Specifications for:

Desoto Bass Demolition
Phase 1

Prepared for:
Greater Dayton Premier Management
400 Wayne Avenue
Dayton, Ohio 45410
937.910.7500

Website posting at www.gdpm.org

Prepared by:

RDA GROUP ARCHITECTS
7662 PARAGON ROAD | DAYTON, OH 45459 | 937.610.3440

Bid Set
June 7, 2024

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TECHNICAL SPECIFICATIONS

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SECTION 01 10 00 - SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Summary:
   1. Contract description.
   2. Scope of Work.
   3. Contractor's use of premises.
   4. Specification conventions.

B. Contractor / General Requirements

C. Administrative Requirements:

D. Execution Requirements:

1.2 CONTRACT DESCRIPTION

A.	Project Identification:	Desoto Bass Demolition – Phase 1
B.	Project Location:	1702 Germantown Street Dayton, OH 45417
C.	Owner:	Greater Dayton Premier Management 400 Wayne Avenue Dayton, Ohio 45410 937.910.7500 phone
D.	Architect:	RDA Group Architects, LLC 7662 Paragon Road Dayton, OH 45459 937.610.3440 phone
E.	Civil Engineer / Surveyor:	Burkhardt Engineering 28 North Cherry Street Germantown, OH 45327 937.388.0060 phone

1.3 SCOPE OF WORK

A. Demolition of [9] multi-family buildings at the Desoto Bass Housing Site.
   1. Complete demolition of the existing buildings, including foundation system.
   2. Abatement / remediation of all hazardous materials including, but not limited to, asbestos containing materials, lead based paint, etc.

B. Removal of associated building utilities, including but not limited to, electrical service, gas service, water service, sanitary service, telephone / data service which serve the buildings being demolished. Remove services in accordance with applicable utility company requirements, extending back to transformers, laterals, curb stops as applicable.
   1. Contractor to coordinate all requirements and include applicable fees in the bid amount.
   2. Contractor to coordinate all requirements to ensure that adjacent buildings scheduled to remain continue to have applicable utility services.

C. Demolition of site related components such as concrete, asphalt, and other related site amenities identified.

D. Restoration of excavated and impacted site areas with new compacted fill [and topsoil where appropriate] in preparation for redevelopment of the site for a new multi-family development.

E. Seed all impacted site areas.

F. Provide all materials and labor for work as noted herein for a complete project.
   1. IMPORTANT: Field verify all existing conditions, and coordinate all applicable requirements as related to the scope of the work.
   2. Drawings indicate general diagrammatic areas/extent of work, but in no way indicate the intricate nature of the work required for the successful completion of the project.
   3. Conditions will vary throughout the building / facilities. Verify all conditions.

G. Provide any and all ancillary work related to the above work scope including repair of any Contractor damaged or impacted finishes within the work area.

H. Provide appropriate coordination with GDPM.

1.4 CONTRACTOR'S USE OF SITE

A. Other dwelling units / buildings on this site will be OCCUPIED for the duration of the project.

B. Perform all work between the hours of 8 AM and 5 PM Monday through Friday, unless work outside these hours and days is requested and granted by the Owner.

1.5 TIME FOR COMPLETION

A. Contract Period
   1. Supply a work start date within [7] calendar days upon issuance of a contract from the Owner.
   2. Coordinate project start date and completion date with Owner. Obtain Owner acceptance.
   3. Owner will issue notice to proceed with the agreed upon dates..
   4. Consideration of material lead-times will be given for establishing the NTP dates as applicable.
   5. Notify the Architect, in writing, upon determination of any delay in material delivery.

B. The time for completion of this contract work is **One Hundred Twenty [120]** calendar days from the date of the Notice to Proceed.
   1. Coordinate construction schedule and any related phasing.

C. Notify GDPM in writing seven [7] days prior to substantial completion of the project.

D. Notify GDPM in writing fourteen [14] days prior to the Contract Completion date if an extension of contract time is necessary with a request for the extension and the reasoning for such request.
   1. Failure to comply may result in enforcement of liquidated damages, cancellation of the contract, and possible disablement from future bidding opportunities.

E. It is anticipated that the work of this contract will begin Summer 2024.
   1. Contractor is responsible to expedite submittals process and order materials to accommodate the construction schedule.

F. Failure to complete work in the specified contract period will be cause for enforcement of liquidated damages per GDPM requirements.

1.6 SPECIFICATION CONVENTIONS

A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words “shall be” are included by inference where a colon (:) is used within sentences or phrases.

1.7 CONTRACTOR / GENERAL REQUIREMENTS

A. Visit the project sites to verify general and pertinent conditions and take measurements necessary for bidding purposes. Arrangements to visit the site may be made by contacting Kevin Arnold at GDPM.

B. Pay for all building permits, trade permits, ROW permits, and any other required permits and inspections necessary to complete all work related to these specifications. Comply with Federal, State, and Local Codes. All work shall comply with HUD General Conditions of the Contract for Construction [HUD Form 5370]

C. Taxes: Pay all applicable taxes, including applicable sales and use taxes, and other taxes as required by governing law.
   1. GDPM is a tax-exempt entity.
   2. GDPM will provide tax exempt forms upon request.

