALE
LIMESTONE

LEGEND

- GROUND WATER DURING DRILLING
- GROUND WATER AT COMPLETION OF DRILLING
- N– GROUND WATER AT "N" HOURS AFTER COMPLETION
- —W MOISTURE CONTENT IN PERCENT (w)
- N_{60} STANDARD PENETRATION NORMALIZED TO 60% DRILL ROD ENERGY

NOTE: GROUND SURFACE ELEVATIONS AT BORING LOCATIONS WERE OBTAINED FROM GOOGLE EARTH IMAGERY.

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CONSULTING ENGINEERS
TESTING * INSPECTION
LABORATORY SERVICES
CTL ENGINEERING

SOIL PROFILE

DATE	ENGIE SERVICES INC. OHIO STATE ENERGY PARTNERS PHASE II VERNON L THARP STREET & JOHN H HERRICK DRIVE COLUMBUS, OHIO
04-23-19	
SCALE	
AS SHOWN	

DRAWN BY	REVIEWED BY	PAGE	PROJECT NO.
N.K.S	AC	3 OF 3	19050050COL

APPENDIX B
TEST BORING RECORDS

SOIL DESCRIPTION

Descriptors for soil consistency used in this report are based upon the Standard Penetration Test (SPT), ASTM D 1587, with the penetration (N) values corrected to N_{60} , based upon the efficiency of the SPT Hammer used for the soil sampling.

Descriptors for both non-cohesive and cohesive soils are presented below, with the corresponding range of corrected penetration values.

NON-COHESIVE SOIL DESCRIPTION	CORRECTED PENETRATION VALUES BLOWS PER FOOT (BPF)
Very Loose	0 – 4
Loose	5 – 10
Medium Dense	11- 30
Dense	31 – 50
Very Dense	Over 50

COHESIVE SOIL DESCRIPTION	CORRECTED PENETRATION VALUES BLOWS PER FOOT (BPF)
Very Soft	0 – 1
Soft	2 – 4
Medium Stiff	5 – 8
Stiff	9 – 15
Very Stiff	16 –30
Hard	Over 30

Moisture term descriptors for both non-cohesive and cohesive soils are presented below.

NON-COHESIVE SOIL DESCRIPTION	MOISTURE TERMS	COHESIVE SOIL DESCRIPTION
Powdery	Dry	Powdery
Some Moisture	Damp	Below Plastic Limit
Damp to the Touch	Moist	Above Plastic, Below Liquid Limit
Free Water	Wet	Above Liquid Limit

TEST BORING RECORD

CLIENT	: ENGIE Services Inc	BORING NO.:	**BH-02**
PROJECT	: Ohio State Energy Partners-Phase II	SHEET	1 OF 5
LOCATION	: The Ohio State University Campus	DATE STARTED	: 04-10-19
PROJECT NO.	: 19050050COL	DATE COMPLETED	: 04-15-19

BORING ELEVATION	: 751.0 Feet	RIG TYPE	: B-57	DRILLER	: LH/BW
NORTHING (USFT)	: 40.001902	CASING DIA.	: 4.25"	TEMPERATURE	: 47°
EASTING (USFT)	: -83.029456	CORE SIZE	:	WEATHER	: Clear
DEPTH	: 99.0 Feet	HAMMER	: Auto		
BORING METHOD	: HSA	ENERGY RATIO	: 70.7		

GROUNDWATER: ▼ Encountered at 13.5' ▽ At completion 10.6' Caved in at 68.7'

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
750.6		**TOPSOIL (5")**	0.4										
		Medium Stiff to Stiff, Brown **LEAN CLAY with SAND (CL)**, Contains Rock Fragments and Organics, Moist to Damp		SS-1	2 3 2	6	33	22			40	21	19
	5			SS-2	3 4 4	9	33	23		4.0*			
745.0			6.0										
				SS-3	4 4 5	11	39	15					
	10	Medium Dense, Brown **SILTY SAND (SM)**, Contains Rock Fragments, Moist		SS-4	4 7 12	22	39	13		3.0*	NP	NP	NP
737.5 ▼			13.5										
	15	Very Dense, Brown **SILTY CLAYEY SAND (SC-SM)**, Contains Cobbles, Damp		SS-5	7 22 23	53	44	10			19	14	5
	20			SS-6	5 20 20	47	33	13					

Continued on next page

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BORING METHOD	SAMPLING METHOD	ABBREVIATIONS
HSA - Hollow Stem Auger	SS - Split Spoon Sample	* - Hand Penetrometer
SFA - Solid Flight Auger	ST - Shelby Tube Sample	LL - Liquid Limit
RC - Rock Coring	CR - Rock Core Sample	PL - Plastic Limit
MD - Mud Drilling	BS - Bag Sample	PI - Plasticity Index
WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-02**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 2 OF 5

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
		Very Dense, Brown **SILTY CLAYEY SAND (SC-SM)**, Contains Cobbles, Damp											
727.5			23.5										
				SS-7	11 26 47	86	72	6					
	25												
		Very Dense, Brown **WELL GRADED SAND with GRAVEL (SW)**, Contains Cobbles and Boulders, Damp											
722.5			28.5										
				SS-8	17 27 29	66	56	12					
	30												
		Very dense, Gray **WELL GRADED GRAVEL with SAND (GW)**, Contains Cobbles and Boulders, Damp											
717.5			33.5										
				SS-9	50-5"		100	13					
	35												
				SS-10	50-3"		100	13					
	40	Very Dense, Brown **CLAYEY SAND with GRAVEL (SW)**, Contains Boulders, Wet											
				SS-11	19 20 27	55	100	18					
	45												

Continued on next page

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HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-02**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 3 OF 5

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
	50			SS-12	25 27 29	66	67	12					
	55	Very Dense, Brown **CLAYEY SAND with GRAVEL (SW)**, Contains Boulders, Wet		SS-13	45 50-2"		100	4					
	60			SS-14	5 15 32	55	67	11		9.0*			
687.5			63.5										
	65	Very Dense, Gray **POORLY GRADED SAND with CLAY (SP-SC)**, Contains Cobbles and Boulders, Moist		SS-15	10 23 28	60	67	17					
	70			SS-16	5 14 37	60	100	19					

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TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-02**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 4 OF 5

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
	75			SS-17	28 50-5"		72	11					
	80			SS-18	20 32 41	86	94	9					
	85	Very Dense, Gray **POORLY GRADED SAND with CLAY (SP-SC)**, Contains Cobbles and Boulders, Moist		SS-19	20 28 33	72	100	10					
	90			SS-20	37 50-5"		64	9					
657.5			93.5	SS-21	50-5"		100	4					
	95	Very Dense, Gray **WELL GRADED GRAVEL with CLAY and SAND (GW-GC)**, Contains Cobbles and Boulders, Moist											

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WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-02**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 5 OF 5

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
652.5													
652.0		**LIMESTONE, GRAY, MODERATELY WEATHERED, MODERATELY STRONG**	98.5	SS-22	50-1"								
	100		99.0										
		BOTTOM OF BORING											
	105												
	110												
	115												
	120												

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WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT	: ENGIE Services Inc	BORING NO.:	**BH-03**
PROJECT	: Ohio State Energy Partners-Phase II	SHEET	1 OF 4
LOCATION	: The Ohio State University Campus	DATE STARTED	: 04-16-19
PROJECT NO.	: 19050050COL	DATE COMPLETED	: 04-17-19

BORING ELEVATION	: 749.0 Feet	RIG TYPE	: CME 75	DRILLER	: Wrights
NORTHING (USFT)	: 40.001925	CASING DIA.	: 4.25"	TEMPERATURE	:
EASTING (USFT)	: -83.028989	CORE SIZE	:	WEATHER	: Sunny
DEPTH	: 96.0 Feet	HAMMER	: Auto		
BORING METHOD	: HSA	ENERGY RATIO	: 70.7		

GROUNDWATER: ▼ Encountered at 28.3' ▽ At completion 17.7' Caved in at 63.4'

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
		VACUUM EXCAVATION											
743.0	5		6.0										
				SS-1	7 3 3	7	39	21		3.5*			
	10	Medium Stiff to Soft, Brown **LEAN CLAY with SAND (CL)**, Moist		SS-2	1 1 1	2	22	18		0.5*			
735.5			13.5										
	15	Very Dense to Dense, Brown **WELL GRADED SAND with GRAVEL (SW)**, Contains Cobbles and Boulders, Dry to Moist		SS-3	27 29 33	73	100	11					
	20			SS-4	21 24 27	60	56	6					

