

CITY OF YOUNGSTOWN

CONTRACT AND BIDDING DOCUMENTS

FOR LABOR AND MATERIALS

PROJECT NAME:

CITY WIDE CONCRETE BLEACHERS DEMOLITION
PROJECT - REBID 1

(For Bidder's Use)

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PREPARED BY:
CITY OF YOUNGSTOWN
DEPARTMENT OF PUBLIC WORKS

TECHNICAL SPECIFICATIONS

VOLUME 2 OF 2

NOVEMBER 2016

DEMOLITION SPECIFICATIONS

for the

Nick Johnson Park, Knapp Ave (Parcel ID 53-221-0-058.00-0)

Oakland Field, 324 N Blain Ave (Parcel ID 53-033-0-054.00-0)

Ipe Field, 1624 E Midlothian Blvd (Parcel ID 53-070-0-149.00-0)

Tod Park, Tod Park Dr (Parcel ID 53-088-0-082.00-0)

Gibson Lower, Gibson Street (Parcel ID 53-038-0-091.00-0)

Stambaugh Field, Glenwood & Breaden (Parcel ID 53-138-0-088.00-0)

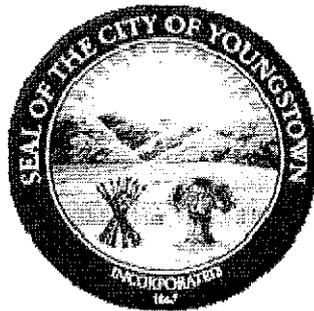


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SECTION 01013 - SUMMARY OF THE WORK
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. **This Demolition Project** in general, consists of performing demolition of the City wide Concrete Bleachers, restrooms, concrete foundations, field house, and the associated Press Box structures in their entirety, unless otherwise specified at various City of Youngstown Field House locations in accordance with local, state and federal regulations and the project specifications. All structure demolition activities shall take place during normal business hours. During waste load-out it is **CRITICAL** to minimize visible emissions leaving the project area, the waste pile must be kept wet during all load-out activities. Demolition mobilization activities and installation of perimeter fencing protection shall be performed, prior to and maintained during all demolition activities Structural steel may be segregated and recycled, as well as the concrete, if appropriate, all other building materials shall be disposed of as construction and demolition debris to a landfill licensed for C&D material disposal. Detailed requirements are provided herein.

The asbestos survey of the structure is provided at the end of this section for reference.

The Scope of Work Shall Include the Following Tasks:

- a. Development of a Demolition Workplan, Health and Safety Plan, Construction Contingency Plan, and a Storm Water Pollution Prevention Plan.
 - b. Mobilization/Site Walkover
 - c. Site Improvements
 - d. Demolition
1. **Project Locations:** Nick Johnson Park, Knapp Ave (Parcel ID 53-221-0-058.00-0)
Oakland Field, 324 N Blain Ave (Parcel ID 53-033-0-054.00-0)
Ipe Field, 1624 E Midlothian Blvd (Parcel ID 53-070-0-149.00-0)
Tod Park, Tod Park Dr (Parcel ID 53-088-0-082.00-0)
Gibson Lower, Gibson Street (Parcel ID 53-038-0-091.00-0)
Stambaugh Field, Glenwood & Breaden (Parcel ID 53-138-0-088.00-0)
 2. **Owner:** City of Youngstown, 26 South Phelps Street, Youngstown, Ohio 44503.
 3. **Deliveries:** No restrictions.

B. N.A.

C. **Execution of Work:**

- a. The Contractor shall furnish all equipment, personal protective equipment, and other devices to perform demolition of concrete bleachers, press box, and restrooms and the protection of adjacent buildings and items scheduled to remain in accordance with local, state and federal regulations and the specifications.
- b. Workplan strategy: The Workplan includes procedures and specifications required to implement the demolition activities set forth above. **The Demolition Contractor shall prepare and submit to the Engineer a written Demolition Work Plan, Health and Safety Plan, Construction Contingency Plan and a Storm Water Pollution Prevention Plan for approval.** In addition, landfill approval documentation and names of any Sub-Contractors the Contractor may use, must be submitted prior to initiating any work. The details of each task are presented below.
- c. Special Fees: The contractors shall be responsible for any fees associated with disposal of excavated materials, such as solid waste district fees, waste profile fees, county fees, storage fees, tipping fees, special permits, assessment fees, etc.
- d. Contractor, including its employees, suppliers and subcontractors, shall use only the entrance designated by Client and Engineer for its use.
- e. Contractor shall be responsible for the security of its work areas and shall at all times conduct its operation in a manner to minimize the risk of loss by theft, damage, vandalism, sabotage, or other conditions. Upon discovery of a loss, Contractor shall notify Engineer and Client and provide a written report of the incident within 24 hours.
- f. Contractor shall cooperate with Client and Engineer on all security matters. Such compliance shall not relieve Contractor of its responsibilities as noted above.
- g. All designs and data furnished by or on behalf of Client or Engineer shall be considered confidential and shall be used only for performance of this Contract.
- h. Prior to making any statements to the press or other public releases, Contractor shall first obtain written approval from Client and Engineer.
- i. **HEALTH and SAFETY:** Contractor acknowledges that the project site may involve hazardous materials. Contractor shall conduct all operations under the Contract in a manner to avoid risk of bodily harm to persons of damage to property and in full compliance with OSHA, NESHAP, MSHA, OAC, CERCLA, NIOSH, RCRA, at a minimum, requirements and any and all other applicable legal requirements. Further, Contractor shall continuously inspect its Work, material and equipment to identify any unsafe conditions and shall promptly take action to correct any condition which presents such a risk.

Contractor represents and warrants that it is fully qualified and knowledgeable with respect to all health and safety requirements relating to the work and that as an independent Contractor shall be solely responsible for compliance with those requirements. The Contractor shall provide and follow the Site Health & Safety Plan written by the Contractor. Additional site activities, (i.e., pre-wetting methodology, confined space entry, operating heavy equipment, etc.) are to be included in the Contractor's Health & Safety Plan. The Contractor is to present the Health & Safety Plan to the Engineer for acceptance prior to performance of the work. The Contractor will be responsible for ensuring that all Contractor employees and subcontractors on site are properly trained and have medical monitoring. **Records supporting training and medical monitoring will be provided to the Client and Engineer prior to signing of the Contract. In addition, training, licensure and medical monitoring records as each worker arrives on site and a copy maintained on site.**

Should Contractor fail to comply with the Health & Safety Program or with other applicable requirements as referenced above, such action or inaction shall be considered a material breach of the Contract. Should Contractor, upon notice thereof, neglect or refuse to take appropriate corrective action, Engineer or Client shall have the right, but not the duty, to stop the Contractor's work or any portion thereof, and/or correct the condition and back charge all incident costs to Contractor's account.

Contractor shall be responsible for all fines or penalties assessed due to its failure to comply with applicable laws, regulations or standards, including any fines or penalties assessed against Client or Engineer. Contractor agrees, to the fullest extent permitted by law, to indemnify and hold Client and Engineer harmless from any claim, liability, loss or expense resulting from Contractor's failure to comply with all applicable health and safety requirements.

In the event of accident, injury or incident involving health, safety, or damage to property, Contractor shall immediately notify Client and Engineer and shall submit a report on the incident in writing within 24 hours of such occurrence. Contractor shall maintain accurate records of all such occurrences and shall furnish Client and Engineer a weekly summary including man-hours lost due to injuries.

Nothing in these Special Conditions shall be interpreted as enlarging the legal duty of Client or Engineer to Contractor or to Contractor's agents, employees, subcontractors, or third parties or as altering the independent Contractor status of Contractor.

- j. **Materials, Equipment and Facilities to Be Furnished by Contractor:** Contractor shall furnish all labor, equipment, services and materials necessary to complete the work as a functional system for the use intended. Materials, equipment and supplies to be furnished by Contractor shall include, but shall not necessarily be limited to, the following:
 - 1. All other items of material, supplies, equipment and labor not specifically stated as being provided by Client and/or Engineer.
 - 2. Sanitary facilities for Contractor's personnel will be provided by Contractor.

3. Process and/or Potable water, if required, will be transported by the Contractor to the site from a remote site location or hydrant as approved by the Youngstown Water Department. Cost of water shall be paid for by the contractor. Contact **City of Youngstown Water Department for the cost for water per thousand gallons.**
 4. Power and telephone services, if required.
 5. Transport of workers, as necessary.
- k. **MOBILIZATION/SITE WALKOVER REQUIREMENTS:** The Contractor shall provide a sufficient number of toilet facilities designated as men and women, as appropriate. The toilet facilities shall be located adjacent to the Work Area. Before initiation of site activities the Contractor shall be accompanied by the Engineer for a general site walkover.
- l. **SITE IMPROVEMENTS:** Site improvements shall consist of the tasks that must be prepared by the Contractor prior to initiating the demolition activities. The site improvements for the demolition include, but not limited to:
- a. Roadway Improvements, as necessary
 - b. Installation of Temporary/Permanent Work Area Fencing, as necessary.
 - c. Installation of Signs
 - d. Permits
 - e. Protection of the existing perimeter fencing, adjacent buildings and active public utilities from falling demolition debris.
 - f. Traffic Maintenance Plan, if necessary
- m. **INSTALLATION OF TEMPORARY DEMOLITION WORK AREA FENCING:** The Contractor may use the existing perimeter fencing to secure the work area as long as any holes or access points are closed off to prevent unauthorized personnel from entering the work area.
- n. **SIGNAGE:**
- The Contractor shall maintain the following signs at the site:
- The Sanitary Facilities shall have signs designating a “Mens” and “Womens” on the entrance door, as applicable.
 - Signs shall be posted at 25-foot intervals with “Warning! No Trespassing!” along the demolition site work area fencing, using wire ties.
- o. **BACKFILL:**
- The Contractor shall backfill and/or grade all excavations (voids), as a result of the demolition project to meet existing grade and seed and mulch the disturbed areas.

The building demolition debris is not permitted to be used as backfill on this Project.

ASBESTOS-CONTAINING MATERIALS:

A. N.A.

ASBESTOS HEALTH RISK:

- A. The disturbance or dislocation of ACM may cause asbestos fibers to be released into the buildings atmosphere, thereby creating a potential health risk to workers and building occupants. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the job site of the seriousness of the risk and of proper work procedures which must be followed.
- B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified ACM, take appropriate continuous measures as necessary to protect all persons from the risk of exposure to airborne asbestos. Such measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state and local agencies.

CONTRACTOR USE OF PREMISES

- A. **Use of the Site:** Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
 - 1. **Owner Occupancy:** The former stadium bleachers (at various locations), restrooms and press box structure is vacant and no longer in use.
 - 2. **Driveways and Entrances:** Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 - 3. **Smoking:** Smoking or open fires will not be permitted within the building enclosure or on the premises.
 - 5. **Toilet Rooms:** Temporary toilet rooms are to be provided by the Contractor.
 - 6. **Site Security:** NO FIREARMS or WEAPONS are permitted on the premises. Contractor shall park in designated areas only.
 - 7. **Noise Control:** Contractor shall minimize noise if applicable.

OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy:** The former South High bleachers structure scheduled for demolition is vacant.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 STOP WORK:

- A. If the Engineer** presents a written stop work order, immediately and automatically conform to that stop work order. Do not recommence work until authorized in writing by Engineer.

END OF SECTION - 01013

SECTION 01028 - APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. **This Section specifies** administrative and procedural requirements governing the Contractor's Applications for Payment.
 - 1. Coordinate the Schedule of Values and Application for Payment with the Contractor's Construction Schedule, Submittal Schedule, and List of Subcontracts.
- B. **Related Sections** - The following Sections contain requirements that relate to this Section.
 - 1. **Submittal Schedule:** The Submittal Schedule is specified in Division 1 Section "Submittals."

1.3 SCHEDULE OF VALUES

- A. **Coordination:** Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 - a. Contractor's Construction Schedule
 - b. Application for Payment forms, including Continuation Sheets
 - c. List of subcontractors
 - d. Schedule of allowances
 - e. Schedule of alternates
 - f. List of products
 - g. List of principal suppliers and fabricators
 - h. Schedule of submittals
 - 2. **Submit the Schedule of Values** to the Engineer at the earliest possible date but no later than 7 days before the date scheduled for submittal of the initial Applications for Payment.
 - 3. **Sub-schedules:** Where Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.
- B. **Format and Content:** Submit a Schedule of Values that is based on functional, measurable, observable portions of the Work. Where appropriate breakdown the Work into phases, building

areas or floors.

1. **Identification:** Include the following Project identification on the Schedule of Values:
 - a. Project name and location
 - b. Name of the Engineer
 - c. Project number
 - d. Contractor's name and address
 - e. Date of submittal

2. **Breakdown Contract Sum** into each of the following items:
 - a. Mobilization
 - b. Demolition of concrete bleachers and adjacent structures
 - c. Backfill, topsoil, seeding and mulching
 - d. Project Closeout

3. **Arrange the Schedule of Values** in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Sections or Divisions
 - b. Description of Work
 - c. Name of subcontractor
 - d. Name of manufacturer or fabricator
 - e. Name of supplier
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value
 - 1) Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.

4. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Where appropriate, break principal subcontract amounts down into several line items.

5. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT

- A. **Each Application for Payment** shall be consistent with previous applications and payments as certified by the Engineer (CM) and paid for by the Owner.
 1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.

- B. **Payment-Application Times:** The date for each progress payment is the 15th day of each month. The period covered by each Application for Payment starts on the day following the end of the

preceding period and ends 15 days prior to the date for each progress payment.

- C. Payment-Application Forms:** Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment.
- D. Application Preparation:** Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Engineer will return incomplete applications without action.
1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- E. Transmittal:** Submit 3 signed and notarized original copies of each Application for Payment to the Engineer (CM) by a method ensuring receipt within 24 hours. One copy shall be complete, including waivers of lien and similar attachments, when required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the CM.
- F. Waiver Delays:** Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period of construction covered by the application.
1. Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
- G. Waiver Forms:** Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner.
- H. Initial Application for Payment:** Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:
1. Submittals designated as required Before Start of Work by individual specification sections.
 2. List of subcontractors
 3. Schedule of Values
 4. Contractor's Construction Schedule (preliminary if not final)
 5. Schedule of principal products
 6. Schedule of unit prices
 7. Submittal Schedule (preliminary if not final)
 8. List of Contractor's staff assignments
 9. Contractor's personnel licenses, fit testing records, and medical monitoring records
 4. List of Contractor's principal consultants
 5. Copies of building permits
 6. Copies of authorizations and licenses from governing authorities for performance of the Work
 7. Initial progress report

8. Report of preconstruction meeting
9. Certificates of insurance and insurance policies
10. Performance and payment bonds
11. Initial settlement survey and damage report, if required

B. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.

1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
2. Administrative actions and submittals that shall precede or coincide with this application include:
 1. Occupancy permits and similar approvals.

C. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:

1. Completion of Project closeout requirements
2. Completion of items specified for completion after Substantial Completion
3. Transmittal of required Project construction records to the Owner
4. Proof that taxes, fees, and similar obligations were paid
5. Removal of temporary facilities and services
6. Removal of surplus materials, rubbish, and similar elements
7. Disposal receipts, bills of lading and other required documentation of transportation and disposal of asbestos-containing waste

PART 2 - PRODUCTS (Not Applicable)

PART 3 – EXECUTION (Not Applicable)

END OF SECTION 01028

SCHEDULE OF VALUES (EXAMPLE):

Project: _____ Date: _____

Contractor: _____ Owner's: _____
 _____ Rep _____

Description	Related Work Sections	Amount
Preparation of Work Area	01503 Temporary Facilities	_____
Site Demolition	02050 Demolition	_____
Site Backfilling, Seeding and Mulching		_____
Project Closeout	01701 Project Closeout	_____
	Total	_____

SECTION 01043 - COORDINATION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. **This Section includes** administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:

1. General project coordination procedures
2. Conservation
3. Plan of Action
4. Contingency Plan
5. Project Directory
6. Notifications
7. Pre-Construction Inspection
8. Contractors Construction Schedule
9. Administrative and supervisory personnel
10. Pre-Construction Conference
11. Progress Meetings
12. Coordination meetings
13. Record Keeping
14. Special Reports

- B. **Related Sections:** The following Sections contain requirements that relate to this Section:

1. Section 01301 - Submittals - for administrative procedures regarding submittals
2. Section 01701 - Project Closeout - for coordinating contract closeout

1.3 COORDINATION

- A. **Owner Occupancy:** Coordinate construction operations and scheduling with occupancy requirements of the Owner and the Owners use of utilities.
- B. **Coordinate construction operations** included in various Sections of these Specifications to assure efficient and orderly completion of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in the sequence required to obtain the best results where execution of one part of the Work depends on execution of other components, before or after its own execution.
- C. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
1. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.
- D. **Administrative Procedures:** Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of schedules
 2. Installation and removal of temporary facilities
 3. Delivery and processing of submittals
 4. Progress meetings
 5. Project closeout activities

1.4 CONTINGENCY PLAN:

- D. **Contingency Plan:** Prepare a contingency plan for emergencies or any other event that may require breaching of work area containment or modification or abridgement of decontamination or work area isolation procedures. Include in this plan procedures for performing electrical and mechanical repairs inside containment after abatement work has begun. Include in plan specific procedures for decontamination or work area isolation. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency. Items to be addressed in the plan include, but are not limited to the following:
5. Fire
 6. Accident
 7. Life threatening injury
 8. Non life threatening injury
 9. Rescue
 10. Power Failure
 11. Electrical faults or shock
 12. Excessive heat / cold (if/when such limits are specified)
 133. Water leaks
 144. Waste spills
 155. Unauthorized entry into work area
 16. Toxic releases

1.5 PROJECT DIRECTORY

- D. Develop a directory** of all entities involved in the project. Include the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site. Identify individuals, their duties and responsibilities. List business name, contact person, normal business and emergency telephone, pager and fax numbers and addresses of:
1. Owner, Designer, and Project Administrator
 2. Contractors General Superintendent, supervisory personnel and Contractors home office
 3. Emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, telephone company.
 4. Local, state, and federal agencies with jurisdiction over the project
- E. Post:** Post copies of the Project Directory in the project meeting room, the temporary field office, and each temporary telephone.

1.6 NOTIFICATIONS

- A. Notify other entities** at the job site of the location of asbestos-containing materials (ACM), requirements relative to asbestos set forth in these specifications and applicable regulations. Advance notification will be made to:
1. Owners of the building/facility;
 2. Employees who will be in the work area during the course of the work of this contract.
 3. Employers of employees who work and/or will be working in adjacent areas during the course of the work of this contract
- B. Notify emergency service agencies** including fire, ambulance, police or other agency that may service the abatement work site in case of an emergency. Notification is to include methods of entering work area, emergency entry and exit locations, modifications to fire notification or firefighting equipment, and other information needed by agencies providing emergency services.
- C. Notifications of Emergency:** Any individual at the job site may notify emergency service agencies if necessary without effect on this Contract or the Contract Sum.

1.7 PRE-CONSTRUCTION INSPECTION:

- A. Inspect areas** in which work will be performed, prior to commencement of work. Prepare a listing of damage to structure, surfaces, equipment or of surrounding properties which could be misconstrued as damage resulting from the work. Photograph or videotape existing conditions as necessary to document conditions. Submit to Project Representative for record purposes prior to starting work.

1.8 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule:** Prepare a fully developed, horizontal bar-chart-type, contractor's construction schedule. Submit within 30 days after the date established for "Commencement of the Work."
4. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values."
 5. Within each time bar, indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
 6. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
 7. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically the sequences necessary for completion of related portions of the Work.
 8. Coordinate the Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittal Schedule, progress reports, payment requests, and other schedules.
 9. Indicate Clearance of each Work Area in advance of the dates established for Clearance. Allow time for testing and other procedures necessary for certification of Clearance.
 10. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Project Representative procedures necessary for certification of Substantial Completion.
- B. Work Stages:** Indicate important stages of construction for each major portion of the Work, including submittal review, testing, and installation.
11. Preparation of the Demolition Area
 12. Substantial Completion
- C. Area Separations:** Provide a separate time bar to identify each major construction area for each major portion of the Work. Indicate where each element in an area must be sequenced or integrated with other activities.

1.4 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. Project Supervisor:** Provide a full-time Project Supervisor at the work site who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, project scheduling, management, etc. This person is the Contractor's Representative, and will function as the competent person at the work site responsible for compliance with all applicable federal, state and local regulations, particularly those relating to ACM.
13. **Training:** The General Superintendent must have a current certification from a state approved trainer for a course that meets the requirements of the EPA Model Accreditation

Plan for asbestos abatement contractor/supervisor (40 CFR part 763, Subpart E, Appendix C).

124. Experience: The General Superintendent must have demonstrable experience in the successful management of asbestos abatement projects that are similar to the work of this contract.

a. The General Superintendent must have had responsible charge of a minimum of ten (10) asbestos abatement projects in similar in size and type to the work of this contract.

135. Competent Person: The General Superintendent is to be a Competent Person as required by OSHA in 29 CFR 1926.

B. Supervisors / Forepersons: Provide full-time Supervisors / Forepersons who are experienced in the supervision of asbestos abatement work areas including work practices, building and personnel, disposal practices, etc. These persons are contractor employees directly responsible to the General Superintendent.

C. Accreditation: The General Superintendent, Supervisors and Forepersons are to be accredited as an Asbestos Abatement Supervisor in accordance with the AHERA regulation 40 CFR Part 763, Subpart E, Appendix C.

1.5 PRE-CONSTRUCTION CONFERENCE:

A. An initial progress meeting, recognized as "Pre-Construction Conference" will be convened by the Project Representative prior to start of any work. The preconstruction conference will be scheduled before start of construction, at a time convenient to the Owner and the Project Representative, but no later than 15 days after execution of the Agreement. Meet at the project site, or as otherwise directed, with General Superintendent, Owner, Designer, Project Administrator, and other entities concerned with the asbestos abatement work.

B. Attendees: Authorized representatives of the Owner, Designer, and their consultants will be in attendance. An authorized representative of the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.

146. 72 hours advance notice will be provided to all participants prior to convening Pre-Construction Conference.

C. Agenda: This is an organizational meeting, to review responsibilities and personnel assignments, to locate regulated areas and temporary facilities including power, light, water, etc. Items of significance that could affect progress will be discussed, including the following:

17. Tentative construction schedule

15. Critical work sequencing
16. Designation of responsible personnel
17. Procedures for processing field decisions and Change Orders
18. Procedures for processing Applications for Payment
19. Distribution of Contract Documents
20. Preparation of record documents
21. Use of the premises
22. Parking availability
23. Office, work, and storage areas
29. Equipment deliveries and priorities
30. Safety procedures
31. First aid
32. Security
33. Housekeeping
34. Working hours

1.6 PROGRESS MEETINGS:

- A. **General:** In addition to specific coordination and pre-installation meetings for each element of work, and other regular project meetings held for other purposes, the Engineer will hold general progress meetings as required. These meeting will be scheduled, where possible, at time of preparation of payment request.
- B. **Attendees:** Representatives of the Owner and Project Monitor will attend these meetings. In addition to representatives of the Contractor, each subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the work. Require each entity then involved in planning, coordination or performance of work to be properly represented at each meeting.
- C. **Agenda:** Be prepared to discuss the following items at the progress meetings. Review other items of significance that could affect progress.
 245. **Contractor's Construction Schedule:** Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.
 256. Review the present and future needs of each entity present, including the following:
 - a. Interface requirements
 - b. Time
 - c. Sequences

- d. Status of submittals
- e. Deliveries
- f. Access
- g. Site utilization
- h. Temporary facilities and services
- i. Hours of work
- j. Hazards and risks
- k. Housekeeping
- l. Quality and work standards
- m. Change Orders
- n. Documentation of information for payment requests

- D. Reporting:** Revise the Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule no later than 3 days after each meeting. Include a brief summary, in narrative form, of progress since the previous meeting and report.

1.7 COORDINATION MEETINGS

- A. Attend project coordination meetings** that will be conducted by the Engineer at regular intervals convenient for all parties involved. Project coordination meetings are intended to coordinate the work of all contractors performing work on the site, and are in addition to specific meetings held for other purposes, such as regular progress meetings.

1.8 RECORD KEEPING:

- A. Daily Log:** Maintain a Daily Log (in an area accessible to the Owner, Project Monitor and Project Administrator) as a bound, sequential, hand-written record carefully prepared daily that documents but is not limited to the following items:

267. Meetings; purpose, attendees, brief discussion

278. Special or unusual events, i.e. barrier breeching, equipment failures, accidents

39. Documentation of Contractor's completion of the following:

- a. Inspection of work area preparation prior to start of demo and daily thereafter

- B. Entry/Exit Log:** Maintain within the work area a daily log documenting the dates and time of but not limited to, the following items:

40. Visitations; authorized and unauthorized with the following information

- a. Name
- b. Organization
- c. Entry time
- d. Exit Time

41. Personnel, by name, entering and leaving the work area with the following information

- a. Printed Name
- b. Identification Number
- c. Entry Time
- d. Exit Time

- C. **Other records:** Maintain other documentation in a location that is accessible to the Owner, Engineer, and Project Administrator including:
 - 282.d Waste Manifests and shipping records
 - 293.d Landfill receipts
 - 304.d Accident reports

1.9 SPECIAL REPORTS:

- A. **General:** Except as otherwise indicated, submit special reports directly to Owner within one day of occurrence requiring special report, with copy to Engineer and others affected by occurrence.
- B. **Reporting Unusual Events:** When an event of unusual and significant nature occurs at site (examples: failure of pressure differential system, rupture of temporary enclosures), prepare and submit report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date.
- C. **Reporting Accidents:** Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury, or where work was stopped for over four hours during a scheduled shift.
- D. **Report Discovered Conditions:** When an unusual condition of the building is discovered during the work (e.g. leaks, termites, corrosion) prepare and submit a special report indication condition discovered.

1.10 SUBMITTALS

- A. **Before the Start of Work:** Submit the following to the Engineer in the same manner as product data. Do not begin work until these submittals are returned with an action stamp indicating that all submittals have been received-not reviewed.
 - 45.d Plan of Action.
 - 46.d Contingency Plans.
 - 47.d Project Directory.
 - 318.d Notifications: copy of notification sent to other entities at the work site, and to emergency service agencies.
 - 329.d Pre-Construction Inspection: Report on inspection carried out as required by this section. Include copies of all photographs, video tapes, etc.
 - 50.d Contractors Construction Schedule.

51.d Resume: Submit resume of General Superintendent

B. Submit daily: Provide two (2) copies for information purposes of all documents indicated in the following sub-sections to Engineer by end of the next working day after the day they are received by Contractor.

332. Section on Record Keeping

343. Section on Special Reports

C. Project Close-out: Submit two (2) copies for information purposes of all documents indicated in the following sections at final closeout of project as a project close-out submittal.

1. Section on Record Keeping

2. Section on Special Reports

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

END OF SECTION - 01043

SECTION 01098 - CODES, REGULATIONS AND STANDARDS
PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this section.

1.2 SUMMARY

- A. This section sets forth governmental regulations which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.
 - 1. Requirements include adherence to work practices and procedures set forth in applicable codes, regulations and standards.
 - 2. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

1.3 CODES, REGULATIONS AND STANDARDS

- A. **General Applicability of Codes, Regulations and Standards:** Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable codes and regulations have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.
- B. **Contractor Responsibility:** The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Designer harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of the contractor, the contractor's employees, or subcontractors.
- C. **Federal Requirements:** which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
 - 1. **OSHA:** U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:
 - a. Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules Title 29, Part 1910, Section 1001 of the Code of Federal Regulations

Final Rules Title 29, Part 1926, Section 1101 of the Code of Federal Regulations

- b. Respiratory Protection
Title 29, Part 1910, Section 134 of the Code of Federal Regulations
Title 29, Part 1926, Section 103 of the Code of Federal Regulations
 - c. Personal Protective Equipment for General Industry
Title 29, Part 1910, Section 132 of the Code of Federal Regulations
Title 29, Part 1926, Sections 95 - 107 of the Code of Federal Regulations
 - d. Access to Employee Exposure and Medical Records
Title 29, Part 1926, Section 33 of the Code of Federal Regulations
 - e. Hazard Communication
Title 29, Part 1926, Section 59 of the Code of Federal Regulations
 - f. Specifications for Accident Prevention Signs and Tags
Title 29, Part 1910, Section 145 of the Code of Federal Regulations
 - g. Permit Required Confined Space
Title 29, Part 1910, Section 146 of the Code of Federal Regulations
 - h. Construction Industry
Title 29, Part 1910, Section 1001 of the Code of Federal Regulations
Title 29, Part 1926, Section 1101 of the Code of Federal Regulations
 - i. Construction Industry - General Duty Standards
Title 29, Part 1926, Sections 20 through 35 of the Code of Federal Regulations
 - j. Shipyard Industry
Title 29 Part 1915 Section 1001 of the Code of Federal Regulations
- 2. DOT:** U. S. Department of Transportation, including but not limited to:
- a. Hazardous Substances
Title 49, Part 171 and 172 of the Code of Federal Regulations
 - b. Hazardous Material Regulations
General Awareness and Training Requirements for Handlers, Loaders and Drivers
Title 49, Parts 171-180 of the Code of Federal Regulations
 - c. Hazardous Material Regulations
Editorial and Technical Revisions
Title 49, Parts 171-180 of the Code of Federal Regulations
- 3. EPA:** U. S. Environmental Protection Agency (EPA), including but not limited to:

- a. Asbestos Hazard Emergency Response Act (AHERA) Regulation
Title 40, Part 763, Sub-part E of the Code of Federal Regulations
- b. EPA Model Accreditation Plan - Asbestos Containing Materials Final Rule & Notice
Title 40, Part 763, Sub-part E, Appendix C of the Code of Federal Regulations
- c. National Emission Standard for Hazardous Air Pollutants (NESHAP)
National Emission Standard for Asbestos
Title 40, Part 61, Sub-part A, and Sub-part M (Revised Sub-part B) of the Code of
Federal Regulations

D. State Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

- a. Ohio Department of Health – Asbestos Hazard Abatement Rules, Chapter 3701-20,
Ohio Administrative Code.

E. Local Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

- a. Abide by all local requirements, which govern asbestos abatement work or hauling and disposal of asbestos waste materials.

1.4 NOTICES:

A. U.S. ENVIRONMENTAL PROTECTION AGENCY

1. Postmark or Deliver Written Notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAP Contact at least 10 working days prior to beginning any work on asbestos-containing materials (ACM). Send notification to the following address:
 - a. Mahoning-Trumbull County Air Pollution Control Agency
Oakhill Renaissance Place
345 Oakhill Avenue, Suite 200
Youngstown, Ohio 44502
Ms. Tara Cioffi
(330) 743-3333, ext.283
2. There is a copy of the NESHAP form at the end of this section.
3. Notification: Include the following information in the notification sent to the NESHAP contact:
 - a. Indication whether the notification is the original or revised notification

- b. Name, address, and telephone number of owner or operator.
- c. Name, address, and telephone number of contractor.
- d. Type of Operation (demolition or renovation).
- e. Description of the facility or affected part of the facility being demolished or renovated, including the size (square feet [square meters], number of floors), age, present and prior use of the facility.
- f. Estimate of the approximate amount of RACM to be removed from the facility in terms of linear meters [linear feet] of pipe, and surface area in square meters [square feet] of other facility components. Also estimate the approximate amount of Category I and Category II nonfriable ACM in the affected part of the facility that will not be removed before demolition.
- g. For facilities in which the amount of friable asbestos materials less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) or 1 cubic meter (35 cubic feet) if the length and width could not be measured. On other facility components, explain techniques of estimation.
- h. Location and street address (including building number or name and floor or room number, if appropriate), city county, and state, of the facility being demolished or renovated.
- i. Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation; planned renovation operations involving individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(iii) of 40 CFR 61.145.
- j. Scheduled starting and completion dates of demolition or renovation.
- k. Nature of planned demolition or renovation and method(s) to be used, including demolition or renovation techniques to be used and description of affected facility components.
- l. Procedures to be used to comply with the requirements of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61 Subpart M).
- m. Name and location of the waste disposal site where the asbestos containing waste material will be deposited.
- n. A certification that at least one person trained as required by paragraph (c)(8) of 40 CFR 61.145 will supervise the stripping and removal described by this notification.
- o. For emergency renovations described in paragraph (a)(4)(iv) of 40 CFR 61.145, the date and hour that the emergency occurred, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden.
- p. Description of procedures to be followed in the event that the unexpected RACM is found or Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder.
- q. Name, address, and telephone number of the waste transporter.

B. STATE AND LOCAL AGENCIES:

3. Send written notification as required by state and local regulations prior to beginning any work on ACM.

1.5 PERMITS:

- A. Permit: All asbestos containing waste is to be transported by an entity maintaining a current "Industrial waste hauler permit" specifically for ACM, as required for transporting of waste ACM to a disposal site.
- B. Contractor is responsible for obtaining any demolition, building, renovation or other permits, and for paying application fees, if any, where required by State or Local jurisdictions.

1.6 LICENSES:

- A. Licenses: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

1.7 POSTING AND FILING OF REGULATIONS

- A. **Posting and Filing of Regulations:** Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulations and standard. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

1.8 SUBMITTALS:

- A. **Before Start of Work:** Submit the following to the Engineer for review. No work shall begin until these submittals are returned with Designer's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.
 3. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work including:
 - a. State and Local Regulations: Submit copies of codes and regulations applicable to the work.
 4. Notices: Submit notices required by federal, state and local regulations together with proof of timely transmittal to agency requiring the notice.
 5. Permits: Submit copies of current valid permits required by state and local regulations.
 6. Licenses: Submit copies of all State and local licenses and permits necessary to carry out the work of this contract.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01098

SECTION 01301 - SUBMITTALS
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including the following:

- 1. Submittal schedule
- 2. Daily construction reports
- 3. Shop Drawings
- 4. Samples
- 5. Quality Assurance Submittals

- B. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:

- 1. Permits
- 2. Applications for payment
- 3. Performance and payment bonds
- 4. Insurance certificates
- 5. List of Subcontractors

C. RELATED SECTIONS

- 1. The following Sections contain requirements that relate to this Section:
 - a. Division 1 Section "Applications for Payment " specifies requirements for submittal of the Schedule of Values.
 - b. Division 1 Section "Coordination" specifies requirements governing submittal and distribution of meeting and conference minutes.
 - c. Division 1 Section "Project Closeout"- specifies requirements for submittal of Project Record Documents and warranties at project closeout.