D. Provide dumpsters or trash containers needed. Do not use Owner dumpsters or trash containers at any time for removal of materials, trash, or debris related to the Contractor's work. Remove debris from the site regularly and be placed within appropriate trash receptacles. Keep all work areas neat at all times. Trash shall not be permitted to be left around the site. Take all considerations for resident safety. Do not leave trash or debris on the ground / around the project site.

E. Furnish workers with potable drinking water and portable toilets for the workers during the project. Use of Owner facilities and property is prohibited unless explicitly approved.

F. Utilize existing utilities on the site. Supplement as required to facilitate work. Do not use resident electricity.

G. A Contractor, working under a contractual agreement with **GDPM, MUST BE IN COMPLIANCE WITH OSHA STANDARDS 1926 – REGULATIONS FOR CONSTRUCTION.** Any and all sub-contractors, doing work on this project, **MUST ALSO BE IN COMPLIANCE WITH OSHA STANDARDS**. Non-compliance shall be a basis for making a bid non-responsive. And, if a Contractor or sub-contractor is found to be in **VIOLATION (NON-COMPLIANCE) AT ANY TIME**, this could be a basis for termination of the purchase order/contract.

H. IMPORTANT: Failure to show or mention petty details shall not be warranted for the omission of anything necessary for the proper completion of the work.

I. The plans and specifications are intended to depict the general scope, layout and quality of workmanship required. The documents are not an "instruction manual" to execute the work nor are they intended to show or describe in detail every item necessary for the proper installation of the work. The means and methods required to execute the work described is the sole responsibility of the Contractor. The Contractor shall include the ancillary work required, whether explicitly stated or not, for the proper completion of the work as intended. The Contractor is required to meet or exceed building code requirements, applicable industry standards, ASTM standards, and/or manufacturer installation requirements as they relate to the work.

J. The plans and specifications represent a single complete design package indicating the intended scope of the project in its entirety. As such, the project is structured to be awarded to a single Prime Contractor. The documents do not delineate bid packages or assign responsibilities to any subsequent subcontractors, dictate construction sequencing, nor provide coordination between any "trades". Such activities are the responsibility of the holder of the construction contract. In the event of a discrepancy within the drawings or between the drawings and the specifications, the more stringent requirement represented in the documents shall prevail.

K. Do not take advantage of any clerical errors, omissions, contradictions, or conflicts that may develop in plans, specifications, or details. Such errors, ambiguities and discrepancies shall be reported to the Architect immediately for clarification, revision, or correction prior to the submission of bids. If no notification is given, it shall be assumed that all specifications and conditions will be met.

L. Submission of a bid shall be considered the Contractor's Certification that the bid is based upon equipment and/or materials that meet or exceed the standards set forth by specification or equipment and/or materials identification. Should a Contractor's product be determined not equal to that specified, the Contractor shall be required to provide and install a product acceptable as equal by the Architect at no additional cost to the Owner.

M. The submission of a bid shall indicate that the Contractor has visited the project site and is familiar with the conditions as they exist, and the modifications that may be necessary to provide a complete and professional finished project.

N. There is a strict **NO SMOKING** policy for all work. Any worker found smoking on the jobsite will be subject to removal from the project. No exceptions. Habitual offenders may be subject to a fine in the amount of $500 per occurrence.

O. Security: Contractor's Liability for Vandalism
   1. Contractor shall be responsible at the Contractor's cost and expense, for the securing and protection of the project which is under the control of the Contractor, and for the repair and replacement of the work until that portion of the work is accepted as completed by the Owner. The Contractor shall take the measures necessary to provide such security.
   2. Contractor shall be liable for and shall promptly repair or otherwise remedy any and all damages to said portion of the project and of the accepted construction work caused by vandalism up to $5,000.00 per incident. Contractor shall indemnify and hold the Owner harmless from and against all damages, liabilities, costs and expenses, including, without limitation, reasonable attorney fees, which may be imposed upon or incurred by the Owner as a result of the Contractor's failure to comply with the requirements of this section.

P. Insurance: **Refer to GDPM Terms and Conditions.**
   1. Contractor to provide copy of Certificate of Insurance to GDPM.
   2. Contractor to submit evidence of Worker's Compensation insurance coverage and builder's risk insurance.

Q. Damages: Any and all damages to Housing Authority Property or resident property shall be repaired equivalent to the existing by the Contractor at no cost to the Authority. NO EXCEPTIONS.

R. Safety: The work will be accomplished within a high traffic area and the Contractor is responsible for taking all safety precautions necessary or directed to ensure public safety.
   1. Neither RDA nor Owner are safety consultants. Any and all safety provisions shall be managed and coordinated by the Contractor.

S. Provide appropriate notification of Residents, if applicable, prior to starting work.

1.8 CONTRACTOR QUALIFICATIONS

A. Contractor and/or Sub-contractors must establish their qualifications with Owner for their ability to complete this type of work. Qualifications may be established by:
   1. Provide references of similar projects, past performance, financial disclosures, etc. in the interest of selection of the lowest and best bidder for the project.
   2. Providing a letter of approval for the installation of the products from the manufacturer.
      a. Contractor must be properly trained and approved by the manufacturer for the installation of the products.
   3. Providing a recommendation from the supplier of the products.
   4. Demonstrating to Owner the capability to do the work. The Contractor will have a minimum of five years documented experience in similar work.