Continued on next page

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SFA - Solid Flight Auger	ST - Shelby Tube Sample	LL - Liquid Limit
RC - Rock Coring	CR - Rock Core Sample	PL - Plastic Limit
MD - Mud Drilling	BS - Bag Sample	PI - Plasticity Index
WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-03**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 2 OF 4

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
	25			SS-5	50-4"		100	7					
	30	Very Dense to Dense, Brown **WELL GRADED SAND with GRAVEL (SW)**, Contains Cobbles and Boulders, Dry to Moist		SS-6	24 24 20	52	72	12					
	35			SS-7	8 23 26	58	89	11					
	40			SS-8	6 14 14	33	100	10					
705.5			43.5										
	45	Very Dense, Gray **CLAYEY SAND with GRAVEL (SC)**, Contains Cobbles and Boulders, Moist		SS-9	14 18 26	52	89	13		3.0*			

Continued on next page

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WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-03**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 3 OF 4

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
	50	Very Dense, Gray **CLAYEY SAND with GRAVEL (SC)**, Contains Cobbles and Boulders, Moist		SS-10	8 17 34	60	100	12					
695.5			53.5										
	55			SS-11	20 47 50-1"		54	9					
		Very Dense, Gray **WELL GRADED GRAVEL with CLAY and SAND (GW-GC)**, Contains Cobbles and Boulders, Moist to Wet		SS-12	43 50-3"		89	11					
	60												
685.5			63.5										
	65			SS-13	23 31 39	82	89	15					
		Very Dense, Gray **WELL GRADED SAND with CLAY (SW-SC)**, Wet											
680.5			68.5										
	70			SS-14	45 50-3"		100	19					
		Very Dense, Gray **POORLY GRADED SAND with CLAY (SP-SC)**, Moist to Damp											

Continued on next page

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BORING METHOD

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SFA - Solid Flight Auger
RC - Rock Coring
MD - Mud Drilling
WD - Wash Drilling
HA - Hand Auger

SAMPLING METHOD

SS - Split Spoon Sample
ST - Shelby Tube Sample
CR - Rock Core Sample
BS - Bag Sample

ABBREVIATIONS

* - Hand Penetrometer
LL - Liquid Limit
PL - Plastic Limit
PI - Plasticity Index
SPT - Standard Penetration Test
N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-03**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 4 OF 4

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
	75	Very Dense, Gray **POORLY GRADED SAND with CLAY (SP-SC)**, Moist to Damp		SS-15	10 16 34	59	89	18					
	80			SS-16	26 42 43	100	78	16		1.0*			
665.5			83.5	SS-17	50-3"		100	10					
	85	Very Dense, Gray **WELL GRADED GRAVEL with CLAY and SAND (GW-GC)**, Moist											
660.5			88.5	SS-18	50-5"		80	6					
	90	Very Dense, Gray **CLAYEY GRAVEL with SAND (GC)**, Moist											
	95			SS-19	22 50-3"		67	11					
653.0		**BOTTOM OF BORING** **AUGER REFUSAL ON BOULDERS**	96.0										

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BORING METHOD

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- SFA - Solid Flight Auger
- RC - Rock Coring
- MD - Mud Drilling
- WD - Wash Drilling
- HA - Hand Auger

SAMPLING METHOD

- SS - Split Spoon Sample
- ST - Shelby Tube Sample
- CR - Rock Core Sample
- BS - Bag Sample

ABBREVIATIONS

- * - Hand Penetrometer
- LL - Liquid Limit
- PL - Plastic Limit
- PI - Plasticity Index
- SPT - Standard Penetration Test
- N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc
PROJECT : Ohio State Energy Partners-Phase II
LOCATION : The Ohio State University Campus
PROJECT NO. : 19050050COL

BORING NO.: **BH-06**
SHEET 1 OF 4
DATE STARTED : 04-11-19
DATE COMPLETED : 04-11-19

BORING ELEVATION	: 751.0 Feet	RIG TYPE	: B-57	DRILLER	: LH
NORTHING (USFT)	: 40.002098	CASING DIA.	: 4.25"	TEMPERATURE	: 56°
EASTING (USFT)	: -83.029082	CORE SIZE	:	WEATHER	: Clear
DEPTH	: 87.5 Feet	HAMMER	: Auto		
BORING METHOD	: HSA	ENERGY RATIO	: 77.8		

GROUNDWATER: ▼ Encountered at 8.5' ▽ At completion 8.5' Caved in at 38.5'

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF., COMP., ksf	ATTERBERG LIMITS LL	PL	PI
750.4		**GRAVEL (7")**	0.6										
				SS-1	5 3 3	8	78	23			34	21	13
	5	Medium Stiff, Brown **LEAN CLAY (CL)**, Damp		SS-2	5 2 5	9	44	23		1.5*			
				SS-3	2 1 4	6	44	18		1.0*			
742.5 ▼			8.5										
	10	Very Loose, Brown **CLAYEY SAND (SC)**, Contains Rock Fragments, Wet		SS-4	0 0 1	1	33	11		1.5*			
737.5			13.5										
	15	Hard, Brown **SANDY LEAN CLAY (CL)**, Contains Cobbles, Dry		SS-5	10 25 30	71	56	7			22	13	9
732.5			18.5										
	20	Very Dense, Brown **WELL GRADED GRAVEL with SAND (GW)**, Contains Cobbles and Boulders, Dry		SS-6	40 34 42	99	39	3					

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MD - Mud Drilling	BS - Bag Sample	PI - Plasticity Index
WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-06**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 2 OF 4

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
		Very Dense, Brown **WELL GRADED GRAVEL with SAND (GW)**, Contains Cobbles and Boulders, Dry		SS-7	50-1"		100	2					
722.5	25		28.5										
	30			SS-8	10 12 13	32	44	11					
	35	Dense to Very Dense, Brown to Gray **CLAYEY SAND with GRAVEL (SC)**, Contains Cobbles and Boulders, Wet to Moist		SS-9	27 24 34	75	0	8					
712.5			38.5										
	40	Dense, Gray **WELL GRADED GRAVEL with CLAY and SAND (GW-GC)**, Contains Cobbles, Wet		SS-10	3 8 16	31	39	10					
707.5			43.5										
	45	Dense to Very Dense, Gray **WELL GRADED SAND with GRAVEL (SW)**, Contains Cobbles and Boulders, Wet to Moist		SS-11	5 10 17	35	50	11					

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TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-06**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 3 OF 4

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
	50	Dense to Very Dense, Gray **WELL GRADED SAND with GRAVEL (SW)**, Contains Cobbles and Boulders, Wet to Moist		SS-12	11 12 17	38	56	9			NP	NP	NP
	55			SS-13	26 19 20	51	39	9					
692.5			58.5										
	60	Dense, Gray **WELL GRADED GRAVEL with SAND (GW)**, Cobbles, Wet		SS-14	10 17 17	44	56	11					
687.5			63.5										
	65	Very Dense, Gray **WELL GRADED SAND with CLAY and GRAVEL (SW-SC)**, Contains Rock Fragments, Moist		SS-15	22 28 50-1"		53	11					
	70			SS-16	38 49 50-4"		63	11					

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SFA - Solid Flight Auger	ST - Shelby Tube Sample	LL - Liquid Limit
RC - Rock Coring	CR - Rock Core Sample	PL - Plastic Limit
MD - Mud Drilling	BS - Bag Sample	PI - Plasticity Index
WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-06**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 4 OF 4

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
	75			SS-17	28 50-5"		72	11					
	80	Very Dense, Gray **WELL GRADED SAND with CLAY and GRAVEL (SW-SC)**, Contains Rock Fragments, Moist		SS-18	50-2"		50	18					
	85			SS-19	6 21 37	75	39	12					
663.5		**BOTTOM OF BORING** **AUGER REFUSAL ON BOULDERS**	87.5										
	90												
	95												

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BORING METHOD	SAMPLING METHOD	ABBREVIATIONS
HSA - Hollow Stem Auger	SS - Split Spoon Sample	* - Hand Penetrometer
SFA - Solid Flight Auger	ST - Shelby Tube Sample	LL - Liquid Limit
RC - Rock Coring	CR - Rock Core Sample	PL - Plastic Limit
MD - Mud Drilling	BS - Bag Sample	PI - Plasticity Index
WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT	: ENGIE Services Inc	BORING NO.:	**BH-08**
PROJECT	: Ohio State Energy Partners-Phase II	SHEET	1 OF 4
LOCATION	: The Ohio State University Campus	DATE STARTED	: 04-18-19
PROJECT NO.	: 19050050COL	DATE COMPLETED	: 04-18-19