1.3 SUBMITTAL PROCEDURES

- A. Coordination:** Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
- B. Submittal Preparation:** Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
1. Provide a space approximately 4 by 5 inches (100 by 125 mm) on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
 2. Include the following information on the label for processing and recording action taken.
 - c. Project name
 - d. Date
 - e. Name and address of the Engineer
 - f. Name and address of the Contractor
 - g. Name and address of the subcontractor
 - h. Name and address of the supplier
 - i. Name of the manufacturer
 - j. Number and title of appropriate Specification Section
 - k. Drawing number and detail references, as appropriate
- C. Submittal Transmittal:** Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Engineer (CM) using a transmittal form. The CM will not accept submittals received from sources other than the Contractor.
1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

1.4 SUBMITTAL SCHEDULE

- A. Listing:** At the end of this section is a listing of the principal submittals required for the work. This listing is not necessarily complete, nor does the listing reflect the significance of each submittal requirement. The listing is included only for the convenience of users of the Contract Documents.

- B. Submittal Schedule:** After development and acceptance of the Contractor's Construction Schedule, prepare a complete schedule of submittals. Submit the schedule within 10 days of the date required for submittal of the Contractor's Construction Schedule.
1. Coordinate Submittal Schedule with the list of subcontracts, Schedule of Values, and the list of products as well as the Contractor's Construction Schedule.
 2. Prepare the schedule in chronological order. Provide the following information:
 - a. Scheduled date for the first submittal
 - b. Related Section number
 - c. Submittal category (Shop Drawings, Product Data, or Samples)
 - d. Name of the subcontractor
 - e. Description of the part of the Work covered
 - f. Scheduled date for resubmittal
 - g. Scheduled date for the CM's final release or approval
- C. Distribution:** Following response to the initial submittal, print and distribute copies to the CM, Designer, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- D. Schedule Updating:** Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

1.5 SHOP DRAWINGS (NOT USED).

1.6 PRODUCT DATA (NOT USED).

1.7 SAMPLES (NOT USED).

1.8 QUALITY ASSURANCE SUBMITTALS (NOT USED).

1.9 MISCELLANEOUS SUBMITTALS:

- A. Material Safety Data Sheets:** Process material safety data sheets as product data. These are submitted for information purposes only, they will be returned with the action stamp, Received - Not Reviewed.
- B. Inspection and Test Reports:** Classify each inspection and test report as being either "shop drawings" or "product data" depending on whether the report is specially prepared for the project, or a standard publication of workmanship control testing at the point of production. Process inspection and test reports accordingly.
- C. Records of Actual Work:** Furnish 4 copies of records of actual work, one of which will be returned for inclusion in the record documents as specified in section "Project Closeout".

- D. **Closeout Submittals:** Refer to section "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information.
- E. **Record Documents:** Furnish set of original documents as maintained on the project site. Along with original marked-up record drawings provide 2 photographic copies of marked-up drawings, which, at the Contractor's option, may be reduced to not less than half size.

1.10 DESIGNER'S ACTION

- A. Except for submittals for the record or information, where action and return is required, the Designer will review each submittal, mark to indicate action taken, and return promptly.
 - 1 Compliance with specified characteristics is the Contractor's responsibility.
- B. **Action Stamp:** The Designer will stamp each submittal with a uniform, action stamp. The Designer will mark the stamp appropriately to indicate the action taken, as follows:
 - 2 **Final Unrestricted Release:** When the Designer marks a submittal "Approved," the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
 - 3 **Final-But-Restricted Release:** When the Designer marks a submittal "Approved as Noted," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.
 - 4 **Returned for Resubmittal:** When the Designer marks a submittal "Not Approved, Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
 - h. Do not use, or allow others to use, submittals marked "Not Approved, Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
 - 5 **Received - Not Reviewed:** When the Designer marks a submittal "Received - Not Reviewed" this acknowledges that the submittal has been received. This action applies to materials that are to be submitted for information purposes only, and where no review or action by the Designer is required.
 - 6 **Other Action:** Where a submittal is for information or record purposes or special processing or other activity, the Designer will return the submittal marked "Action Not Required."
- C. **Unsolicited Submittals:** The Designer will return unsolicited submittals to the sender without action.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01301

SUBMITTALS

01301 - 4

SECTION 01520 - UTILITIES
PART 1 GENERAL

1.01 DESCRIPTION

- A.** The Contractor will be responsible for the protection of all above and underground utilities. Contractor will replace at his expense any damage done to the above, caused by the demolition of the building(s).
- B.** Locate all existing active utility lines traversing the site(s) and determine the requirements for their protection.

1.02 DISCONNECTION OF UTILITIES

- A.** Before starting any site operations, arrange for the disconnection of all utility services, which service the building(s). All such work shall be performed in accordance with the requirements of the utility company or agency involved.
- B.** The Contractor will be responsible for the disconnection, removal, and relocation of any utility line.
- C.** The Contractor will be responsible for any damage done to any active utility lines.
- D.** The information provided in this section is for the Contractor's convenience and may not be complete or up-to-date. The Contractor is advised to verify all representations made herein.
 - 1. AT&T
50 West Bowery
6th Floor
Akron, OH 44308
1-800-660-1000
 - 2. City of Youngstown, Deputy Director of Public Works
Mr. Chuck Shasho, 330-742-8800
 - 3. City of Youngstown Water Department
Mr. Gene Leson, 330-743-5338
 - 4. Ohio Edison
Mr. Ray Jenkins, 330-740-7625
 - 5. City of Youngstown Wastewater Treatment Plant
Mr. Tom Miranti, 330-742-8818
 - 6. East Ohio Gas
Construction and Engineering Department, 330-746-7611
Engineering Department, 330-742-8137

7. Youngstown Thermal
Mr. Carl Avers, 330-743-7712

1.03 PROTECTION OF UTILITIES

- A.** Preserve in operating condition all active utilities traversing the construction areas and designated to remain.

- B.** Before starting demolition, check to determine that all utilities services, such as water, gas, electricity and telephone, have been disconnected at the service mains, in accordance with the rules and regulations governing the utility involved. Preserve all active utility mains traversing the project.

END OF SECTION - 01520

SECTION 01701 - CONTRACT CLOSEOUT
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. **This Section includes** administrative and procedural requirements for contract closeout including, but not limited to, the following:
 - 1. Closeout procedures
 - 2. Inspection procedures.
 - 3. Project record document submittal.
 - 4. Submittal of warranties.
 - 5. Release of Contractor and Bondsmen
- B. **Closeout requirements** for specific construction activities are included in the appropriate Sections in Divisions 2 through 16.

1.3 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's inspection.
- B. Provide submittals to Engineer that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.4 SUBSTANTIAL COMPLETION

- A. **Preliminary Procedures:** Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
 - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

2. Advise the Owner of pending insurance changeover requirements.
 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
 4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 5. Submit record drawings, maintenance manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.
 6. Make final changeover of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of changeover in security provisions.
- B. Inspection Procedures:** On receipt of a request for inspection, the CM will either proceed with inspection or advise the Contractor of unfilled requirements. The CM will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
1. The CM will repeat inspection when requested and assured that the Work is substantially complete.
 2. Results of the completed inspection will form the basis of requirements for final acceptance.

1.5 FINAL ACCEPTANCE

- A. Preliminary Procedures:** Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
 2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 3. Submit a certified copy of the CM's final inspection list of items to be completed or corrected, endorsed and dated by the Designer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Designer.
 4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the Owner took possession of and assumed responsibility for corresponding elements of the Work.
 5. Submit consent of surety to final payment.
 6. Submit a final liquidated damages settlement statement.
- B. Reinspection Procedure:** The Project Monitor will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the CM.
1. Upon completion of reinspection, the CM will prepare a certificate of final acceptance. If the Work is incomplete, the CM will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.

2. If necessary, reinspection will be repeated.

1.6 RECORD DOCUMENT SUBMITTALS

- A. **General:** Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the CM's reference during normal working hours.
- B. **Record Drawings:** Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
 1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
 2. Mark new information that is important to the Owner but was not shown on Contract Drawings or Shop Drawings.
 3. Note related change-order numbers where applicable.
 4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.
- C. **Miscellaneous Record Submittals:** Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the CM for the Owner's records.
 1. The Closeout Report shall contain copies of all waste manifests, copies of daily work logs, all workers paperwork, certification of compliance with the applicable prevailing wage and certified payroll reports.

1.7 WARRANTIES, CERTIFICATES AND BONDS

- A. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty.
- B. The Contractor shall warrant all work for a period of two (2) years, except as may be required for a longer period, from the date of completion as evidenced by the date of final acceptance of the project.
- C. The Contractor shall make all repairs due to defective workmanship or material for the term of two (2) years after the final acceptance date and shall correct and repair promptly during that time all defective work and material of whatever description. However, ordinary wear and tear or damage due to negligent or improper operation or maintenance on the part of the Owner shall not be considered an obligation of the Contractor.

- D. In case the Contractor shall neglect or fail to promptly make said repairs, after written notification, the Owner shall cause such repairs to be made at the expense of the Contractor and/or his Surety.
- E. Verify that documents are in proper form, contain full information, and are notarized.
- F. Co-execute submittals when required.
- G. Retain warranties and bonds until time specified for submittal.
- H. Make other submittals within ten (10) days after Date of Substantial Completion, prior to final Application for Payment.
- I. For items of Work when acceptance is delayed beyond Date of Substantial Completion, submit within ten (10) days after acceptance, listing the date of acceptance as the beginning of the warranty period.

1.8 RELEASE OF CONTRACTOR AND BONDSMEN

- A. Upon final settlement according to the conditions herein specified, and not until such settlement shall have been made, will the Contractor be relieved from the obligations assumed herein for the Performance Bond and other bonds and his bondsmen discharged.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 FINAL CLEANING – ASBESTOS (NOT USED)

- A. **General:** The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 1 Section "Construction Facilities and Temporary Controls." The cleaning in this Section is in addition to cleaning which is part of decontamination work. This section is intended to return the facility to the Owner in presentable condition.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.
 - a. Remove labels that are not permanent labels.
 - b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials.
 - c. Replace chipped or broken glass and other damaged transparent materials.
 - d. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to

- their original condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.
- e. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
 - f. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even-textured surface.

B. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

C. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.

- 1. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

3.2 FINAL CLEANING - GENERAL

- A. Execute final cleaning prior to final inspection.
- B. Clean equipment.
- C. Clean site; sweep paved areas, rake clean landscaped surfaces.
- D. Remove waste and surplus materials, rubbish, and facilities from the site.
- E. Each Contractor is responsible for final cleaning of all areas of their work. The Contractor shall be overall coordinator for final cleaning.

END OF SECTION 01701

SECTION 02050 - DEMOLITION
PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY OF WORK.

- A. Building Descriptions

Nick Johnson Park (Parcel ID 53-221-0-058.00-0).

Proposed work involves demolition of concrete bleachers in its entirety located at the corner of Knapp Ave and Miltonia Ave, Youngstown, Ohio. Additional information regarding the stadium bleachers, restrooms, access roadways, etc. and is provided below.

The existing Concrete Bleacher structure is approximately 12,200 square feet, reinforced concrete and steel structure.

An asbestos survey was conducted at the Nick Johnson Park and total of 9-bulk samples were collected from the bleachers/Restroom Buildings and adjoining structures and no Asbestos Containing Material (ACM) was detected at the Concrete Bleachers as per Asbestos Report provided by HzW Environmental Consultants, LLC dated September 15, 2016.

Oakland Field (Parcel ID 53-033-0-054.00-0).

Proposed work involves demolition of concrete bleachers in its entirety located at the corner of N Blain Ave and Old McCartney Road, Youngstown, Ohio. Additional information regarding the stadium bleachers, restrooms, access roadways, etc. and is provided below.

The existing Concrete Bleacher structure is approximately 8,200 square feet, reinforced concrete and steel structure including concrete sidewalk and access driveway

An asbestos survey was conducted at the Oakland Field and total of 4-bulk samples were collected from the bleachers structure and no Asbestos Containing Material (ACM) was detected at the Concrete Bleachers as per Asbestos Report provided by HzW Environmental Consultants, LLC dated September 15, 2016.

Ipe Field (Parcel ID 53-070-0-149.00-0).

Proposed work involves demolition of concrete bleachers and Concession Building in its entirety located at 1624 E Midlothian Blvd, Youngstown, Ohio. Additional information regarding the stadium bleachers and Concession Building etc. and is provided below.

The existing Concrete Bleacher structure is approximately 12,800 square feet, reinforced concrete and steel structure and existing Concession Building is approximately 700 square feet Brick Building.

An asbestos survey was conducted at the Ipe Field and total of 4-bulk samples were collected from the bleachers structure/Concession Building and no Asbestos Containing Material (ACM) was detected at the Concrete Bleachers as per Asbestos Report provided by HzW Environmental Consultants, LLC dated September 15, 2016.

Tod Park (Parcel ID 53-088-0-082.00-0).

Proposed work involves demolition of concrete bleachers and Restroom Building in its entirety located at the corner of Sloane Ave and Tod Park Dr, Youngstown, Ohio. Additional information regarding the stadium bleachers and Restroom Building etc. and is provided below.

The existing Concrete Bleacher structure is approximately 7,600 square feet, reinforced concrete and steel structure and existing Restroom Building is approximately 1,000 square feet Brick Building.

An asbestos survey was conducted at the Tod Park and total of 5-bulk samples were collected from the bleachers structure and no Asbestos Containing Material (ACM) was detected at the Concrete Bleachers as per Asbestos Report provided by HzW Environmental Consultants, LLC dated September 15, 2016.

Gibson Lower (Parcel ID 53-038-0-091.00-0).

Proposed work involves demolition of concrete bleachers, Restroom Building, concrete sidewalk and concrete steps in its entirety located at the corner of Gibson Street and Lee Ave, Youngstown, Ohio. Additional information regarding the stadium bleachers and Restroom Building etc. and is provided below.

The existing Concrete Bleacher structure is approximately 11,800 square feet, reinforced concrete and steel structure and existing Restroom Building is approximately 770 square feet Brick Building.

An asbestos survey was conducted at the Gibson Lower and total of 4-bulk samples were collected from the Restroom Building. Asbestos Containing Material (ACM) was detected in the Window Glazing at the Restroom Building as per Asbestos Report provided by HzW Environmental Consultants, LLC dated September 15, 2016.

Stambaugh Field (Parcel ID 53-138-0-088.00-0).

Proposed work involves demolition of concrete bleachers and Restroom Building in its entirety located at the corner of Glenwood Ave and Braden Street, Youngstown, Ohio. Additional information regarding the stadium bleachers and Restroom Building etc. and is provided below.

The existing Concrete Bleacher structure is approximately 13,000 square feet, reinforced concrete and steel structure and existing Restroom Building is approximately 700 square feet Brick Building.

An asbestos survey was conducted at the Stambaugh Field and total of 4-bulk samples were collected from the Restroom Building and no Asbestos Containing Material (ACM) was detected at the Concrete Bleachers as per Asbestos Report provided by HzW Environmental Consultants, LLC dated September 15, 2016.

A. Lead-based Paint

Contractors shall assume that painted and coated surfaces that may be disturbed during demolition contain lead. Contractors shall follow all applicable regulations.

B. Demolition

The Contractor shall demolish all city-wide Concrete Bleachers, Restroom and other miscellaneous items in its entirety in accordance with applicable federal, state and local regulations and the site-specific specifications. The demolition project consists of demolishing and completely removing the identified structure, the associated floors, walls, foundations to native soils, unless directed differently by the Engineer.

The Demolition Work shall include the following:

1. The Contractor shall secure all required Federal, State and Local Demolition Permits. Costs associated with securing a demolition permit are the responsibility of the Contractor. **A City of Youngstown Demolition Permit is required. In addition, the Contractor shall file the OEPA Demolition/Renovation notification with the proper authorities, as well.**
2. Install protection to prevent damage to the existing perimeter fencing and access gates, and all other utilities. The existing perimeter fencing and gates may be used to secure the site.
3. The contractor shall properly cap and mark (noting depth below grade with U.S.G.S. datum) for reuse, all sanitary, storm, domestic water, steam lines and gas lines to be abandoned before any demolition activities begin. **Contractor shall be responsible for coordinating with utility companies and pay all costs associated with utility disconnection or protection.**
4. **A detailed demolition schedule shall be submitted to the Engineer at the pre-construction meeting** indicating the demolition completion date. This schedule shall be subject to the approval of the Engineer and the Owner.
5. Any road closures shall be established in accordance with the requirements of the Ohio Department of Transportation Construction and Material Specifications, current edition, latest revision, and subject to Owner approval. The safety of pedestrian traffic shall be considered at all times. It shall be the Demolition Contractor's responsibility to provide plans for approval along with all lights, signs, barricades, ramps, and other devices to warn and physically separate pedestrians from hazards incidental to the demolition projects.
6. A detailed demolition plan and a protection plan for adjacent roadways, adjacent buildings, stadium lighting standard, utility poles, trees, the existing perimeter fencing, storm water catch basins, and all existing manholes and/or hydrants shall be prepared and

sealed by a Professional Engineer registered in the State of Ohio shall be submitted to the Engineer before the start of any demolition activities.

7. The Contractor will deliver a certified letter to the Engineer identifying the approved landfill that the Contractor will be using during the contract prior to the start of any demolition work on site.
8. The demolition work shall involve furnishing all labor, material, tools and equipment necessary to complete the demolition and removal of the city-wide Concrete Bleachers, Restroom, walls, foundations, utilities, steps, walks, curbs, drives paved with concrete, asphalt, concrete, etc. and any other frame or masonry structure which is on the surface or extends above the surface, and any rubbish or debris within the established work area boundaries on which the structure to be demolished is situated. The Contractor shall **not** remove any City sidewalk unless designated for removal. If the city sidewalk or curb is damaged during the demolition project, the contractor shall repair/replace at no additional cost to the project.
9. Refer to Section 02271 "Earthwork and Temporary Soil Erosion Control", for backfilling requirements, temporary construction, site grading (Section 02810) and soil erosion control.
10. Refer to Section 02270 "Environmental Protection" for environmental protection measures for building demolition operations.

1.03 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site at an approved landfill.
- B. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed.
- C. Demolition: as used herein, includes the complete removal of all existing objects including bases and anchorage's and removal of all structures, footers etc., until native soils (undisturbed) are encountered.

1.04 SUPPLEMENTAL SUBMITTALS

- A. Qualification Data: The demolition firm shall be licensed, insured, and qualified to perform the work.
- B. Proposed Environmental Protection, Dust Control and Noise Control Measures: Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are determined to be inadequate.
- C. Prior to any demolition on-site, letters or certificates from all of the utility companies which serve the site indicating:

1. Their authorization for demolition to proceed,
 2. Stipulating the extent to which they have taken responsibility for disconnection and removal of utilities.
- D. Schedule of Building Demolition Activities: Indicate the following:
1. Detailed sequence of demolition and removal work, with starting and ending dates for each task.
 2. Interruption of utility services.
 3. Coordination for shutoff, capping, and continuation of utility services.
 4. Locations of temporary protection and means of site ingress and egress, including for neighbors affected by building demolition operations.
- E. Pre-demolition Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surface that might be misconstrued as damage caused by demolition operations. Submit before any work begins.

1.05 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this project. The contractor shall submit similar demolition project documents and experience.
- B. Qualifications of Workmen: Provide at least one person who shall be present at all times during the demolition operations to direct the workmen, read the plans, and coordinate the work with the construction manager.
- C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning site demolition activities. Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Standards: Comply with, but not limited to: ANSI A10.6, NFPA 241, OAC 3701-34, OSHA 1926.1101, OSHA 1910.134, EPA 40 CFR Part 61, Subpart M, and 40 CFR 82.

1.06 PROJECT CONDITIONS

- A. Structure to be demolished is vacated and its use discontinued.
- B. Storage or sale of removed items or materials on-site is not permitted. As noted in other sections the structural steel may be rinsed and recycled.
- C. Dust Control: Use all means necessary to prevent the spread of dust during performance of the work of this section; thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public, neighbors, and/or concurrent performance of other work on the site. No visible emissions beyond thirty (30) feet of the building(s).
- D. The Contractor shall not cause or permit any fugitive dust source from the building demolition

without taking or installing reasonably available control measures to prevent fugitive dust from becoming airborne. Prevention of fugitive dust emissions is further referenced in section 3.10.

- E. Burning: On site burning of general site debris by building a fire will not be permitted.

Scrap burning, cutting by the use of a torch, shall be limited to the inside of the structures. Anytime there is any interior burning onsite, a Fire Watch man shall be present.

It is the Contractor's responsibility to contact the Mahoning/Trumbull County Air Pollution Control Agency for permits required for the interior burning of scrap. Fumes that are emitted from the burning process could be hazardous and contain heavy metals.

- F. Protection: Use all means necessary to protect existing objects designated to remain, and in the event of damage immediately make all repairs and replacements necessary to the approval of the Engineer at no additional cost to the Owner.

- G. The Contractor shall disconnect power to all existing equipment and remove power control centers, motor control centers, and electrical equipment and transformers, as necessary.

- H. The demolition material shall become the property of the Contractor unless otherwise noted and shall be disposed of properly by the Contractor at an approved landfill.

- I. All pipes, basement walls, floors, foundations located below grade shall be completely removed.

- J. All excavations and voids resulting from the demolition of the Buildings shall be backfilled in accordance with this specification Section 02810. Note all backfill material must conform with ODOT requirements. The Contractor shall not be additionally reimbursed for any imported structural backfill under this contract, as required. Costs shall be included in their base bid.

The concrete, brick or other non-asbestos containing debris resulting from demolition of the structures, may not be utilized as engineered fill material on this project.

- K. Upon completion of the demolition activities the Contractor shall grade, topsoil and seed the site to match the existing site elevation, unless otherwise directed by the Engineer.

1.07 DEMOLITION AND REMOVAL PROCEDURES

- A. Before starting the demolition work, the Contractor will be responsible for having all utilities including electric, telephone, water and gas service, etc. for the structure cut off in strict accordance with requirements of the City of Youngstown and the utility companies involved. The Contractor shall notify both OUPS (1-800-362-2764) and each utility company of when the demolition is scheduled. The Contractor is responsible for requesting that each utility service be disconnected/or protected and properly sealed. All sewer laterals for down spouts, etc. shall be properly sealed at the street, using burlap and concrete, unless otherwise specified by the utility. The Contractor will be obligated to make all necessary arrangements to secure a supply of water to carry out all provisions of the contract without additional expense to the City of Youngstown. Cost for water shall be paid by the contractor.

- B. The Contractor shall fully remove city-wide Concrete Bleachers, Restroom and other miscellaneous items in its entirety.
- C. Unless otherwise specified, no structure shall be removed from the premises a whole or any substantially whole condition, but all such building structures shall be demolished on the premises.
- D. In cases where basement/steam tunnels/crawl spaces may exist, the Contractor shall break up the floors and dispose of the concrete as demolition debris. All work in connection with the breaking up and removal of the basement floors, floor slabs, foundations and bulkheadings for water and sewer connections shall be conducted in the presence of the specific utility company.
- E. The Contractor shall not remove, damage or destroy the vaults of private or public utilities, unless specified in this specification.
- F. The Contractor must protect existing structures not scheduled to be demolished.
- G. The Contractor must fully protect all utilities, which are not to be abandoned, as applicable.
- H. The Contractor must prevent movement or settlement of adjacent structures. The Demolition Contractor shall provide bracing and shoring.
- I. The Contractor must conduct the demolition with no interference to adjacent structures.
- J. Cease operations immediately when adjacent structures appear to be in danger. Notify the Engineer. Do not resume operations until corrective action measures have been implemented.
- K. Conduct demolition operations with minimum interference to public or private accesses. Maintain any and all egress and access from adjacent structures at all times.
- L. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon or limit access to their property.
- M. Where the removal of sidewalks and/or curbs have been made necessary to perform any of the work provided for in this contract, the voids or spaces resulting from such removal shall be replaced in kind by the Contractor at no additional expense to the owner, in accordance with the City of Youngstown standards.
- N. The Contractor shall protect sidewalks, curbs, pavements and other public or private facilities not scheduled for demolition, that may be damaged or endangered by the work required under the specifications and shall restore and make good any structure or facility that may be damaged or destroyed.
- O. All masonry structures are to be broken and filled with clean structural backfill. In the case of cisterns or cesspools, the Contractor shall notify the Owner of the existence of same prior to the removal thereof, and upon obtaining its approval, shall break up such cisterns and/or cesspools and cause the voids or cavities to be filled with clean earth (structural backfill).

1.08 DISCONNECTION OF UTILITIES

- A. Before starting site operations, arrange for the disconnection of all utility services at the street. All such work shall be performed in accordance with the requirements of the utility company or agency involved.
- B. The demolition contractor shall properly cap and mark (noting depth below grade with U.S.G.S. datum) for reuse all existing sanitary, storm, domestic water and gas lines to be abandoned as a result of the demolition.
- C. The Contractor will be responsible for the coordination and any costs for the disconnection/removal/relocation of any utility line back to the main line or connection point.
- D. The Contractor will be responsible for any damage done to any utility lines.
- E. The information provided in this section is for the Contractor's convenience and may not be complete or up-to-date. The Contractor is advised to verify all representations made herein.
 - 1. AT&T – Telephone and Cable
50 West Bowery, 6th Floor
Akron, OH 44308-1102
1-800-660-1000
 - 2. City of Youngstown Water Department
Mr. Gene Leson, 330-743-5338
 - 3. Ohio Edison – First Energy
730 South Avenue
Youngstown, Ohio 44502
Mr. Ray Jenkins, 330-740-7625
 - 4. City of Youngstown Wastewater Treatment Plant
Mr. Tom Mirante, 330-742-8820
 - 5. Dominion - East Ohio Gas
1165 West Rayen Avenue
Youngstown, Ohio 44502
Construction and Engineering Department, 330-746-7611
Engineering Department, 330-742-8137
Mr. Jerry Lawson, 330-742-8121
 - 6. Air Pollution Mahoning/Trumbull Counties
345 Oak Hill Avenue
Youngstown, Ohio
Ms. Tara Cioffi 330-743-3333, ext. 283
 - 7. City of Youngstown, Deputy Director of Public Works
Mr. Chuck Shasho, 330-742-8800

8. Youngstown Thermal
236 North Champion Street
Youngstown, Ohio 44512
(330) 743-7712

1.09 PROTECTION OF UTILITIES

- A. Preserve in operating condition all active utilities traversing the construction/demolition area designated to remain.
- B. Before starting demolition, check to determine that all utilities services, such as water, gas, electricity and telephone, have been disconnected at the mains (at the street), in accordance with the rules and regulations governing the utility involved. Preserve all active utility mains traversing the project.

PART 2 PRODUCTS

2.01 FILL MATERIAL

- A. Fill material shall be clean dry soil obtained from an offsite borrow source and meet ODOT 203 and per Section 02050 - 1.02,B-10. Backfill materials shall meet the stringent compaction requirements as stipulated in Section 203.06 and 203.07 of the State of Ohio, Department of Highway, Construction, and Material Specifications, current edition. Shale, slag, rock and random materials as specified in ODOT 203.03 will not be accepted for backfill material. Suitable materials for backfill shall meet the requirements of ODOT 703.16 and as restricted in 203.03.

2.02 TEMPORARY BARRICADES

- A. Unless otherwise specifically approved by the Engineer, use only new and solid lumber of utility grade or better to construct temporary barricades around the objects designated to remain or for safety purposes.
- B. The Contractor shall furnish and erect all temporary sidewalks, barricades, covers and other temporary structures for the proper and safe conduct of the work as required by law. And shall remove all such temporary structures upon the completion of the work under this contract, without additional compensation.
- C. If and whenever the work under this contract shall require the excavation of, use of or occupancy of any public way, area, alley or other public place, the Contractor shall furnish, erect and maintain such barriers and lights during the night time and will prevent the occurrence of any damage caused in connection with such digging up, use and occupancy, and shall assume liability for all damages which may result therefrom.

2.03 BACKFILL AND COMPACTION

- A. Entire structure/foundation areas shall be 100% cleaned of all debris. Foundation walls, footers, and all floors will be completely removed to native soils, unless otherwise directed.
- B. The cleaned out foundation area(s) shall be backfilled in accordance with Section 02810 to prevent water from accumulating in the building void and compacted to conform with Item #203 of the State of Ohio Department of Transportation Construction and Materials Specifications, 2010 edition (or most current) backfill material shall be accepted, in accordance ODOT 703.16 and compacted per 203.06 or 203.07 (more stringent). Shale, rock, slag and random materials as specified in ODOT 203.03 will not be accepted for backfill material. A Testing Laboratory Service shall be on-site during all filling activities. **Testing for compaction shall be paid for by the Contractor.** This shall include all soil tests, on-site testing and verification.
- C. Immediately following demolition of the structure, hauling away of debris will commence. All sheds, garages, and accessory buildings and other trash, shrubs, fallen trees, etc. are to be removed from the premises along with the principal structure. Include the cost for this removal in the total bid for the demolition.
- D. The Contractor will not move to another location until the demolished structure is hauled away and any void(s) backfilled. Only during Holidays, weekends or heavy rains will there be exceptions to this rule.
- E. After the structure/foundation area(s) have been backfilled and graded, the areas will be seeded and mulched to prevent erosion of the backfill, unless otherwise directed by the Engineer.

2.04 EXPLOSIVES

- A. Explosive: Use of explosives is not permitted for this work.

2.05 OTHER MATERIALS

- A. All other materials, not specifically described but required for proper completion of the work in this Section shall be as selected by the Contractor subject to approval of the Engineer.

2.06 WATER SUPPLY

- A. The City of Youngstown may furnish the Contractor water in the execution of this contract wherever water mains and hydrants are available. The water will be furnished at the rate or cost established by City and this cost shall be charged to the Contractor for payment which is to be made to the City of Youngstown according to the conditions in terms of the procedures outlined by the City.
- B. The cost of water usage will be determined by City of Youngstown. The cost of the water used from the hydrants during the demolition project will be the responsibility of the Contractor. The current cost of water in the City of Youngstown is \$28.50/1,000 gallons.

- C. The Contractor shall make all necessary water connections and extensions at his own expense and use the same subject to the rules and regulations of the City of Youngstown.

PART 3 EXECUTION

3.01 NOTIFICATION

- A. Notify the Engineer at least ten (10) full working days in writing prior to commencing the work of this Section.

3.02 SITE INSPECTION

- A. Prior to all work of this Section, carefully inspect the entire site and all objects designated to be removed and/or to be salvaged.
- B. Locate all existing utility lines and determine all requirements for connection to them where applicable.
- C. Locate all existing active utility lines traversing the site and determine the requirements for their protection.

3.03 SCHEDULING

- A. Schedule all work in a careful manner with all necessary consideration for neighbors and the public.

3.04 TRAFFIC CONTROL

- A. All traffic controls, sidewalk closures and barricades must be erected and maintained in compliance with the State of Ohio Manual of Uniform Traffic Control Devices for Streets and Highways and in compliance with the City of Youngstown requirements.

3.05 REMOVAL OF DEMOLITION DEBRIS

- A. All excess, surplus and waste materials, including existing items obtained from demolition shall be removed from the site and properly disposed of by the Contractor. Materials shall be cleaned up daily and the entire work area kept in a neat, orderly and workmanlike condition. Upon completion of all operations, the Contractor shall do all things as may be necessary or required by the Engineer to satisfactorily complete the work and leave same in a neat, orderly and usable condition.

The Contractor shall, within 10 days of the contract submittal provide a detailed cost and method of disposal of the debris (concrete, steel, etc.)

1. Construction Waste - The material resulting from the demolition of the facility. All material must be disposed of in landfill licensed to accept the type of material(s), except for the structural steel which may be recycled.

3.06 SITE RESTORATION

- A. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building(s), utility and site demolition operations with satisfactory soil materials according to the backfill requirements in Section 02271 " Earthwork and Temporary Soil Erosion Control.
- B. Site Grading: Uniformly grade the area of demolished buildings to the existing grade, providing a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades. Graded areas shall have a minimum 2% finished slope to provide positive surface drainage.
- C. Upon completion of the backfilling/grading operations, the Contractor shall perform seeding and mulching of the site or as specified in the specifications.

3.07 DAMAGE

- A. The Contractor shall be responsible for all damage to existing materials, structures, and surfaces. Restore any damage to original condition or repair as directed, at no additional charge to the owner.

3.08 PROCEDURES

- A. The Contractor shall furnish and erect all barriers, enclosure chutes, catch platforms and necessary shoring and provide and maintain approved Danger, Warning, and "Keep Out" signs at places and locations where the placing of such signs is warranted.
- B. Demolish items and perform other demolition work in such a manner as to avoid hazards to persons and property, interference with the use of adjacent property, and interruption of free passage to and from such property. This work shall be prosecuted in strict accordance with the covenants, terms and conditions in this specification, as well as, with all rules, regulations, codes, and laws, Federal, State and Local as may govern such operation.

3.09 SEQUENCING AND SCHEDULE

- A. The work of this Section shall be carried out as specified, any modifications must be approved by the Engineer, in writing. The working hours for the project are normal business hours

3.10 DUST CONTROL

- A. The Contractor shall provide dust suppression during all demolition activities in accordance with 40 CFR, Part 61, Subpart M (NESHAP) and any other State or Local regulations, as applicable.
- B. Dust control and all related costs will be the responsibility of the Contractor. At no time shall the visible fugitive emissions travel beyond thirty (30) feet of the structure.
- C. The Contractor shall not cause or permit any fugitive dust source from the building demolition without taking or installing reasonably available control measures to prevent fugitive dust from

becoming airborne. Such reasonably available control measures shall include, but not limited to, one or more of the following which are appropriate to minimize or eliminate visible particulate emissions of fugitive dust in accordance with the Ohio Administrative Code (OAC) 3745-17-08(B). If the Contractor violates or fails to properly control fugitive dust, in accordance with OAC 3745-17-08(B), the Contractor will be fined \$2,500 per day, in accordance with the Ohio Revised Code (ORC) 3704.99.

3.11 INGRESS AND EGRESS

- A. The Contractor will be responsible for replacing any broken cement sidewalks, drives or curbs which may occur as a result of his ingress and egress from the site or from the demolition of the former South High Stadium Bleachers/Press Box/ Restroom structure, as required.

3.12 SAFETY PRECAUTIONS AND CLEANING UP

- A. The operation of the Contractor shall be done in such a manner as to avoid fires and other hazards to persons and property and interference with the use of adjacent buildings and without interruption of free passage to and from such buildings.
- B. Upon release of a structure for demolition by the owner to the Contractor, the Contractor shall take all precautions necessary against damages to persons or property before and during the demolition period.