B. Contractor is responsible for all work performed by the Sub-contractors.

1.9 RESPONSIBILITIES OF THE CONTRACTOR

A. Protect all finishes and equipment scheduled to remain.

B. Commence and complete work as noted in the contract.

C. Furnish labor, materials, equipment, and management required to complete the project.

D. Furnish all required logistics required to accomplish the work – including lifts, scaffolding, ladders, trash chutes, safety equipment, etc.
   1. All Contractor staging areas and layout areas, etc. shall be coordinated and approved by the Owner prior to the start of the project.

E. Visit the site to become thoroughly familiar with all working conditions, check and verify all dimensions, and site conditions. Any dimensions given or referred to in the specification or drawing is to be used purely as approximate and not as a basis for exact amounts for bidding. Promptly advise the Architect of any discrepancies, errors with the specifications and drawings before bidding the work.

F. Provide a valid Certificate of Insurance, follow all Workman's Compensation requirements and regulations, and conduct all work according to OSHA recognized safe work practices.

G. Provide all bonds, payment schedule, insurance as noted in the contract documents.

H. Provide Safety Data Sheets [SDS] on all products used.
   1. Submit directly to Owner. RDA does not review nor approve SDS.

1.10 REFERENCES

A. Conform to reference standards by date of issue current as of date of Contract Documents.

B. When specified reference standard conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

1.11 APPLICABLE REFERENCES, CODES, AND PERMITS

A. References will be found in each section that applies to that section.

B. Comply with Ohio Building Code requirements as they relate to the work.

C. Procure, at Contractor's expense all necessary permits from municipal or other agencies and give all notices required. Fines levied due to non-compliance shall be paid by the Contractor.

1.12 WARRANTIES AND GUARANTEES

A. General: The warranty and guarantee provisions of the General Conditions apply to all work of the contract, including but not limited to the following specific categories related to individual units of work specified in various sections of these specifications:
   1. Refer to GDPM Contract Requirements / Terms and Conditions for additional information / requirements.
   2. Special Project Warranty (Guarantee): A warranty specifically written and signed by the Contractor for a defined portion of the work, and, where required, countersigned by sub-contractor, installer, manufacturer, or other entity engaged by the Contractor.
   3. Specified Product Warranty: A warranty which is required by the contract documents, to be provided for a manufactured product incorporated in the Work, regardless of whether manufacturer has published a similar warranty without regard for specific incorporation into the work, or has written and executed a special project warranty as a direct result of contract document requirements.
   4. Coincidental Product Warranty: A warranty which is not specifically required by the Contract Documents (other than as specified in this Section); but which is available on a product incorporated into the work, by virtue of the fact that the manufacturer of the product has published a warranty in connection with purchases and users of the product

without regard for specific applications except as otherwise limited by terms of the warranty.

1.13 SPECIFICATION CONVENTIONS

A. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words “shall be” are included by inference where a colon (:) is used within sentences or phrases.

PART 2 GENERAL REQUIREMENTS

A. Follow all applicable requirements of the Owner’s Terms and Conditions. Should there be a conflict between the Owner Requirements and those herein, the higher standard shall apply.

B. Required Inspections by Owner
   1. Contact Owner to:
      a. Inform Owner when the job is actually going to start to allow resident notification.
      b. Mockup inspections.
      c. Inspection at random or when problems / field conditions arise.
      d. Final Inspection.
      e. Punchlist requirements.
      f. Acceptance of the project by Owner.

PART 3 EXECUTION

3.1 CONTRACT ADMINISTRATION

A. Architect is providing contract administration services for this project to the Owner. Contractor and Owner are responsible to coordinate the proposed work, schedules, installations, permits, inspections, etc. as Architect is not on-site every day.

B. Contact Architect for clarification should there be questions regarding the interpretation or intent of the documents, field discovery, etc. that would impact or affect the work as proposed. Architect is not liable for deviations, field changes, and Owner changes during construction.

C. Field confirm all existing conditions, proposed installations and how they interface to ensure the systems can be installed per the intent of the documents and to meet applicable building and zoning codes, local requirements, Owner requirements, provide a watertight detail, meet aesthetic requirements, etc.

D. Meet all applicable building and zoning codes requirements whether specifically noted herein or not. Building codes represent the minimum acceptable standard.

E. Install all products, materials, installations, and the like in accordance with applicable industry standards, applicable manufacturer's details and instructions, in accordance with best practices, and building code provisions. The manufacturer details / requirements are the minimum acceptable standard, Architect’s drawings may require additional work.

3.2 EXAMINATION

A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. **Beginning new Work means acceptance of existing/job-site conditions.**

B. Verify utility services are available, of correct characteristics, and in correct location.

C. Contact utility protection a minimum of 48 hours prior to beginning work to verify location of existing utilities, coordinate requirements as applicable.
   1. Contact private utility locating services as required by the conditions. It is the Contractor’s responsibility to locate all public and private utilities that may be impacted by the work.