BORING ELEVATION	: 749.0 Feet	RIG TYPE	: CME 75	DRILLER	: Wrights
NORTHING (USFT)	: 40.002339	CASING DIA.	: 4.25"	TEMPERATURE	:
EASTING (USFT)	: -83.028808	CORE SIZE	:	WEATHER	: Sunny
DEPTH	: 80.0 Feet	HAMMER	: Auto		
BORING METHOD	: HSA	ENERGY RATIO	: 70.7		

GROUNDWATER: ▼ Encountered at 34.0' ▽ At completion 26.7' Caved in at 48.6'

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
		VACUUM EXCAVATION											
743.0	5		6.0	SS-1	2 2 8	12	89	20		9.0*	36	20	16
	10	Stiff to Medium Stiff, Brown **LEAN CLAY with SAND (CL)**, Damp to Wet		SS-2	2 2 3	6	100	19		1.0*			
735.5	15	Stiff, Brown **SANDY LEAN CLAY with GRAVEL (CL)**, Contains Rock Fragments, Moist	13.5	SS-3	4 4 5	11	100	25		1.5*			
730.5	20	Medium Dense, Brown **CLAYEY GRAVEL (GC)**, Wet	18.5	SS-4	2 3 5	9	22	49					

Continued on next page

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SFA - Solid Flight Auger	ST - Shelby Tube Sample	LL - Liquid Limit
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WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-08**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 2 OF 4

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
725.5		Medium Dense, Brown **CLAYEY GRAVEL (GC)**, Wet	23.5										
	25			SS-5	9 5 5	12	44	13			NP	NP	NP
	30			SS-6	18 30 33	74	33	11					
	35	Medium Dense to Very Dense, Brown to Gray **SILTY SAND (SM)**, Contains Cobbles and Boulders, Damp to Moist		SS-7	24 26 29	65	100	18					
	40			SS-8	15 30 35	77	89	8					
	45			SS-9	18 27 41	80	100	11					

Continued on next page

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SFA - Solid Flight Auger	ST - Shelby Tube Sample	LL - Liquid Limit
RC - Rock Coring	CR - Rock Core Sample	PL - Plastic Limit
MD - Mud Drilling	BS - Bag Sample	PI - Plasticity Index
WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-08**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 3 OF 4

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
	50	Medium Dense to Very Dense, Brown to Gray **SILTY SAND (SM)**, Contains Cobbles and Boulders, Damp to Moist		SS-10	17 23 28	60	44	8					
694.0	55		55.0	SS-11	12 40 50-3"		56	10		7.5*			
	60			SS-12	9 12 34	54	33	8					
	65	Very Dense, Brown and Gray **WELL GRADED GRAVEL with CLAY and SAND (GW-GC)**, Contains Cobbles and Boulders, Damp		SS-13	40 50-5"		36	6					
	70			SS-14	35 50-4"		70	10					

Continued on next page

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SFA - Solid Flight Auger	ST - Shelby Tube Sample	LL - Liquid Limit
RC - Rock Coring	CR - Rock Core Sample	PL - Plastic Limit
MD - Mud Drilling	BS - Bag Sample	PI - Plasticity Index
WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-08**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 4 OF 4

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
				SS-15	50-2"		0						
	75	Very Dense, Brown and Gray **WELL GRADED GRAVEL with CLAY and SAND (GW-GC)**, Contains Cobbles and Boulders, Damp											
				SS-16	50-1"								
669.0	80	**BOTTOM OF BORING** **AUGER REFUSAL ON BOULDERS**	80.0										
	85												
	90												
	95												

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WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT	: ENGIE Services Inc	BORING NO.:	**BH-12**
PROJECT	: Ohio State Energy Partners-Phase II	SHEET	1 OF 3
LOCATION	: The Ohio State University Campus	DATE STARTED	: 04-10-19
PROJECT NO.	: 19050050COL	DATE COMPLETED	: 04-10-19

BORING ELEVATION	: 751.0 Feet	RIG TYPE	: CME 75	DRILLER	: Wrights
NORTHING (USFT)	: 40.002451	CASING DIA.	: 4.25"	TEMPERATURE	:
EASTING (USFT)	: -83.029387	CORE SIZE	:	WEATHER	: Sunny
DEPTH	: 63.5 Feet	HAMMER	: Auto		
BORING METHOD	: HSA	ENERGY RATIO	: 70.7		

GROUNDWATER: ▼ Encountered at 28.0' ▽ At completion 26.7' Caved in at 29.0'

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF., COMP., ksf	ATTERBERG LIMITS LL	PL	PI
749.6		**TOPSOIL (17")**	1.4										
		Stiff, Brown **LEAN CLAY with SAND (CL)**, Contains Rock Fragments, Moist		SS-1	3 4 6	12	89	23		7.5*	42	21	21
	5			SS-2	4 4 4	9	89	23		3.0*			
745.0			6.0										
		Medium Stiff, Brown **SANDY SILT (ML)**, Contains Rock Fragments, Moist		SS-3	3 3 3	7	67	19					
742.5			8.5										
	10	Hard, Brown **SANDY LEAN CLAY with GRAVEL (CL)**, Contains Rock Fragments, Damp		SS-4	8 15 17	38	100	9		9.0*			
737.5			13.5										
	15	Hard, Gray **SANDY SILTY CLAY (CL-ML)**, Contains Rock Fragments, Dry **(TILL)**		SS-5	14 21 21	49	100	8			20	14	6
732.5			18.5										
	20	Very Dense, Brown **WELL GRADED SAND with GRAVEL (SW)**, Contains Cobbles and Boulders, Dry		SS-6	20 30 50	94	67	9					

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WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-12**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 2 OF 3

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
	25	Very Dense, Brown **WELL GRADED SAND with GRAVEL (SW)**, Contains Cobbles and Boulders, Dry		SS-7	23 26 30	66	72	6					
722.5			28.5										
	30			SS-8	6 17 31	57	78	9					
	35	Very Dense, Brown to Gray **WELL GRADED GRAVEL with SAND (GW)**, Wet		SS-9	26 30 30	71	61	5					
712.5			38.5										
	40			SS-10	6 0 13	15	100	17					
	45	Dense, Gray **SILTY SAND (SM)**, Contains Cobbles and Boulders, Moist		SS-11	9 12 14	31	100	8			NP	NP	NP

Continued on next page

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SFA - Solid Flight Auger	ST - Shelby Tube Sample	LL - Liquid Limit
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HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

TEST BORING RECORD

CLIENT : ENGIE Services Inc

BORING NO.: **BH-12**

PROJECT : Ohio State Energy Partners-Phase II

SHEET 3 OF 3

STRATUM ELEVATION	SAMPLE DEPTH	SOIL/MATERIAL DESCRIPTION	STRATUM DEPTH	SAMPLE NUMBER	SPT per 6"	N_{60}	RECOVERY (%)	MOISTURE CONTENT	TOTAL UNIT WEIGHT pcf	UNCONF. COMP., ksf	ATTERBERG LIMITS LL	PL	PI
702.5		Dense, Gray **SILTY SAND (SM)**, Contains Cobbles and Boulders, Moist	48.5										
	50			SS-12	7 14 28	49	100	9					
				SS-13	50-4"		75	4					
	55	Very Dense, Gray **WELL GRADED SAND with CLAY and GRAVEL (SW-SC)**, Contains Cobbles and Boulders, Moist											
				SS-14	32 50-1"		0						
	60												
687.5		**BOTTOM OF BORING** **AUGER REFUSAL ON BOULDERS**	63.5										
	65												
	70												