3.13 ADDITIONAL SPECIFICATIONS

- A. All sewers must be capped in the presence of an Owner or Owner's Representative. Before the empty hole of a demolished structure can be backfilled, it must be viewed by the Owner or Owner's Representative. All RACM debris from a demolished structure must be removed as soon as possible after the structure is raised.
- B. The Contractor is required to provide the Engineer with daily and weekly reports of labor and equipment hours expended on the project. Hours should be detailed, by area and by task, and by regular hours and overtime hours.

3.14 ADDITIONAL COSTS

- A. The total bid cost shall include all loading, hauling, transporting, disposal costs, tipping fees and other required fees, taxes and/or surcharges as imposed by any federal, state or local agency or landfill.

END OF SECTION - 02050

SECTION 02270 - ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The work covered by this Section consists of furnishing all labor, materials and equipment and performing all work required for the prevention of environmental pollution in conformance with applicable laws and regulations, during and as the result of construction operations under this Contract. For the purpose of this Specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to man; or degrade the utility of the environment of aesthetic and recreational purposes.
1. The control of environmental pollution requires consideration of air, water and land, and involves management of noise and solid waste, as well as other pollutants.
 2. The Contractor shall schedule and conduct his work in a manner that will minimize the erosion of soils in the area of the work. The Contractor shall provide erosion control measures in accordance with Section 02272, such as diversion channels, sedimentation or filtration systems, berms, staked hay bales, and seeding, mulching of streams, rivers, impoundments, lakes, etc.
 3. These Specifications are intended to ensure that construction is achieved with a minimum of disturbance to the existing ecological balance between a water resource and its surroundings. These are general guidelines and possible methods for providing environmental protection for land and water resources; however, it is left to the Contractor to decide what specific construction techniques he may best utilize to meet these guidelines.
 4. All phases of sedimentation and erosion control shall comply with and be subject to the approval of the Ohio Environmental Protection Agency.

1.02 APPLICABLE REGULATIONS

- A. The Contractor and his subcontractors shall comply with all applicable Federal, State and local laws and regulations concerning environmental pollution control and abatement.

1.03 NOTIFICATIONS

- A. The Owner will notify the Contractor in writing of any non-compliance with the foregoing provisions or of any environmental objectionable acts and corrective action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until satisfactory corrective

action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it was later determined that the Contractor was in compliance.

1.04 IMPLEMENTATION

- A. Prior to commencement of the work the Contractor will meet with the Owner to develop mutual understandings relative to compliance with this provision and administration of the environmental pollution control program.

PART 2 PRODUCTS

Not applicable.

PART 3 EXECUTION

3.01 EROSION CONTROL – Refer to SECTION 02272 of this specification.

3.02 PROTECTION OF LAND RESOURCES

- A. It is intended that the land resources within the project boundaries and outside the limits of permanent work performed under this Contract be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the appearance of the project. Insofar as possible, the Contractor shall confine his construction activities to areas shown on the Drawings.
1. The Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without authorization of the Engineer. No ropes, cables, or guys shall be fastened to or attached to any existing nearby trees for anchorage unless specifically authorized by the Owner. Contractor shall first adequately wrap the trunk with a sufficient thickness of burlap or rags over which softwood cleat shall be tied before any rope, cable, or wire is placed. The Contractor shall in any event be responsible for any damage resulting from such use.
 2. Where trees may possibly be defaced, bruised, injured, or otherwise damaged by the Contractor's equipment or by his blasting, dumping or other operations, the Contractor shall protect adequately such trees by placing boards, planks, or poles around them. Monuments and marker shall be protected similarly before beginning operations near them.
 3. Any trees or other landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the Contractor's expense. The Owner will decide what method of restoration shall be used and whether damaged trees shall be treated and healed or removed and disposed of.

4. All scars made on trees by equipment, construction operations, or by the removal of limbs larger than 1 inch in diameter shall be coated as soon as possible with an approved tree wound dressing. All trimming or pruning shall be performed in an approved manner by experienced workmen with saws or pruning shears. Tree trimming with axes will not be permitted. Where tree climbing is necessary, the use of climbing spur will not be permitted.

3.03 PROTECTION OF AIR RESOURCES

- A. Burning. The use of burning at the project site for the disposal of refuse and debris will not be permitted.
- B. Dust Control. The Contractor will be required to maintain all excavations, embankment, stockpiles, access roads, plant sites, waste areas, borrow areas, and all other work areas within or without the project boundaries free from dust which could cause the standards for air pollution to be exceeded, and which would cause a hazard or nuisance to others.
 1. An approved method of stabilization consisting of sprinkling or other similar methods will be permitted to control dust. The use of petroleum products is prohibited.
 2. Sprinkling, to be approved, must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times, and the Contractor must have sufficient, competent equipment on the job to accomplish this if sprinkling is used. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs.

3.04 NOISE CONTROL

- A. The Contractor shall make every effort to minimize noises caused by his operations. Equipment shall be equipped with silencers or mufflers designed to operate with the least possible noise.

3.05 STORMWATER PREVENTION PLAN

- A. The Contractor shall install the soil and erosion control management practices for the project site in accordance with Section 02272.

END OF SECTION - 02270

**SECTION 02272 - CONSTRUCTION STORM WATER POLLUTION CONTROL
PART 1 - GENERAL**

1.01 SCOPE OF WORK

The Contractor shall perform all applicable work and provide all materials described in this specification and appendices required to comply with Ohio EPA General Permit OHC000003 for discharge of Construction Site Storm Water.

- A. Prior to any construction activity, the Contractor shall submit to Ohio EPA a Co-Permittee Notice of Intent (NOI) and obtain Coverage Under Ohio EPA Storm Water Construction General Permit (Appendix D) and prepare a Storm Water Pollution Prevention Plan (SWPPP) satisfying the requirements of the General Permit (Appendix C). Two (2) copies of the NOI submittal and SWPPP shall be sent to the Engineer for record only. Additionally, all storm water permit activities shall be coordinated with the Trumbull County Storm Water Control District.
- B. The Contractor shall maintain a signed copy of the NOI and the current SWPPP available for inspection at the project site.
- C. The Contractor shall inform all contractors and subcontractors not otherwise defined as “operators” in Part VII of the general permit, who will be involved in the implementation of the SWPPP, of the terms and conditions of the general permit. Documentation shall be recorded in accordance with Part III (E) of the general permit.
- D. During construction, the Contractor will be responsible for installing and maintaining the temporary sediment and erosion control measures as described in this specification. The Contractor shall amend the SWPPP if at any point the SWPPP proves to be ineffective in controlling pollutants in storm water discharges associated with construction activity.
- E. Upon completion and acceptance of construction, the Contractor shall submit a Notice of Termination for Coverage Under Ohio EPA Storm Water Construction General Permit according to Section IV of the permit.
- F. This work consists of furnishing and locating TSEC (Temporary Sediment and Erosion Control) BMP (Best Management Practices) for both project and off project EDA (Earth Disturbing Activity) areas and developing a SWPPP (Storm Water Pollution Prevention Plan) as required. Furnish these TSEC BMP prior to any EDA. Furnish a SWPPP as required prior to any EDA. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other Federal, State, or local agencies, adhere to the more restrictive laws, rules, or regulations.

1.02 DEFINITIONS

BMP: Best Management Practices

CMS: Construction and Material Specifications of the Ohio Department of Transportation, most current edition.

Earth Disturbing Activity (EDA): Means any activity that exposes bare ground or an erodible material to storm water and anywhere vegetation activities (seeding, sodding, etc.) are performed.

EPA: Environmental Protection Agency

Isolated Wetland Permit: Ohio EPA permit allowing the discharge of fill material into an isolated wetland

NOI: Notice of Intent

NOT: Notice of Termination

NPDES: National Pollutant Discharge Elimination System

ODNR: Ohio Department of Natural Resources

OEPA: Ohio EPA

ODOT: Ohio Department of Transportation

OES: Office of Environmental Services-ODOT

OWPCA: Ohio Water Pollution Control Act

USACE: United States Army Corps of Engineers

OHWM: Ordinary High Water Mark; the USACE's jurisdictional limits involving streams; usually equivalent to a 2 year high water elevation.

PCN: Pre-Construction Notification for 404 permit

OEPA General Storm Water Permit OHC000003: OEPA NPDES Construction Effluent Guidelines Permit

SCD: Standard Construction Drawing - ODOT

SWPPP: Storm Water Pollution Prevention Plan

TSEC: Temporary Sediment and Erosion Control

404 Permit USACE permit authorizing discharge of fill material into Waters of the US, per Section 404 of the Clean Water Act

401 Water Quality Certification (401 WQC): Ohio EPA permit authorizing discharge of fill material, per Section 401 of the Clean Water Act

1.02 STANDARD CONSTRUCTION DRAWING REFERENCES

- A. Standard ODOT Reference Drawings

DM – 4.3

- Filter Dike
- Dikes
- Rock Channel Protection, Type C or D with/without filter
- Sediment Basins and Dams
- Slope Drains

DM – 4.4

- Filter Fabric Ditch Check
- Inlet Protection
- Perimeter Filter Fabric Fence

- B. The ODNR Rainwater and Land Development Manual (Current Edition) has BMP details and requirements. The Contractor shall use all available standard drawings and details as necessary to prepare the SWPPP.

1.04 REQUIREMENTS

- A. Furnish and locate TSEC BMP to represent and warrant compliance with the Clean Water Act, 33 USC Section 1251 et seq. and the OWPCA, ORC (Ohio Revised Code) 6111.01 et seq., all conditions of 404 permit/401 WQC/Isolated Wetland Permit, and related rules, local government agency requirements, specifications, SCD, and permits. Furnish a SWPPP to represent and warrant compliance with OEPA GENERAL STORM WATER PERMIT OHC000003, related rules, specifications, SCD, and permits.
- B. Post-Construction controls as described in OEPA GENERAL STORM WATER PERMIT OHC000003 are not a part of this specification.

1.05 PROVISIONS

- A. These provisions survive the completion and/or termination of the contract. The following provisions must be followed:
1. If a governmental agency or a local governmental authority finds a violation of the above noted requirements, or that the TSEC BMP are incomplete, or that the SWPPP is incomplete or that the implementation of the SWPPP is not being performed correctly or completely, full responsibility will be borne by the Contractor to make all corrections.
 2. If a governmental agency or a local governmental authority furnishes an assessment, damage judgement or finding, fine, penalty, or expense for a violation of the above noted requirements, or that the TSEC BMP are incomplete, or that the SWPPP is incomplete, or that the implementation of the SWPPP is not being performed correctly or completely, the Contractor will reimburse the Owner within ten (10) Calendar Days of the amount for any of the above. The Owner may withhold the amount of money requested for the above from the Contractor's next pay estimate and deliver that sum to the governmental agency or local governmental authority issuing the assessment, damage judgement or finding, fine, penalty or expense.

3. The Contractor agrees to indemnify and hold harmless the Owner and Engineer, and will reimburse the Owner for any assessments, damage judgment or finding, fine, penalty, or expense as a result of the failure of performing this portion of the Contract. The Owner may withhold the amount of any assessments, damage judgment or finding, fine, penalty or expense from the Contractor's next pay estimate.
4. If a governmental agency or a local governmental authority furnishes a stop work order for a violation of the above noted requirements, or that the TSEC BMP are incomplete, or that the SWPPP is incomplete, or that the implementation of the SWPPP is not being performed correctly or completely, the Owner will find the Contractor in default.
5. If the Owner finds a violation of the above noted requirements, or that the TSEC BMP are incomplete, or that the SWPPP is incomplete or that the implementation of the SWPPP is not being performed correctly or completely, the Contractor will make all corrections. The Owner may withhold and continue to withhold progress payments until such corrections are made.

PART 2 PRODUCTS

2.01 TSEC BMP Materials

- A. Furnish commercial fertilizer, seed, and mulch materials conforming to 2013 CMS Item 659.
- B. Furnish filter fabric ditch checks, rock checks, inlet protection, perimeter filter fabric fence, bale filter dikes, sediment basins and dams, dikes, slope drains, and rock channel protection materials as specified on the SCD. Furnish construction ditch and slope protection conforming to the requirements of 2013 CMS Item 670. The seeding and mulching of the mats are not required. The Owner may accept other materials as BMP if approved by the OEPA.

PART 3 EXECUTION

3.01 Furnish and Locate TSEC BMP

- A. Furnish and locate the TSEC BMP as required or as outlined in the Ohio Department of Transportation Location Design Manual Volume II -Drainage Design, ODNR Rainwater and Land Development Manual (current edition) or as outlined in the SWPPP. Keep TSEC BMP functional until the areas are fully stabilized.

Construct items 1, 2 and 4 through 7, below, according to the SCD.

1. Perimeter Controls. Use perimeter filter fabric fence to protect the project from sheet flow runoff from off Right-of-Way and off construction limit locations. Use perimeter filter fabric fence to protect the following project items from sheet flow runoff: water bodies, wetlands, or other significant items shown on the plans.

Use dikes to prevent sediment flow from coming onto the project and to non-vegetated barren areas on the project.

Install perimeter filter fabric fence and dikes before any clearing and grubbing operations.

Ensure that the ponding of water behind the perimeter filter fabric fence or dike will not damage property or risk the safety of life.

2. Inlet Protection. Construct the inlet protection for existing inlets at the beginning of construction and for new inlets immediately after completing the sump. Ensure that the ponding of water behind the inlet will not damage property or risk the safety of life.
3. Construction Seeding and Mulching. Apply seed and mulch materials according to 2013 CMS Item 659 as modified herein. When straw mulch is used, apply at a rate of 2 tons per acre (0.5 metric ton/1000 m²). Seed and mulch during and after construction, and before or during winter shut down to stabilize EDA areas and as required. Fertilize construction seeding areas at one-half the application rate specified in 2013 CMS Item 659. If project conditions prevent fertilizing the soil and preparing the seedbed, then the fertilizing and preparation requirements of 2013 CMS Item 659 may be waived. Do not place construction seed on frozen ground.
4. Slope Protection. Place dikes, install slope drains, and construct ditches to divert water from bare non-vegetated areas and to protect cut and fill slopes. Protect the side slopes from erosion by placing dikes at the top of fill slopes.

Before furnishing a cut slope, construct a ditch at the top of the cut slope to reduce runoff coming on the slope.

Furnish Construction Slope Protection at the required locations or at the locations shown on the SWPPP as the slopes are constructed. Furnish all permanent slope protection as final grade is complete.

5. Ditch Checks and Ditch Protection. Place filter fabric ditch checks or rock checks across a ditch and perpendicular to the flow to protect the ditch from erosion and to filter sediment from the flowing water.

Place ditch checks as soon as the ditch is cut. If working on a ditch, replace the ditch checks by the end of the workday.

Install filter fabric ditch checks for drainage areas less than or equal to 2 acres (0.8 ha) as shown in the SCD. Install rock checks for drainage areas between 2 to 5 acres (0.8 to 2.0 ha) as shown in the SCD.

Install ditch checks in conjunction with sediment basins and dams.

Furnish Construction Ditch Protection at the required locations or at the locations shown on the SWPPP as the ditches are cut. Furnish all permanent ditch protection as final grade is complete.

6. Bale Filter Dike. Install bale filter dike a few feet (meters) from the toe of a slope to filter and direct sediment to an appropriate control item before the runoff enters a water body on or off the Project limits.

Use the bale filter dike to collect sediment from:

- a. Areas less than 1/4 acre (0.1 ha) for each sediment pit.
- b. Slopes with a length of less than 100 feet (30 m) and having a maximum 2:1 slope.

Use a sediment pit every 100 feet (30 m) for a 2:1 slope for every 1/4 acre (0.1 ha). Use a greater spacing of the sediment basin for flatter slopes.

Begin constructing bale filter dikes within 7 days of commencing grubbing operations. Complete the construction of the bale filter dike before starting the grading operations.

7. Sediment Basins and Dams. Construct basins and dams at concentrated and critical flow locations to settle out sediment before the water leaves the EDA area. Use basins at the bottom of a ravine, at a culvert inlet, or outlet, along or at the end of a ditch and at any concentrated water exit point of the project. Construct the basins to retain 67 cubic yards (125 m³) of water for every acre (1.0 ha) of drainage area. Use a series of smaller basins or dams as a substitute for a larger basin or dam.

Begin constructing sediment basins and dams within 7 days of commencing grubbing operations. Complete the construction of the sediment basins and dams before starting the grading operations.

When needed construct construction fence around the sediment basins or dams.

8. River, Stream, and Water Body Protection. Protect all streams or water bodies passing through or on the project using Perimeter Filter Fabric Fence or Bale Filter Dike to line the water edge. Divert project water flow using dikes and slope protection. The Contractor may use a combination of items listed in one through seven above and other TSEC BMP.
9. Concrete washout areas TSCE BMP. For the purpose of payment this BMP is part of the concrete work for payment.
10. Project access TSEC BMP locations. For the purpose of payment this BMP is part of the total project for payment.
11. Project fueling and refueling TSCE BMP locations. For the purpose of payment this BMP is part of the total project for payment.
12. All other TSEC BMP: All other TSEC BMP that are required but not specifically referenced will not be paid as a separate item but will be included by the Contractor as part of the lump sum cost.

3.02 MAINTENANCE

- A. Properly maintain all TSEC BMP. Dispose of silt removed from TSEC legally at offsite locations. Remove all TSEC BMP before the project is accepted.

Maintain the TSEC BMP until the up-slope permanent grass coverage is 70 percent or better. At this stage, remove the TSEC BMP.

1. Perimeter Filter Fabric Fence, Filter Fabric Ditch Checks, Rock Checks, Inlet Protection, Dikes, and Bale Filter Dikes. Remove trapped sediment when it reaches half the height of the lowest section. Make appropriate corrections when the TSEC BMP becomes nonfunctional.
2. Sediment Basins and Dams. Remove deposited sediment when sediments reduce the initial volume of the sediment basin or dam by one-half. Make appropriate corrections when these TSEC BMP fail. Remove dams and basins after the up slope has been stabilized.

3.03 STORM WATER POLLUTION PREVENTION PLAN

- A. Prepare the SWPPP as outlined in this specification and Ohio EPA General Permit OHC000003. Additional guidance can be found in the Ohio Department of Transportation Location and Design Manual Volume II - Drainage Design, the Ohio Department of Transportation Location and Design Manual Volume III- Highway Plans and ODNR Rainwater and Land Development Manual (Current Edition). Examples of some of the design and information requirements that must be shown on the SWPPP are as follows:
1. A Professional Engineer qualified in TSEC BMP must design and sign the SWPPP.
 2. Locate the required TSEC BMP for both on and off project EDA areas.
 3. Furnish quantity totals for all TSEC BMP.
 4. Locate the following a minimum of 100 feet (30 m) from the water's edge of any stream, ephemeral stream, wetland, or body of water:
 - a. Concrete or asphalt plant areas
 - b. Material and equipment staging or storage areas
 - c. Dewatering Areas
 - d. Concrete truck wash out areas
 - e. Construction access locations
 - f. Vehicle fueling and refueling locations
 5. Furnish an implementation schedule for each construction sequence.
 6. For any additional requirements, See 2010 CMS 107.19.
 7. Furnish the total EDA areas in acres.
 8. Locate all slopes that will be inactive for 21 calendar days or longer.
 9. Furnish the name of the individual on site who is in charge of the SWPPP and the TSEC BMP practices.
 10. Describe the type of construction activities that will be taking place.
 11. Furnish signatures of all contractors and subcontractors involved in TSEC practices (see App. B). If there are plan sheets which meet any of the OEPA GENERAL STORM WATER PERMIT OHC000003 requirements, use that information. Design files may be furnished to the awarded Contractor in electronic form in the future.

12. Describe post-construction storm water BMP practices.

3.04 SWPPP REVIEW

- A. Furnish the initial SWPPP to the local regulatory agencies for review and approval and to the Owner and Engineer for record. No time extensions to the contract will be granted for the above referenced review times. The Owner's review will only ensure that the following items have been furnished:
- B. The type and location of TSEC BMP with totals.
- C. A schedule of placing TSEC BMP.
- D. The applicable requirements of those contained in Paragraph 3.03.
- E. Revise the accepted SWPPP as needed. These revisions to the accepted SWPPP will be at no additional cost to the Owner.

3.05 INSPECTIONS

- A. Perform OEPA GENERAL STORM WATER PERMIT OHC000003 required inspections. The inspection reports are to be prepared for projects that have a SWPPP. Submit a copy of the inspection reports to the Engineer for record.
- B. Use the report form furnished in Appendix A.

END OF SECTION - 02272

Weekly and Rain Event Erosion Control Checklist

Contractor _____
 Project Number _____ Co.-Rt.-Sec. _____ Date _____

R=Replacement W=Working M=Maintenance I=Install D=Delete Rain Amt Inspection _____
 Date _____

Station	To	Station	Side	Offset	Balloon Ref.	Perimeter control	Inlet Protection	Constr. Seed	Dikes Fill Slopes	Ditch Cut Slopes	Slope Drains	FF Ditch Checks	Rock Ditch Ch	Bale Filter Dike	Sediment Basins	Stream Relocate	Stream Crossing	Date Work Was Complete	
	To																		
	To																		
	To																		
	To																		
	To																		
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	To																		
	To																		
	To																		
	To																		
	To																		

Notes:

Total Station-to-Station Inspected

Inspect By Signature _____ Title _____ Date Given To _____
 ODOT

Signature list

Signature	Printed Name	Title	Company	Date



OHIO E.P.A.

APR 21 2008

ENTERED DIRECTOR'S JOURNAL

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Page 1 of 40

Ohio EPA Permit No.: OHC000003

Effective Date: April 21, 2008

Expiration Date: April 20, 2013

OHIO ENVIRONMENTAL PROTECTION AGENCY

**AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED
WITH CONSTRUCTION ACTIVITY UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the federal Water Pollution Control Act, as amended (33 U.S.C. Section 1251 et. seq. hereafter referred to as "the Act") and the Ohio Water Pollution Control Act [Ohio Revised Code ("ORC") Chapter 6111], dischargers of storm water from sites where construction activity is being conducted, as defined in Part I.B of this permit, are authorized by the Ohio Environmental Protection Agency, hereafter referred to as "Ohio EPA," to discharge from the outfalls at the sites and to the receiving surface waters of the State identified in their Notice of Intent ("NOI") application form on file with Ohio EPA in accordance with the conditions specified in Parts I through VII of this permit.

It has been determined that a lowering of water quality of various waters of the State associated with granting coverage under this permit is necessary to accommodate important social and economic development in the state of Ohio. In accordance with OAC 3745-1-05, this decision was reached only after examining a series of technical alternatives, reviewing social and economic issues related to the degradation, and considering all public and intergovernmental comments received concerning the proposal.

This permit is conditioned upon payment of applicable fees, submittal of a complete NOI application form and written approval of coverage from the director of Ohio EPA in accordance with Ohio Administrative Code ("OAC") Rule 3745-38-06.

Laura H. Powell
Assistant Director

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.

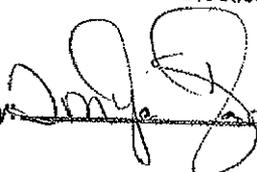
By:  Date: 4-21-08

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PART I. COVERAGE UNDER THIS PERMIT

A. Permit Area.

This permit covers the entire State of Ohio.

B. Eligibility.

1. Construction activities covered. Except for storm water discharges identified under Part I.B.2, this permit may cover all new and existing discharges composed entirely of storm water discharges associated with construction activity that enter surface waters of the State or a storm drain leading to surface waters of the State.

For the purposes of this permit, construction activities include any clearing, grading, excavating, grubbing and/or filling activities that disturb one or more acres of land. Discharges from trench dewatering are also covered by this permit as long as the dewatering activity is carried out in accordance with the practices outlined in Part III.G.2.g.iv of this permit. The threshold acreage includes the entire area disturbed in the larger common plan of development or sale.

This permit also authorizes storm water discharges from support activities (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) provided:

- a. The support activity is directly related to a construction site that is required to have NPDES permit coverage for discharges of storm water associated with construction activity;
- b. The support activity is not a commercial operation serving multiple unrelated construction projects and does not operate beyond the completion of the construction activity at the site it supports;
- c. Appropriate controls and measures are identified in a storm water pollution prevention plan (SWP3) covering the discharges from the support activity; and
- d. The support activity is on or contiguous with the property defined in the NOI (off-site borrow pits and soil disposal areas, which serve only one project, do not have to be contiguous with the construction site);

Part I.B

2. Limitations on coverage. The following storm water discharges associated with construction activity are not covered by this permit:
 - a. Storm water discharges that originate from the site after construction activities have been completed, including any temporary support activity, and the site has achieved final stabilization. Industrial post-construction storm water discharges may need to be covered by an NPDES permit;
 - b. Storm water discharges associated with construction activity that the director has shown to be or may reasonably expect to be contributing to a violation of a water quality standard; and
 - c. Storm water discharges authorized by an individual NPDES permit or an alternative NPDES general permit;

3. Waivers. After March 10, 2003, sites whose larger common plan of development or sale have at least one, but less than five acres of land disturbance, which would otherwise require permit coverage for storm water discharges associated with construction activities, may request that the director waive their permit requirement. Entities wishing to request such a waiver must certify in writing that the construction activity meets one of the two waiver conditions:
 - a. **Rainfall erosivity waiver.** For a construction site to qualify for the rainfall erosivity waiver, the cumulative rainfall erosivity over the project duration must be five or less and the site must be stabilized with at least a 70 percent vegetative cover or other permanent, non-erosive cover. The rainfall erosivity must be calculated according to the method in U.S. EPA Fact Sheet 3.1 Construction Rainfall Erosivity Waiver dated January 2001. If it is determined that a construction activity will take place during a time period where the rainfall erosivity factor is less than five, a written waiver certification must be submitted to Ohio EPA at least 21 days before construction activity is scheduled to begin. If the construction activity will extend beyond the dates specified in the waiver certification, the operator must either: (a) recalculate the waiver using the original start date with the new ending date (if the R factor is still less than five, a new waiver certification must be submitted) or (b) submit an NOI application form and fee for coverage under this general permit at least seven days prior to the end of the waiver period (see Attachment A); or

Part I.B.3

- b. **TMDL (Total Maximum Daily Load) waiver.** Storm water controls are not needed based on a TMDL approved or established by U.S. EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, an equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. The pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the director of Ohio EPA that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis. A written waiver certification must be submitted to Ohio EPA at least 21 days before the construction activity is scheduled to begin.
4. **Prohibition on non-storm water discharges.** All discharges covered by this permit must be composed entirely of storm water with the exception of the following: discharges from fire fighting activities; fire hydrant flushings; potable water sources including waterline flushings; irrigation drainage; lawn watering; routine external building washdown which does not use detergents; pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water from trench or well point dewatering and foundation or footing drains where flows are not contaminated with process materials such as solvents. Dewatering activities must be done in compliance with Part III.G.2.g.iv of this permit. Discharges of material other than storm water or the authorized non-storm water discharges listed above must comply with an individual NPDES permit or an alternative NPDES general permit issued for the discharge.

Except for flows from fire fighting activities, sources of non-storm water listed above that are combined with storm water discharges associated with construction activity must be identified in the SWP3. The SWP3 must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

Part I.B

5. Spills and unintended releases (Releases in excess of Reportable Quantities). This permit does not relieve the permittee of the reporting requirements of 40 CFR Part 117 and 40 CFR Part 302. In the event of a spill or other unintended release, the discharge of hazardous substances in the storm water discharge(s) from a construction site must be minimized in accordance with the applicable storm water pollution prevention plan for the construction activity and in no case, during any 24-hour period, may the discharge(s) contain a hazardous substance equal to or in excess of reportable quantities.

40 CFR Part 117 sets forth a determination of the reportable quantity for each substance designated as hazardous in 40 CFR Part 116. The regulation applies to quantities of designated substances equal to or greater than the reportable quantities, when discharged to surface waters of the State. 40 CFR Part 302 designates under section 102(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, those substances in the statutes referred to in section 101(14), identifies reportable quantities for these substances and sets forth the notification requirements for releases of these substances. This regulation also sets forth reportable quantities for hazardous substances designated under section 311(b)(2)(A) of the Clean Water Act (CWA).

C. Requiring an individual NPDES permit or an alternative NPDES general permit.

1. The director may require an alternative permit. The director may require any operator eligible for this permit to apply for and obtain either an individual NPDES permit or coverage under an alternative NPDES general permit in accordance with OAC Rule 3745-38-04. Any interested person may petition the director to take action under this paragraph.

The director will send written notification that an alternative NPDES permit is required. This notice shall include a brief statement of the reasons for this decision, an application form and a statement setting a deadline for the operator to file the application. If an operator fails to submit an application in a timely manner as required by the director under this paragraph, then coverage, if in effect, under this permit is automatically terminated at the end of the day specified for application submittal.

Part I.C

2. Operators may request an individual NPDES permit. Any owner or operator eligible for this permit may request to be excluded from the coverage of this permit by applying for an individual permit. The owner or operator shall submit an individual application with reasons supporting the request to the director in accordance with the requirements of 40 CFR 122.26. If the reasons adequately support the request, the director shall grant it by issuing an individual NPDES permit.
3. When an individual NPDES permit is issued to an owner or operator otherwise subject to this permit or the owner or operator is approved for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of approval for coverage under the alternative general permit, whichever the case may be.

D. Permit requirements when portions of a site are sold

If an operator obtains a permit for a development, and then the operator (permittee) sells off lots or parcels within that development, permit coverage must be continued on those lots until a Notice of Termination (NOT) in accordance with Part IV.B is submitted. For developments which require the use of centralized sediment and erosion controls (i.e., controls that address storm water runoff from one or more lots) for which the conveyance of permit coverage for a portion of the development will either prevent or impair the implementation of the controls and therefore jeopardize compliance with the terms and conditions of this permit, the permittee will be required to maintain responsibility for the implementation of those controls. For developments where this is not the case, it is the permittee's responsibility to temporarily stabilize all lots sold to individual lot owners unless an exception is approved in accordance with Part III.G.4. In cases where permit coverage for individual lot(s) will be conveyed, the permittee shall inform, in writing, the individual lot owner of the obligations under this permit and ensure that the Individual Lot NOI application is submitted to Ohio EPA.

E. Authorization

1. Obtaining authorization to discharge. Operators that discharge storm water associated with construction activity must submit an NOI application form in accordance with the requirements of Part II of this permit to obtain authorization to discharge under this general permit. As required under OAC Rule 3745-38-06(E), the director, in response to the NOI submission, shall notify the applicant in writing that he/she has been granted general permit coverage to discharge storm water associated with construction activity under the terms and conditions of this permit or that the applicant must apply for an individual NPDES permit or coverage under an alternate general NPDES permit as described in Part I.C.1.

Part I.E

2. No release from other requirements. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations. Other permit requirements commonly associated with construction activities include, but are not limited to, section 401 water quality certifications, isolated wetland permits, permits to install sanitary sewers or other devices that discharge or convey polluted water, permits to install drinking water lines, single lot sanitary system permits and disturbance of land which was used to operate a solid or hazardous waste facility (i.e., coverage under this NPDES general permit does not satisfy the requirements of OAC Rule 3745-27-13 or ORC Section 3734.02(H)). This permit does not relieve the permittee of other responsibilities associated with construction activities such as contacting the Ohio Department of Natural Resources, Division of Water, to ensure proper well installation and abandonment of wells.

Part II. NOTICE OF INTENT REQUIREMENTS

A. Deadlines for notification.

Initial coverage: Operators who intend to obtain initial coverage for a storm water discharge associated with construction activity under this general permit must submit a complete and accurate NOI application form and appropriate fee at least 21 days prior to the commencement of construction activity. If more than one operator, as defined in Part VII of this general permit, will be engaged at a site, each operator shall seek coverage under this general permit. Where one operator has already submitted an NOI prior to other operator(s) being identified, the additional operator shall request modification of coverage to become a co-permittee. In such instances, the co-permittees shall be covered under the same facility permit number. No additional permit fee is required.

Individual lot transfer of coverage: Operators must each submit an individual lot notice of intent (Individual Lot NOI) application form (no fee required) to Ohio EPA at least seven days prior to the date that they intend to accept responsibility for permit requirements for their portion of the original permitted development from the previous permittee. The original permittee may submit an Individual Lot NOT at the time the Individual Lot NOI is submitted. Transfer of permit coverage is not granted until an approval letter from the director of Ohio EPA is received by the applicant.

B. Failure to notify.

Operators who fail to notify the director of their intent to be covered and who discharge pollutants to surface waters of the State without an NPDES permit are in violation of ORC Chapter 6111. In such instances, Ohio EPA may bring an enforcement action for any discharges of storm water associated with construction activity.

Part II

C. Where to submit an NOI.

Operators seeking coverage under this permit must submit a signed NOI form, provided by Ohio EPA, to the address found in the associated instructions.

D. Additional notification.

The permittee shall make NOIs and SWP3s available upon request of the director of Ohio EPA, local agencies approving sediment and erosion control plans, grading plans or storm water management plans, local governmental officials, or operators of municipal separate storm sewer systems (MS4s) receiving drainage from the permitted site. Each operator that discharges to an NPDES permitted MS4 shall provide a copy of its Ohio EPA NOI submission to the MS4 in accordance with the MS4's requirements, if applicable.

E. Renotification.

Upon renewal of this general permit, the permittee is required to notify the director of his intent to be covered by the general permit renewal. Permittees covered under the previous NPDES general permits for storm water discharges associated with construction activity (NPDES permit numbers OHR100000 and OHC000002) shall have continuing coverage under this permit. The permittees covered under OHR100000 or OHC000002 shall submit a letter within 90 days of receipt of written notification by Ohio EPA expressing their intent that coverage be continued. There is no fee associated with these letters of intent for continued coverage. Permit coverage will be terminated after the 90-day period if the letter is not received by Ohio EPA. Ohio EPA will provide instructions on the contents of the letter and where it is to be sent within the notification letter.

PART III. STORM WATER POLLUTION PREVENTION PLAN (SWP3)

A. Storm Water Pollution Prevention Plans.

A SWP3 shall be developed for each site covered by this permit. For a multi-phase construction project, a separate NOI shall be submitted when a separate SWP3 will be prepared for subsequent phases. SWP3s shall be prepared in accordance with sound engineering and/or conservation practices by a professional experienced in the design and implementation of standard erosion and sediment controls and storm water management practices addressing all phases of construction. The SWP3 shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with construction activities. The SWP3 shall be a comprehensive, stand-alone document, which is not complete unless it contains the information required by Part III.G of this permit. In addition, the SWP3 shall describe and ensure the implementation of best management practices (BMPs) that reduce the pollutants in storm water discharges during construction and pollutants associated with post-construction activities to ensure compliance with ORC Section 6111.04, OAC Chapter 3745-1 and the terms and conditions of this permit.