3.3 PROTECTION

A. Accomplish all work in accordance with the provision of Federal, State American Standard Safety Code for Building Construction and OHSA safety requirements.
   1. Provide protective railings and guards, tie-offs, fall protection, and other safety measures as required by OSHA, even if not specified. Fall protection is required. Architect is not a safety consultant and as such does not direct the means and methods of compliance with safety regulations.

B. Protect and maintain all building entrances, interior contents, building exterior and grounds.
   1. Return all surfaces to their original condition after all work is complete.

C. In the event of damages of any kind caused by improper protection. The contractor shall replace/repair the damages [including interior or exterior equipment] at no expense to the Owner.

D. Comply with all regulations of the Local Fire Department and the Owner's requirement regarding storage and handling of flammable materials, etc. Comply with the safety provisions of the National Fire Codes pertaining to such work. Contractor shall be responsible for all damage or fines resulting from failure to so comply.

3.4 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.5 JOB SUPERINTENDENT/EMPLOYEES

A. Maintain a qualified foreman on the project at all times when work is being accomplished.

B. Refrain from fraternization with building occupants.

C. Furnish the Owner with a list of personnel with phone numbers that will be working on the project and emergency contacts names and numbers that has the authority to handle emergencies on 24 hour/seven days a week.

3.6 SAFETY PROGRAM

A. Maintain a written safety program for all operations / work performed on this project. The documents must be at the job site and be made available to the Owner or RDA when requested.

B. Assume all responsibility for project safety, ways, and means and methods of constructing the project.

C. In addition, the Owner may require special safety requirements to be performed by the Contractor, these requirements will be provided prior to commencement of work.

3.7 REMOVALS AND CLEANUP

A. Contractor shall be responsible for the removal, dismantling of items that are required for proper completion of the work as applicable in each section. All debris resulting from the work not designated for reuse becomes the property of the contractor unless stated otherwise.

B. At the completion of each day, the Contractor shall maintain the work area clean of all debris to the satisfactory of the Owner, including all the subcontractors work area.

C. Provide dumpsters or trash containers needed for the proper removal of project materials, trash, or debris related to the work. Keep all work areas and project sites neat and free of trash and clutter at all times.
   1. No Debris, materials, etc. may be left unprotected on the grounds.
   2. All exterior staging / dumpster areas shall be fenced / protected.

3.8 SPECIAL PROCEDURES

A. Materials: As specified in product sections; match existing with new products for patching and extending work.

B. Employ skilled and experienced installer to perform alteration work.

C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

E. Remove debris and abandoned items from area and from concealed spaces.

F. Prepare surface and remove surface finishes to permit installation of new work and finishes.

G. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to original or specified condition.

H. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with neat transition to adjacent finishes.

I. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

J. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect for review.

K. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

L. Finish surfaces as specified in individual product sections.

3.9 GENERAL PROJECT REQUIREMENTS

A. Locate all private and public underground utilities prior to starting job. Call 811 before you dig. Provide Owner with confirmation number upon request. Include all necessary costs to identify private utilities as required to execute work.

B. Safety is paramount and all personnel on site must wear appropriate personal protection equipment [PPE]. The Contractor is responsible for means and methods to ensure that proper PPE is provided. Failure to comply may result in dismissal from site.

C. Barricade work area with appropriate construction grade barriers to establish boundaries of work area and assure safety for all workers and general public. All work areas must be properly barricaded from the general public prior to starting any work.

D. Barricades will also protect newly installed materials from damage by traffic, weather, or other forces until suitable for traffic. All barricades are to be removed from site within one working day following completion or curing of phase.

E. Job sites will be maintained in an orderly and neat fashion at all times.

F. All buildings, steps, sidewalks, and surrounding landscaping shall be protected. Any damage to the above mentioned will be repaired at the contractor’s expense.

G. Pre-determine work phases with Owner to minimize disruption of business operations.

END OF SECTION

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Schedule of values.

B. Applications for payment.

C. Change procedures.

D. Defect assessment.

E. Unit prices.

F. Alternates.

G. Project Allowances.

1.2 PREVAILING WAGE REQUIREMENTS

A. The work of this project is subject to Davis-Bacon Prevailing Wages.

B. Include in the bid amount all applicable prevailing wages.

C. Provide payroll reports indicating compliance to the Owner on a monthly basis.
   1. Pay Applications will not be processed without approved payroll reports submitted to the Owner.

1.3 TAXES

A. Owner is tax exempt. Tax Exempt Certificates will be provided upon request.

B. Owner will not compensate the Contractor for any taxes paid on the project.

1.4 SCHEDULE OF VALUES

A. Submit schedule on AIA G702 / G703 or other approved HUD forms.

B. Submit Schedule of Values in duplicate three days prior to the Pre-Construction meeting for approval by Architect and Owner.

C. Approved Schedule of Values will be signed at the Pre-Construction meeting.

D. Format: Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section. Identify site mobilization/general conditions, bonds and insurance.
   1. Schedule of values should be broken down by building and also by division / work scope for each building.

E. Revise schedule to list approved Change Orders, with each Application for Payment.

1.5 APPLICATIONS FOR PAYMENT

A. Submit **three** copies of each pay application on AIA G702/G703 or HUD forms.

B. Submit “pencil copy” one week prior to application for review and approval by Architect and Owner. Submit electronically.

C. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

D. Payment Period: Monthly.

E. Submit updated construction schedule with each Application for Payment as applicable to the work. Failure to submit the updated construction schedule can delay the processing of the Application for Payment.

F. Submit all required waivers of lien/partial release of lien, payroll reports as required by Owner, etc. Failure to submit required paperwork can delay the processing of the Application for Payment

1.6 RETAINAGE

A. Refer to Owner's Terms and Conditions.

1.7 CHANGE PROCEDURES

A. Proposal Request / Construction Bulletin: Architect / Owner may issue a Proposal Request / Construction Bulletin including a detailed description of proposed change with supplementary or revised Drawings and specifications. Prepare and submit estimate within 7 days.

B. Stipulated Sum/Price Change Order: Based on Proposal Request / Construction Bulletin and Contractor's fixed price quotation.

C. On Owner's approval of a proposal from Contractor, Architect will issue a Change Order for all changes to Contract Sum and for all changes to the Contract Time.

D. Unit Price Change Order: For contract unit prices and quantities, the Change Order must be executed prior to beginning any work. The Order will be based on fixed unit price basis provided in the Bid Form.

E. Construction Change Order: Architect may issue directive, on AIA / HUD Forms signed by Owner, instructing Contractor to proceed with changes in the Work. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.

F. Change Order Forms: AIA / HUD Approved Forms with all required backup documentation.

G. Correlation Of Contractor Submittals:
   1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
   2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
   3. Promptly enter changes in Project Record Documents.

H. Architect will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on Architect's approved forms.

I. Important: All change orders must be fully executed prior to beginning any work. Failure to comply will result in contractor request being denied and completed at no cost to Owner.

1.8 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Architect/Owner, it is not practical to remove and replace the Work, the Architect/Owner will direct appropriate remedy.

C. Authority of Architect/Owner to assess defects and identify payment adjustments is final.

D. Non-Payment For Rejected Products: Payment will not be made for rejected products.

1.9 UNIT PRICES

A. Contractor is responsible to document unit price quantities. Architect / Owner will confirm quantities as required. Contractor may not be paid for unit cost work without documentation of the work accomplished.

B. Unit Price Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application or installation of item of the Work; overhead and profit.

C. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Architect / Owner multiplied by unit price for Work incorporated in or made necessary by the Work.

D. Unit Price Schedule:
   1. None

1.10 ALTERNATES

A. Alternates listed on Bid Form will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work.

C. Schedule of Alternates
   1. None

1.11 PROJECT ALLOWANCES

A. Building & Systems / Unforeseen Conditions Allowance:
   1. Provide in bid a draw down allowance in the amount of **$50,000 [fifty thousand dollars]** for Building & Systems / Unforeseen Conditions to address existing building / site / systems conditions as they interface with the project.

B. Contractor’s costs for Products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit are included in Change Orders authorizing expenditure of funds from this project allowance.

C. Any expenditure from this allowance shall be reviewed and approved by Architect and Owner prior to executing the work.

D. Any unused amounts will be credited back to Owner at the completion of the project by a change order.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 01 25 00 – SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 WORK INCLUDES

A. Includes administration and procedural requirement for Substitutions.
   1. Substitutions' for Cause: Changes due to project conditions, such as unavailable of product.
   2. Substitutions' for Convenience: Changes that may offer advantages to the Owner.

1.2 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions / Approved Equal: Submit request for substitution as outlined in this section for manufacturers not named.
   1. Architect / Owner is the decision maker if the proposed "approved equal" is in fact equal and approved. Any decision rendered is final.
   2. Any Contractor, Sub-contractor, or Supplier who makes their own judgement as to "approved equal" and includes within their bid without a formal approval is doing so at their own risk.

1.3 SUBSTITUTIONS PROCEDURES

A. Architect will consider requests for Substitutions by the Bidder only [not materials suppliers, etc].

B. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

C. A request constitutes a representation that the Bidder:
   1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
   2. Will provide same warranty for Substitution as for specified product.
   3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension which may subsequently become apparent.

D. Substitution Procedure
   1. **Submit copy of request for Substitution for consideration to Architect no later than [10] days before bid opening date**.
   2. Submit shop drawings, product data, and applicable certified test results attesting to proposed product equivalence. Burden on proof is on proposer.
   3. Architect will notify Contractor in writing of decision to accept or reject request within 5 days of receipt of request or request additional information or documentation for evaluation.

E. Substitutions will not be considered when they are indicated or implied on Submittals, without written request or when acceptance will require revision to the Contract Documents.

F. If the Substitution will require modifications to the Contract / Bidding Documents, the cost for updating the documents shall be paid by the Contractor making the request.

G. Substitutions will not be considered after award of the project without justification.

H. Approved substitutions will be identified by Addenda.
   1. Bidders shall not rely upon approvals made in any other manner.

END OF SECTION

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Coordination and project conditions.

B. Project Schedule.

C. Preconstruction meeting.

D. Progress meetings.

E. Pre-installation meetings.

F. Daily Job Logs.

G. Cutting and patching.

H. Special procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various sections of Project Manual / Specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.