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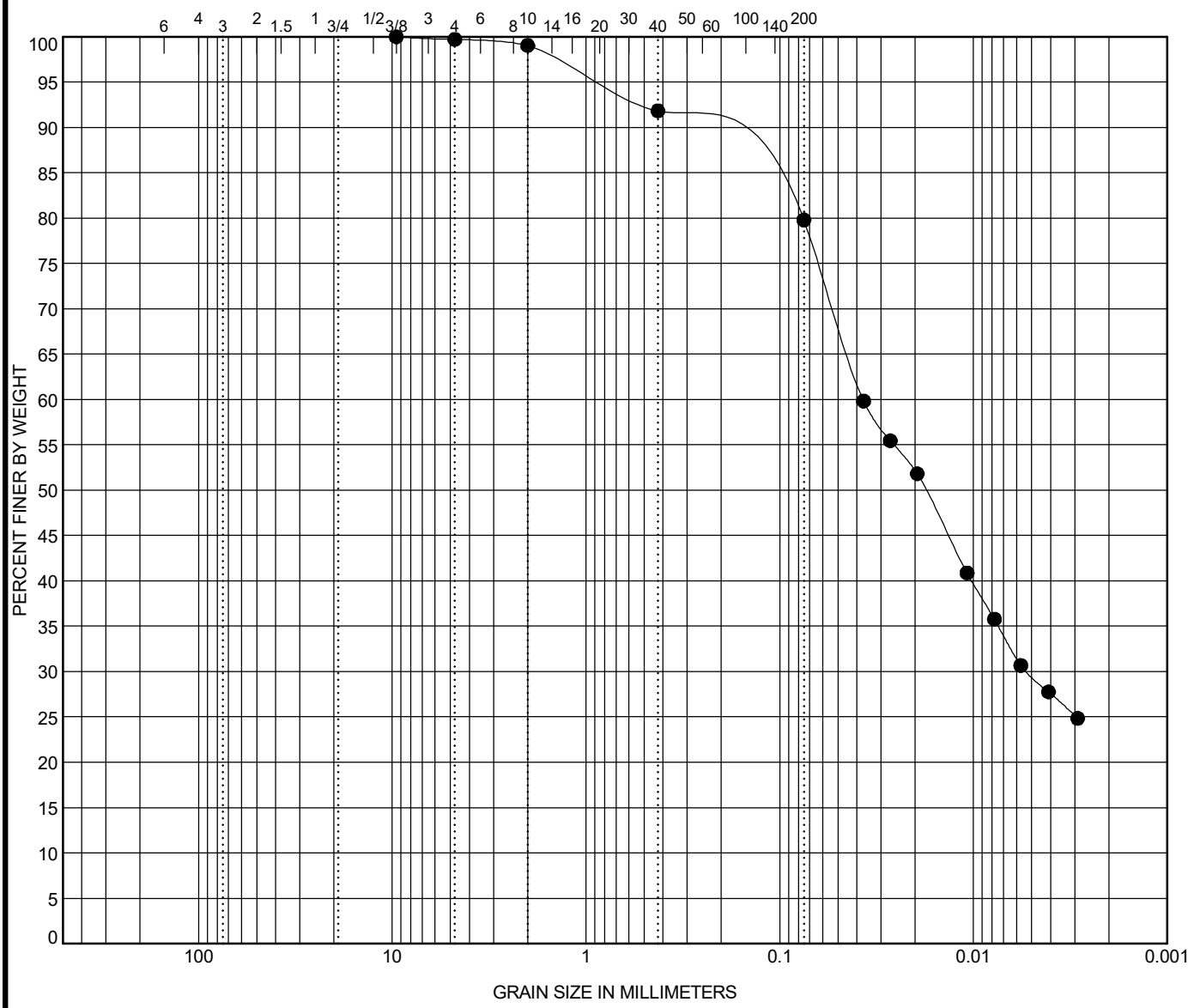
RC - Rock Coring	CR - Rock Core Sample	PL - Plastic Limit
MD - Mud Drilling	BS - Bag Sample	PI - Plasticity Index
WD - Wash Drilling		SPT - Standard Penetration Test
HA - Hand Auger		N_{60} - Standard Penetration Normalized to 60% Drill Rod ER

APPENDIX C
LABORATORY TEST RESULTS



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Sample	Classification	%MC	LL	PL	PI	Cc	Cu
●	**BH-02**	**SS-1**	**LEAN CLAY with SAND (CL)**	**22**	**40**	**21**	**19**		

	Specimen ID	Sample	D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-02**	**SS-1**	**9.525**	**0.037**	**0.018**	**0.005**		**0**	**20**	**50**	**30**

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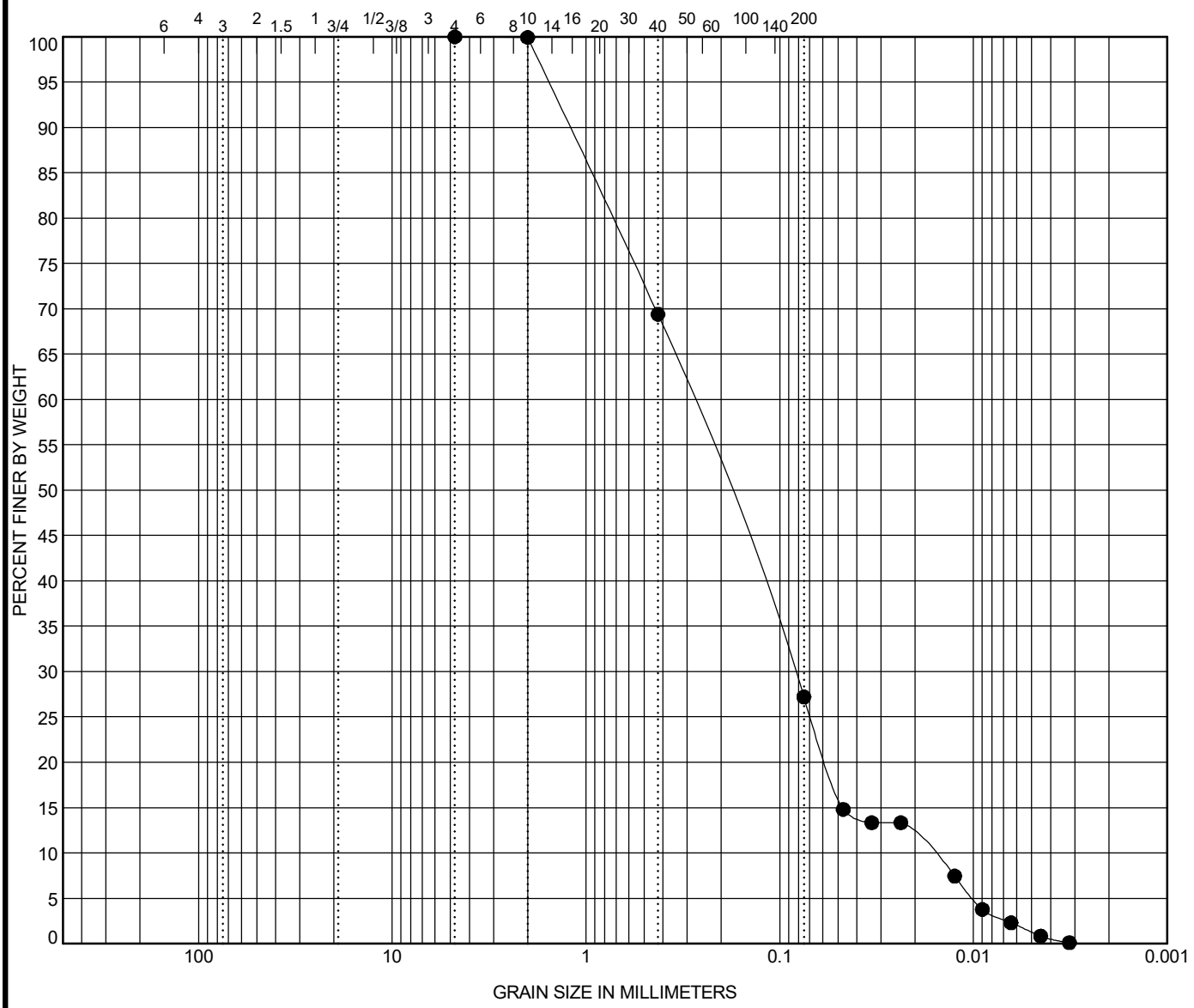
GRAIN SIZE DISTRIBUTION (ASTM D6913, D 7928, D 4318)

Project: Ohio State Energy Partners-Phase II

Location: The Ohio State University Campus

CTL Project Number: 19050050COL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Sample	Classification	%MC	LL	PL	PI	Cc	Cu
●	**BH-02**	**SS-4**	**SILTY SAND (SM)**	**13**	**NP**	**NP**	**NP**	**1.49**	**17.49**

	Specimen ID	Sample	D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-02**	**SS-4**	**4.75**	**0.289**	**0.191**	**0.084**	**0.017**	**0**	**73**	**26**	**1**