B. Timing

A SWP3 shall be completed prior to the timely submittal of an NOI and updated in accordance with Part III.D. Upon request and good cause shown, the director may waive the requirement to have a SWP3 completed at the time of NOI submission. If a waiver has been granted, the SWP3 must be completed prior to the initiation of construction activities. The SWP3 must be implemented upon initiation of construction activities.

Permittees continuing coverage from the previous generations of this permit (OHR100000 and OHC000002) that have initiated construction activity prior to the receipt of the first written notification from Ohio EPA to submit a letter of intent to continue coverage, as required in Part II.E, are not required to update their SWP3 as a result of this renewal (OHC000003). Permittees continuing coverage from the previous generations of this permit (OHR100000 and OHC000002) that have not initiated construction activity prior to the receipt of the first written notification from Ohio EPA to submit a letter of intent to continue coverage, as required in Part II.E, are required to update their SWP3 as a result of this renewal (OHC000003).

C. SWP3 Signature and Review.

1. Plan Signature and Retention On Site. The SWP3 shall include the certification in Part V.H., be signed in accordance with Part V.G., and be retained on site during working hours.

Part III.C

2. Plan Availability

- a. On-site: The plan shall be made available immediately upon request of the director or his authorized representative during working hours. A copy of the NOI and letter granting permit coverage under this general permit also shall be made available at the site.
 - b. By written request: The permittee must provide a copy of the SWP3 within 10 days upon written request by any of the following:
 - i. The director or the director's authorized representative;
 - ii. A local agency approving sediment and erosion plans, grading plans or storm water management plans; or
 - iii. In the case of a storm water discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the operator of the system.
 - c. To the public: All NOIs, general permit approval for coverage letters, and SWP3s are considered reports that shall be available to the public in accordance with the Ohio Public Records law. The permittee shall make documents available to the public upon request or provide a copy at public expense, at cost, in a timely manner. However, the permittee may claim to Ohio EPA any portion of an SWP3 as confidential in accordance with Ohio law.
3. Plan Revision. The director or authorized representative, may notify the permittee at any time that the SWP3 does not meet one or more of the minimum requirements of this part. Within 10 days after such notification from the director (or as otherwise provided in the notification) or authorized representative, the permittee shall make the required changes to the SWP3 and, if requested, shall submit to Ohio EPA the revised SWP3 or a written certification that the requested changes have been made.

D. Amendments

The permittee shall amend the SWP3 whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the potential for the discharge of pollutants to surface waters of the State or if the SWP3 proves to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with construction activity. Amendments to the SWP3 may be reviewed by Ohio EPA in the same manner as Part III.C.

Part III

E. Duty to inform contractors and subcontractors

The permittee shall inform all contractors and subcontractors not otherwise defined as "operators" in Part VII of this general permit, who will be involved in the implementation of the SWP3, of the terms and conditions of this general permit. The permittee shall maintain a written document containing the signatures of all contractors and subcontractors involved in the implementation of the SWP3 as proof acknowledging that they reviewed and understand the conditions and responsibilities of the SWP3. The written document shall be created and signatures of each individual contractor shall be obtained prior to their commencement of work on the construction site.

F. Total Maximum Daily Load (TMDL) allocations

If a TMDL is approved for any waterbody into which the permittee's site discharges and requires specific BMPs for construction sites, the director may require the permittee to revise his/her SWP3.

G. SWP3 Requirements

Operations that discharge storm water from construction activities are subject to the following requirements and the SWP3 shall include the following items:

1. Site description. Each SWP3 shall provide:
 - a. A description of the nature and type of the construction activity (e.g., low density residential, shopping mall, highway, etc.);
 - b. Total area of the site and the area of the site that is expected to be disturbed (i.e., grubbing, clearing, excavation, filling or grading, including off-site borrow areas);
 - c. An estimate of the impervious area and percent imperviousness created by the construction activity;
 - d. A calculation of the runoff coefficients for both the pre-construction and post construction site conditions;
 - e. Existing data describing the soil and, if available, the quality of any discharge from the site;
 - f. A description of prior land uses at the site;

Part III.G.1

- g. An implementation schedule which describes the sequence of major construction operations (i.e., grubbing, excavating, grading, utilities and infrastructure installation) and the implementation of erosion, sediment and storm water management practices or facilities to be employed during each operation of the sequence;
- h. The name and/or location of the immediate receiving stream or surface water(s) and the first subsequent named receiving water(s) and the areal extent and description of wetlands or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project. For discharges to an MS4, the point of discharge to the MS4 and the location where the MS4 ultimately discharges to a stream or surface water of the State must be indicated;
- i. For subdivided developments where the SWP3 does not call for a centralized sediment control capable of controlling multiple individual lots, a detail drawing of a typical individual lot showing standard individual lot erosion and sediment control practices.

This does not remove the responsibility to designate specific erosion and sediment control practices in the SWP3 for critical areas such as steep slopes, stream banks, drainage ways and riparian zones.

- j. Location and description of any storm water discharges associated with dedicated asphalt and dedicated concrete plants covered by this permit and the best management practices to address pollutants in these storm water discharges;
- k. A copy of the permit requirements (attaching a copy of this permit is acceptable);
- l. A cover page or title identifying the name and location of the site, the name and contact information of all construction site operators, the name and contact information for the person responsible for authorizing and amending the SWP3, preparation date, and the estimated dates that construction will start and be complete;
- m. A log documenting grading and stabilization activities as well as amendments to the SWP3, which occur after construction activities commence; and
- n. Site map showing:

Part III.G.1.n

- i. Limits of earth-disturbing activity of the site including associated off-site borrow or spoil areas that are not addressed by a separate NOI and associated SWP3;
- ii. Soils types should be depicted for all areas of the site, including locations of unstable or highly erodible soils;
- iii. Existing and proposed contours. A delineation of drainage watersheds expected during and after major grading activities as well as the size of each drainage watershed, in acres;
- iv. Surface water locations including springs, wetlands, streams, lakes, water wells, etc., on or within 200 feet of the site, including the boundaries of wetlands or stream channels and first subsequent named receiving water(s) the permittee intends to fill or relocate for which the permittee is seeking approval from the Army Corps of Engineers and/or Ohio EPA;
- v. Existing and planned locations of buildings, roads, parking facilities and utilities;
- vi. The location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during the course of site development;
- vii. Sediment and storm water management basins noting their sediment settling volume and contributing drainage area;
- viii. Permanent storm water management practices to be used to control pollutants in storm water after construction operations have been completed.
- ix. Areas designated for the storage or disposal of solid, sanitary and toxic wastes, including dumpster areas, areas designated for cement truck washout, and vehicle fueling;
- x. The location of designated construction entrances where the vehicles will access the construction site;
- xi. The location of any in-stream activities including stream crossings;

Part III.G

2. **Controls.** The SWP3 must contain a description of the controls appropriate for each construction operation covered by this permit and the operator(s) must implement such controls. The SWP3 must clearly describe for each major construction activity identified in Part III.G.1.g: (a) appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented; and (b) which contractor is responsible for implementation (e.g., contractor A will clear land and install perimeter controls and contractor B will maintain perimeter controls until final stabilization). The SWP3 shall identify the subcontractors engaged in activities that could impact storm water runoff. The SWP3 shall contain signatures from all of the identified subcontractors indicating that they have been informed and understand their roles and responsibilities in complying with the SWP3. Ohio EPA recommends that the primary site operator review the SWP3 with the primary contractor prior to commencement of construction activities and keep a SWP3 training log to demonstrate that this review has occurred.

Ohio EPA recommends that the erosion, sediment, and storm water management practices used to satisfy the conditions of this permit should meet the standards and specifications in the current edition of Ohio's Rainwater and Land Development (see definitions) manual or other standards acceptable to Ohio EPA. The controls shall include the following minimum components:

- a. **Non-Structural Preservation Methods.** The SWP3 must make use of practices which preserve the existing natural condition as much as feasible. Such practices may include: preserving riparian areas adjacent to surface waters of the State, preserving existing vegetation and vegetative buffer strips, phasing of construction operations in order to minimize the amount of disturbed land at any one time and designation of tree preservation areas or other protective clearing or grubbing practices. The recommended buffer that operators should leave undisturbed along a surface water of the State is 25 feet as measured from the ordinary high water mark of the surface water.
- b. **Erosion Control Practices.** The SWP3 must make use of erosion controls that are capable of providing cover over disturbed soils unless an exception is approved in accordance with Part III.G.4. A description of control practices designed to restabilize disturbed areas after grading or construction shall be included in the SWP3. The SWP3 must provide specifications for stabilization of all disturbed areas of the site and provide guidance as to which method of stabilization will be employed for any time of the year. Such practices may include: temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing of construction operations, use of construction entrances and the use of alternative ground cover.

Part III.G.2.b

- i. **Stabilization.** Disturbed areas must be stabilized as specified in the following tables below. Permanent and temporary stabilization are defined in Part VII.

Table 1: Permanent Stabilization

Area requiring permanent stabilization	Time frame to apply erosion controls
Any areas that will lie dormant for one year or more	Within seven days of the most recent disturbance
Any areas within 50 feet of a surface water of the State and at final grade	Within two days of reaching final grade
Any other areas at final grade	Within seven days of reaching final grade within that area

Table 2: Temporary Stabilization

Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed areas within 50 feet of a surface water of the State and not at final grade	Within two days of the most recent disturbance if the area will remain idle for more than 21 days
For all construction activities, any disturbed areas that will be dormant for more than 21 days but less than one year, and not within 50 feet of a surface water of the State	Within seven days of the most recent disturbance within the area For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter	Prior to the onset of winter weather

Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed.

- ii. **Permanent stabilization of conveyance channels.** Operators shall undertake special measures to stabilize channels and outfalls and prevent erosive flows. Measures may include seeding, dormant seeding (as defined in the current edition of the Rainwater and Land Development manual), mulching, erosion control matting, sodding, riprap, natural channel design with bioengineering techniques or rock check dams.

Part III.G.2

- c. **Runoff Control Practices.** The SWP3 shall incorporate measures which control the flow of runoff from disturbed areas so as to prevent erosion from occurring. Such practices may include rock check dams, pipe slope drains, diversions to direct flow away from exposed soils and protective grading practices. These practices shall divert runoff away from disturbed areas and steep slopes where practicable. Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.
- d. **Sediment Control Practices.** The plan shall include a description of structural practices that shall store runoff allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas. Structural practices shall be used to control erosion and trap sediment from a site remaining disturbed for more than 14 days. Such practices may include, among others: sediment settling ponds, silt fences, earth diversion dikes or channels which direct runoff to a sediment settling pond and storm drain inlet protection. All sediment control practices must be capable of ponding runoff in order to be considered functional. Earth diversion dikes or channels alone are not considered a sediment control practice unless those are used in conjunction with a sediment settling pond.

The SWP3 must contain detail drawings for all structural practices.

- i. Timing. Sediment control structures shall be functional throughout the course of earth disturbing activity. Sediment basins and perimeter sediment barriers shall be implemented prior to grading and within seven days from the start of grubbing. They shall continue to function until the up slope development area is restabilized. As construction progresses and the topography is altered, appropriate controls must be constructed or existing controls altered to address the changing drainage patterns.
- ii. Sediment settling ponds. A sediment settling pond is required for any one of the following conditions:
- concentrated storm water runoff (e.g., storm sewer or ditch);
 - runoff from drainage areas, which exceed the design capacity of silt fence or other sediment barriers;
 - runoff from drainage areas that exceed the design capacity of inlet protection; or
 - runoff from common drainage locations with 10 or more acres of disturbed land.

Part III.G.2.d.ii

The permittee may request approval from Ohio EPA to use alternative controls if the permittee can demonstrate the alternative controls are equivalent in effectiveness to a sediment settling pond.

The sediment settling pond volume consists of both a dewatering zone and a sediment storage zone. The volume of the dewatering zone shall be a minimum of 1800 cubic feet (ft³) per acre of drainage (67 yd³/acre) with a minimum 48-hour drain time for sediment basins serving a drainage area over 5 acres. The volume of the sediment storage zone shall be calculated by one of the following methods: Method 1: The volume of the sediment storage zone shall be 1000 ft³ per disturbed acre within the watershed of the basin. OR Method 2: The volume of the sediment storage zone shall be the volume necessary to store the sediment as calculated with RUSLE or a similar generally accepted erosion prediction model. The accumulated sediment shall be removed from the sediment storage zone once it's full. When determining the total contributing drainage area, off-site areas and areas which remain undisturbed by construction activity must be included unless runoff from these areas is diverted away from the sediment settling pond and is not co-mingled with sediment-laden runoff. The depth of the dewatering zone must be less than or equal to five feet. The configuration between inlets and the outlet of the basin must provide at least two units of length for each one unit of width (> 2:1 length:width ratio), however, a length to width ratio of 4:1 is recommended. When designing sediment settling ponds, the permittee must consider public safety, especially as it relates to children, as a design factor for the sediment basin and alternative sediment controls must be used where site limitations would preclude a safe design. The use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal is encouraged.

- iii. Silt Fence and Diversions. Sheet flow runoff from denuded areas shall be intercepted by silt fence or diversions to protect adjacent properties and water resources from sediment transported via sheet flow. Where intended to provide sediment control, silt fence shall be placed on a level contour downslope of the disturbed area. This permit does not preclude the use of other sediment barriers designed to control sheet flow runoff. The relationship between the maximum drainage area to silt fence for a particular slope range is shown in the table below.

Part III.G.2.d.iii

Maximum drainage area (in acres) to 100 linear feet of silt fence	Range of slope for a particular drainage area (in percent)
0.5	< 2%
0.25	≥ 2% but < 20%
0.125	≥ 20% but < 50%

Placing silt fence in a parallel series does not extend the size of the drainage area. Storm water diversion practices shall be used to keep runoff away from disturbed areas and steep slopes where practicable. Such devices, which include swales, dikes or berms, may receive storm water runoff from areas up to 10 acres.

- iv. Inlet Protection. Other erosion and sediment control practices shall minimize sediment laden water entering active storm drain systems, unless the storm drain system drains to a sediment settling pond. All inlets receiving runoff from drainage areas of one or more acres will require a sediment settling pond.
- v. Surface Waters of the State Protection. If construction activities disturb areas adjacent to surface waters of the State, structural practices shall be designed and implemented on site to protect all adjacent surface waters of the State from the impacts of sediment runoff. No structural sediment controls (e.g., the installation of silt fence or a sediment settling pond) shall be used in a surface water of the State. For all construction activities immediately adjacent to surface waters of the State, it is recommended that a setback of at least 25-feet, as measured from the ordinary high water mark of the surface water, be maintained in its natural state as a permanent buffer. Where impacts within this setback area are unavoidable due to the nature of the construction activity (e.g., stream crossings for roads or utilities), the project shall be designed such that the number of stream crossings and the width of the disturbance within the setback area are minimized.
- vi. Modifying Controls. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee must replace or modify the control for site conditions.

Part III.G.2

- e. **Post-Construction Storm Water Management Requirements.** So that the receiving stream's physical, chemical, and biological characteristics are protected and stream functions are maintained, post-construction storm water practices shall provide perpetual management of runoff quality and quantity. To meet the post-construction requirements of this permit, the SWP3 must contain a description of the post-construction BMPs that will be installed during construction for the site and the rationale for their selection. The rationale must address the anticipated impacts on the channel and floodplain morphology, hydrology, and water quality. Post-construction BMPs cannot be installed within a surface water of the State (e.g., wetland or stream) unless it's authorized by a CWA 401 water quality certification, CWA 404 permit, or Ohio EPA non-jurisdictional wetland/stream program approval. Note: localities may have more stringent post-construction requirements.

Detail drawings and maintenance plans must be provided for all post-construction BMPs. Maintenance plans shall be provided by the permittee to the post-construction operator of the site (including homeowner associations) upon completion of construction activities (prior to termination of permit coverage). For sites located within a community with a regulated municipal separate storm sewer system (MS4), the permittee, land owner, or other entity with legal control of the property may be required to develop and implement a maintenance plan to comply with the requirements of the MS4. Maintenance plans must ensure that pollutants collected within structural post-construction practices, be disposed of in accordance with local, state, and federal regulations. To ensure that storm water management systems function as they were designed and constructed, the post construction operation and maintenance plan must be a stand-alone document, which contains: (1) a designated entity for storm water inspection and maintenance responsibilities; (2) the routine and non-routine maintenance tasks to be undertaken; (3) a schedule for inspection and maintenance; (4) any necessary legally binding maintenance easements and agreements; and (5) a map showing all access and maintenance easements. Permittees are not responsible under this permit for operation and maintenance of post-construction practices once coverage under this permit is terminated.

Post-construction storm water BMPs that discharge pollutants from point sources once construction is completed, may in themselves, need authorization under a separate NPDES permit (one example is storm water discharges from regulated industrial sites).

Part III.G.2.e

Construction activities that do not include the installation of any impervious surface (e.g., soccer fields), abandoned mine land reclamation activities regulated by the Ohio Department of Natural Resources, stream and wetland restoration activities, and wetland mitigation activities are not required to comply with the conditions of Part III.G.2.e of this permit. Linear construction projects, (e.g., pipeline or utility line installation), which do not result in the installation of additional impervious surface, are not required to comply with the conditions of Part III.G.2.e of this permit. However, linear construction projects must be designed to minimize the number of stream crossings and the width of disturbance and achieve final stabilization of the disturbed area as defined in Part VII.H.1.

Large Construction Activities. For all large construction activities (involving the disturbance of five or more acres of land or will disturb less than five acres, but is a part of a larger common plan of development or sale which will disturb five or more acres of land), the post construction BMP(s) chosen must be able to detain storm water runoff for protection of the stream channels, stream erosion control, and improved water quality. The BMP(s) chosen must be compatible with site and soil conditions. Structural (designed) post-construction storm water treatment practices shall be incorporated into the permanent drainage system for the site. The BMP(s) chosen must be sized to treat the water quality volume (WQv) and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1. The WQv shall be equivalent to the volume of runoff from a 0.75-inch rainfall and shall be determined according to the following equation:

$$WQv = C * P * A / 12$$

where:

WQv = water quality volume in acre-feet

C = runoff coefficient appropriate for storms less than 1 inch

(Either use the following formula: $C = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$, where i = fraction of post-construction impervious surface or use Table 1)

P = 0.75 inch precipitation depth

A = area draining into the BMP in acres

Part III.G.2.e

Table 1
Runoff Coefficients Based on the Type of Land Use

Land Use	Runoff Coefficient
Industrial & Commercial	0.8
High Density Residential (>8 dwellings/acre)	0.5
Medium Density Residential (4 to 8 dwellings/acre)	0.4
Low Density Residential (<4 dwellings/acre)	0.3
Open Space and Recreational Areas	0.2

Where the land use will be mixed, the runoff coefficient should be calculated using a weighted average. For example, if 60% of the contributing drainage area to the storm water treatment structure is Low Density Residential, 30% is High Density Residential, and 10% is Open Space, the runoff coefficient is calculated as follows $(0.6)(0.3) + (0.3)(0.5) + (0.1)(0.2) = 0.35$.

An additional volume equal to 20 percent of the WQv shall be incorporated into the BMP for sediment storage. Ohio EPA recommends that BMPs be designed according to the methodology included in the Rainwater and Land Development manual or in another design manual acceptable for use by Ohio EPA.

The BMPs listed in Table 2 below shall be considered standard BMPs approved for general use. However communities with a regulated MS4 may limit the use of some of these BMPs. BMPs shall be designed such that the drain time is long enough to provide treatment, but short enough to provide storage for successive rainfall events and avoid the creation of nuisance conditions. The outlet structure for the post-construction BMP must not discharge more than the first half of the WQv or extended detention volume (EDv) in less than one-third of the drain time. The EDv is the volume of storm water runoff that must be detained by a structural post-construction BMP. The EDv is equal to 75 percent of the WQv for wet extended detention basins, but is equal to the WQv for all other BMPs listed in Table 2.

Part III.G.2.e

Table 2
Structural Post-Construction BMPs & Associated Drain (Drawdown) Times

Best Management Practice	Drain Time of WQv
Infiltration Basin [^]	24 - 48 hours
Enhanced Water Quality Swale	24 hours
Dry Extended Detention Basin [*]	48 hours
Wet Extended Detention Basin ^{**}	24 hours
Constructed Wetland (above permanent pool) ⁺	24 hours
Sand & Other Media Filtration	40 hours
Bioretention Cell [^]	40 hours
Pocket Wetland [#]	24 hours
Vegetated Filter Strip	24 hours

* Dry basins must include forebay and micropool each sized at 10% of the WQv

** Provide both a permanent pool and an EDv above the permanent pool, each sized at 0.75

* WQv

⁺ Extended detention shall be provided for the full WQv above the permanent water pool.

[^] The WQv shall completely infiltrate within 48 hours so there is no standing or residual water in the BMP.

[#] Pocket wetlands must have a wet pool equal to the WQv, with 25% of the WQv in a pool and 75% in marshes. The EDv above the permanent pool must be equal to the WQv.

The permittee may request approval from Ohio EPA to use alternative post-construction BMPs if the permittee can demonstrate that the alternative BMPs are equivalent in effectiveness to those listed in Table 2 above. Construction activities shall be exempt from this condition if it can be demonstrated that the WQv is provided within an existing structural post-construction BMP that is part of a larger common plan of development or if structural post-construction BMPs are addressed in a regional or local storm water management plan. A municipally operated regional storm water BMP can be used as a post-construction BMP provided that the BMP can detain the WQv from its entire drainage area and release it over a 24 hour period.

Transportation Projects The construction of new roads and roadway improvement projects by public entities (i.e., the state, counties, townships, cities, or villages) may implement post-construction BMPs in compliance with the current version (as of the effective date of this permit) of the Ohio Department of Transportation's "Location and Design Manual, Volume Two Drainage Design" that has been accepted by Ohio EPA as an alternative to the conditions of this permit.

Part III.G.2.e

Offsite Mitigation of Post-Construction Ohio EPA may authorize the offsite mitigation of the post-construction requirements of Part III.G.2.e of this permit on a case by case basis provided the permittee clearly demonstrates the BMPs listed in Table 2 are not feasible and the following criteria is met: (1) a maintenance agreement or policy is established to ensure operations and treatment in perpetuity; (2) the offsite location discharges to the same HUC-14 watershed unit; and (3) the mitigation ratio of the WQv is 1.5 to 1 or the WQv at the point of retrofit, whichever is greater. Requests for offsite mitigation must be received prior to receipt of the NOI applications.

Redevelopment Projects Sites that have been previously developed where no post-construction BMPs were installed shall either ensure a 20 percent net reduction of the site impervious area, provide for treatment of at least 20 percent of the WQ_v, or a combination of the two. A one-for-one credit towards the 20 percent net reduction of impervious area can be obtained through the use of pervious pavement and/or green roofs. Where projects are a combination of new development and redevelopment, the total WQv that must be treated shall be calculated by a weighted average based on acreage, with the new development at 100 percent WQv and redevelopment at 20 percent WQv.

Non-Structural Post-Construction BMPs The size of the structural post-construction can be reduced by incorporating non-structural post-construction BMPs into the design. Practices such as preserving open space will reduce the runoff coefficient and, thus, the WQv. Ohio EPA encourages the implementation of riparian and wetland setbacks. Practices which reduce storm water runoff include permeable pavements, green roofs, rain barrels, conservation development, smart growth, low-impact development, and other site design techniques contained in the Ohio Lake Commission's Balanced Growth Program (see <http://www.epa.state.oh.us/oleo/bg1/index.html>). In order to promote the implementation of such practices, the Director may consider the use of non-structural practices to demonstrate compliance with Part III.G.2.e of this permit for areas of the site not draining into a common drainage system of the site, i.e., sheet flow from perimeter areas such as the rear yards of residential lots, for low density development scenarios, or where the permittee can demonstrate that the intent of pollutant removal and stream protection, as required in Part III.G.2.e of this permit is being addressed through non-structural post-construction BMPs based upon review and approval by Ohio EPA.

Part III.G.2.e

Use of Alternative Post-Construction BMPs This permit does not preclude the use of innovative or experimental post-construction storm water management technologies. However, the Director may require these practices to be tested using the protocol outlined in the Technology Acceptance Reciprocity Partnership's (TARP) Protocol for Stormwater Best Management Practice Demonstrations (see <http://www.dep.state.pa.us/dep/deputate/pollprev/techservices/tarp>).

The Director may require discharges from such structures to be monitored to ensure compliance with Part III.G.2.e of this permit. Permittees must request approval from Ohio EPA to use alternative post-construction BMPs if the permittee can demonstrate that the alternative BMPs are equivalent in effectiveness to those listed in Table 2 above. To demonstrate this equivalency, the permittee must show that the alternative BMP has a minimum total suspended solids (TSS) removal efficiency of 80 percent. Also, the WQv discharge rate from the practice must be reduced to prevent stream bed erosion and protect the physical and biological stream integrity unless there will be negligible hydrological impact to the receiving surface water of the State. The discharges will have a negligible impact if the permittee can demonstrate that one of the following four conditions exist:

- i. The entire WQv is recharged to groundwater;
- ii. The larger common plan of development or sale will create less than one acre of impervious surface;
- iii. The project is a redevelopment project within an ultra-urban setting (i.e., a downtown area or on a site where 100 percent of the project area is already impervious surface and the storm water discharge is directed into an existing storm sewer system); or
- iv. The storm water drainage system of the development discharges directly into a large river (fourth order or greater) or to a lake and where the development area is less than 5 percent of the watershed area upstream of the development site, unless a TMDL identified water quality problems in the receiving surface waters of the State.

Part III.G.2.e

The Director shall only consider the use of alternative BMPs on projects where the permittee can demonstrate that the implementation of the BMPs listed in Table 2 is infeasible due to physical site constraints that prevent the ability to provide functional BMP design. Alternative practices may include, but are not limited to, underground detention structures, vegetated swales and vegetated filter strips designed using water quality flow, natural depressions, rain barrels, permeable pavements green roofs, rain gardens, catch basin inserts, and hydrodynamics separators. The Director may also consider non-structural post-construction approaches where no local requirement for such practices exist.

Small Construction Activities. For all small land disturbance activities (which disturb one or more, but less than five acres of land and is not a part of a larger common plan of development or sale which will disturb five or more acres of land), a description of measures that will be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed must be included in the SWP3. Structural measures should be placed on upland soils to the degree attainable. Such practices may include, but are not limited to: storm water detention structures (including wet basins); storm water retention structures; flow attenuation by use of open vegetated swales and natural depressions; infiltration of runoff onsite; and sequential systems (which combine several practices). The SWP3 shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels.

- f. **Surface Water Protection.** If the project site contains any streams, rivers, lakes, wetlands or other surface waters, certain construction activities at the site may be regulated under the CWA and/or state non-jurisdictional stream and wetland requirements. Sections 404 and 401 of the Act regulate the discharge of dredged or fill material into surface waters and the impacts of such activities on water quality, respectively. Construction activities in surface waters which may be subject to CWA regulation and/or state requirements include, but are not limited to: sewer line crossings, grading, backfilling or culverting streams, filling wetlands, road and utility line construction, bridge installation and installation of flow control structures. If the project contains streams, rivers, lakes or wetlands or possible wetlands, the permittee must contact the appropriate U.S. Army Corps of Engineers District Office. (CAUTION: Any area of seasonally wet hydric soil is a potential wetland - please consult the Soil Survey and list of hydric soils for your County, available at your county's Soil and Water Conservation District. If you have any questions about Section 401 water quality certification, please contact the Ohio Environmental Protection Agency, Section 401 Coordinator.)

Part III.G.2.f

U.S. Army Corps of Engineers (Section 404 regulation):
Huntington, WV District (304) 399-5210 (Muskingum River, Hocking River, Scioto River, Little Miami River, and Great Miami River Basins)
Buffalo, NY District (716) 879-4191 (Lake Erie Basin)
Pittsburgh, PA District (412) 395-7154 (Mahoning River Basin)
Louisville, KY District (502) 315-6733 (Ohio River)

Ohio EPA 401/404 and non-jurisdictional stream/wetland coordinator can be contacted at (614) 644-2001 (all of Ohio)

Concentrated storm water runoff from BMPs to natural wetlands shall be converted to diffuse flow before the runoff enters the wetlands. The flow should be released such that no erosion occurs downslope. Level spreaders may need to be placed in series, particularly on steep sloped sites, to ensure non-erosive velocities. Other structural BMPs may be used between storm water features and natural wetlands, in order to protect the natural hydrology, hydroperiod, and wetland flora. If the applicant proposes to discharge to natural wetlands, a hydrologic analysis shall be performed. The applicant shall attempt to match the pre-development hydroperiods and hydrodynamics that support the wetland. The applicant shall assess whether their construction activity will adversely impact the hydrologic flora and fauna of the wetland. Practices such as vegetative buffers, infiltration basins, conservation of forest cover, and the preservation of intermittent streams, depressions, and drainage corridors may be used to maintain wetland hydrology.

- g. **Other controls.** The SWP3 must also provide BMPs for pollutant sources other than sediment. Non-sediment pollutant sources, which may be present on a construction site, include paving operations, concrete washout, structure painting, structure cleaning, demolition debris disposal, drilling and blasting operations, material storage, slag, solid waste, hazardous waste, contaminated soils, sanitary and septic wastes, vehicle fueling and maintenance activities, and landscaping operations.
 - i. **Non-Sediment Pollutant Controls.** No solid or liquid waste, including building materials, shall be discharged in storm water runoff. The permittee must implement all necessary BMPs to prevent the discharge of non-sediment pollutants to the drainage system of the site or surface waters of the State. Under no circumstance shall concrete trucks wash out directly into a drainage channel, storm sewer or surface waters of the State. No exposure of storm water to waste materials is recommended.
 - ii. **Off-site traffic.** Off-site vehicle tracking of sediments and dust generation shall be minimized.

Part III.G.2.g

- iii. **Compliance with other requirements.** The SWP3 shall be consistent with applicable State and/or local waste disposal, sanitary sewer or septic system regulations, including provisions prohibiting waste disposal by open burning and shall provide for the proper disposal of contaminated soils to the extent these are located within the permitted area.
- iv. **Trench and ground water control.** There shall be no turbid discharges to surface waters of the State resulting from dewatering activities. If trench or ground water contains sediment, it must pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag or comparable practice. Ground water dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.
- v. **Contaminated Sediment.** Where construction activities are to occur on sites with contamination from previous activities, operators must be aware that concentrations of materials that meet other criteria (is not considered a Hazardous Waste, meeting VAP standards, etc.) may still result in storm water discharges in excess of Ohio Water Quality Standards. Such discharges are not authorized by this permit. Appropriate BMPs include, but are not limited to:
 - The use of berms, trenches, and pits to collect contaminated runoff and prevent discharges;
 - Pumping runoff into a sanitary sewer (with prior approval of the sanitary sewer operator) or into a container for transport to an appropriate treatment/disposal facility; and
 - Covering areas of contamination with tarps or other methods that prevent storm water from coming into contact with the material.

Operators should consult with Ohio EPA Division of Surface Water prior to seeking permit coverage.

- h. **Maintenance.** All temporary and permanent control practices shall be maintained and repaired as needed to ensure continued performance of their intended function. All sediment control practices must be maintained in a functional condition until all up slope areas they control are permanently stabilized. The SWP3 shall be designed to minimize maintenance requirements. The applicant shall provide a description of maintenance procedures needed to ensure the continued performance of control practices.

Part III.G.2

- i. **Inspections.** At a minimum, procedures in an SWP3 shall provide that all controls on the site are inspected at least once every seven calendar days and within 24 hours after any storm event greater than one-half inch of rain per 24 hour period. The inspection frequency may be reduced to at least once every month if the entire site is temporarily stabilized or runoff is unlikely due to weather conditions (e.g., site is covered with snow, ice, or the ground is frozen). A waiver of inspection requirements is available until one month before thawing conditions are expected to result in a discharge if all of the following conditions are met: the project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e., more than one month); land disturbance activities have been suspended; and the beginning and ending dates of the waiver period are documented in the SWP3. Once a definable area has been finally stabilized, you may mark this on your SWP3 and no further inspection requirements apply to that portion of the site. The permittee shall assign "qualified inspection personnel" to conduct these inspections to ensure that the control practices are functional and to evaluate whether the SWP3 is adequate and properly implemented in accordance with the schedule proposed in Part III.G.1.g of this permit or whether additional control measures are required.

Following each inspection, a checklist must be completed and signed by the qualified inspection personnel representative. At a minimum, the inspection report must include:

- i. the inspection date;
- ii. names, titles, and qualifications of personnel making the inspection;
- iii. weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred;
- iv. weather information and a description of any discharges occurring at the time of the inspection;
- v. location(s) of discharges of sediment or other pollutants from the site;
- vi. location(s) of BMPs that need to be maintained;
- vii. location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
- viii. location(s) where additional BMPs are needed that did not exist at the time of inspection; and
- ix. corrective action required including any changes to the SWP3 necessary and implementation dates.

Part III.G.2.i

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of or the potential for pollutants entering the drainage system. Erosion and sediment control measures identified in the SWP3 shall be observed to ensure that those are operating correctly. Discharge locations shall be inspected to ascertain whether erosion and sediment control measures are effective in preventing significant impacts to the receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site vehicle tracking.

The permittee shall maintain for three years following the submittal of a notice of termination form, a record summarizing the results of the inspection, names(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWP3 and a certification as to whether the facility is in compliance with the SWP3 and the permit and identify any incidents of non-compliance. The record and certification shall be signed in accordance with Part V.G. of this permit.

- i. **When practices require repair or maintenance.** If the inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment settling pond, it must be repaired or maintained within three days of the inspection. Sediment settling ponds must be repaired or maintained within 10 days of the inspection.
- ii. **When practices fail to provide their intended function.** If the inspection reveals that a control practice fails to perform its intended function and that another, more appropriate control practice is required, the SWP3 must be amended and the new control practice must be installed within 10 days of the inspection.
- iii. **When practices depicted on the SWP3 are not installed.** If the inspection reveals that a control practice has not been implemented in accordance with the schedule contained in Part III.G.1.g of this permit, the control practice must be implemented within 10 days from the date of the inspection. If the inspection reveals that the planned control practice is not needed, the record must contain a statement of explanation as to why the control practice is not needed.