B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.

C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements. Coordinate rough in locations for accessibility, clearances, maneuvering, etc.

E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.

F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD VERIFICATION

A. Prior to ordering materials, verify the actual dimensions of existing conditions and assume responsibility for workable solutions for all new work. Verification that new work and items are workable for existing conditions while providing adequate clearances is the responsibility of the Contractor.

1.4 CONSTRUCTION PROGRESS SCHEDULES

A. Submit initial progress schedule in duplicate within 5 days after date of Owner-Contractor Agreement for Architect review.

B. Submit revised schedules as appropriate throughout the duration of the project.

C. Submit implementation plan indicating planned process, sequencing, and order of operations.

1.5 PRECONSTRUCTION MEETING

A. Owner will schedule preconstruction meeting after Notice of Award for affected parties.

B. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of Subcontractors, list of products, schedule of values, and progress schedule.
   5. Designation of personnel representing parties in Contract, and Architect.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.
   8. Use of premises by Owner and Contractor.
   9. Owner requirements for procedures and inspections
   10. Construction facilities and controls provided by Owner.
   11. Security and housekeeping procedures.
   12. Application for payment procedures.
   13. Procedures for maintaining record documents.
   14. Requirements for start-up of equipment.
   15. Inspection and acceptance of equipment put into service during construction period.

C. Architect will record minutes and distribute copies via email within two days after meeting to participants and those affected by decisions made.

1.6 PROGRESS MEETINGS

A. RDA will be providing periodic observation of the work. RDA will issue field reports at each site visit. RDA will be observing the work for compliance with the specifications and will not be responsible for the ways, means and methods of constructing the project or managing the day to day operations.

B. Schedule and administer meetings throughout progress of the Work at bi-weekly intervals.

C. Architect will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

D. Attendance Required: Job superintendent, major subcontractors and suppliers, Architect, Owner, as appropriate to agenda topics for each meeting.

E. Agenda:
   1. Review minutes of previous meetings.
   2. Review of Work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems impeding planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Review of off-site fabrication and delivery schedules.
   7. Maintenance of progress schedule.
   8. Corrective measures to regain projected schedules.
   9. Planned progress during succeeding work period.
   10. Coordination of projected progress.
   11. Maintenance of quality and work standards.
   12. Effect of proposed changes on progress schedule and coordination.
   13. Other business relating to Work.

F. Architect will record minutes and distribute copies via email within two days after meeting to participants and those affected by decisions made.

1.7 PRE-INSTALLATION MEETINGS

A. Determine any and all requirements for pre-installation meetings and schedule the same.

B. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.

C. Require attendance of parties directly affecting, or affected by, Work of specific section.

D. Notify Architect / Owner one week in advance of meeting date.

E. Prepare agenda and preside at meeting.

F. Review conditions of installation, preparation and installation procedures.

G. Review coordination with related work.

H. Record minutes and distribute to participants after meeting, and those affected by decisions made.

1.8 DAILY JOB LOGS

A. Maintain a daily job log that indicates the personnel on-site and activities performed (including all sub-contractors)

B. Indicate any safety concerns and incidents.

C. Indicate weather conditions.

D. Indicate any visitors or other personnel visiting the project site.

E. Job log shall be accessible to Architect / Owner upon request.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

A. Employ skilled and experienced installer to perform cutting and patching; restore work with new products as applicable.

B. Submit written request in advance of cutting or altering elements affecting:
   1. Structural integrity of element.
   2. Integrity of weather-exposed or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate contractor.

C. Execute cutting, fitting, and patching to complete Work, and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed Work.
   3. Remove and replace defective and non-conforming Work.
   4. Remove samples of installed Work for testing.
   5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.

E. Cut masonry and concrete materials using masonry saw or core drill.

F. Restore Work with new products in accordance with requirements of Contract Documents.

G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material, to full thickness of penetrated element.

J. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit. For painted surfaces, paint entire wall from corner to corner, floor to ceiling.

K. Identify hazardous substances or conditions exposed during the Work to Architect for decision or remedy.

3.2 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of the Architect/Owner, it is not practical to remove and replace the Work, the Architect/Owner will direct appropriate remedy.

C. Authority of Architect/Owner to assess defects and identify payment adjustments is final.

D. Non-Payment For Rejected Products: Payment will not be made for rejected products.

3.3 SPECIAL PROCEDURES

A. Materials: As specified in product sections; match existing with new products for patching and extending work.

B. Employ skilled and experienced installer to perform alteration work.

C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

E. Remove debris and abandoned items from area and from concealed spaces.

F. Prepare surface and remove surface finishes to permit installation of new work and finishes.

G. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to original or specified condition.

H. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with neat transition to adjacent finishes.

I. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

J. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect for review.

K. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.

L. Finish surfaces as specified in individual product sections.

END OF SECTION

SECTION 01 33 00 – SUBMITTALS

PART 1 GENERAL

1.1 WORK INCLUDES

A. Review of shop drawings and product data by Architect / Owner.

1.2 SUBMITTAL PROCEDURES

A. Submit product data and shop drawings for all applicable components of the project. Refer to individual sections for additional requirements.
   1. Provide a submittal log at the beginning of the project for review by Architect / Owner. Identify proposed submittals by Specification Section.
   2. Architect / Owner review of the submittals will be general in nature and does not relieve the Contractor in any way of the responsibility in compliance with the contract requirements, manufacturer requirements, and/or applicable codes.