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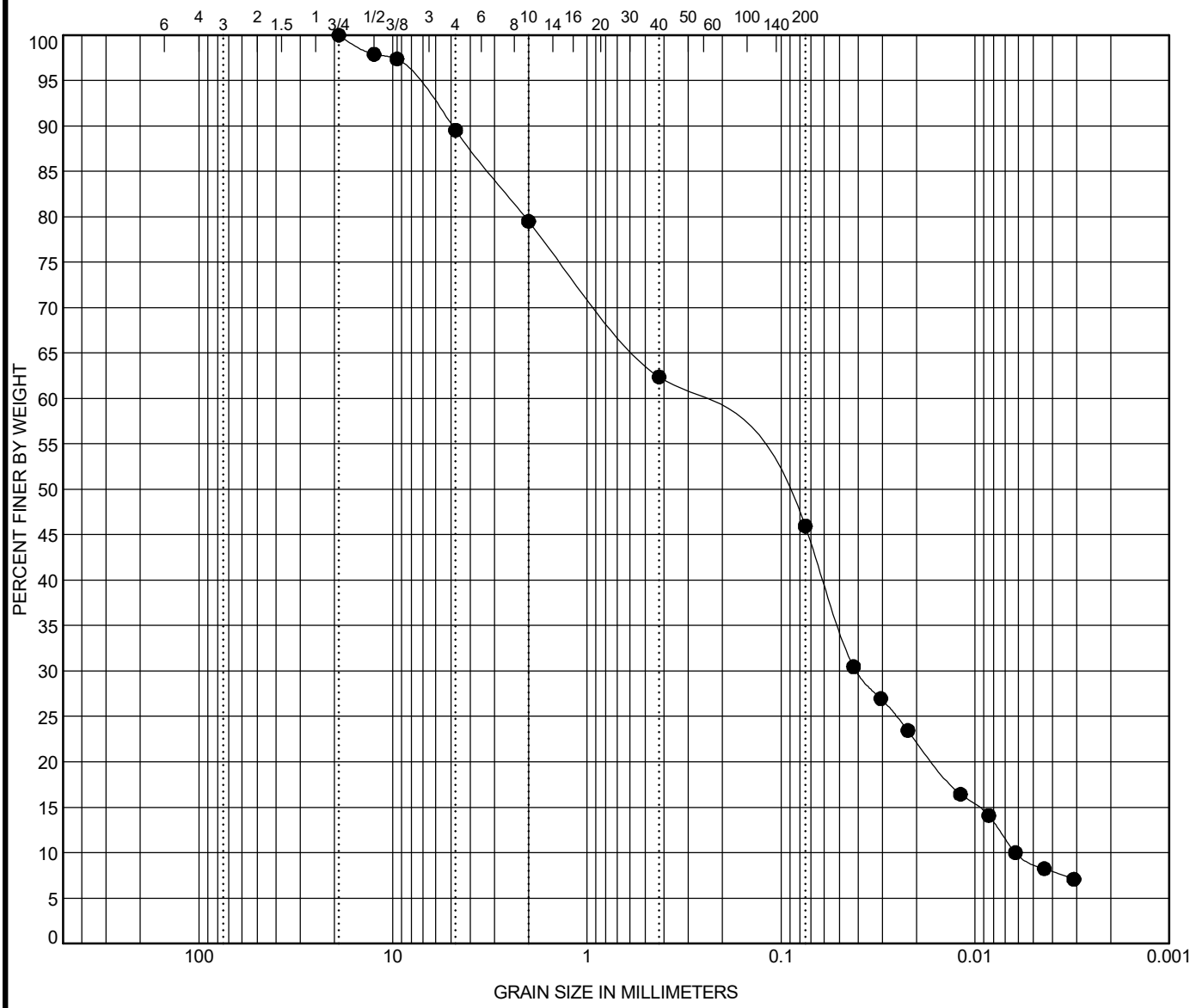
GRAIN SIZE DISTRIBUTION (ASTM D6913, D 7928, D 4318)

Project: Ohio State Energy Partners-Phase II

Location: The Ohio State University Campus

CTL Project Number: 19050050COL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Sample	Classification	%MC	LL	PL	PI	Cc	Cu
●	**BH-02**	**SS-5**	**SILTY, CLAYEY SAND (SC-SM)**	**10**	**19**	**14**	**5**	**0.8**	**53.3**

	Specimen ID	Sample	D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-02**	**SS-5**	**19**	**0.331**	**0.115**	**0.041**	**0.006**	**10**	**44**	**37**	**9**

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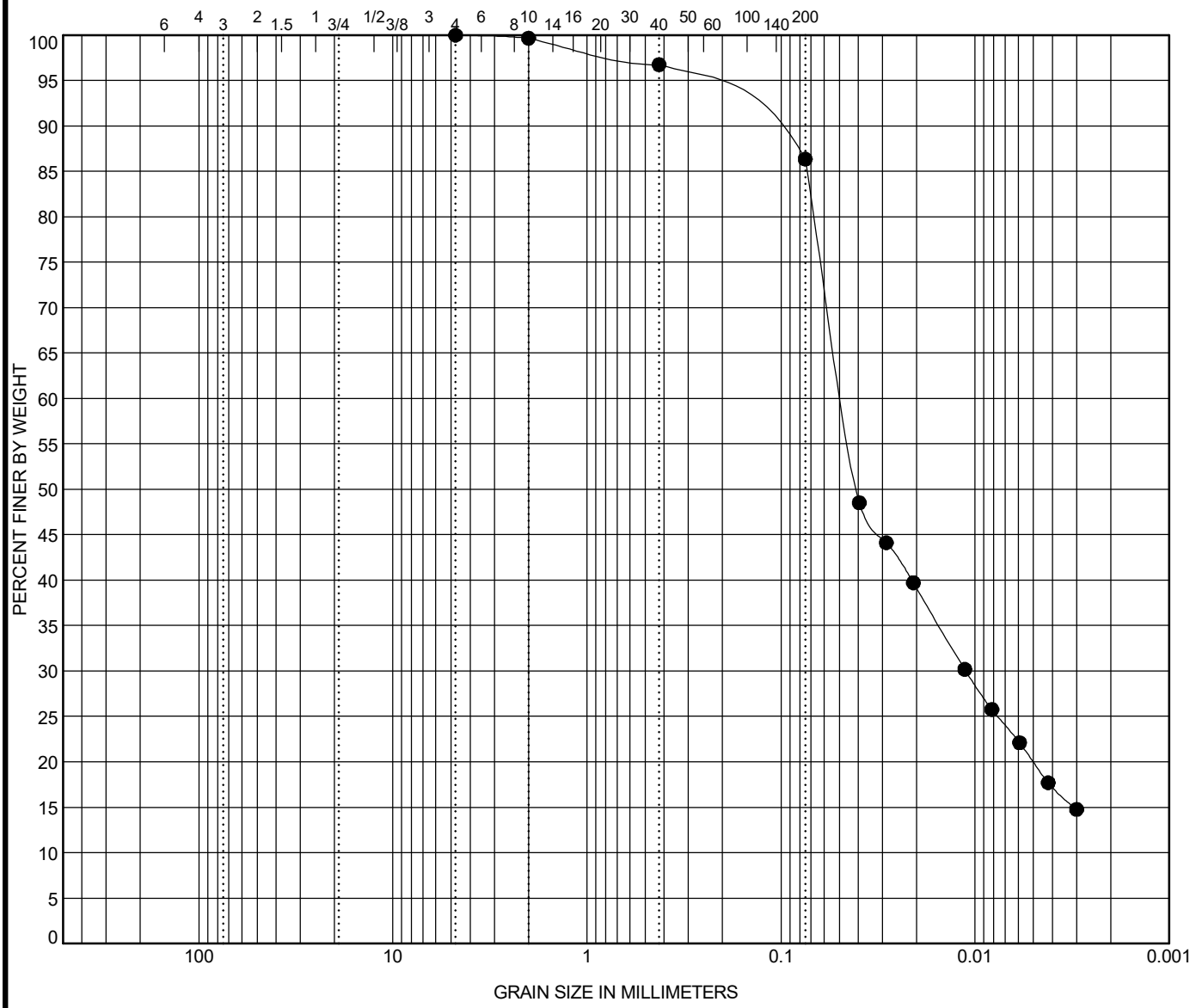
GRAIN SIZE DISTRIBUTION (ASTM D6913, D 7928, D 4318)

Project: Ohio State Energy Partners-Phase II

Location: The Ohio State University Campus

CTL Project Number: 19050050COL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Sample	Classification	%MC	LL	PL	PI	Cc	Cu
●	**BH-06**	**SS-1**	**LEAN CLAY (CL)**	**23**	**34**	**21**	**13**		

	Specimen ID	Sample	D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-06**	**SS-1**	**4.75**	**0.048**	**0.041**	**0.011**		**0**	**14**	**66**	**20**

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GRAIN SIZE DISTRIBUTION (ASTM D6913, D 7928, D 4318)