Part III.G

3. **Approved State or local plans.** All dischargers regulated under this general permit must comply, except those exempted under state law, with the lawful requirements of municipalities, counties and other local agencies regarding discharges of storm water from construction activities. All erosion and sediment control plans and storm water management plans approved by local officials shall be retained with the SWP3 prepared in accordance with this permit. Applicable requirements for erosion and sediment control and storm water management approved by local officials are, upon submittal of a NOI form, incorporated by reference and enforceable under this permit even if they are not specifically included in an SWP3 required under this permit. When the project is located within the jurisdiction of a regulated municipal separate storm sewer system (MS4), the permittee must certify that the SWP3 complies with the requirements of the storm water management program of the MS4 operator.
4. **Exceptions.** If specific site conditions prohibit the implementation of any of the erosion and sediment control practices contained in this permit or site specific conditions are such that implementation of any erosion and sediment control practices contained in this permit will result in no environmental benefit, then the permittee shall provide justification for rejecting each practice based on site conditions. Exceptions from implementing the erosion and sediment control standards contained in this permit will be approved or denied on a case-by-case basis.

The permittee may request approval from Ohio EPA to use alternative methods to satisfy conditions in this permit if the permittee can demonstrate that the alternative methods are sufficient to protect the overall integrity of receiving streams and the watershed. Alternative methods will be approved or denied on a case-by-case basis.

PART IV. NOTICE OF TERMINATION REQUIREMENTS

A. Failure to notify.

The terms and conditions of this permit shall remain in effect until a signed Notice of Termination (NOT) form is submitted. Failure to submit an NOT constitutes a violation of this permit and may affect the ability of the permittee to obtain general permit coverage in the future.

B. When to submit an NOT

1. Permittees wishing to terminate coverage under this permit must submit an NOT form in accordance with Part V.G. of this permit. Compliance with this permit is required until an NOT form is submitted. The permittee's authorization to discharge under this permit terminates at midnight of the day the NOT form is

Part IV.B

submitted. Prior to submitting the NOT form, the permittee shall conduct a site inspection in accordance with Part III.G.2.i of this permit and have a maintenance agreement in place to ensure all post-construction BMPs will be maintained in perpetuity.

2. All permittees must submit an NOT form within 45 days of completing all permitted land disturbance activities. Enforcement actions may be taken if a permittee submits an NOT form without meeting one or more of the following conditions:
 - a. Final stabilization (see definition in Part VII) has been achieved on all portions of the site for which the permittee is responsible (including, if applicable, returning agricultural land to its pre-construction agricultural use);
 - b. Another operator(s) has assumed control over all areas of the site that have not been finally stabilized;
 - c. For residential construction only, temporary stabilization has been completed and the lot, which includes a home, has been transferred to the homeowner. (Note: individual lots without housing which are sold by the developer must undergo final stabilization prior to termination of permit coverage.); or
 - d. An exception has been granted under Part III.G.4.

C. How to submit an NOT

Permittees must use Ohio EPA's approved NOT form. The form must be completed and mailed according to the instructions and signed in accordance with Part V.G of this permit.

PART V. STANDARD PERMIT CONDITIONS.

A. Duty to comply.

1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of ORC Chapter 6111. and is grounds for enforcement action.
2. Ohio law imposes penalties and fines for persons who knowingly make false statements or knowingly swear or affirm the truth of a false statement previously made.

B. Continuation of an expired general permit.

An expired general permit continues in force and effect until a new general permit is issued.

Part V

C. Need to halt or reduce activity not a defense.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to mitigate.

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Duty to provide information.

The permittee shall furnish to the director, within 10 days of written request, any information which the director may request to determine compliance with this permit. The permittee shall also furnish to the director upon request copies of records required to be kept by this permit.

F. Other information.

When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI, SWP3, NOT or in any other report to the director, he or she shall promptly submit such facts or information.

G. Signatory requirements.

All NOIs, NOTs, SWP3s, reports, certifications or information either submitted to the director or that this permit requires to be maintained by the permittee, shall be signed.

1. These items shall be signed as follows:

a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

i. A president, secretary, treasurer or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy or decision-making functions for the corporation; or

Part V.G.1.a

- ii. The manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
 - b. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or
 - c. For a municipality, State, Federal or other public agency: By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA).
2. All reports required by the permits and other information requested by the director shall be signed by a person described in Part V.G.1 of this permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Part V.G.1 of this permit and submitted to the director;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator of a well or well field, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - c. The written authorization is submitted to the director.

Part V.G

3. Changes to authorization. If an authorization under Part V.G.2 of this permit is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.G.2 of this permit must be submitted to the director prior to or together with any reports, information or applications to be signed by an authorized representative.

H. Certification.

Any person signing documents under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

I. Oil and hazardous substance liability.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under section 311 of the CWA or 40 CFR Part 112. 40 CFR Part 112 establishes procedures, methods and equipment and other requirements for equipment to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable surface waters of the State or adjoining shorelines.

J. Property rights.

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

K. Severability.

The provisions of this permit are severable and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

Part V

L. Transfers.

Ohio NPDES general permit coverage is transferable. Ohio EPA must be notified in writing sixty days prior to any proposed transfer of coverage under an Ohio NPDES general permit. The transferee must inform Ohio EPA it will assume the responsibilities of the original permittee transferor.

M. Environmental laws.

No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

N. Proper operation and maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of SWP3s. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

O. Inspection and entry.

The permittee shall allow the director or an authorized representative of Ohio EPA, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit; and
3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment).

PART VI. REOPENER CLAUSE

A. If there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with construction activity covered by this permit, the permittee of such discharge may be required to obtain coverage under an individual permit or an alternative general permit in accordance with Part I.C of this permit or the permit may be modified to include different limitations and/or requirements.

B. Permit modification or revocation will be conducted according to ORC Chapter 6111.

PART VII. DEFINITIONS

- A. "Act" means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, Pub. L. 97-117 and Pub. L. 100-4, 33 U.S.C. 1251 et. seq.
- B. "Best management practices (BMPs)" means schedules of activities, prohibitions of practices, maintenance procedures and other management practices (both structural and non-structural) to prevent or reduce the pollution of surface waters of the State. BMP's also include treatment requirements, operating procedures and practices to control plant and/or construction site runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.
- C. "Commencement of construction" means the initial disturbance of soils associated with clearing, grubbing, grading, placement of fill or excavating activities or other construction activities.
- D. "Concentrated storm water runoff" means any storm water runoff which flows through a drainage pipe, ditch, diversion or other discrete conveyance channel.
- E. "Director" means the director of the Ohio Environmental Protection Agency.
- F. "Discharge" means the addition of any pollutant to the surface waters of the State from a point source.
- G. "Disturbance" means any clearing, grading, excavating, filling, or other alteration of land surface where natural or man-made cover is destroyed in a manner that exposes the underlying soils.
- H. "Final stabilization" means that either:
1. All soil disturbing activities at the site are complete and a uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of at least 70 percent cover for the area has been established on all unpaved areas and areas not covered by permanent structures or equivalent stabilization measures (such as the use of landscape mulches, rip-rap, gabions or geotextiles) have been employed. In addition, all temporary erosion and sediment control practices are removed and disposed of and all trapped sediment is permanently stabilized to prevent further erosion; or
 2. For individual lots in residential construction by either:
 - a. The homebuilder completing final stabilization as specified above or

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- b. The homebuilder establishing temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for and benefits of, final stabilization. (Homeowners typically have an incentive to put in the landscaping functionally equivalent to final stabilization as quick as possible to keep mud out of their homes and off sidewalks and driveways.); or
3. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were previously used for agricultural activities, such as buffer strips immediately adjacent to surface waters of the State and which are not being returned to their pre-construction agricultural use, must meet the final stabilization criteria in (1) or (2) above.
- I. "Individual Lot NOI" means a Notice of Intent for an individual lot to be covered by this permit (see parts I and II of this permit).
 - J. "Larger common plan of development or sale"- means a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.
 - K. "MS4" means municipal separate storm sewer system which means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) that are:
 1. Owned or operated by the federal government, state, municipality, township, county, district(s) or other public body (created by or pursuant to state or federal law) including special district under state law such as a sewer district, flood control district or drainage districts or similar entity or a designated and approved management agency under section 208 of the act that discharges into surface waters of the State; and
 2. Designed or used for collecting or conveying solely storm water,
 3. Which is not a combined sewer and
 4. Which is not a part of a publicly owned treatment works.
 - L. "National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and enforcing pretreatment requirements, under sections 307, 402, 318 and 405 of the CWA. The term includes an "approved program."

Part VII

- M. "NOI" means notice of intent to be covered by this permit.
- N. "NOT" means notice of termination.
- O. "Operator" means any party associated with a construction project that meets either of the following two criteria:
1. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
 2. The party has day-to-day operational control of those activities at a project which are necessary to ensure compliance with an SWP3 for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWP3 or comply with other permit conditions).

As set forth in Part II.A, there can be more than one operator at a site and under these circumstances, the operators shall be co-permittees.

- P. "Owner or operator" means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.
- Q. "Permanent stabilization" means the establishment of permanent vegetation, decorative landscape mulching, matting, sod, rip rap and landscaping techniques to provide permanent erosion control on areas where construction operations are complete or where no further disturbance is expected for at least one year.
- R. "Percent imperviousness" means the impervious area created divided by the total area of the project site.
- S. "Point source" means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or the floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.
- T. "Qualified inspection personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls, who possesses the skills to assess all conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity.

Part VII

- U. "Rainwater and Land Development" is a manual describing construction and post-construction best management practices and associated specifications. A copy of the manual may be obtained by contacting the Ohio Department of Natural Resources, Division of Soil & Water Conservation.
- V. "Riparian area" means the transition area between flowing water and terrestrial (land) ecosystems composed of trees, shrubs and surrounding vegetation which serve to stabilize erodible soil, improve both surface and ground water quality, increase stream shading and enhance wildlife habitat.
- W. "Runoff coefficient" means the fraction of total rainfall that will appear at the conveyance as runoff.
- X. "Sediment settling pond" means a sediment trap, sediment basin or permanent basin that has been temporarily modified for sediment control, as described in the latest edition of the Rainwater and Land Development manual.
- Y. "State isolated wetland permit requirements" means the requirements set forth in Sections 6111.02 through 6111.029 of the ORC.
- Z. "Storm water" means storm water runoff, snow melt and surface runoff and drainage.
- AA. "Surface waters of the State" or "water bodies" means all streams, lakes, reservoirs, ponds, marshes, wetlands or other waterways which are situated wholly or partially within the boundaries of the state, except those private waters which do not combine or effect a junction with natural surface or underground waters. Waters defined as sewerage systems, treatment works or disposal systems in Section 6111.01 of the ORC are not included.
- BB. "SWP3" means storm water pollution prevention plan.
- CC. "Temporary stabilization" means the establishment of temporary vegetation, mulching, geotextiles, sod, preservation of existing vegetation and other techniques capable of quickly establishing cover over disturbed areas to provide erosion control between construction operations.
- DD. "Water Quality Volume (WQ_v)" means the volume of storm water runoff which must be captured and treated prior to discharge from the developed site after construction is complete. WQ_v is based on the expected runoff generated by the mean storm precipitation volume from post-construction site conditions at which rapidly diminishing returns in the number of runoff events captured begins to occur.

Attachment A
to
Ohio EPA General Permit OHC000003

U.S. EPA Fact Sheet 3.1
Storm Water Phase II Final Rule
Construction Rainfall Erosivity Waiver



Storm Water Phase II Final Rule

Construction Rainfall Erosivity Waiver

Storm Water Phase II Final Rule Fact Sheet Series

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MS4s

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Industrial "No Exposure"

4.0 – Conditional No Exposure
Exclusion for Industrial Activity

The 1972 amendments to the Federal Water Pollution Control Act, later referred to as the Clean Water Act (CWA), prohibit the discharge of any pollutant to navigable waters of the United States unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Because construction site storm water runoff can contribute significantly to water quality problems, the Phase I Storm Water Rule imposed a requirement that all construction sites with a planned land disturbance of 5 acres or more obtain an NPDES permit and implement storm water runoff control plans. Phase II extends the requirements of the storm water program to sites of between 1 and 5 acres. The Rainfall erosivity waiver, along with the water quality waiver, allows permitting authorities to waive those sites that do not have adverse water quality impacts.

What is Erosivity?

Erosivity is the term used to describe the potential for soil to wash off disturbed, devegetated earth into waterways during storms. The potential for erosion is in part determined by the soil type and geology of the site. For instance, dense, clay-like soils on a glacial plain will erode less readily when it rains than will sandy soils on the side of a hill. Another important factor is the amount and force of precipitation expected during the time the earth will be exposed. While it is impossible to predict the weather several months in advance of construction, for many areas of the country, there are definite optimal periods, such as a dry season when rain tends to fall less frequently and with less force. When feasible, this is the time to disturb the earth, so that the site is stabilized by the time the seasonal wet weather returns. There are many other important factors to consider in determining erosivity, such as freeze/thaw cycles and snow pack.

How Is Site Erosivity Determined?

The method for determining if a site qualifies for the erosivity waiver is based on the Universal Soil Loss Equation (USLE) developed by the U.S. Department of Agriculture (USDA) in the 1950s to help farmers conserve their valuable topsoil. The USLE has been updated to the Revised USLE (RUSLE). Using a computer model supported by decades worth of soil and rainfall data, USDA established estimates of annual erosivity values (R) for sites throughout the country. These R factors are used as surrogate measures of the impact that rainfall had on erosion from a particular site. They have been mapped using isocroden contours, as shown in Figures 2 through 5.

USDA developed the Erosivity Index Table (EI Table, provided here in Table 1), to show how the annual erosivity factor is distributed throughout the year in two-week increments. Table 1 is based on 120 rainfall distribution zones for the continental U.S. Detailed instructions for calculating a project R Factor are provided later in this fact sheet.

The Storm Water Phase II rule allows permitting authorities to waive NPDES requirements for small construction sites if the value of the rainfall erosivity factor is less than 5 during the period of construction activity (see § 122.26(b)(15)(i)(A)). Note that the permitting authority has the option to not allow waivers for small construction activity. If the permitting authority in a State chooses to use the rainfall erosivity waiver, it will not become effective until permits are required from small construction activity.

If the R Factor for the period of construction calculates to 5 or lower, and the permitting authority allows the use of the waiver, the site owner may apply for a waiver under the low rainfall erosivity provision of the applicable NPDES Construction General Permit. When applying, owners are encouraged to consider other site-specific factors, such as proximity to water resources and the sensitivity of receiving waters to sedimentation impacts. The small construction operator must certify to the permitting authority that the construction activity will take place during a period when the rainfall erosivity factor is less than 5.

The start and end dates used for the construction activity will be the initial date of disturbance and the anticipated date when the site will have achieved final stabilization as defined by the permit. If the construction continues beyond this period, the operator will need to recalculate the EI for the site based on this new ending date (but keeping the old start date) and either resubmit the certification form or apply for NPDES permit coverage.

What Other Factors Can Affect Waiver Availability and Eligibility?

EPA has established the R Factor of 5 or lower as the criteria for determining waiver eligibility. However, since the intent is to waive only those construction activities that will not adversely impact water quality, State and Tribal permitting authorities have considerable discretion in determining where, when, and how to offer it. They can establish an R Factor threshold lower than 5, or they can suspend the waiver within an area where watersheds are known to be heavily impacted by, or sensitive to, sedimentation. They can also suspend the waiver during certain periods of the year. They may opt not to offer the waiver at all. NOTE: This waiver is not available to sites that will disturb more than 5 acres of land (large construction).

What if My Site Is Not Eligible?

If your site is not eligible for a waiver, you must submit a Notice of Intent under the NPDES General Permit, and comply with its requirements. These requirements are described in more detail in Storm Water Phase II Fact Sheet 3.0.

How Do I Compute the R Factor for My Project?

1. Estimate the construction start date. This is the day you expect to begin disturbing soils, including grubbing, stockpiling, excavating, and grading activities. Pick the 15-day period for your start date (e.g., June 1-15.)
2. Estimate the day you expect to have a permanent vegetative cover of at least 70%, or as defined by your permitting authority, over all previous disturbed areas. Round to the nearest 15-day period.

3. Refer to Figure 1 to find your Erosivity Index (EI) Zone based on your geographic location.
4. Refer to Table 1, the Erosivity Index (EI) Table. Find the number of your EI Zone in the left column. Locate the EI values for the 15-day periods that correspond to the project start and end periods you identified in Steps 1 and 2. Subtract the start value from the end value to find the % EI for your site. The maximum annual EI value for a project is 100%.
5. Refer to the appropriate Isoerodent Map (Figures 2 through 5). Interpolate the annual isoerodent value for your area. This is the annual R Factor for your site.
6. Multiply the percent value obtained in Step 4 by the annual isoerodent value obtained in Step 5. This is the R Factor for your scheduled project.

Examples

1. Construction started and completed in one calendar year.

Find the R value of a construction site in Denver, Colorado. Assume the site will be disturbed from March 1 to May 15.

The EI distribution zone is 84 (Figure 1). Referring to Table 1, the project period will span from March 1 to May 15. The difference in values between these two periods is 4.7 % ($4.9 - 0.2 = 4.7$). Since the annual erosion index for this location is about 45 (interpolated from Figure 2), the R Factor for the scheduled construction project is 4.7% of 45, or 2.1.

Because 2.1 is less than 5, the operator of this site would be able to seek a waiver under the low rainfall erosivity provision.

2. Construction spanning two calendar years.

Find the R value for a construction site in Pittsburgh, Pennsylvania. Assume the site will be disturbed from August 1 to April 15.

The EI distribution zone is 111 (Figure 1). Referring to Table 1, the project will span from August 1 to April 15. The difference in values between August 1 and December 30 is 35% ($100 - 65.0 = 35.0$). The difference between January 1 and April 15 is 8%. The total percentage EI for this project is 43% ($35 + 8$). Since the annual erosion index for this location is 112 (interpolated from Figure 2), the R Factor for the scheduled construction is 43% of 112, or 48.

Since 48 is greater than 5, the operator of this site would not be able to seek a waiver under the low rainfall erosivity provision.

Can I Use A Personal Computer to Calculate the R Factor?

The computer program used by USDA to develop the current R Factor maps and table is called the Revised Universal Soil Loss Equation, or RUSLE. The current version of RUSLE (v. 1.60) will calculate the R factor for the entire year for a limited number of cities in the U.S., but does not allow the R factor to be easily adjusted based on a shorter period of construction. If you are interested in using RUSLE; Version 1.06 for Mined Lands, Construction Sites, and Reclaimed Lands, is downloadable free of charge from the Internet at <http://www.sedlab.olemiss.edu/rusle>.

Where Can I Get Help?

- A copy of "Chapter 2, Rainfall-Runoff Erosivity Factor (R)" from the *USDA Handbook 703 - Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)*, January 1997, is available on EPA's web site at <http://www.epa.gov/owm/sw/>.
- Your local soil conservation district office can provide assistance with R Factors and other conservation-related issues. To find the office nearest you, look in the government section of the phone book under soil conservation district, conservation district, natural resource conservation district, etc.

For Additional Information

Reference Documents

- Storm Water Phase II Final Rule Fact Sheet Series
 - Internet: www.epa.gov/owm/sw/phase2
- Storm Water Phase II Final Rule(64 FR 68722)
 - Internet: www.epa.gov/owm/sw/phase2
 - Contact the U.S. EPA Water Resource Center
 - S** Phone: 202 260-7786
 - S** E-mail: center.water-resource@epa.gov
- *Agricultural Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE)*, Chapter 2, pp. 21-64, January 1997.
 - Internet: www.epa.gov/owm/sw/phase2

Figure 1. Erosivity Index Zone Map

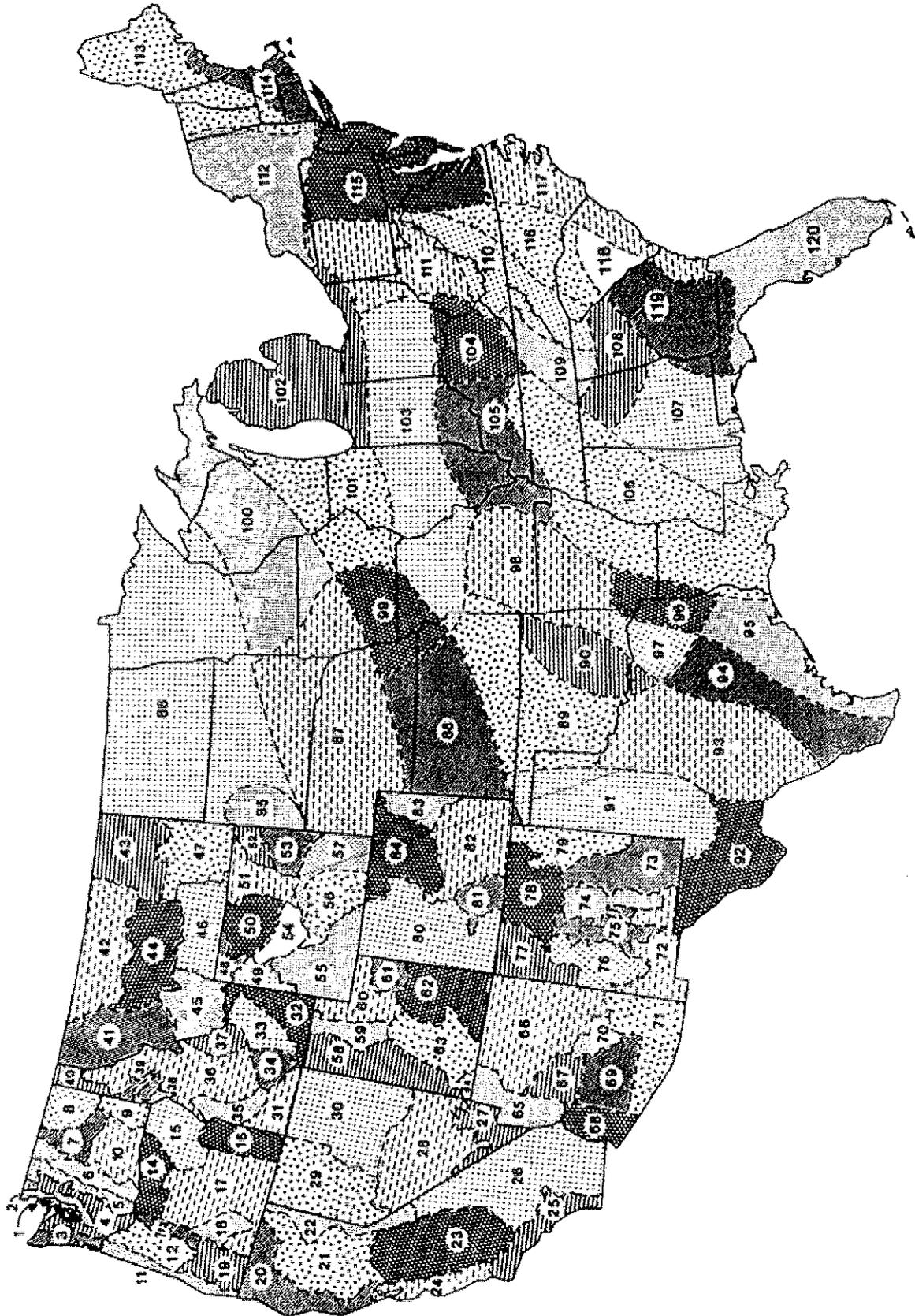
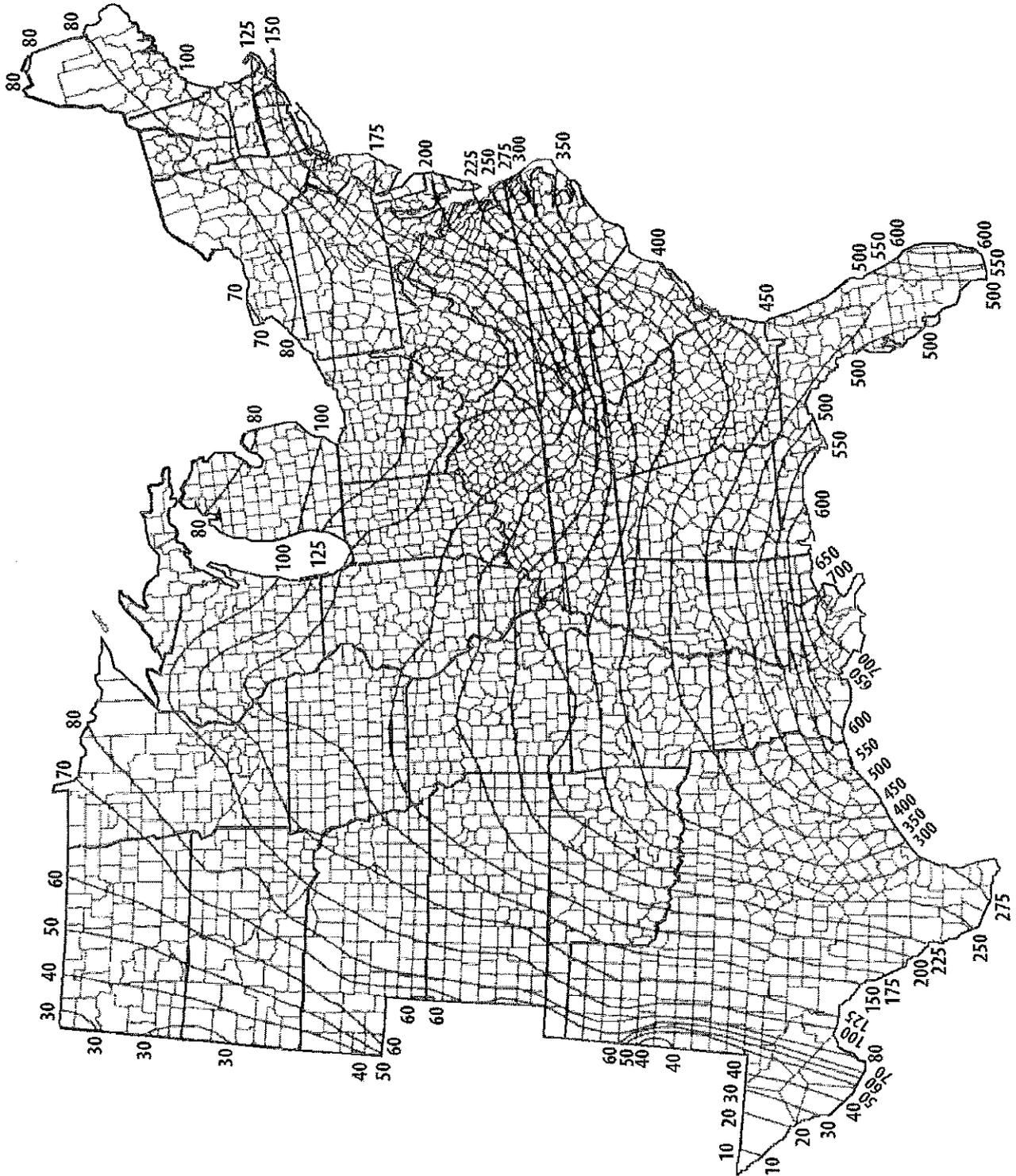
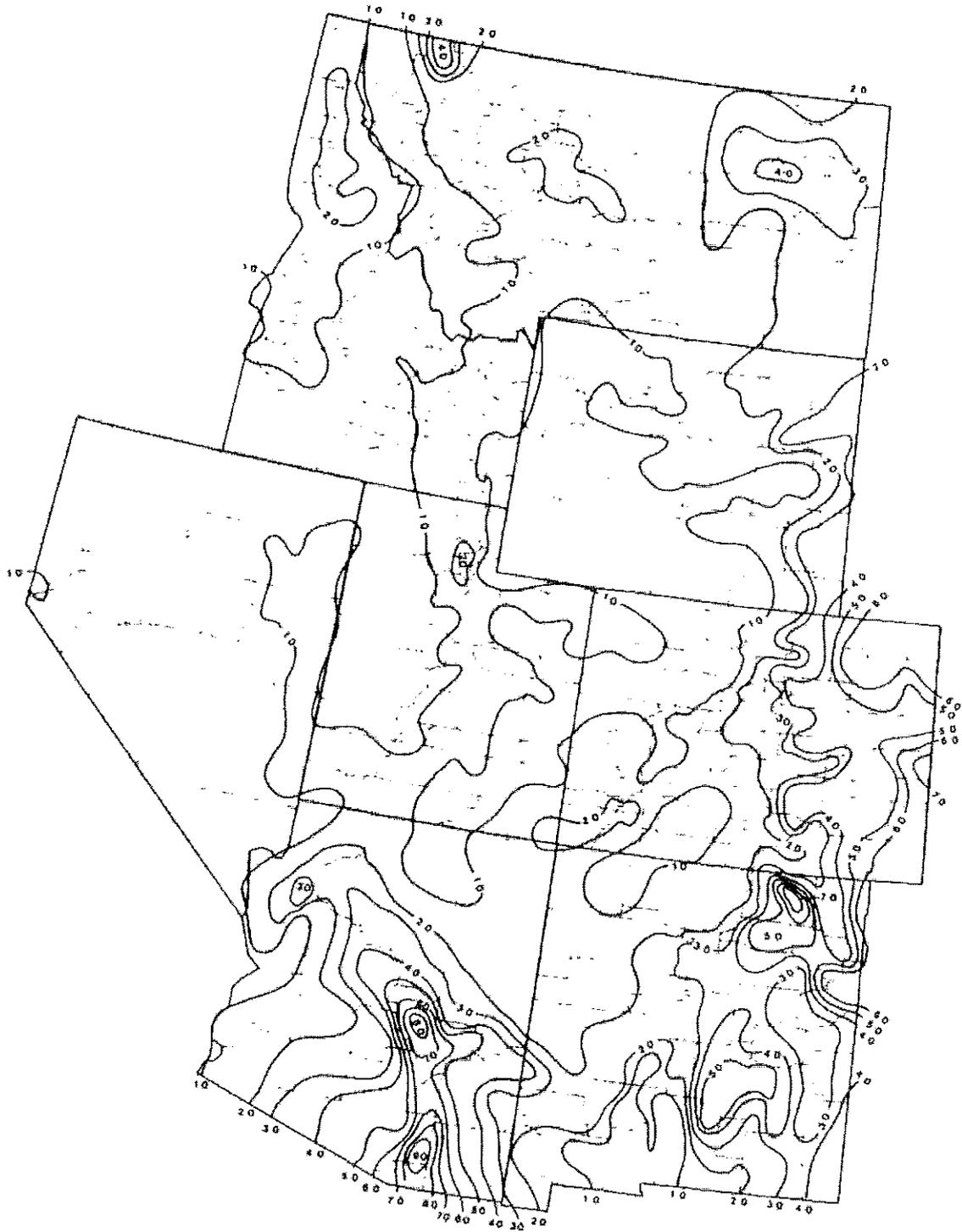


Figure 2. Isoerodent Map of the Eastern U.S.



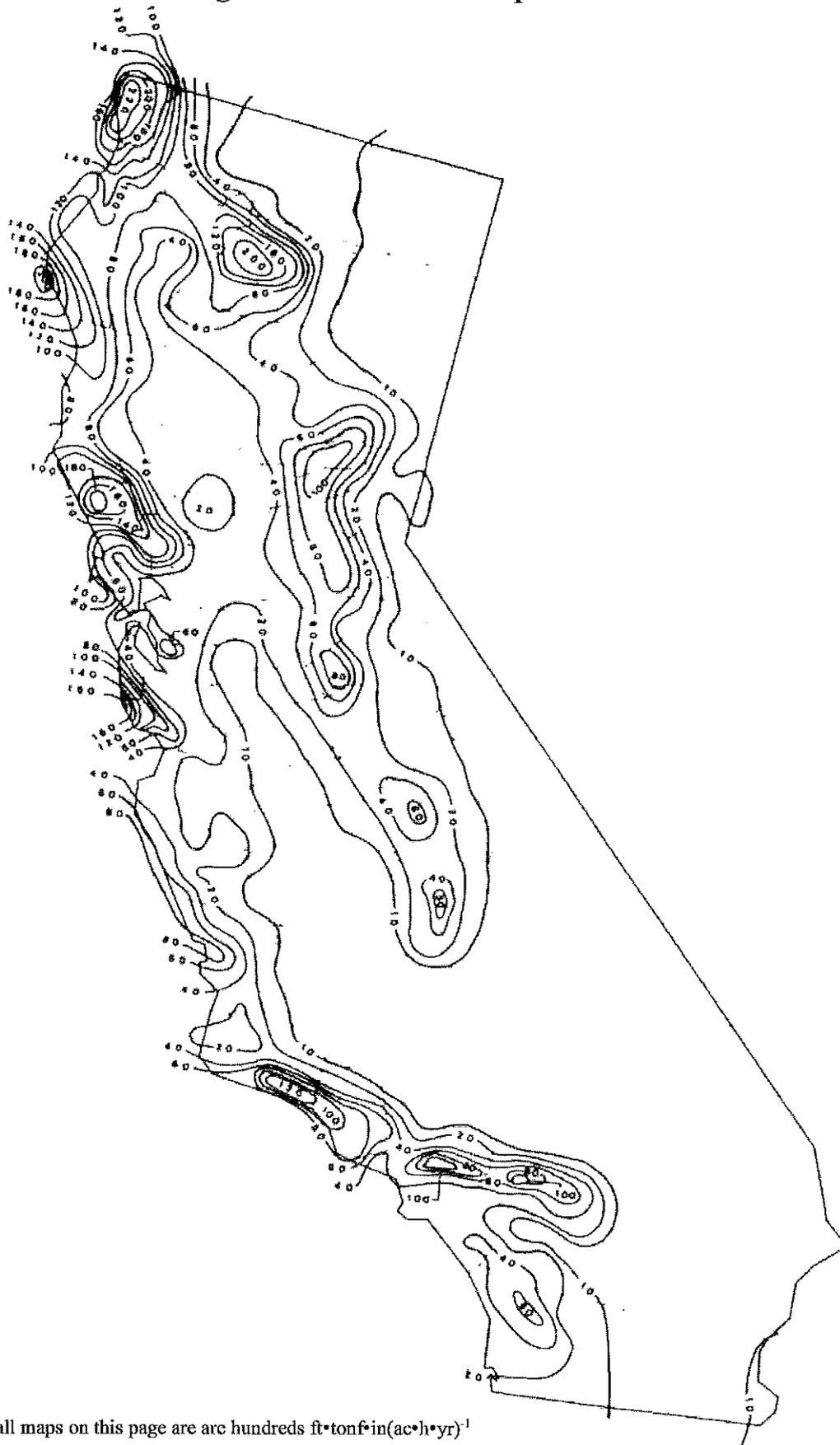
Note: Units for all maps on this page are are hundreds $\text{ft} \cdot \text{tonf} \cdot \text{in} \cdot (\text{ac} \cdot \text{h} \cdot \text{yr})^{-1}$

Figure 3. Isoerodent Map of the Western U.S.