B. Accomplish submittals in a digital [PDF] format. Any hard copies received will be scanned and returned electronically. Provide those submittals required to maintain orderly progress of the work and those required for early lead time for manufacturer fabrication.
   1. Any hard copies received will be scanned and returned electronically.
   2. Provide those submittals required to maintain orderly progress of the work and those required for early lead time for manufacturer fabrication.
   3. Mark each component to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this project. Non-identified submittals will be rejected.

C. Provide Submittal form / cover sheet to identify Project, Contractor, subcontractor or supplier; and pertinent Contract Document references.

D. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.

E. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of completed Work.

F. Revise and resubmit submittals as required; identify changes made since previous submittal.

G. Accomplish submittals at the beginning of the project to allow the proper ordering of materials for the project.
   1. Failure by the Contractor to provide submittals in a timely fashion does not change the project start date nor contract period.

H. Any materials on the job site that have not been reviewed as part of the submittal process are subject to rejection / removal from the job-site. Any work undertaken without review of the submittal data is at the Contractor's risk and subject to rejection or replacement at no cost to the Owner if submittals are not in conformance with the project documents.

I. Allow 7 days for review of submittal items.

J. Allow space on submittals for Contractor and Architect review stamps.

K. When revised for resubmission, identify changes made since previous submission.

L. Distribute copies of reviewed submittals as appropriate (electronically as appropriate). Instruct parties to promptly report inability to comply with requirements.

M. All submittals shall be completed within the first 30 days of the project.

1.3 SUBMITTALS/PRODUCT DATA / SHOP DRAWINGS

General: Submitted to Architect / Owner for review for limited purpose of checking for conformance with information given information expressed in the Contract Documents.

A. Product Data/Shop Drawings:
   1. Submitted to Architect for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
   2. All shop drawings shall be to scale, submit drawings on sheets no larger than 24-inch x 36 inch, all other product data can be on 8 ½ x 11-inch sheets.

B. Samples for Review:
   1. Submitted to Architect for review and selection for aesthetic, color, or finish.
   2. Submit samples of finishes from full range of manufacturer's standard colors, textures, and patterns for Owner's selection.
   3. Submit samples to illustrate functional and aesthetic characteristics of Product.

C. Personnel/Other Contractors
   1. Submit a list of all subcontractors and on-site personnel with the list of lead contact and associated phone numbers.
   2. Submit emergency contact sheet with contacts for an emergency – 24/7 call list.

D. Contract Items:
   1. Submit Certificate of Insurance, Worker's Comp Certificates as required by Owner.
   2. Submit bonds if applicable to the contract.
   3. Submit a written Construction Schedule / Implementation and Sequencing Plan outlining starting points and length of time to complete work in each section.

E. Safety Data Sheets: Submit Safety Data Sheets [SDS] on all products to the Owner.
   1. Owner shall be responsible to provide to employees as applicable.
   2. Architect does not review / approve any SDS sheets.

F. Site Specific Safety Plan
   1. Provide to Owner for their Review.

G. Site Logistics Plan
   1. Provide to Owner for their Review.

1.4 SAMPLES

A. Physical Samples: Submit to Architect for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
   1. Physical samples are required to allow Architect to make selections for color and finish. Electronic images of colors/finishes, etc. are not sufficient.

B. Samples For Selection as Specified in Product Sections:
   1. Submit to Architect for aesthetic, color, or finish selection.
   2. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Architect selection.

C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

D. Include identification on each sample, with full Project information.

E. Submit 2 copies of each sample, Architect will retain 1 copy.

F. Reviewed samples which may be used in the Work are indicated in individual specification sections.

1.5 PROPOSED PRODUCTS LIST

A. Within 5 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. All products for the project shall be ordered in the first 30 days of the contract. Contractors' failure to order materials is not a reason for a time extension or selection of an alternate material. This is imperative to allow work as scheduled.

C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.6 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual specification sections, submit manufacturer printed instructions for delivery, storage, assembly, installation, [start-up,] adjusting, and finishing, in quantities specified for Product Data.

1.7 MANUFACTURER'S CERTIFICATES

A. When specified in individual specification sections, submit certifications by manufacturer to Owner, in quantities specified for Product Data.

B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.8 CONSTRUCTION PHOTOGRAPHS

A. Provide digital photographs of construction throughout progress of Work as taken by project superintendent as applicable to document the existing conditions, work in progress, completed work, project wrap up, etc. It is in the best interest of the contractor to document the conditions as this is an occupied unit project.

B. Deliver photographs to Architect/Owner upon request on CD. Catalog and index in chronological sequence with date indexed.

END OF SECTION

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SECTION 01 40 00 - QUALITY REQUIREMENTS/PROJECT INSPECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality control and control of installation.

B. Owner Construction Inspection Procedures

C. Tolerances

D. References.

E. Mock-up requirements.

F. Examination & Inspection.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. When manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Owner before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Perform Work by persons qualified to produce required and specified quality.