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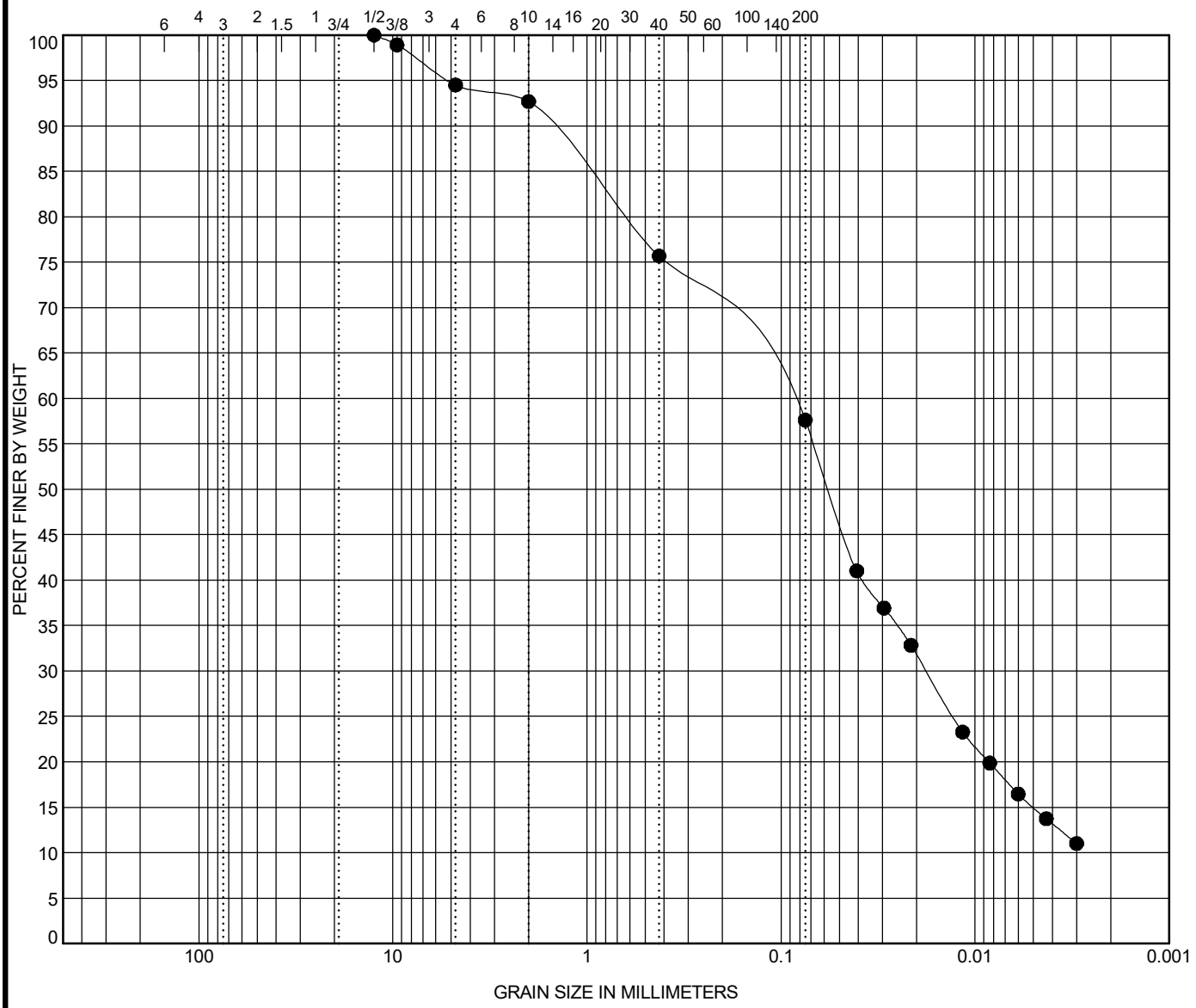
Location: The Ohio State University Campus

CTL Project Number: 19050050COL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Sample	Classification	%MC	LL	PL	PI	Cc	Cu
●	**BH-06**	**SS-5**	**SANDY LEAN CLAY (CL)**	**7**	**22**	**13**	**9**		

	Specimen ID	Sample	D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-06**	**SS-5**	**12.5**	**0.094**	**0.057**	**0.018**		**5**	**37**	**43**	**15**

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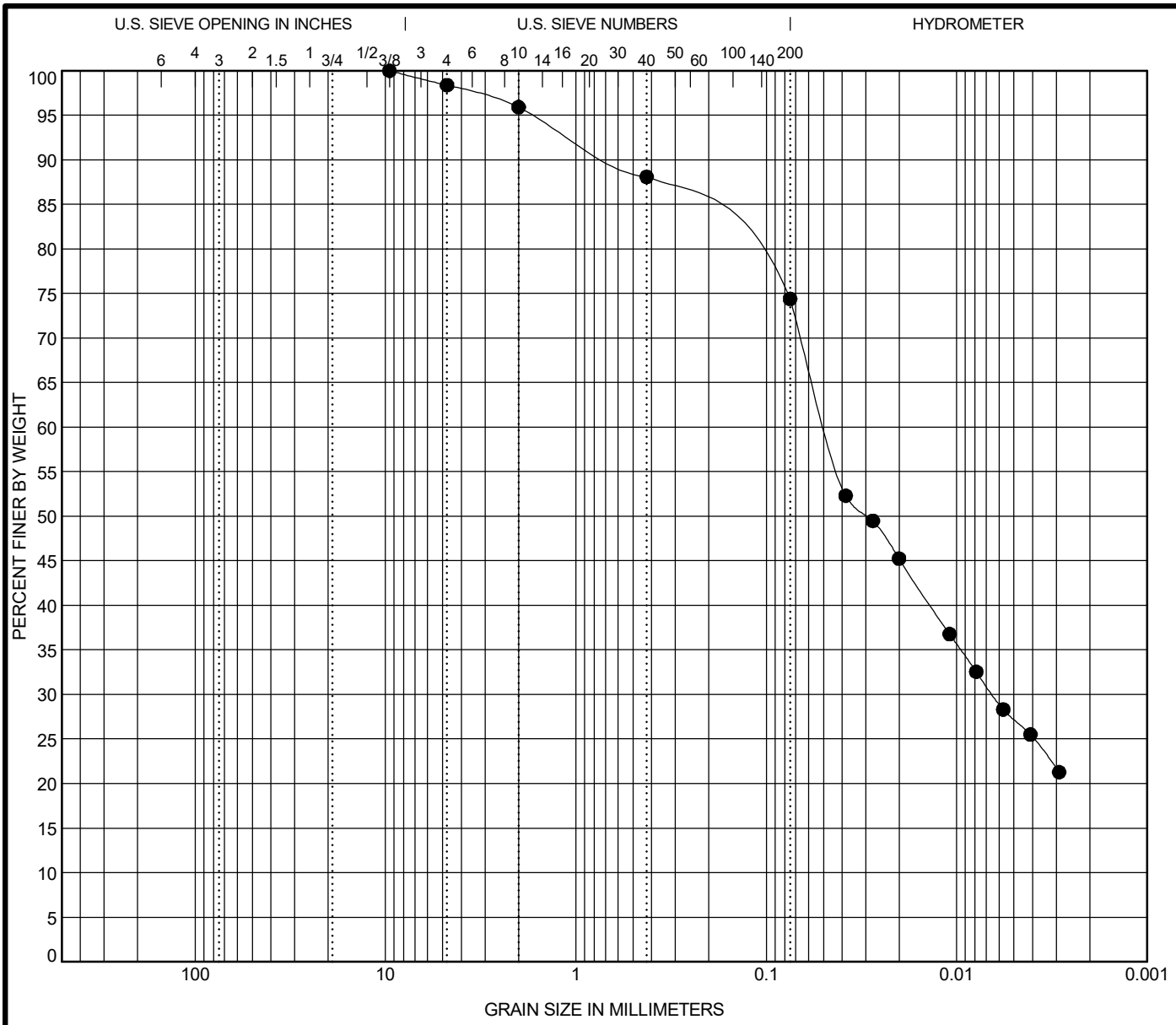
GRAIN SIZE DISTRIBUTION (ASTM D6913, D 7928, D 4318)

Project: Ohio State Energy Partners-Phase II

Location: The Ohio State University Campus

CTL Project Number: 19050050COL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Sample	Classification	%MC	LL	PL	PI	Cc	Cu
●	**BH-08**	**SS-1**	**LEAN CLAY with SAND (CL)**	**20**	**36**	**20**	**16**		

	Specimen ID	Sample	D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-08**	**SS-1**	**9.525**	**0.048**	**0.029**	**0.006**		**2**	**24**	**47**	**27**