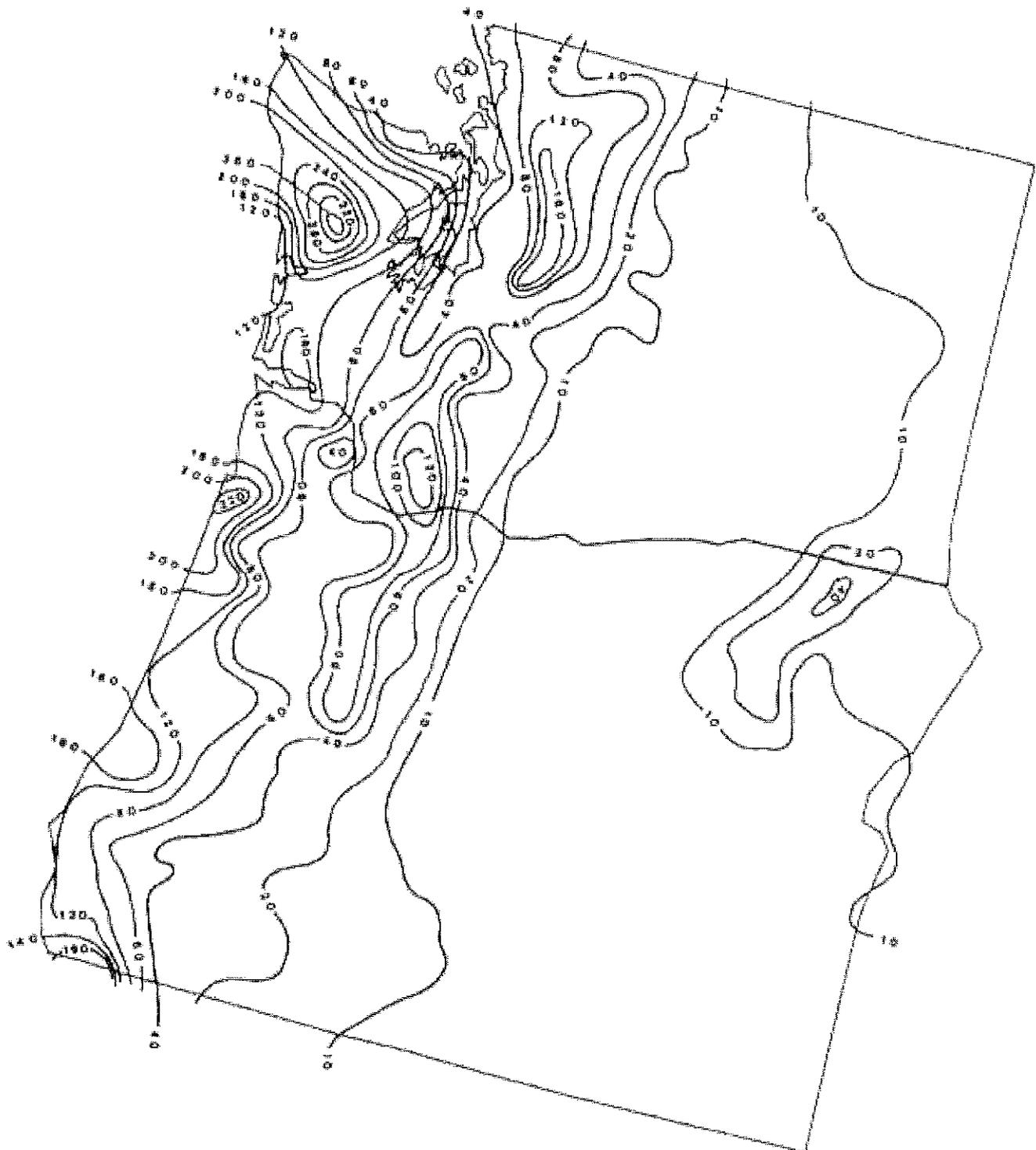
Note: Units for all maps on this page are hundreds $\text{ft} \cdot \text{ton} \cdot \text{in} (\text{ac} \cdot \text{h} \cdot \text{yr})^{-1}$

Figure 4. Isoerodent Map of California



Note: Units for all maps on this page are are hundreds $\text{ft}\cdot\text{tonf}\cdot\text{in}(\text{ac}\cdot\text{h}\cdot\text{yr})^{-1}$

Figure 5. Isoerodent Map of Oregon and Washington



Note: Units for all maps on this page are are hundreds $\text{ft} \cdot \text{tonf} \cdot \text{in} \cdot (\text{ac} \cdot \text{h} \cdot \text{yr})^{-1}$

Table 1. Erosivity Index Table

EI as a percentage of Average Annual R Value Computed for Geographic Areas Shown in Figure 1

EI#	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
	1-15	16-31	1-15	16-29	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31
1	0.0	4.3	8.3	12.8	17.3	21.6	25.1	28.0	30.9	34.9	39.1	42.6	45.4	48.2	50.8	53.0	56.0	60.8	66.8	71.0	75.7	82.0	89.1	95.2
2	0.0	4.3	8.3	12.8	17.3	21.6	25.1	28.0	30.9	34.9	39.1	42.6	45.4	48.2	50.8	53.0	56.0	60.8	66.8	71.0	75.7	82.0	89.1	95.2
3	0.0	7.4	13.8	20.9	26.5	31.8	35.3	38.5	40.2	41.6	42.5	43.6	44.5	45.1	45.7	46.4	47.7	49.4	52.8	57.0	64.5	73.1	83.3	92.3
4	0.0	3.9	7.9	12.6	17.4	21.6	25.2	28.7	31.9	35.1	38.2	42.0	44.9	46.7	48.2	50.1	53.1	56.6	62.2	67.9	75.2	83.5	90.5	96.0
5	0.0	2.3	3.6	4.7	6.0	7.7	10.7	13.9	17.8	21.2	24.5	28.1	31.1	33.1	35.3	38.2	43.2	48.7	57.3	67.8	77.9	86.0	91.3	96.9
6	0.0	0.0	0.0	0.5	2.0	4.1	8.1	12.6	17.6	21.6	25.5	29.6	34.5	40.0	45.7	50.7	55.6	60.2	66.5	75.5	85.6	95.9	99.9	99.9
7	0.0	0.0	0.0	0.0	0.0	1.2	4.9	8.5	13.9	19.0	26.1	35.4	43.9	48.8	53.9	64.5	73.4	77.5	80.4	84.8	89.9	96.6	99.7	99.7
8	0.0	0.0	0.0	0.0	0.0	0.9	3.6	7.8	15.0	20.2	27.4	38.1	49.8	57.9	65.0	75.6	82.7	86.8	89.4	93.4	96.3	99.1	100.0	100.0
9	0.0	0.8	3.1	4.7	7.4	11.7	17.8	22.5	27.0	31.4	36.0	41.6	46.4	50.1	53.4	57.4	61.7	64.9	69.7	79.0	89.6	97.4	100.0	100.0
10	0.0	0.3	0.5	0.9	2.0	4.3	9.2	13.1	18.0	22.7	29.2	39.5	46.3	48.8	51.1	57.2	64.4	67.7	71.1	77.2	85.1	92.5	96.5	99.0
11	0.0	5.4	11.3	18.8	26.3	33.2	37.4	40.7	42.5	44.3	45.4	46.5	47.1	47.4	47.8	48.3	49.4	50.7	53.6	57.5	65.5	76.2	87.4	94.8
12	0.0	3.5	7.8	14.0	21.1	27.4	31.5	35.0	37.3	39.8	41.9	44.3	45.6	46.3	46.8	47.9	50.0	52.9	57.9	62.3	69.3	81.3	91.5	96.7
13	0.0	0.0	0.0	1.8	7.2	11.9	16.7	19.7	24.0	31.2	42.4	55.0	60.0	60.8	61.2	62.6	65.3	67.6	71.6	76.1	83.1	93.3	98.2	99.6
14	0.0	0.7	1.8	3.3	6.9	16.5	26.6	29.9	32.0	35.4	40.2	45.1	51.9	61.1	67.5	70.7	72.8	75.4	78.6	81.9	86.4	93.6	97.7	99.3
15	0.0	0.0	0.0	0.5	2.0	4.4	8.7	12.0	16.6	21.4	29.7	44.5	56.0	60.8	63.9	69.1	74.5	79.1	83.1	87.0	90.9	96.6	99.1	99.8
16	0.0	0.0	0.0	0.5	2.0	5.5	12.3	16.2	20.9	26.4	35.2	48.1	58.1	63.1	66.5	71.9	77.0	81.6	85.1	88.4	91.5	96.3	98.7	99.6
17	0.0	0.0	0.0	0.7	2.8	6.1	10.7	12.9	16.1	21.9	32.8	45.9	55.5	60.3	64.0	71.2	77.2	80.3	83.1	87.7	92.6	97.2	99.1	99.8
18	0.0	0.0	0.0	0.6	2.5	6.2	12.4	16.4	20.2	23.9	29.3	37.7	45.6	49.8	53.3	58.4	64.3	69.0	75.0	86.6	93.9	96.6	98.0	100.0
19	0.0	1.0	2.6	7.4	16.4	23.5	28.0	31.0	33.5	37.0	41.7	48.1	51.1	52.0	52.5	53.6	55.7	57.6	61.1	65.8	74.7	88.0	95.8	98.7
20	0.0	9.8	18.5	25.4	30.2	35.6	38.9	41.5	42.9	44.0	45.2	48.2	50.8	51.7	52.5	54.6	57.4	58.5	60.1	63.2	69.6	76.7	85.4	92.4
21	0.0	7.5	13.6	18.1	21.1	24.4	27.0	29.4	31.7	34.6	37.3	39.6	41.6	43.4	45.4	48.1	51.3	53.3	56.6	62.4	72.4	81.3	88.9	94.7
22	0.0	1.2	1.6	1.6	1.6	1.6	1.6	2.2	3.9	4.6	6.4	14.2	32.8	47.2	58.8	69.1	76.0	82.0	87.1	96.7	99.9	99.9	99.9	99.9
23	0.0	7.9	15.0	20.9	25.7	31.1	35.7	40.2	43.2	46.2	47.7	48.8	49.4	49.9	50.7	51.8	54.1	57.7	62.8	65.9	70.1	77.3	86.8	93.5
24	0.0	12.2	23.6	33.0	39.7	47.1	51.7	55.9	57.7	58.6	58.9	59.1	59.1	59.2	59.2	59.3	59.5	60.0	61.4	63.0	66.5	71.8	81.3	89.6
25	0.0	9.8	20.8	30.2	37.6	45.8	50.6	54.4	56.0	56.8	57.1	57.1	57.2	57.6	58.5	59.8	62.2	65.3	67.5	68.2	69.4	74.8	86.6	93.0
26	0.0	2.0	5.4	9.8	15.6	21.5	24.7	26.6	27.4	28.0	28.7	29.8	32.5	36.6	44.9	55.4	65.7	72.6	77.8	84.4	89.5	93.9	96.5	98.4
27	0.0	0.0	0.0	1.0	4.0	5.9	8.0	11.1	13.0	14.0	14.6	15.3	17.0	23.2	39.1	60.0	76.3	86.1	89.7	90.4	90.9	93.1	96.6	99.1
28	0.0	0.0	0.0	0.0	0.2	0.5	1.5	3.3	7.2	11.9	17.7	21.4	27.0	37.1	51.4	62.3	70.6	78.8	84.6	90.6	94.4	97.9	99.3	100.0
29	0.0	0.6	0.7	0.7	0.7	1.5	3.9	6.0	10.5	17.9	28.8	36.6	43.8	51.5	59.3	68.0	74.8	80.3	84.3	88.8	92.7	98.0	99.8	99.9
30	0.0	0.0	0.0	0.0	0.0	0.2	0.8	2.8	7.9	14.2	24.7	35.6	45.4	52.2	58.7	68.5	77.6	84.5	88.9	93.7	96.2	97.6	98.3	99.6

Table 1. Erosivity Index Table (cont.)

Ei#	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
	1-15	16-31	1-15	16-29	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31
31	0	0	0	0	0	0.2	1	3.5	9.9	15.7	26.4	47.2	61.4	65.9	69	77.2	86	91.6	94.8	98.7	100	100	100	
32	0	0.1	0.1	0.1	0.1	0.6	2.2	4.3	9	14.2	23.3	34.6	46.3	54.2	61.7	72.9	82.5	89.6	93.7	98.2	99.7	99.9	99.9	
33	0	0	0	0	0	0.6	2.3	4.2	8.8	16.1	30	46.9	57.9	62.8	66.2	72.1	79.1	85.9	91.1	97	98.9	98.9	98.9	
34	0	0	0	0	0	1.8	7.3	10.7	15.5	22	29.9	35.9	42	48.5	56.9	67	76.9	85.8	91.2	95.7	97.8	98.6	100	
35	0	0	0	0	0	2.5	10.2	15.9	22.2	27.9	34.7	43.9	51.9	56.9	61.3	67.3	73.9	80.1	85.1	89.6	93.2	98.2	99.8	
36	0	0	0	0	0	0.9	3.4	6.7	12.7	18.5	26.6	36.3	46	53.5	60.2	68.3	75.8	82.6	88.3	96.3	99.3	99.9	100	
37	0	0	0	0	0	0	0	1	3.9	9.1	19.1	26.7	36.3	47.9	61.4	75.1	84.5	92.3	96	99.1	100	100	100	
38	0	0	0	1.1	4.3	7.2	11	13.9	17.9	22.3	30.3	43.1	55.1	61.3	65.7	72.1	77.9	82.6	86.3	90.3	93.8	98.4	100	
39	0	0	0	0	0	1.6	6.5	11	17.8	24.7	33.1	42.8	50.3	54.9	59.7	68.9	78.1	83.6	87.5	93	96.5	99.2	100	
40	0	0	0	0	0	1.5	6.2	10.1	16.3	23.3	32.5	42.2	50.1	55.6	60.5	67.5	74.3	79.4	84.1	91.1	95.8	99.1	100	
41	0	0.1	0.2	0.2	0.2	0.2	0.2	0.4	1.1	6.8	22.9	40.1	54.9	63.8	70.7	81.5	89.8	96.3	98.7	99.2	99.3	99.4	99.7	
42	0	0	0	0	0	0	0	0.2	0.9	5.2	17.3	33.8	53.2	66.5	75.9	87.6	93.7	97.5	99	99.7	100	100	100	
43	0	0	0	0	0	0	0	0.1	0.4	2.7	9.5	21.9	42.7	68.6	71.1	84.6	91.9	97.1	99	99.8	100	100	100	
44	0	1.7	2.3	2.4	2.4	2.4	2.4	2.7	3.5	7.6	18.5	34.3	52.5	64	72.3	83.3	90	95.1	97.3	98.5	98.9	98.9	99.2	
45	0	0.2	0.2	0.3	0.3	0.4	0.6	0.8	1.4	3.7	10.2	22.6	41.8	54	64.5	78.7	88.4	96	98.7	99.4	99.7	99.7	99.9	
46	0	0	0	0	0	0	0	0.6	2.6	7.5	19.6	32.9	48.9	63	73.5	83.3	89.5	95.6	98.3	99.6	100	100	100	
47	0	0	0	0	0	0	0	0.4	1.6	5.8	17	33	52.5	66.4	75.7	85.5	91.3	96.5	98.8	100	100	100	100	
48	0	0	0	0	0	0	0	0	0	2	8.1	15.4	27.8	40.7	52.6	61.1	69.3	82.6	92	98	100	100	100	
49	0	0	0	0	0	0	0	0.7	2.7	8.3	20	27.5	35.6	44.6	56	70.2	81.3	89.2	93.6	98.5	100	100	100	
50	0	0	0	0	0	0.1	0.4	2.4	8.2	13.7	23.8	38.8	55.1	66.1	73.6	81.8	87.7	93.8	97	99.4	100	100	100	
51	0	0	0	0	0	0.3	1	3.1	8.7	18.8	35.8	49.6	60.4	70.2	77	84	88.8	93.8	96.6	99.1	100	100	100	
52	0	0	0	0	0	0	0	0.6	2.5	6.8	17.5	29.8	46.1	60.5	72.7	86	92.8	96.8	98.4	99.7	100	100	100	
53	0	0	0	0	0	0	0	0.8	3	9.5	24.2	35.3	48	63.1	76.1	87.7	93.5	97.2	98.6	99.5	99.8	99.9	100	
54	0	0	0	0	0	0.2	0.7	2.4	7.2	14.7	27.2	37.2	47.3	58.8	67.6	74	79.2	86.7	92.6	97.9	99.8	99.9	100	
55	0	0	0	0	0	0	0	1.3	5.4	13.3	25.5	31.6	38.8	52.5	66.8	75.5	81.2	87.9	92.8	98.3	100	100	100	
56	0	0	0	0	0	0	0	1.3	5.1	11.4	22.3	29.5	38.5	51.1	65.2	77.8	85.6	91.7	95	98.7	100	100	100	
57	0	0	0	0	0	0	0	1	3.5	9.2	21.5	31	43.5	60.4	75.1	86.1	91.6	96.2	98.1	99.4	99.9	99.9	100	
58	0	0	0	0	0	0.2	0.9	2.9	8	13.2	21	29.1	38	45.9	54.5	65.4	74.8	82.1	87.5	95.4	98.8	99.7	100	
59	0	0	0	0	0	0	0	2.2	8.9	15.6	24.2	31.1	38.3	46	54.9	64.2	73.2	81.9	88.5	95.7	98.6	99.4	99.7	
60	0	0	0	0	0	0	0	0.4	1.5	4	9.5	13.3	20.5	33.6	52.8	66.5	76.7	86.1	94.2	98.6	100	100	100	

Table 1. Erosivity Index Table (cont.)

E#	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
	1-15	16-31	1-15	16-29	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31
61	0	0	0	0	0	0	0	0	1.3	5	8.5	15.5	29.8	41.8	46	49.2	56	65.1	71.6	78.6	91.1	97.3	99.3	100
62	0	0	0	0	0	0	0	0	3.6	6.5	9.7	13.7	16.5	20.8	27.3	40.1	56.9	72.6	83.4	89.4	95.5	98.1	99.6	100
63	0	0	0	0	0	0	0	0	0.9	3.7	7.8	13.3	15.8	19.9	29	46.8	64.7	78.3	88.8	93.9	98.5	100	100	100
64	0	0	0	0.7	2.8	7.4	12.4	14.4	14.4	15.6	17.3	19.4	21	24.4	32.3	48	61.4	72.1	81.9	87	90.1	92.4	98.1	100
65	0	3.6	7	9.6	11.4	13	14.4	16.3	17.7	18.4	19.3	20.5	23.6	32	50	66.2	77.2	85.4	88.8	90.4	91.3	92.7	94.8	97
66	0	0	0	0	0	0.1	0.5	1.1	2.2	3.6	6	7.6	11.1	19.8	38.9	59.7	74.4	83.2	86.1	94.6	97.7	99.4	100	100
67	0	0	0	0	0	0.1	0.4	0.9	1.6	1.9	2.4	5	12.1	24.8	48.3	73.6	86.5	92	94.3	96.6	97.9	99.5	100	100
68	0	2.3	4.5	7.8	10.4	12	13.3	16.3	17.7	18.1	18.2	18.3	18.4	19.9	24.5	35	54.4	69.4	78.6	85.7	89.2	91.9	93.9	97
69	0	2	3.7	5.7	7.8	10.5	12.4	13.7	14.3	14.7	15.1	15.7	17.1	22.7	36.7	50.4	63.6	75	81.8	87.8	90.8	93.2	94.9	97.5
70	0	0.5	0.7	1	1.3	1.7	2.2	2.8	3.4	3.9	4.7	5.4	7.4	15.7	36.5	55.8	70.3	80.9	86.4	90.9	93.4	96.4	98.1	99.4
71	0	0.7	1.2	1.6	2.1	2.8	3.3	3.6	4	4.5	5.6	6.5	9.1	18.5	40.6	59.7	74	86.3	91.7	94.7	96	96.7	97.3	98.8
72	0	0	0	0	0	0	0.1	0.2	0.7	0.8	1.3	3.5	9.9	24.7	51.4	71.5	83.6	93.8	97.7	99.2	99.8	99.9	99.9	100
73	0	0	0.1	0.1	0.2	0.2	0.3	0.6	1.3	4.1	11.5	18.1	28.3	40.2	54.1	67	77.2	87.7	93.3	97.5	99.1	99.6	99.8	100
74	0	0	0	0	0	0	0.1	0.2	0.5	1.2	2.7	6.4	10.2	18.4	31	50.7	68.7	81.2	91.6	96.1	98.4	99.2	99.8	100
75	0	0.1	0.1	0.1	0.2	0.5	1.3	1.9	3	4.1	6.6	10	17.6	28.3	44.7	59.4	71.6	83.9	90.3	94.7	96.7	98.8	99.6	99.9
76	0	0	0	0	0	0.1	0.2	0.6	1.3	2	3.5	4.9	8.4	17.4	37.3	57.5	72.9	83.7	89.5	95.8	98.4	99.6	100	100
77	0	0.2	0.3	0.3	0.4	0.8	1.5	2	2.8	3.9	5.9	7.2	10.3	21.5	46.5	66.3	78.3	86.5	90.8	96	98.2	99.1	99.5	99.8
78	0	0	0	0	0	0	0.2	0.5	1.6	3.8	8.9	13.2	21.8	35.8	56.6	75.4	86	92.9	95.9	98.2	99.2	99.8	100	100
79	0	0	0	0	0	0.2	0.7	1.3	2.7	5.8	12.7	18.8	28.8	41.6	58.4	75.7	86.5	94.2	97.3	98.9	99.5	99.9	100	100
80	0	0.6	1.2	1.6	2.1	2.5	3.3	4.5	6.9	10.1	15.5	19.7	26.6	36.4	51.7	67.5	79.4	88.8	93.2	96.1	97.3	98.2	98.7	99.3
81	0	0.1	0.1	0.2	0.4	0.5	0.8	0.9	1.5	3.9	9.9	12.8	18.2	30.7	54.1	77.1	89	94.9	97.2	98.7	99.3	99.6	99.7	99.9
82	0	0	0.1	0.1	0.2	0.2	0.5	1.2	3.1	6.7	14.4	20.1	29.8	44.5	64.2	83.1	92.2	96.4	98.1	99.3	99.7	99.8	99.8	99.9
83	0	0	0.1	0.1	0.1	0.3	0.9	1.6	3.5	8.3	19.4	30	44	59.2	72.4	84.6	91.2	96.5	98.6	99.5	99.8	99.9	100	100
84	0	0	0.1	0.1	0.2	0.3	0.6	1.7	4.9	9.9	19.5	27.2	38.3	52.8	68.8	83.9	91.6	96.4	98.2	99.2	99.6	99.8	99.8	99.9
85	0	0	0	0	0	0	1	2	3	6	11	23	36	49	63	77	90	95	98	99	100	100	100	100
86	0	0	0	0	0	0	1	2	3	6	11	23	36	49	63	77	90	95	98	99	100	100	100	100
87	0	0	0	0	1	1	2	3	6	10	17	29	43	55	67	77	85	91	96	98	99	100	100	100
88	0	0	0	0	1	1	2	3	6	13	23	37	51	61	69	78	85	91	94	96	98	99	99	100
89	0	0	1	1	2	3	4	7	12	18	27	38	48	55	62	69	76	83	90	94	97	98	99	100
90	0	1	2	3	4	6	8	13	21	29	37	46	54	60	65	69	74	81	87	92	95	97	98	99

Table 1. Erosivity Index Table (cont.)

EI#	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
	1-15	16-31	1-15	16-29	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31
91	0	0	0	0	1	1	1	2	6	16	29	39	46	53	60	67	74	81	88	95	99	99	100	
92	0	0	0	0	1	1	1	2	6	16	29	39	46	53	60	67	74	81	88	95	99	99	100	
93	0	1	1	2	3	4	6	8	13	25	40	49	56	62	67	72	76	80	85	91	97	98	99	
94	0	1	2	4	6	8	10	15	21	29	38	47	53	57	61	65	70	76	83	88	91	94	98	
95	0	1	3	5	7	9	11	14	18	27	35	41	46	51	57	62	68	73	79	84	89	93	98	
96	0	2	4	6	9	12	17	23	30	37	43	49	54	58	62	66	70	74	78	82	86	90	97	
97	0	1	3	5	7	10	14	20	28	37	48	56	61	64	68	72	77	81	86	89	92	95	99	
98	0	1	2	4	6	8	10	13	19	26	34	42	50	58	63	68	74	79	84	89	93	95	99	
99	0	0	0	1	1	2	3	5	7	12	19	33	48	57	65	72	82	88	93	96	98	99	100	
100	0	0	0	0	1	1	2	3	5	9	15	27	38	50	62	74	84	91	95	97	98	99	100	
101	0	0	0	1	2	3	4	6	9	14	20	28	39	52	63	72	80	87	91	94	97	98	100	
102	0	0	1	2	3	4	6	8	11	15	22	31	40	49	59	69	78	85	91	94	96	98	100	
103	0	1	2	3	4	6	8	10	14	18	25	34	45	56	64	72	79	84	89	92	95	97	99	
104	0	2	3	5	7	10	13	16	19	23	27	34	44	54	63	72	80	85	89	91	93	95	98	
105	0	1	3	6	9	12	16	21	26	31	37	43	50	57	64	71	77	81	85	88	91	93	97	
106	0	3	6	9	13	17	21	27	33	38	44	49	55	61	67	71	75	78	81	84	86	90	97	
107	0	3	5	7	10	14	18	23	27	31	35	39	45	53	60	67	74	80	84	86	88	90	95	
108	0	3	6	9	12	16	20	24	28	33	38	43	50	59	69	75	80	84	87	90	92	94	98	
109	0	3	6	10	13	16	19	23	26	29	33	39	47	58	68	75	80	83	86	88	90	92	97	
110	0	1	3	5	7	9	12	15	18	21	25	29	36	45	56	68	77	83	88	91	93	95	99	
111	0	1	2	3	4	5	6	8	11	15	20	28	41	54	65	74	82	87	92	94	96	97	99	
112	0	0	1	2	3	4	5	7	10	14	17	24	33	42	55	67	76	83	89	92	94	96	99	
113	0	1	2	3	4	5	6	8	10	12	17	22	31	42	52	60	68	75	80	85	89	92	98	
114	0	1	2	4	6	8	11	13	16	19	21	26	32	38	46	55	64	71	77	81	85	89	97	
115	0	1	2	3	4	5	6	8	10	14	19	26	34	45	56	66	76	82	86	90	93	95	99	
116	0	1	3	5	7	9	12	15	18	21	25	29	36	45	56	68	77	83	88	91	93	95	99	
117	0	1	2	3	4	5	7	9	11	14	17	22	31	42	54	65	74	83	89	92	95	97	99	
118	0	2	4	6	8	12	16	20	25	30	35	41	47	56	67	75	81	85	87	89	91	93	97	
119	0	1	2	4	6	7	9	12	15	18	23	31	40	48	57	63	72	78	88	92	96	97	99	
120	0	8	16	25	33	41	46	50	53	54	55	56	56.5	57	57.75	58	58.75	60	61	63	66.5	72	80	

Table 1. Erosivity Index Table (cont.)

EI#	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
	1-15	16-31	1-15	16-29	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31	1-15	16-31
121	0	7	14	20	25.5	33.5	38	43	46	50	52.5	54.5	56	58	59	60	61.5	63	65	68	72	79	86	93
122	0	4	8	12	17	23	29	34	38	44	49	53	56	59	62	65	69	72	75	79	83	88	93	96
123	0	4	9	15	23	29	34	40	44	48	50	51	52	53	55	57	60	62	64	67	72	80	88	95
124	0	7	12	17	24	30	39	45	50	53	55	56	57	58	59	61	62	63	64	66	70	77	84	92
125	0	9	16	23	30	37	43	47	50	52	54	55	56	57	58	59	60	62	64	67	71	77	86	93
126	0	8	15	22	28	33	38	42	46	50	52	53	53	53	53	54	55	57	59	63	68	75	83	92
127	0	8	15	22	29	34	40	45	48	51	54	57	59	62	63	64	65	66	67	69	72	76	83	91
128	0	9	16	22	27	32	37	41	45	48	51	53	55	56	57	58	59	61	64	68	73	79	89	89
129	0	10	20	28	35	41	46	49	51	53	55	56	56	57	58	59	60	61	62	65	69	74	81	90
130	0	8	15	22	28	33	38	41	44	47	49	51	53	55	56	58	59	60	63	65	69	75	84	92
131	0	10	18	25	29	33	36	39	41	42	44	45	46	47	48	49	51	53	56	59	64	70	80	90
132	0	8	16	24	32	40	46	51	54	56	57	58	58	59	59	60	60	61	62	64	68	74	83	91
133	0	12	22	31	39	45	49	52	54	55	56	56	56	56	57	57	57	57	58	59	62	68	77	88
134	0	7	15	22	30	37	43	49	53	55	57	58	59	60	61	62	63	65	67	70	74	79	85	92
135	0	11	21	29	37	44	50	55	57	59	60	60	60	60	61	61	61	62	63	64	67	71	78	89
136	0	10	18	25	30	39	46	51	54	57	58	59	59	60	60	60	61	62	63	64	67	72	80	90
137	0	11	22	31	39	46	52	56	58	59	60	61	61	61	61	62	62	62	63	64	66	71	78	89
138	0	8	14	20	25	32	37	42	47	50	53	55	56	58	59	61	63	64	66	68	71	76	85	93
139	0	10.6	21.2	28.6	36	41.4	46.8	49.3	51.8	52.5	53.2	53.5	53.7	53.9	54	54.3	54.7	55.7	56.8	61.6	65.3	73.9	82.5	91.2
140	0	0.2	0.3	0.3	0.3	0.3	0.3	0.8	1.3	5.3	9.3	30.1	50.8	56.8	62.9	67.5	72.2	75.8	79.4	85.6	91.7	95.9	100	100
141	0	10.7	21.4	28.7	36	41.7	47.3	50.3	53.2	54.5	55.7	56.2	56.7	56.9	57	57.4	57.8	59	60.2	64.1	67.9	76.1	84.2	92.1
142	0	2.7	5.5	5.7	5.9	7.1	8.4	10	11.7	15.3	19	22.6	26.1	29	31.9	36.6	41.2	46	50.7	62.3	73.9	83.5	93.1	96.6
143	0	8.7	17.5	25.2	33	39.9	46.7	50.8	54.8	56.2	57.6	58	58.4	58.9	59.4	60.8	62.3	64.1	65.9	68.8	71.7	78.6	85.5	92.7
144	0	4.3	8.6	9.3	10.1	11.1	12	15.3	18.6	22.7	26.7	28.7	30.7	31.3	32	34	36	44.4	52.9	60.1	67.3	78.2	89.2	94.6
145	0	11.7	23.3	33.5	43.7	50.7	57.6	60.3	63	63.5	64.1	64.2	64.2	64.5	64.8	66.1	67.3	68.6	69.8	70.7	71.6	79.2	86.7	93.4
146	0	4.8	9.6	13.1	16.5	22.6	28.7	30.8	32.8	33.3	33.8	34	34.2	36.4	38.6	43	47.5	56	64.5	66.2	67.9	77.9	88	94
147	0	0	4.7	9.4	10.8	12.2	13.2	14.3	14.9	15.5	24.2	32.8	45.5	55.2	67.9	77.6	86.3	95.1	95.6	96.1	98	100	100	100
148	0	5.5	11	19.2	27.5	36.6	45.7	47.8	50	50.9	51.7	52.1	52.5	54.2	55.9	60.1	64.4	70.5	76.7	81.2	85.7	90.4	101	97.6
149	0	2.4	4.9	7.4	9.9	11.7	13.6	14.6	15.6	16.2	16.8	17.2	17.7	24.7	31.7	46.9	62.1	67	72	80.7	89.3	92.3	95.3	97.7

SECTION 02801- TRAFFIC CONTROL
PART 1 GENERAL

1.01 WORK INCLUDED

- A. This work shall consist of furnishing and applying all necessary appurtenances for the maintenance of traffic in the construction areas as per ODOT 614.

1.02 REFERENCE

- A. Construction and Material Specifications Department of Transportation, State of Ohio latest edition.
- B. Ohio Manual of Uniform Traffic Control Services for Streets and Highways.

END OF SECTION - 02801

SECTION 02810 - GRADING AND TURFING
PART 1 GENERAL

1.01 SCOPE

- A. This section covers establishment of a graded area, to meet the existing grade, unless otherwise directed by the Engineer or specifications.

1.02 MATERIALS

- A. Topsoil shall be friable loam, reasonably free of subsoil, clay lumps, brush, roots, weeds, and other objectionable organic material, stones and other inorganic material larger than 2" in any dimension, litter and all materials harmful to plant growth.
- B. Lime shall be pulverized agricultural limestone containing a minimum of 85% total carbonates, ground so that at least 90% passes a No. 20 sieve and at least 50% passes a No. 100 sieve, if applicable.
- C. Starter fertilizer shall be standard 8-16-8 or 12-12-12 commercial product in bags showing weight analysis and manufacturer's name. Availability of the various elements shall conform to the standards of the Association of Official Agricultural Chemists.
- D. Utility mix grass seed shall be clean and fresh, packed in sealed bags showing net weight, composition of mix, date of germination tests and supplier's name.
 - 1. An Utility Mixture, such as, Turfgrass Enterprises, Inc., Utility Mix, consisting of 40% perennial ryegrasses, 30% Annual ryegrasses, 15% creeping red fescue and 15% Kentucky Bluegrass.
- E. Mulch shall be clean wheat or oats straw.

PART 2 APPLICATION

2.01 TOPSOIL

- A. Topsoil shall be friable loam, reasonably free of subsoil, clay lumps, brush, roots, weeds, and other objectionable organic material, stones and other inorganic material larger than 2" in any dimension, litter and all materials harmful to plant growth.
- B. For topsoil to be considered a loamy material, it must not contain more than 40-percent clay passing the No.10 sieve.