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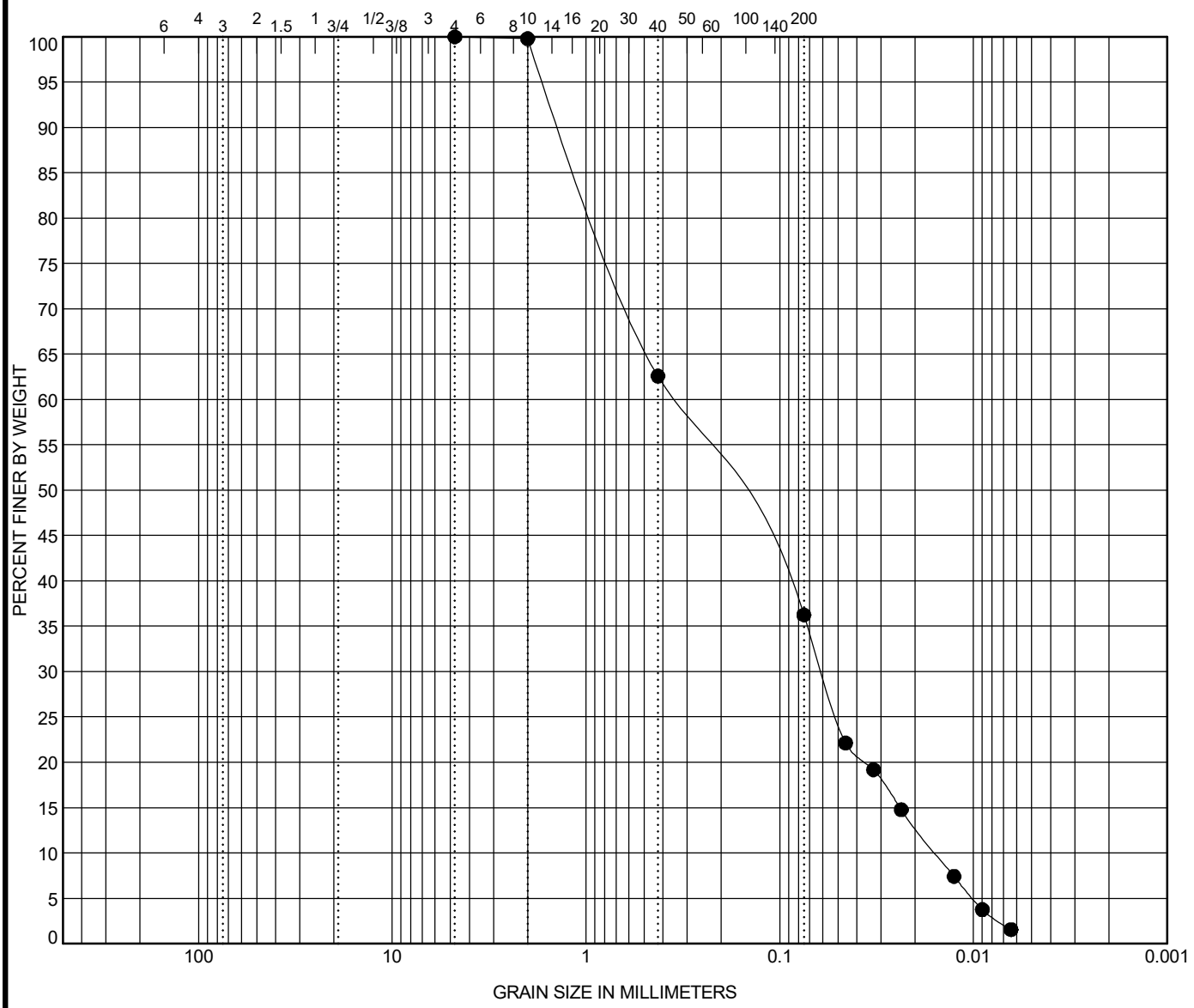
GRAIN SIZE DISTRIBUTION (ASTM D6913, D 7928, D 4318)

Project: Ohio State Energy Partners-Phase II

Location: The Ohio State University Campus

CTL Project Number: 19050050COL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Sample	Classification	%MC	LL	PL	PI	Cc	Cu
●	**BH-08**	**SS-5**	**SILTY SAND (SM)**	**13**	**NP**	**NP**	**NP**	**0.64**	**22.8**

	Specimen ID	Sample	D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-08**	**SS-5**	**4.75**	**0.358**	**0.186**	**0.06**	**0.016**	**0**	**64**		

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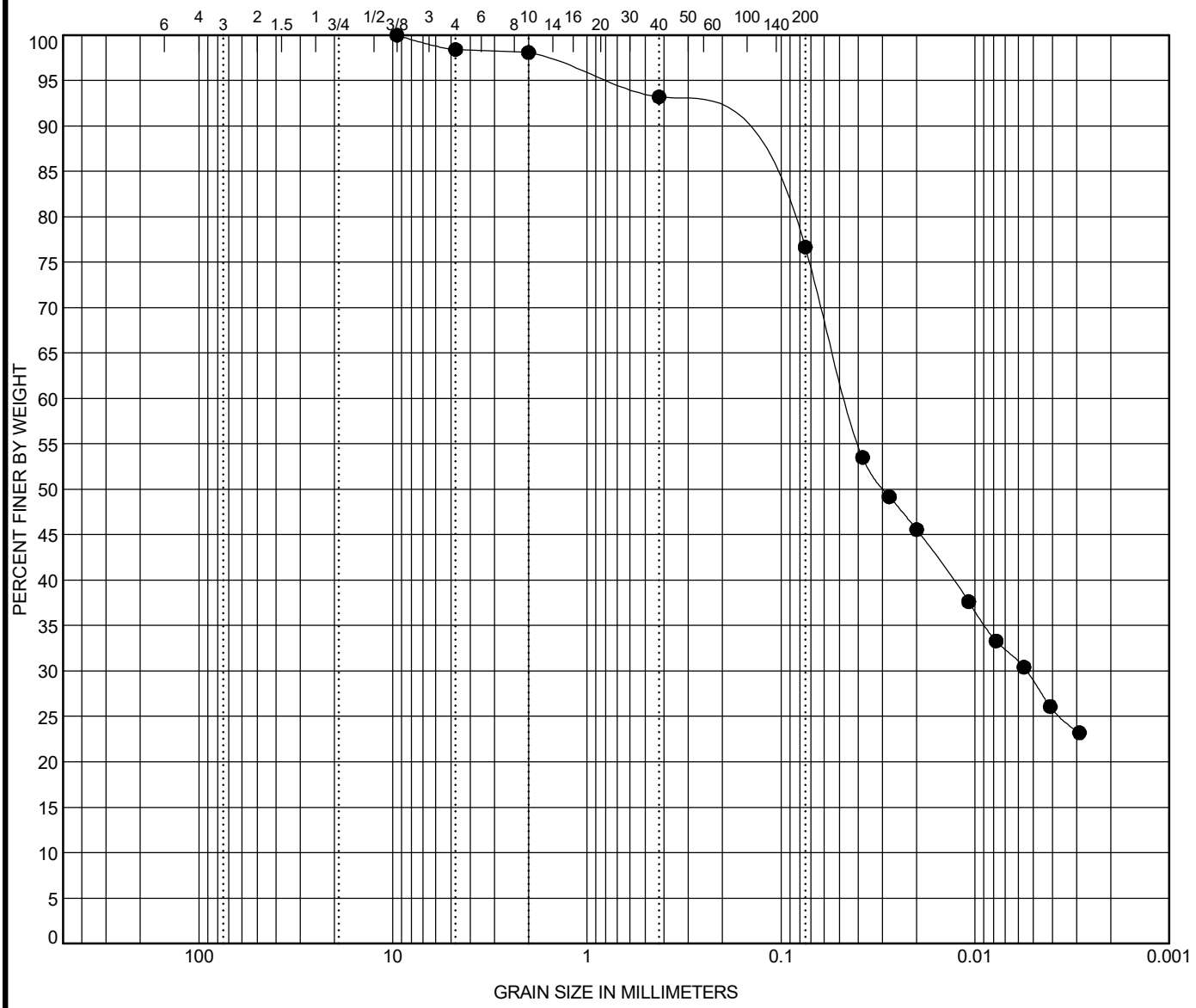
GRAIN SIZE DISTRIBUTION (ASTM D6913, D 7928, D 4318)

Project: Ohio State Energy Partners-Phase II

Location: The Ohio State University Campus

CTL Project Number: 19050050COL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Sample	Classification	%MC	LL	PL	PI	Cc	Cu
●	**BH-12**	**SS-1**	**LEAN CLAY with SAND (CL)**	**23**	**42**	**21**	**21**		

	Specimen ID	Sample	D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-12**	**SS-1**	**9.525**	**0.046**	**0.029**	**0.005**		**2**	**22**	**47**	**29**