2.02 LIME AND FERTILIZER

- A. Apply lime at a rate of fifty pounds per one thousand square feet, if necessary.
- B. Apply starter fertilizer at the rate recommended by the manufacturer's recommendation.

- C. Work lime and/or fertilizer into soil to a depth of at least 2" by raking, discing or harrowing.

2.03 SEEDING

- A. Apply seed uniformly at a rate of 5 pounds per one thousand square feet. Use suitable mechanical spreader. Hydro-seeding will be permitted.
- B. Contractor shall have the choice of the time during which he will seed, and shall be responsible for obtaining a satisfactory catch of grass as hereinafter specified.

2.04 MULCHING

- A. Apply mulch immediately after seeding, and at the minimum rate of one hundred thirty pounds per one thousand square feet. Mechanical blower will be allowed to apply mulch provided machine is specifically designed and approved for this purpose. Machines that cut mulch into short pieces will not be permitted.

2.05 WATERING

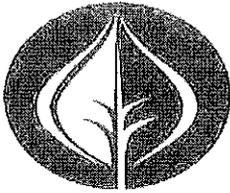
Apply water to the seeded area(s) 1 time per day, until the seed comes up is recommended. After the seed has come up watering is recommended every other day for a ½ hour to an hour, until the grass is fully established. Once the grass is established the contractor shall perform a minimum of 4 waterings, as required.

2.06 MAINTENANCE

- A. All areas and spots not showing a catch of grass shall be re-seeded. This operation shall be repeated until a complete coverage is obtained. Seeded areas shall be kept moist until a satisfactory catch of grass is established. Lastly, the Contractor shall perform three (3) mowings.

END OF SECTION - 02810

Appendix A



HZW ENVIRONMENTAL
CONSULTANTS, LLC

September 15, 2016

Mr. Chuck Shasho, Deputy, Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: Report of Findings of an Asbestos Survey Conducted at the Nick Johnson Park Located at 2201 Knapp Avenue, Youngstown, Mahoning County, Ohio (H16201)

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at the Nick Johnson Park located at 2201 Knapp Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject park". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject park prior to manual demolition activities being performed.

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject park. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the subject park was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.
2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.
3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject park. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject park consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft²), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft² then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft² then HzW collected a minimum of seven (7) samples from this area/material.
- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:
 - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
 - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
 - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powhatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. *NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).*

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

- 1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.
- 2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.
- 3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

Based on HzW's walkthrough of the subject park, the following buildings and areas were identified:

- Bleachers
- Play Equipment
- Restroom Building
- Basketball Court
- Tennis Court
- Large Pavilion
- Small Pavilion
- Pool Building
- Pool

Based on HzW's survey of the above referenced buildings and areas, only the Bleachers, Restroom Building and Pool Building were identified as containing building materials suspect for containing asbestos. Bulk samples were collected of these suspect building materials. The findings of the asbestos survey are documented on HzW's Asbestos Bulk Sampling Information (ABSI) form. The ABSI form; a site sketch documenting the various buildings located at the subject park and the bulk sampling locations; and the analytical report for the bulk samples collected at the subject park are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I

Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form are not required to be abated and can remain within the respective building at the subject park during the demolition activities as long as the demolition activities do not cause these materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the park building's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject park, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the respective building during the demolition activities as long as these activities do not cause this ACM to become friable.
3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any demolition activities being performed.
4. If any of the building materials located at the subject park are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.
5. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

Mr. Chuck Shasho
September 15, 2016
Page 6

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC



Matthew Fergus
Asbestos Hazard Evaluation Specialist (AHES No. 33228)



Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Park Sites\01 Nick Johnson Park Report.doc

ATTACHMENT 1

- **ASBESTOS BULK SAMPLING INFORMATION FORM**
 - **SITE SKETCH OF BUILDINGS LOCATED AT PARK AND BULK SAMPLING LOCATIONS**
 - **SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED**
-

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: Nick Johnson Park, 2201 Knapp Avenue, Youngstown, Ohio

Client: City of Youngstown
 HzW Environmental Consultants, LLC – Project No. H16201

HA	MATERIAL	HOMOGENEOUS			AHERA CATEGORY			QUANTITY & CONDITION			RESULT ASBESTOS %		
		LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR			
A	Concrete Soffit on Wire Mesh	Bleacher Entrance	Minimum 2 Samples	01							ND		
				02								ND	
				03								22 In.ft.	<0.25
				04									<0.25
C	Asphalt Shingles	Restroom Building: Roof	Category I Nonfriable, In Good Condition, Not Sampled						600 sq. ft.		Assumed		
							X						
D	Asphalt Shingles	Large Pavilion: Roof	Category I Nonfriable, In Good Condition, Not Sampled						880 sq. ft.		Assumed		
							X						
E	Asphalt Shingles	Small Pavilion: Roof	Category I Nonfriable, In Good Condition, Not Sampled						660 sq. ft.		Assumed		
							X						
F	Mud Fitting Insulation & Debris	Pool Building: Pipe Chase	Minimum 3 Samples	05							ND		
				06								ND	
				07									ND
G	Asphalt Shingles	Pool Building: Roof	Minimum 2 Samples	08							ND		
				09								ND	



HZW ENVIRONMENTAL
CONSULTANTS, LLC

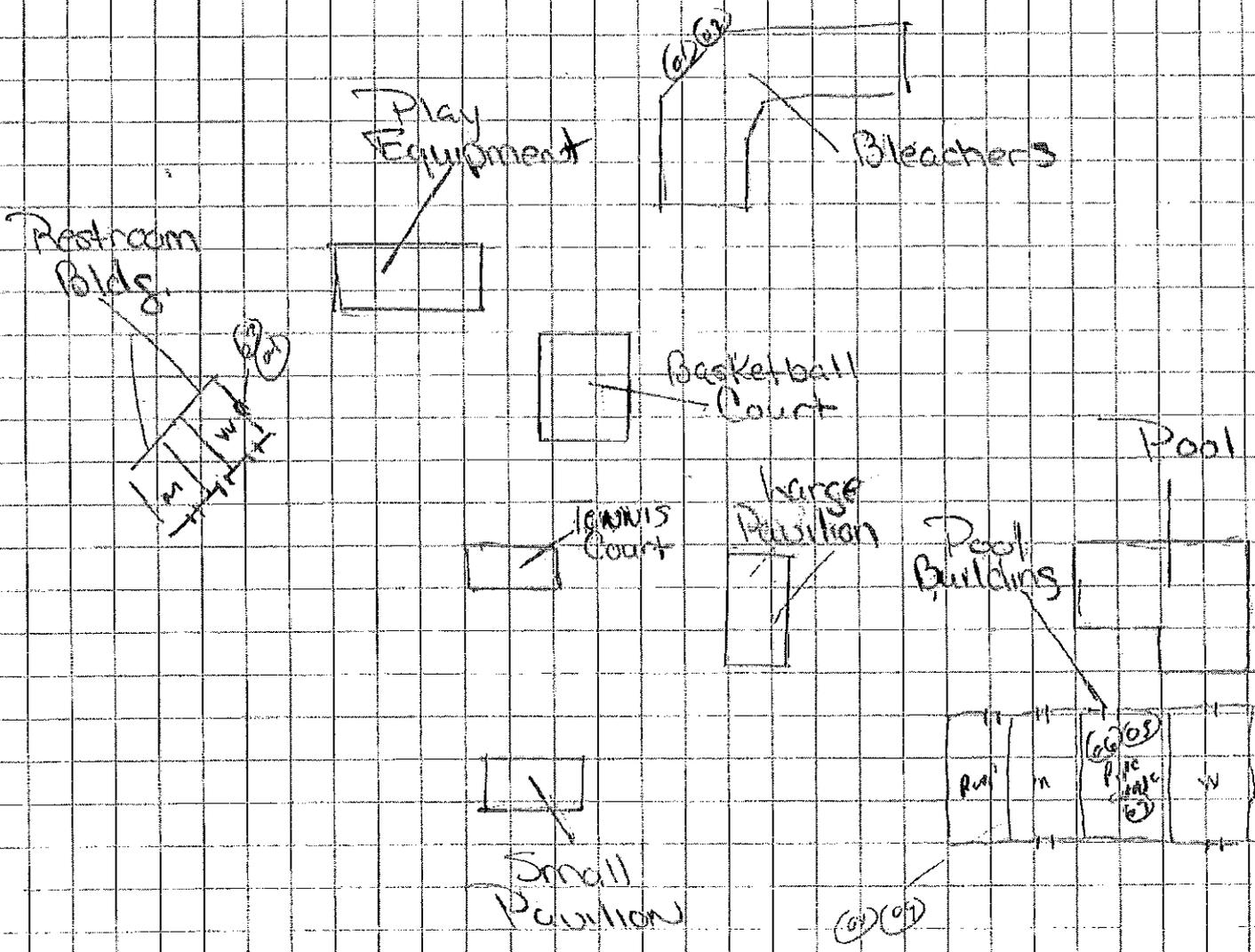
6105 Hetsley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT Youngstown
PROJECT NO. 1/16 201
PAGE NO. 1 OF 2
FIELD REPRESENTATIVE MAC DATE 8/31/16
SCALE _____

INDICATE DIRECTION
OF NORTH

Nick Johnson Park - 2201 Kuyper

Concrete Bleachers (NO RESERVES)
New Play Equipment, Basketball court, Tennis court,
Restroom Bldg., 2 small Pavilions
Pool + Pool Building



SanAir Technologies Laboratory

Analysis Report

prepared for

**HzW Environmental
Consultants LLC**

Report Date: 9/14/2016
Project Name: Johnson Park
Project #: H16201
SanAir ID#: 16032554



NVLAP LAB CODE 200870-0



Certification # 652931



License # LAB0166



804.897.1177

www.sanair.com



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: laq@sanair.com

H2W Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 14, 2016

SanAir ID # 16032554
Project Name: Johnson Park
Project Number: H16201

Dear Matt Fergus,

We at SanAir would like to thank you for the work you recently submitted. The 9 sample(s) were received on Friday, September 09, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

A handwritten signature in cursive script that reads "Sandra Sobrino".

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:

11 sample(s) in Good condition



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

SanAir ID Number

16032554

FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: Johnson Park

Collected Date: 8/31/2016
Received Date: 9/9/2016 10:15:00 AM
Report Date: 9/14/2016 3:41:22 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous	Other	
01 / 16032554-001 Concrete Soffit, Concrete	Grey Non-Fibrous Homogeneous		100%	Other	None Detected
01 / 16032554-001 Concrete Soffit, Texture	Off-White Non-Fibrous Homogeneous		100%	Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous	Other	
02 / 16032554-002 Concrete Soffit, Concrete	Grey Non-Fibrous Homogeneous		100%	Other	None Detected
02 / 16032554-002 Concrete Soffit, Texture	Off-White Non-Fibrous Homogeneous		100%	Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous	Other	
03 / 16032554-003 Window Glazing	Grey Non-Fibrous Homogeneous		100%	Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous	Other	
04 / 16032554-004 Window Glazing	Grey Non-Fibrous Homogeneous		100%	Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous	Other	
05 / 16032554-005 Mud Fitting Insulation	Off-White Non-Fibrous Homogeneous		100%	Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous	Other	
06 / 16032554-006 Mud Fitting Insulation	Off-White Non-Fibrous Homogeneous		100%	Other	None Detected

Certification

Analyst:

Analysis Date: 9/14/2016

Approved Signatory:

Date: 9/14/2016



SanAir Technologies Laboratory, Inc.

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SanAir ID Number

16032554

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Mentor, OH 44060

Project Number: H16201
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Collected Date: 8/31/2016
Received Date: 9/9/2016 10:15:00 AM
Report Date: 9/14/2016 3:41:22 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

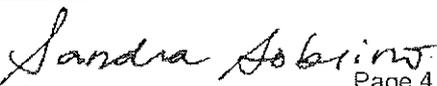
SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
07 / 16032554-007 Mud Fitting Insulation	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
08 / 16032554-008 Asphalt Shingles	Black Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
09 / 16032554-009 Asphalt Shingles	Black Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: 
Analysis Date: 9/14/2016

Approved Signatory: 
Date: 9/14/2016



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

SanAir ID Number

16032554

FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
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Project Name: Johnson Park

Collected Date: 8/31/2016
Received Date: 9/9/2016 10:15:00 AM
Report Date: 9/14/2016 3:41:22 PM
Analyst: Fleming, Christopher

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous		
03 / 16032554-010 Window Glazing	Grey Non-Fibrous Homogeneous		100%	Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous		
04 / 16032554-011 Window Glazing	Grey Non-Fibrous Homogeneous		100%	Other	< 0.25% Chrysotile

Certification

Analyst: 
Analysis Date: 9/14/2016

Approved Signatory: 
Date: 9/14/2016

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

NY ELAP lab ID 11983

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP, AIHA or any other agency of the U.S. government; *and may not be certified by every local, state and federal regulatory agencies.*



1551 Oakbridge Drive Suite B
 Powhatan, VA 23139
 804-897-1177 / 888-895-1177
 Fax 804-897-0070
 www.sanair.com

Asbestos
 Chain of Custody



Company: HZW Environmental Consultants, LLC	Project #: H16201	Collected by: MT
Address: 6105 Heisley Road	Project Name: JOHANSON PARK	Phone #: (440) 357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected: 8/31/16	Fax #: (440) 357-1510
State of Collection: Oh Account#:	P.O. Number: 0007-16	Email: jsablar@hzwenv.com

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	<input checked="" type="checkbox"/>	ABA	PCM NIOSH 7400	<input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.)	<input type="checkbox"/>
	Positive Stop	<input checked="" type="checkbox"/>	ABA-2	OSHA w/ TWA*	<input type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%)	<input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count	<input checked="" type="checkbox"/>	ABTEM	TEM AHERA	<input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%)	<input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count	<input type="checkbox"/>	ABATN	TEM NIOSH 7402	<input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%)	<input type="checkbox"/>
ABBEN	PLM EPA NOB	<input type="checkbox"/>	ABT2	TEM Level II	<input type="checkbox"/>			
ABBCH	TEM Chatfield	<input type="checkbox"/>						
ABBTM	TEM EPA NOB	<input type="checkbox"/>						
Water			New York ELAP			Dust		
ABHE	EPA 100.2	<input type="checkbox"/>	PLM NY	PLM EPA 600/M4-82-020	<input type="checkbox"/>	ABWA	TEM Wipe ASTM D-6480	<input type="checkbox"/>
			ABEPA2	NY ELAP 198.1	<input type="checkbox"/>	ABDMV	TEM Microvac ASTM D-5755	<input type="checkbox"/>
			ABENY	NY ELAP 198.6 PLM NOB	<input type="checkbox"/>	Matrix	Other	<input type="checkbox"/>
			ABBNY	NY ELAP 198.4 TEM NOB	<input type="checkbox"/>			

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

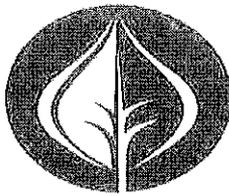
Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
01	CONCRETE SOFFIT				
02	"				
03	WINDOW GLAZING				
04	"				
05	MUD FITTING EXHAUSTION				
06	"				
07	"				
08	ASPHALT SIDING				
09	"				

Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	9/8/16	9:00	<i>[Signature]</i>	SEP 09 2016	10:30 AM

Unless scheduled, the turn around time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time. Work with standard turn around time sent Priority Overnight and Billed to Recipient will be charged a \$10 shipping fee.

POINT COUNT ALL SAMPLES IDENTIFIED AT 2% or LESS



HZW ENVIRONMENTAL
CONSULTANTS, LLC

September 15, 2016

Mr. Chuck Shasho, Deputy, Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: Report of Findings of an Asbestos Survey Conducted at the Oakland Field Park Located at 1801 McCartney, Youngstown, Mahoning County, Ohio (H16201)

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which presents the findings of an asbestos survey conducted at the Oakland Field Park located at 1801 McCartney, Youngstown, Mahoning County, Ohio, herein referred to as the "subject park". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject park prior to manual demolition activities being performed.

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject park. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the subject park was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.
2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.
3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject park. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject park consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft²), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft² then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft² then HzW collected a minimum of seven (7) samples from this area/material.
- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:
 - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
 - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
 - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powhatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. *NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).*

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

- 1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.
- 2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.
- 3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

Based on HzW's walkthrough of the subject park, the following building was identified:

- Bleachers (also contained restrooms and storage)

Based on HzW's survey of the above referenced building, building materials suspect for containing asbestos were identified at the Bleachers. Bulk samples were collected of these suspect building materials. The findings of the asbestos survey are documented on HzW's Asbestos Bulk Sampling Information (ABSI) form. The ABSI form; a site sketch documenting the building located at the subject park and the bulk sampling locations; and the analytical report for the bulk samples collected at the subject park are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form.

The quantities of ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of the building's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any demolition activities being performed.
2. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

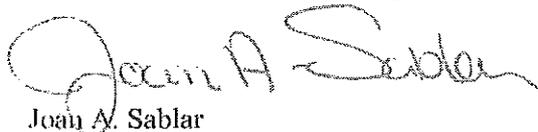
HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC



Matthew Fergus
Asbestos Hazard Evaluation Specialist (AHES No. 33228)



Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201

Attachment

I:\2016\H16201\Park Sites\02 Oakland Field Park Report.doc

ATTACHMENT 1

- **ASBESTOS BULK SAMPLING INFORMATION FORM**
 - **SITE SKETCH OF BUILDING LOCATED AT PARK AND BULK SAMPLING LOCATIONS**
 - **SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED**
-
-

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: Oakland Field Park, 1801 McCartney, Youngstown, Ohio

Client: City of Youngstown
 HzW Environmental Consultants, LLC – Project No. H16201

HA	MATERIAL	HOMOGENEOUS		VALIDATION FOR SAMPLING	BULK SAMPLE NO.	AHERA CATEGORY			QUANTITY & CONDITION			RESULT ASBESTOS %	
		LOCATION				SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR		
A	Concrete Soffit on Wire Mesh	Bleachers		Minimum 2 Samples	01								ND
					02								
B	Concrete Skim Coating on Brick	Bleachers		Minimum 2 Samples	03								ND
					04								



HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

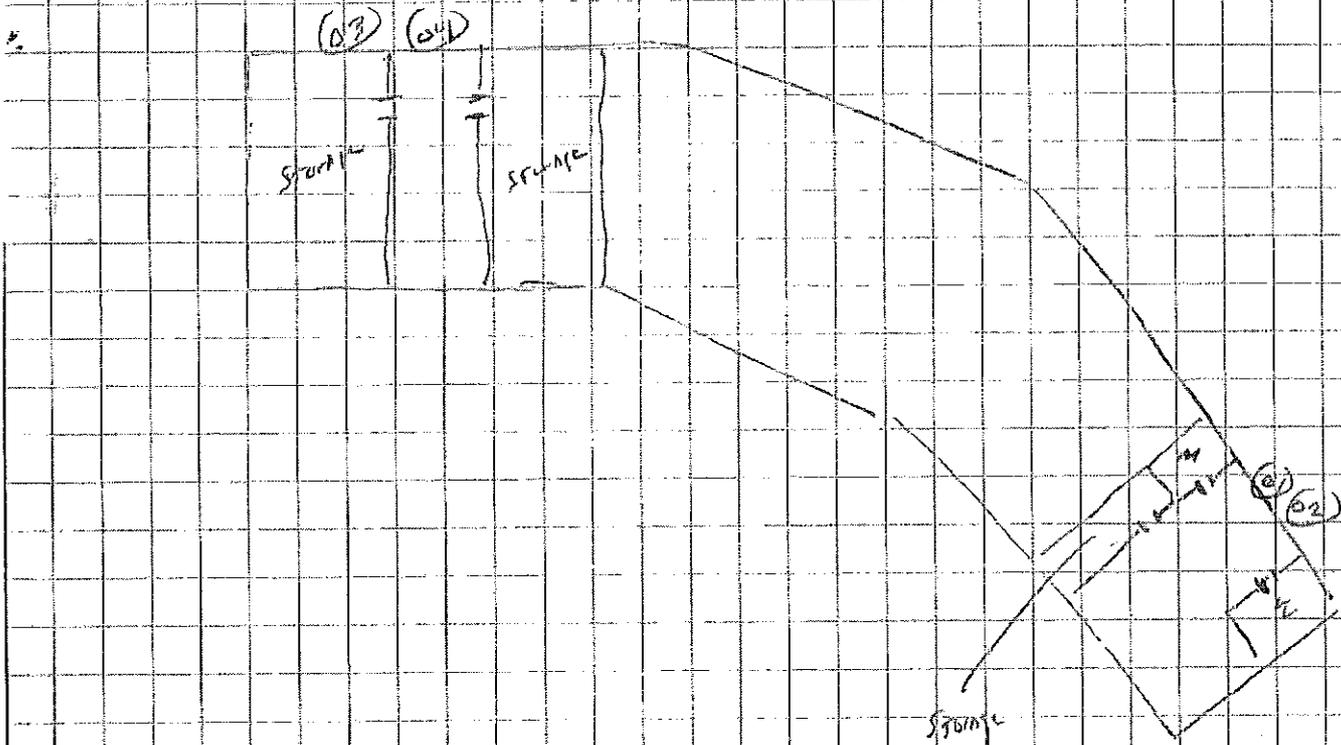
PROJECT Y/100011000
PROJECT NO. 1416 201
PAGE NO. 1 OF 1
FIELD REPRESENTATIVE MM DATE 8/31/16
SCALE _____

(2)

INDICATE DIRECTION OF NORTH

Orkland Field - 1801 McCarty

Concrete Bleachers w/ m, w Railings + Storage Areas
lights on wood poles



- 01-02 Concrete Support on Wide Metal
- 03-04 Concrete Skirt Contain on Bluff

(total)

100
725

SanAir Technologies Laboratory

Analysis Report

prepared for

**HzW Environmental
Consultants LLC**

Report Date: 9/14/2016
Project Name: Oakland Field
Project #: H16201
SanAir ID#: 16032548



NVLAP LAB CODE 200870-0



Certification # 652931



License # LABD166



804.897.1177

www.sanair.com



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: laq@sanair.com

H&W Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 14, 2016

SanAir ID # 16032548
Project Name: Oakland Field
Project Number: H16201

Dear Matt Fergus,

We at SanAir would like to thank you for the work you recently submitted. The 4 sample(s) were received on Friday, September 09, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:

4 sample(s) in Good condition



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: laq@sanair.com

SanAir ID Number

16032548

FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: Oakland Field

Collected Date: 8/31/2016
Received Date: 9/9/2016 10:15:00 AM
Report Date: 9/14/2016 4:30:28 PM
Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components	Asbestos Fibers
			% Non-Fibrous	
01 / 16032548-001 Concrete Soffit	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components	Asbestos Fibers
			% Non-Fibrous	
02 / 16032548-002 Concrete Soffit	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components	Asbestos Fibers
			% Non-Fibrous	
03 / 16032548-003 Concrete Coating	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components	Asbestos Fibers
			% Non-Fibrous	
04 / 16032548-004 Concrete Coating	Tan Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: *Sandra Sobrino*
Analysis Date: 9/14/2016

Approved Signatory: *[Signature]*
Date: 9/14/2016

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

For NY state samples, method EPA 600/M4-82-020 is performed.

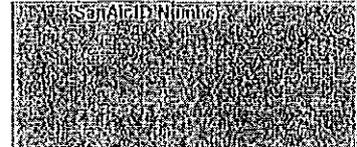
Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

NY ELAP lab ID 11983



1551 Oakbridge Drive Suite B
 Powhatan, VA 23139
 804-897-1177 / 888-895-1177
 Fax 804-897-0070
 www.sanair.com

**Asbestos
Chain of Custody**



16032548

Company: HzW Environmental Consultants, LLC		Project #: H16201	Collected by: MAT
Address: 6105 Heisley Road		Project Name: OAKLAND FIELD	Phone #: (440) 357-1260
City, St., Zip: Mentor, Ohio 44060		Date Collected: 8/31/16	Fax #: (440) 357-1510
State of Collection: Oh	Account#:	P.O. Number: 0007-16	Email: jsablar@hzwenv.com

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	<input checked="" type="checkbox"/>	ABA	PCM NIOSH 7400	<input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.)	<input type="checkbox"/>
	Positive Stop	<input checked="" type="checkbox"/>	ABA-2	OSHA w/ TWA*	<input type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%)	<input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count	<input checked="" type="checkbox"/>	ABTEM	TEM AHERA	<input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%)	<input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count	<input type="checkbox"/>	ABATN	TEM NIOSH 7402	<input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%)	<input type="checkbox"/>
ABBEN	PLM EPA NOB	<input type="checkbox"/>	ABT2	TEM Level II	<input type="checkbox"/>			
ABBCH	TEM Chatfield	<input type="checkbox"/>						
ABBTM	TEM EPA NOB	<input type="checkbox"/>						
Water			New York ELAP			Dust		
ABHE	EPA 100.2	<input type="checkbox"/>	PLM NY	PLM EPA 600/M4-82-020	<input type="checkbox"/>	ABWA	TEM Wipe ASTM D-6480	<input type="checkbox"/>
			ABEPA2	NY ELAP 198.1	<input type="checkbox"/>	ABDMV	TEM Microvac ASTM D-5755	<input type="checkbox"/>
			ABENY	NY ELAP 198.6 PLM NOB	<input type="checkbox"/>	Matrix	Other	<input type="checkbox"/>
			ABBNY	NY ELAP 198.4 TEM NOB	<input type="checkbox"/>			

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

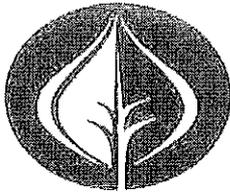
Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
01	CONCRETE SOFFIT				
02	"				
03	CONCRETE CURTAIN				
04	"				

Relinquished by	Date	Time	Received by	Date	Time
Matt A. [Signature]	9/8/16	9:20	M [Signature]	SEP 09 2016	10:50 AM

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Point counts all samples identified at 2% or less



HW ENVIRONMENTAL
CONSULTANTS, LLC

September 15, 2016

Mr. Chuck Shasho, Deputy, Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: Report of Findings of an Asbestos Survey Conducted at the IPE Field Park Located at 1126 Midlothian Avenue, Youngstown, Mahoning County, Ohio (H16201)

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at the IPE Field Park located at 1126 Midlothian Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject park". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject park prior to manual demolition activities being performed.

METHODS OF INVESTIGATION

General

During September 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject park. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

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It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
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- 3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

Based on HzW's walkthrough of the subject park, the following buildings and areas were identified:

- Bleachers
- Concession Building
- Basketball Court
- Play Equipment

Based on HzW's survey of the above referenced buildings and areas, only the Concession Building was identified as containing building materials suspect for containing asbestos. Bulk samples were collected of these suspect building materials. The findings of the asbestos survey are documented on HzW's Asbestos Bulk Sampling Information (ABSI) form. The ABSI form; a site sketch documenting the location of the Bleachers and Concession Building at the subject park and the bulk sampling locations; and the analytical report for the bulk samples collected at the subject park are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form.

The quantities of ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of the building's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

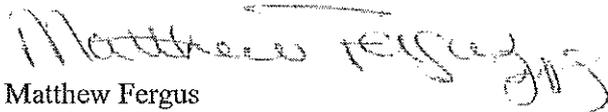
Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any demolition activities being performed.
2. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC



Matthew Fergus
Asbestos Hazard Evaluation Specialist (AHES No. 33228)



Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201

Attachment

I:\2016\H16201\Park Sites\03 IPE Field Report.doc

ATTACHMENT 1

- **ASBESTOS BULK SAMPLING INFORMATION FORM**
 - **SITE SKETCH OF BUILDING LOCATED AT PARK AND BULK SAMPLING LOCATIONS**
 - **SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED**
-

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: IPE Field Park, 1126 Midlothian Avenue, Youngstown, Ohio

Client: City of Youngstown
HZW Environmental Consultants, LLC – Project No. H16201

HA	MATERIAL	HOMOGENEOUS		VALIDATION FOR SAMPLING	BULK SAMPLE NO.	AHERA CATEGORY			QUANTITY & CONDITION			RESULT ASBESTOS %	
		LOCATION	LOCATION			SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR		
A	Window Glazing	Concession Building		Minimum 2 Samples	01								ND
					02								
B	Asphalt Shingles	Concession Building		Minimum 2 Samples	03								ND
					04								



HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

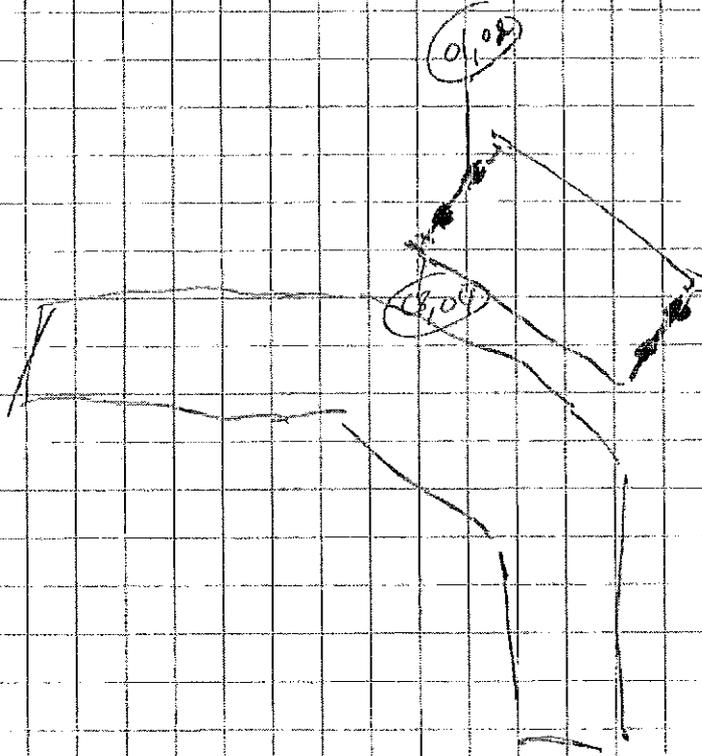
PROJECT Yungstrom
PROJECT NO. H16201
PAGE NO. 1 OF 1
FIELD REPRESENTATIVE MP DATE 9/1/16
SCALE _____

INDICATE DIRECTION
OF NORTH

JPT Field

126 Middleton

Concrete Bleachers
Concrete Bully
Basketball court (no suspect area)
Play Equipment (no suspect area)



Concrete Bully

01-02 Concrete Bully /
03-04 Play Equipment / Rest

Pool

Col 18
Loc 18

SanAir Technologies Laboratory

Analysis Report

prepared for

**HzW Environmental
Consultants LLC**

Report Date: 9/14/2016
Project Name: IPES Field
Project #: H16201
SanAir ID#: 16032551



NVLAP LAB CODE 200870-0



Certification # 652931



License # LAB0166



804.897.1177

www.sanair.com



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

HZW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 14, 2016

SanAir ID # 16032551
Project Name: IPES Field
Project Number: H16201

Dear Matt Fergus,

We at SanAir would like to thank you for the work you recently submitted. The 4 sample(s) were received on Friday, September 09, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:

4 sample(s) in Good condition



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

SanAir ID Number

16032551

FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: IPES Field

Collected Date: 9/1/2016
Received Date: 9/9/2016 10:15:00 AM
Report Date: 9/14/2016 3:00:49 PM
Analyst: Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous		
01 / 16032551-001 Window Glazing	White Non-Fibrous Homogeneous		100% Other		None Detected

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous		
02 / 16032551-002 Window Glazing	White Non-Fibrous Homogeneous		100% Other		None Detected

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous		
03 / 16032551-003 Asphalt Shingles	Black Non-Fibrous Heterogeneous	15% Cellulose	85% Other		None Detected

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous		
04 / 16032551-004 Asphalt Shingles	Black Non-Fibrous Heterogeneous	15% Cellulose	85% Other		None Detected

Certification

Analyst:

Analysis Date: 9/14/2016

Approved Signatory:

Date: 9/14/2016

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

NY ELAP lab ID 11983



1551 Oakbridge Drive Suite B
 Powhatan, VA 23139
 804-897-1177 / 888-895-1177
 Fax 804-897-0070
 www.sanair.com

**Asbestos
 Chain of Custody**



Company: HZW Environmental Consultants, LLC		Project #: H16201	Collected by: MT
Address: 6105 Heisley Road		Project Name: IPES field	Phone #: (440) 357-1260
City, St. Zip: Mentor, Ohio 44060		Date Collected: 9/1/16	Fax #: (440) 357-1510
State of Collection: Oh	Account#:	P.O. Number: 0007-16	Email: jsablar@hzwenv.com

Bulk		Air		Soil/Vermiculite	
ABB	PLM EPA 600/R-93/116 <input checked="" type="checkbox"/>	ABA	PCM NIOSH 7400 <input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.) <input type="checkbox"/>
	Positive Stop <input checked="" type="checkbox"/>	ABA-2	OSHA w/ TWA* <input type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%) <input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count <input checked="" type="checkbox"/>	ABTEM	TEM AHERA <input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%) <input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count <input type="checkbox"/>	ABATN	TEM NIOSH 7402 <input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%) <input type="checkbox"/>
ABBEN	PLM EPA NOB <input type="checkbox"/>	ABT2	TEM Level II <input type="checkbox"/>		
ABBCH	TEM Chatfield <input type="checkbox"/>				
ABBTM	TEM EPA NOB <input type="checkbox"/>				
Water		New York ELAP		Dust	
ABHE	EPA 100.2 <input type="checkbox"/>	PLM NY	PLM EPA 600/M4-82-020 <input type="checkbox"/>	ABWA	TEM Wipe ASTM D-6480 <input type="checkbox"/>
		ABEPA2	NY ELAP 198.1 <input type="checkbox"/>	ABDMV	TEM Microvac ASTM D-5755 <input type="checkbox"/>
		ABENY	NY ELAP 198.6 PLM NOB <input type="checkbox"/>	Matrix	Other <input type="checkbox"/>
		ABBNY	NY ELAP 198.4 TEM NOB <input type="checkbox"/>		

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

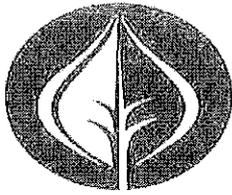
Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
01	windows joining				
02	"				
03	Asphalt Shingles				
04	"				

Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	9/8/16	9:20	<i>[Signature]</i>	SEP 10 2016	10:50 AM

Unless scheduled, the turn around time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time. Work with standard turn around time sent Priority Overnight and Billed to Recipient will be charged a \$10 shipping fee.

Point Count All Samples identified at 2% or less



HZW ENVIRONMENTAL
CONSULTANTS, LLC

September 15, 2016

Mr. Chuck Shasho, Deputy, Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: Report of Findings of an Asbestos Survey Conducted at Tod Park Located at 208 Tod Park Drive, Youngstown, Mahoning County, Ohio (H16201)

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which presents the findings of an asbestos survey conducted at Tod Park located at 208 Tod Park Drive, Youngstown, Mahoning County, Ohio, herein referred to as the "subject park". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject park prior to manual demolition activities being performed.

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject park. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the subject park was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.
2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.
3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject park. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject park consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft²), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft² then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft² then HzW collected a minimum of seven (7) samples from this area/material.
- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:
 - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
 - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
 - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powhatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. *NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).*

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

- 1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.
- 2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.
- 3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

Based on HzW's walkthrough of the subject park, the following buildings and areas were identified:

- Bleachers
- Restroom Building

Based on HzW's survey of the above referenced buildings and areas, only the Restroom Building was identified as containing building materials suspect for containing asbestos. Bulk samples were collected of these suspect building materials. The findings of the asbestos survey are documented on HzW's Asbestos Bulk Sampling Information (ABSI) form. The ABSI form; a site sketch documenting the layout of the Restroom Building and the bulk sampling locations; and the analytical report for the bulk samples collected at the subject park are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACM identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form is not required to be abated and can remain within the respective building at the subject park during the demolition activities as long as the demolition activities do not cause this material to become friable.

The quantities of ACMs and the assumed ACM, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of these buildings and areas may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject park, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the respective building during the demolition activities as long as these activities do not cause this ACM to become friable.
3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any demolition activities being performed.
4. If any of the building materials located at the subject park are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.
5. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

Mr. Chuck Shasho
September 15, 2016
Page 6

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC


Matthew Fergus
Asbestos Hazard Evaluation Specialist (AHES No. 33228)


Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Park Sites\04 Tod Park Report.doc

ATTACHMENT 1

- **ASBESTOS BULK SAMPLING INFORMATION FORM**
 - **SITE SKETCH OF BUILDINGS LOCATED AT PARK AND BULK SAMPLING LOCATIONS**
 - **SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED**
-

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: Tod Park, 208 Tod Park Drive, Youngstown, Ohio

Client: City of Youngstown
 HzW Environmental Consultants, LLC – Project No. H16201

HA	HOMOGENEOUS			AHERA CATEGORY			QUANTITY & CONDITION			RESULT ASBESTOS %		
	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR		POOR	
A	Ceiling Plaster on Drywall	Restroom Building	Minimum 3 Samples	01							ND	
				02								ND
				03								
B	Window Glazing – ½-inch width	Restroom Building	Minimum 2 Samples	04							ND	
				05						240 In.ft.	0.25	
C	Asphalt Shingles	Restroom Building: Roof	Category I Nonfriable, In Good Condition, Not Sampled				X	1,000 sq.ft.			Assumed	



HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Hensley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 1/2001/150000
PROJECT NO. 1516 201
PAGE NO. 1 OF 1
FIELD REPRESENTATIVE MJR DATE 8/31/16
SCALE _____

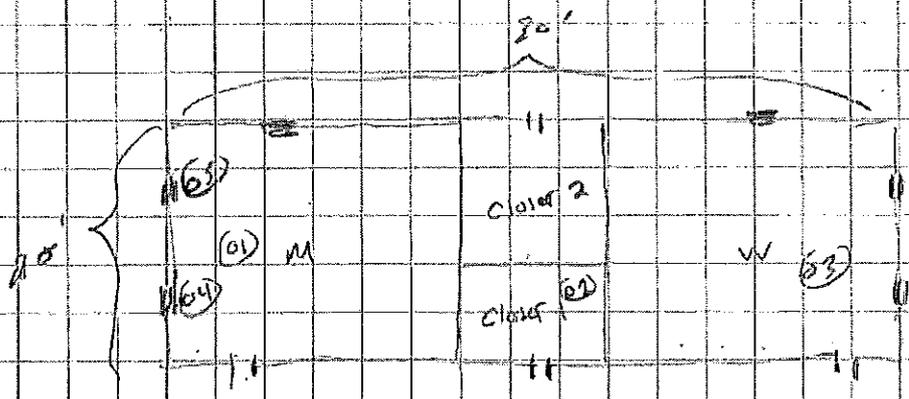
①

INDICATE DIRECTION OF NORTH

TOP PARK 208 Top Park Drive

RESTROOM Building, Brick w/ ASPHALT SHINGLE ROOF, NO WINDOWS
CONCRETE Block walls on Hillside (NO SUSPECT ACM)
Ball field has metal pole w/ lighting (NO SUSPECT ACM)
Windows are Bricked over

RESTROOM Building SUSPECT ACM's



01-03	Ceiling plaster on drywall /	M, N, closet	Plaster	6000
04-05	Window glazing /	M, W	"	240 LF
Asphalt	Asphalt shingles / Roof		Concrete	1000 SF

SanAir Technologies Laboratory

Analysis Report

prepared for

**HzW Environmental
Consultants LLC**

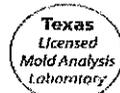
Report Date: 9/14/2016
Project Name: Tod Park
Project #: H16201
SanAir ID#: 16032552



NVLAP LAB CODE 200870-0



Certification # 652931



License # LAB0166



804.897.1177

www.sanair.com



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

HZW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 14, 2016

SanAir ID # 16032552
Project Name: Tod Park
Project Number: H16201

Dear Matt Fergus,

We at SanAir would like to thank you for the work you recently submitted. The 5 sample(s) were received on Friday, September 09, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:

7 sample(s) in Good condition



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

SanAir ID Number

16032552

FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: Tod Park

Collected Date: 8/31/2016
Received Date: 9/9/2016 10:15:00 AM
Report Date: 9/14/2016 3:28:16 PM
Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
01 / 16032552-001 Ceiling Plaster On Drywall, Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
01 / 16032552-001 Ceiling Plaster On Drywall, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
01 / 16032552-001 Ceiling Plaster On Drywall, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
02 / 16032552-002 Ceiling Plaster On Drywall, Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
02 / 16032552-002 Ceiling Plaster On Drywall, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
02 / 16032552-002 Ceiling Plaster On Drywall, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
03 / 16032552-003 Ceiling Plaster On Drywall, Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
03 / 16032552-003 Ceiling Plaster On Drywall, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
03 / 16032552-003 Ceiling Plaster On Drywall, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
04 / 16032552-004 Window Glazing	White Non-Fibrous Homogeneous		100% Other	c 1% Chrysotile

Certification

Analyst: *Sandra Sobrino*
Analysis Date: 9/14/2016

Approved Signatory: *[Signature]*
Date: 9/14/2016



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

SanAir ID Number

16032552

FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: Tod Park

Collected Date: 8/31/2016
Received Date: 9/9/2016 10:15:00 AM
Report Date: 9/14/2016 3:28:16 PM
Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
05 / 16032552-005 Window Glazing	White Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: *Sandra Sobrino*
Analysis Date: 9/14/2016

Approved Signatory: *[Signature]*
Date: 9/14/2016



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Report Date: 9/14/2016 3:28:16 PM
Analyst: Sobrino, Sandra

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous		
04 / 16032552-006 Window Glazing	White Non-Fibrous Homogeneous		100%	Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	% Fibrous	Components		Asbestos Fibers
			% Non-Fibrous		
05 / 16032552-007 Window Glazing	White Non-Fibrous Homogeneous		99.75%	Other	0.25% Chrysotile

Certification

Analyst: *Sandra Sobrino*
Analysis Date: 9/14/2016

Approved Signatory: *[Signature]*
Date: 9/14/2016

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

NY ELAP lab ID 11983

Disclaimer

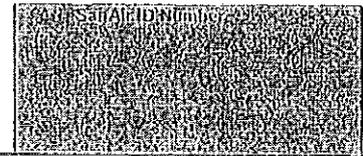
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16032552



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Powhatan, VA 23139
804-897-1177 / 888-895-1177
Fax 804-897-0070
www.sanair.com

Asbestos
Chain of Custody



Company: HzW Environmental Consultants, LLC		Project #: H16201	Collected by: <i>MT</i>
Address: 6105 Heisley Road		Project Name: <i>TOD PARK</i>	Phone #: (440) 357-1260
City, St., Zip: Mentor, Ohio 44060		Date Collected: <i>8/31/16</i>	Fax #: (440) 357-1510
State of Collection: <i>Oh</i>	Account#:	P.O. Number: <i>0007-16</i>	Email: jsablar@hzwenv.com

Bulk		Air		Soil/Vermiculite	
ABB	PLM EPA 600/R-93/116 <input checked="" type="checkbox"/>	ABA	PCM NIOSH 7400 <input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.) <input type="checkbox"/>
	Positive Stop <input checked="" type="checkbox"/>	ABA-2	OSHA w/ TWA* <input type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%) <input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count <input checked="" type="checkbox"/>	ABTEM	TEM AHERA <input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%) <input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count <input checked="" type="checkbox"/>	ABATN	TEM NIOSH 7402 <input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%) <input type="checkbox"/>
ABBEN	PLM EPA NOB <input type="checkbox"/>	ABT2	TEM Level II <input type="checkbox"/>		
ABBCH	TEM Chatfield <input type="checkbox"/>				
ABBTM	TEM EPA NOB <input type="checkbox"/>				
Water		New York ELAP		Dust	
ABHE	EPA 100.2 <input type="checkbox"/>	PLM NY	PLM EPA 600/M4-82-020 <input type="checkbox"/>	ABWA	TEM Wipe ASTM D-6480 <input type="checkbox"/>
		ABEPA2	NY ELAP 198.1 <input type="checkbox"/>	ABDMV	TEM Microvac ASTM D-5755 <input type="checkbox"/>
		ABENY	NY ELAP 198.6 PLM NOB <input type="checkbox"/>		
		ABBNY	NY ELAP 198.4 TEM NOB <input type="checkbox"/>	Matrix	Other <input type="checkbox"/>

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

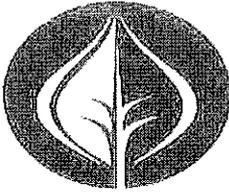
Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
01	Ceiling plaster on Drywall	1000 ft ²			
02	"				
03	"				
04	Windows glazing				
05	"				

Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	9/8/16	9:20	<i>MC</i>	SEP 11 9 21 AM	10:15 AM

Unless scheduled, the turn around time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time. Work with standard turn around time sent Priority Overnight and Billed to Recipient will be charged a \$10 shipping fee.

Point count with SanAir identified at 2% or less



HZW ENVIRONMENTAL
CONSULTANTS LLC

September 15, 2016

Mr. Chuck Shasho, Deputy, Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

***Subject: Report of Findings of an Asbestos Survey Conducted at the Gibson Field Lower Park
Located at 1461 Gibson Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at the Gibson Field Lower Park located at 1461 Gibson Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject park". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject park prior to manual demolition activities being performed.

METHODS OF INVESTIGATION

General

During September 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject park. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the subject park was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.
2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.
3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject park. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject park consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft²), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft² then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft² then HzW collected a minimum of seven (7) samples from this area/material.
- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:
 - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
 - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
 - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powhatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. *NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).*

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

- 1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.
- 2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.
- 3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

Based on HzW's walkthrough of the subject park, the following buildings and areas were identified:

- Bleachers
- Restroom Building

Based on HzW's survey of the above referenced buildings and areas, only the Restroom Building was identified as containing building materials suspect for containing asbestos. Bulk samples were collected of these suspect building materials. The findings of the asbestos survey are documented on HzW's Asbestos Bulk Sampling Information (ABSI) form. The ABSI form; a site sketch documenting the layout of the Restroom Building and the bulk sampling locations; and the analytical report for the bulk samples collected at the subject park are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form.

The quantities of ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of the building's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject park, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos.

Contractors disturbing building materials identified as containing asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the respective building during the demolition activities as long as these activities do not cause this ACM to become friable.
3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.
4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.
5. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

Mr. Chuck Shasho
September 15, 2016
Page 6

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC



Matthew Ferguson
Asbestos Hazard Evaluation Specialist (AHES No. 33228)



Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Park Sites\05 Gibson Field Lower Report.doc

ATTACHMENT 1

- **ASBESTOS BULK SAMPLING INFORMATION FORM**
 - **SITE SKETCH OF BUILDING LOCATED AT PARK AND BULK SAMPLING LOCATIONS**
 - **SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED**
-

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: Gibson Field Lower, 1461 Gibson Avenue, Youngstown, Ohio

Client: City of Youngstown
H2W Environmental Consultants, LLC – Project No. H16201

HA	MATERIAL	HOMOGENEOUS			AHERA CATEGORY			QUANTITY & CONDITION			RESULT ASBESTOS %	
		LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR		
A	Window Glazing – ¼-inch width	Restroom Building	Minimum 2 Samples	01			X				80 in it	3
				02								
B	Asphalt Shingles	Restroom Building: Roof	Minimum 2 Samples	03								ND
				04								



HZW ENVIRONMENTAL
CONSULTANTS, LLC

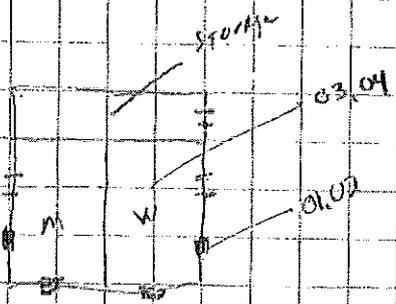
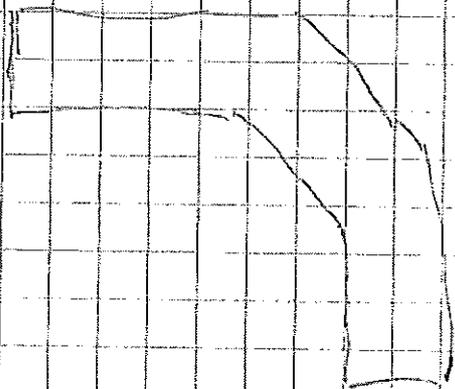
6105 Haisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT Youngstown
PROJECT NO. 1416201
PAGE NO. 1 OF 1
FIELD REPRESENTATIVE AJC DATE 9/7/16
SCALE _____

INDICATE DIRECTION
OF NORTH

Gibson Field (Lower) 1461 Gibson

Concrete Street (no support beam)
Reinforced Concrete



01-02 window slabs
03-04 ASPHALT sidewalk / Roof

PROJ
1/4" 80' = 1" 60' = 1"

SanAir Technologies Laboratory

Analysis Report

prepared for

**HZW Environmental
Consultants LLC**

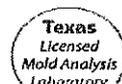
Report Date: 9/14/2016
Project Name: Gibson Field Lower
Project #: H16201
SanAir ID#: 16032547



NVLAP LAB CODE 200870-0



Certification # 652931



License # LAB0166



804.897.1177

www.sanair.com



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: laq@sanair.com

HZW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 14, 2016

SanAir ID # 16032547
Project Name: Gibson Field Lower
Project Number: H16201

Dear Matt Fergus,

We at SanAir would like to thank you for the work you recently submitted. The 4 sample(s) were received on Friday, September 09, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:

4 sample(s) in Good condition



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: laq@sanair.com

SanAir ID Number

16032547

FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: Gibson Field Lower

Collected Date: 9/1/2016
Received Date: 9/9/2016 10:15:00 AM
Report Date: 9/14/2016 2:57:41 PM
Analyst: Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
01 / 16032547-001 Window Glazing	Tan Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
02 / 16032547-002 Window Glazing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
03 / 16032547-003 Asphalt Shingles	Black Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
04 / 16032547-004 Asphalt Shingles	Black Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected

Certification

Analyst:

Analysis Date: 9/14/2016

Approved Signatory:

Date: 9/14/2016

Page 3 of 5

Disclaimer

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NY ELAP lab ID 11983



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 Powhatan, VA 23139
 804-897-1177 / 888-895-1177
 Fax 804-897-0070
 www.sanair.com

**Asbestos
 Chain of Custody**

SanAir ID Number:
 16032847

Company: HZW Environmental Consultants, LLC		Project #: H16201	Collected by: MT
Address: 6105 Heisley Road		Project Name: GIBSON Field Lower	Phone #: (440) 357-1260
City, St., Zip: Mentor, Ohio 44060		Date Collected: 9/1/16	Fax #: (440) 357-1510
State of Collection: Oh	Account#:	P.O. Number: 007-16	Email: jsablar@hzwenv.com

Bulk			Air			Soil/Vermiculite		
ABB	PLM EPA 600/R-93/116	<input checked="" type="checkbox"/>	ABA	PCM NIOSH 7400	<input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.)	<input type="checkbox"/>
	Positive Stop	<input checked="" type="checkbox"/>	ABA-2	OSHA w/ TWA*	<input type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%)	<input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count	<input checked="" type="checkbox"/>	ABTEM	TEM AHERA	<input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%)	<input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count	<input type="checkbox"/>	ABATN	TEM NIOSH 7402	<input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%)	<input type="checkbox"/>
ABBEN	PLM EPA NOB	<input type="checkbox"/>	ABT2	TEM Level II	<input type="checkbox"/>			
ABBCH	TEM Chatfield	<input type="checkbox"/>						
ABBTM	TEM EPA NOB	<input type="checkbox"/>						
Water			New York ELAP			Dust		
ABHE	EPA 100.2	<input type="checkbox"/>	PLM NY	PLM EPA 600/M4-82-020	<input type="checkbox"/>	ABWA	TEM Wipe ASTM D-6480	<input type="checkbox"/>
			ABEPA2	NY ELAP 198.1	<input type="checkbox"/>	ABDMV	TEM Microvac ASTM D-5755	<input type="checkbox"/>
			ABENY	NY ELAP 198.6 PLM NOB	<input type="checkbox"/>	Matrix	Other	<input type="checkbox"/>
			ABBNY	NY ELAP 198.4 TEM NOB	<input type="checkbox"/>			

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

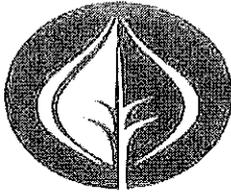
Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
01	Window glazing				
02	"				
03	Asphalt Shingles				
04	"				

Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	9/1/16	9:00	<i>[Signature]</i>	SEP 09 2016	10:30 AM

Unless scheduled, the turn around time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time. Work with standard turn around time sent Priority Overnight and Billed to Recipient will be charged a \$10 shipping fee.

Identified
 Point Count all samples at 2g or less



HZW ENVIRONMENTAL
CONSULTANTS, LLC

September 15, 2016

Mr. Chuck Shasho, Deputy, Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: Report of Findings of an Asbestos Survey Conducted at the Stambaugh Field Park Located at 1030 Glenwood Avenue, Youngstown, Mahoning County, Ohio (H16201)

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at the Stambaugh Field Park located at 1030 Glenwood Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject park". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject park prior to manual demolition activities being performed.

METHODS OF INVESTIGATION

General

During September 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject park. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the subject park was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.
2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.
3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject park. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject park consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft²), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft² then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft² then HzW collected a minimum of seven (7) samples from this area/material.
- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:
 - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
 - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
 - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powhatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. *NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).*

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

- 1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.
- 2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.
- 3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

Based on HzW's walkthrough of the subject park, the following buildings and areas were identified:

- Bleachers
- Restroom Building

Based on HzW's survey of the above referenced buildings and areas, only the Restroom Building was identified as containing building materials suspect for containing asbestos. Bulk samples were collected of these suspect building materials. The findings of the asbestos survey are documented on HzW's Asbestos Bulk Sampling Information (ABSI) form. The ABSI form; a site sketch documenting the layout of the Restroom Building and the bulk sampling locations; and the analytical report for the bulk samples collected at the subject park are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form.

The quantities of ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of the building's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject park, the contractor(s) must be notified of the presence of the building material identified as containing asbestos.

Contractors disturbing building materials identified as containing asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any demolition activities being performed.
3. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC


Matthew Fergus
Asbestos Hazard Evaluation Specialist (AHES No. 33228)


Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Park Sites\06 Stambaugh Field Report.doc

ATTACHMENT 1

- **ASBESTOS BULK SAMPLING INFORMATION FORM**
 - **SITE SKETCH OF BUILDING LOCATED AT PARK AND BULK SAMPLING LOCATIONS**
 - **SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED**
-

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: Stambaugh Field, 1030 Glenwood, Youngstown, Ohio

Client: City of Youngstown
HZW Environmental Consultants, LLC – Project No. H16201

HA	HOMOGENEOUS		AHERA CATEGORY			QUANTITY & CONDITION			RESULT ASBESTOS %		
	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD		FAIR	POOR
A	Window Glazing	Restroom Building	Minimum 2 Samples	01						80	0.5
				02							
B	Asphalt Shingles	Restroom Building: Roof	Minimum 2 Samples	03							ND
				04							



HZW ENVIRONMENTAL
CONSULTANTS, LLC

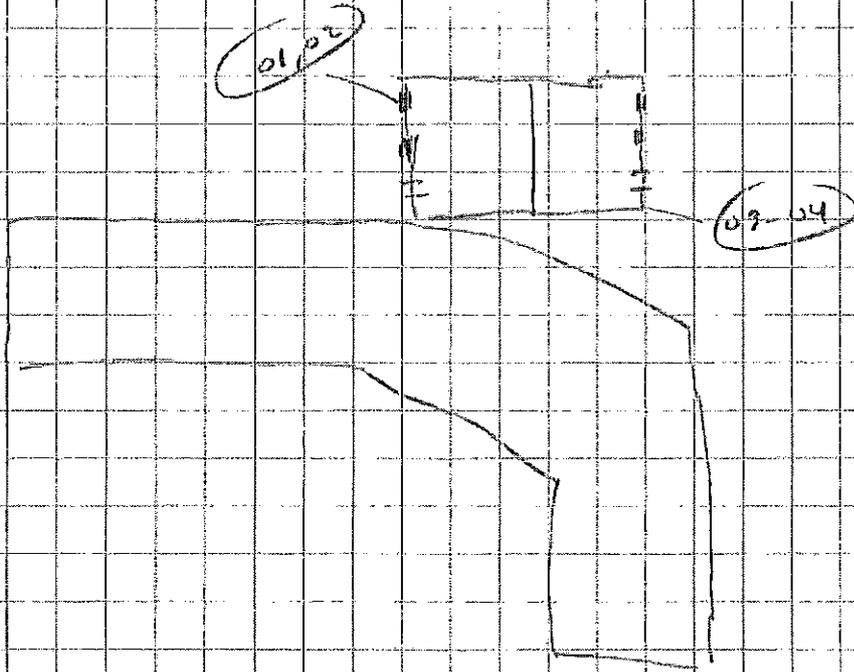
6105 Helsey Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT YOUNG/STONER
PROJECT NO. H116201
PAGE NO. 1 OF 1
FIELD REPRESENTATIVE myl DATE 9/1/16
SCALE _____

STAIRWAY Area - 1030 (PROLUDOC)

INDICATE DIRECTION
OF NORTH

Concrete Bleachers (no suspect area)
Refrigerator Bulky



01-02
03-04

Window glass
Asbestos / REUSE

Power
)

80
60

SanAir Technologies Laboratory

Analysis Report

prepared for

**HzW Environmental
Consultants LLC**

Report Date: 9/14/2016
Project Name: Stambaugh Field
Project #: H16201
SanAir ID#: 16032549



NVLAP LAB CODE 200870-0



Certification # 652931



License # LAB0166



804.897.1177

www.sanair.com



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: laq@sanair.com

H&W Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 14, 2016

SanAir ID # 16032549
Project Name: Stambaugh Field
Project Number: H16201

Dear Matt Fergus,

We at SanAir would like to thank you for the work you recently submitted. The 4 sample(s) were received on Friday, September 09, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

sample conditions:

6 sample(s) in Good condition



SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: <http://www.sanair.com> E-mail: iaq@sanair.com

SanAir ID Number

16032549

FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: Stambaugh Field

Collected Date: 9/1/2016
Received Date: 9/9/2016 10:15:00 AM
Report Date: 9/14/2016 4:17:14 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
01 / 16032549-001 Window Glazing	White Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
02 / 16032549-002 Window Glazing	White Non-Fibrous Homogeneous		100% Other	< 1% Chryaotile

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
03 / 16032549-003 Asphalt Shingles	Black Non-Fibrous Homogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
04 / 16032549-004 Asphalt Shingles	Black Non-Fibrous Homogeneous	15% Cellulose	85% Other	None Detected

Certification

Analyst: 
Analysis Date: 9/14/2016

Approved Signatory: 
Date: 9/14/2016 Page 3 of 7



SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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SanAir ID Number

16032549

FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

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Collected Date: 9/1/2016
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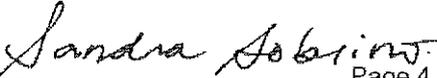
Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
01 / 16032549-005 Window Glazing	White Non-Fibrous Homogeneous		99.5% Other	0.5% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components		Asbestos Fibers
		% Fibrous	% Non-Fibrous	
02 / 16032549-006 Window Glazing	White Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: 
Analysis Date: 9/14/2016

Approved Signatory: 
Date: 9/14/2016

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

NY ELAP lab ID 11983

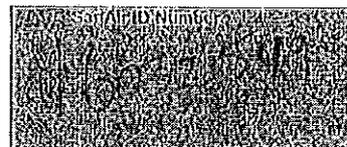
Disclaimer

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1551 Oakbridge Drive Suite B
 Powhatan, VA 23139
 804-897-1177 / 888-895-1177
 Fax 804-897-0070
 www.sanair.com

**Asbestos
Chain of Custody**



Company: HZW Environmental Consultants, LLC		Project #: H16201	Collected by: MT
Address: 6105 Heisley Road		Project Name: STAMBAUGH Field	Phone #: (440) 357-1260
City, St., Zip: Mentor, Ohio 44060		Date Collected: 9/1/16	Fax #: (440) 357-1510
State of Collection: Oh	Account#:	P.O. Number: 0007-16	Email: jsablar@hzwenv.com

Bulk		Air		Soil/Vermiculite	
ABB	PLM EPA 600/R-93/116 <input checked="" type="checkbox"/>	ABA	PCM NIOSH 7400 <input type="checkbox"/>	ABSE	PLM EPA 600/R-93/16 (Qual.) <input type="checkbox"/>
	Positive Stop <input checked="" type="checkbox"/>	ABA-2	OSHA w TWA* <input type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%) <input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count <input checked="" type="checkbox"/>	ABTEM	TEM AHERA <input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%) <input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count <input type="checkbox"/>	ABATN	TEM NIOSH 7402 <input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%) <input type="checkbox"/>
ABBEN	PLM EPA NOB <input type="checkbox"/>	ABT2	TEM Level II <input type="checkbox"/>		
ABBCH	TEM Chatfield <input type="checkbox"/>				
ABBTM	TEM EPA NOB <input type="checkbox"/>				
Water		New York ELAP		Dust	
ABHE	EPA 100.2 <input type="checkbox"/>	PLM NY	PLM EPA 600/M4-82-020 <input type="checkbox"/>	ABWA	TEM Wipe ASTM D-6480 <input type="checkbox"/>
		ABEPA2	NY ELAP 198.1 <input type="checkbox"/>	ABDMV	TEM Microvac ASTM D-5755 <input type="checkbox"/>
		ABENY	NY ELAP 198.6 PLM NOB <input type="checkbox"/>	Matrix	Other <input type="checkbox"/>
		ABBNY	NY ELAP 198.4 TEM NOB <input type="checkbox"/>		

Turn Around Times	3 HR (4 HR TEM) <input type="checkbox"/>	6 HR (8HR TEM) <input type="checkbox"/>	12 HR <input type="checkbox"/>	24 HR <input type="checkbox"/>
	2 Days <input type="checkbox"/>	3 Days <input checked="" type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

Special Instructions: _____

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
01	Window glazing				
02	"				
03	ASPHALT Paving				
04	"				

Relinquished by	Date	Time	Received by	Date	Time
<i>[Signature]</i>	9/8/16	9:20	<i>[Signature]</i>	SEP 09 2016	10:50 AM

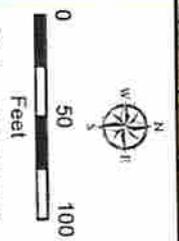
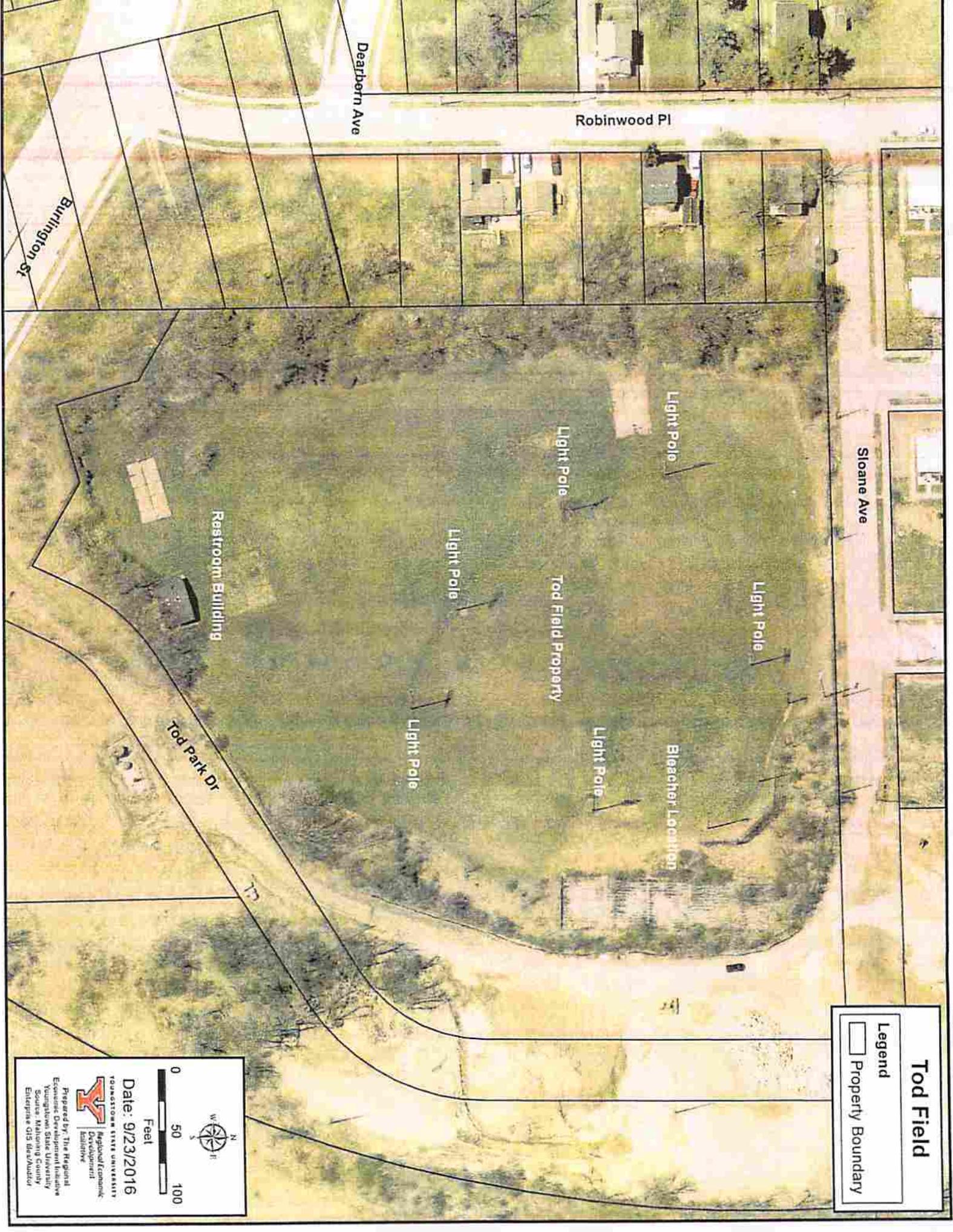
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Point count all samples at 2% or less

Appendix B

Tod Field

- Legend
- Property Boundary



Date: 9/23/2016

Prepared by: The Regional
Economic Development Initiative
Youngstown State University
Source: Mapping County
Enterprise GIS Team/Auditor

Regional Economic
Development
Initiative

YOUNGSTOWN STATE UNIVERSITY

Gibson Field (Lower)

Legend

Property Boundary



0 50 100

Feet

Date: 9/23/2016



Prepared by: The Regional Economic Development Initiative
Youngstown State University
Source: Mahoning County Enterprise GIS Map/Auditor



Gibson Field (Lower) Property

Restroom Building

Bleacher Location

Gibson St

Dorothy Ave

Lee Ave

Ipe Field

Legend

Property Boundary

Point View Ave

S Heights Ave

E Midlothian Blvd

Lemoyne Ave

Bleacher Location

Ipe Field Property

Basketball Court

Play Equipment

Concession Building

0 50 100 Feet



Date: 9/23/2016

YOUNGSTOWN STATE UNIVERSITY
Regional Economic
Development
Initiative

Prepared by: The Regional
Economic Development Initiative
Youngstown State University
Source: National County
Enterprise GIS Maps/Auditor

1680

0891



Oakland Field

Legend

Property Boundary

Old Mccartney Rd

N Blaine Ave

Light Pole

Light Pole

Light Pole

Light Pole

Oakland Field Property

Light Pole

Light Pole

Light Pole

Bleacher Location



0 50 100

Feet

Date: 9/23/2016



Prepared by: The Regional
Economic Development Initiative
Youngstown State University
Source: Mahoning County
Enterprise GIS Specialist

Stambaugh Field

Legend

 Property Boundary

Stambaugh Field Property

Bleacher Location

Restroom Location

Carroll St

Glenwood Ave

Breaden St



0 50 100

Feet

Date: 9/23/2016

YOUNGSTOWN STATE UNIVERSITY



Prepared by: The Regional Economic Development Initiative
Youngstown State University
Source: Mahoning County Enterprise GIS Team/Auditor

Norman "Nick" Johnson Park

Legend

□ Property Boundary



0 50 100
Feet

Date: 9/22/2016

YOUNGSTOWN STATE UNIVERSITY'S
Regional Economic
Development
Institute

Prepared by: The Regional
Economic Development Institute
The Youngstown State University
School of Management
Enterprise GIS Specialist