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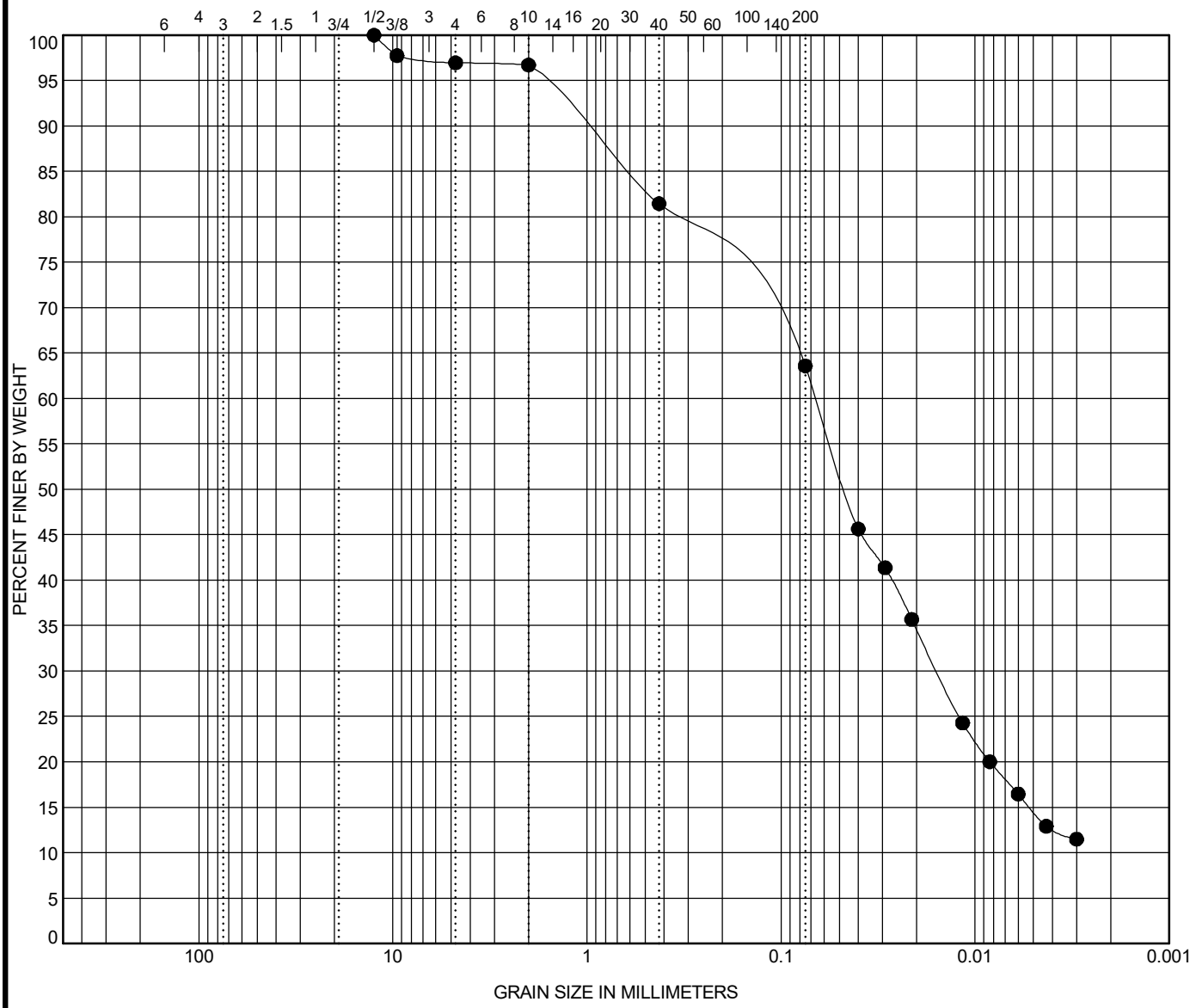
GRAIN SIZE DISTRIBUTION (ASTM D6913, D 7928, D 4318)

Project: Ohio State Energy Partners-Phase II

Location: The Ohio State University Campus

CTL Project Number: 19050050COL



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Sample	Classification	%MC	LL	PL	PI	Cc	Cu
●	**BH-12**	**SS-5**	**SANDY SILTY CLAY (CL-ML)**	**8**	**20**	**14**	**6**		

	Specimen ID	Sample	D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-12**	**SS-5**	**12.5**	**0.066**	**0.047**	**0.016**		**3**	**33**	**49**	**15**

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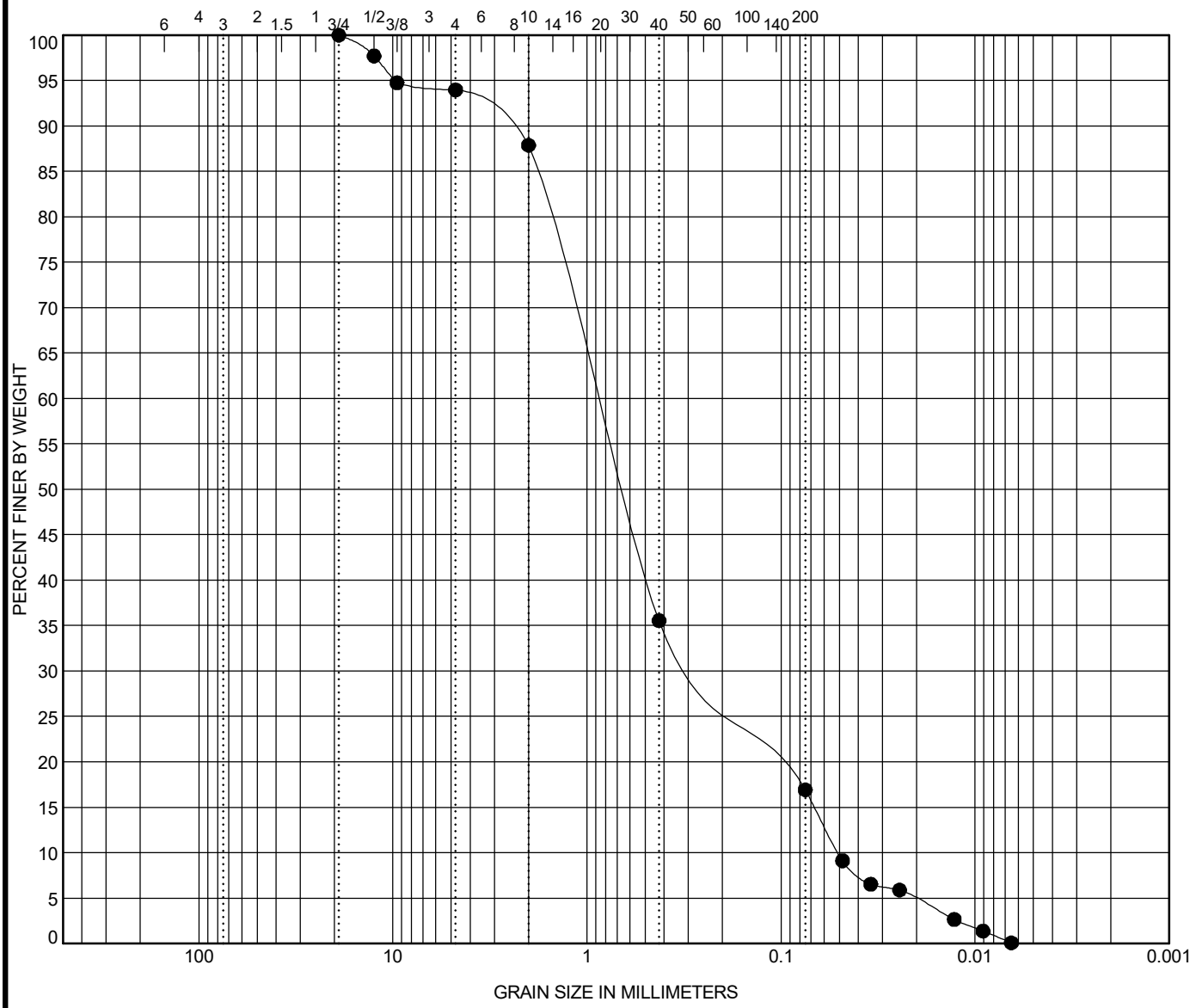

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen ID	Sample	Classification	%MC	LL	PL	PI	Cc	Cu
●	**BH-12**	**SS-11**	**SILTY SAND (SM)**	**8**	**NP**	**NP**	**NP**	**1.45**	**17.29**

	Specimen ID	Sample	D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH-12**	**SS-11**	**19**	**0.876**	**0.652**	**0.254**	**0.051**	**6**	**77**		

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Project: Ohio State Energy Partners-Phase II

Location: The Ohio State University Campus

CTL Project Number: 19050050COL

Summary: Application Application Part 13 of 17 - Exhibits O-Q electronically filed by Ms. Kari D Hehmeyer on behalf of Alexander, Trevor Mr. and THE OHIO STATE UNIVERSITY