F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 OWNER CONSTRUCTION INSPECTION PROCEDURES

A. Owner has clear goals with regard to the importance of thorough construction inspection that ensures compliance with the bid documents.

B. Owner will appoint a Project Manager and an Architect representative to routinely monitor the Contractor’s work and progress on all projects.

C. Contractor is responsible for quality control of the project. Provide full cooperation with all inspection steps through the construction process and include such coordination in the base bid of the project.

D. Arrange access to the work. Provide any necessary ladders, scaffolding, hoisting, etc in order to make all areas of the work available to the Owner / Architect. Provide manpower as necessary to facilitate inspections.

E. Acceptance of Conditions:
   1. Owner / Architect will not allow work to proceed when there is a construction deficiency document in place that has not been cleared.
   2. Owner / Architect will not allow work to proceed that requires mock-ups until such mock up is acceptable. Subsequent work in like kind shall be equal to or better than the mock-up.

F. Inspect all work prior to final completion. Address / correct any remaining work and/or deficiencies and provide to the Owner / Architect a document that all of the contracted for work has been completed within the scope of the contract and request "final inspection" by the Owner / Architect.

G. The final inspection will result in either complete acceptance or generation of a punch list that is to be corrected in a timely manner and back punched by Owner / Architect.

H. If work that is clearly not complete, the Punchlist will be suspended until such time that it is evident that the Contractor has completed and reviewed/inspected their own work.

I. The warranty blanketing the contract will not be allowed to commence until all work under the contract is completed and accepted for beneficial use by Owner.

J. Owner / Architect will schedule a warranty inspection approximately 10 months after project completion.

1.4 TOLERANCES

A. Monitor fabrication and installation tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

1.5 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.

C. Obtain copies of standards where required by product specification sections.

D. When specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in reference documents.

1.6 MOCK-UP REQUIREMENTS

A. Provide mockups of the work as directed / required by the Architect / Owner.

B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

C. Accepted mock-ups shall be comparison standard for remaining Work follow requirements of individual sections.

D. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. **Beginning new Work means acceptance of existing/job-site conditions.**

B. Verify utility services are available, of correct characteristics, and in correct location.

C. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.

D. Contact utility protection a minimum of 48 hours prior to beginning work to verify location of existing utilities, coordinate requirements as applicable.
   1. Contact private utility locating services as required by the conditions. It is the Contractor's responsibility to locate all public and private utilities that may be impacted by the work.

E. Examine and verify specific conditions described in individual specification sections.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION

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SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary Utilities

B. Construction Facilities

C. Temporary Controls

D. Removal of utilities, facilities, and controls

1.2 SITE CONTROL

A. Coordinate site control and access with Owner.

B. Contractor will maintain site control of the work areas while work is accomplished.

C. Maintain security of existing buildings during the course of the work.

1.3 TEMPORARY UTILITIES

A. Refer to Owner's Terms and Conditions

1.4 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. Provide and maintain temporary lighting for construction operations and for site security/access. Provide repairs as applicable.

B. Provide and maintain additional lighting as required for construction operations.

C. Permanent building lighting may be utilized during construction.

1.5 TEMPORARY HEATING/COOLING

A. Not Applicable.

1.6 TEMPORARY VENTILATION

A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.7 TELEPHONE SERVICE

A. Provide, maintain, and pay for cellular telephone service for project superintendant.

1.8 EMAIL

A. Provide email service for project superintendant. **Email communication will be an important tool for all information and communication on this project.**

1.9 TEMPORARY WATER SERVICE

A. Connect to existing water source for construction operations.

B. Extend branch piping with outlets located so water is available by hoses with threaded connections.

1.10 TEMPORARY SANITARY FACILITIES

A. Provide temporary sanitary facilities for use during construction. Maintain daily in clean and sanitary condition.

B. Provide potable drinking water for workers.

1.11 FIELD OFFICES AND SHEDS

A. Provide securable on-site space for storage as required by the contractor. Coordinate with Owner for approved location of such storage space. Obtain required right of way permits, etc. if storage is placed in street.

B. Provide location where field drawings and related documents can be safely stored on-site out of weather to prevent damage.

C. Provide field office for construction operations as deemed necessary by Contractor. Contractor shall pay for field offices and related expenses. One of the units to be modernized may be used.

1.12 VEHICULAR ACCESS

A. Utilize existing street parking / driveways / parking areas for construction activities. Contractor shall not block or prohibit vehicular access to adjacent buildings / parking areas. Do not allow driving/parking in turf areas.

B. Provide unimpeded access for emergency vehicles. Maintain 20 feet wide driveways with turning space between and around combustible materials.

C. Provide and maintain access to fire hydrants and control valves free of obstructions.

1.13 PARKING

A. Use of designated existing on-site driveways / street parking used for construction traffic is permitted. Tracked vehicles not allowed on paved areas. Do not block resident vehicles or those of adjacent buildings with a shared driveway.

B. Use of designated areas of existing parking facilities used by construction personnel is permitted.

C. Do not allow heavy vehicles or construction equipment in parking areas.

D. Maintenance:
   1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
   2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

E. Removal, Repair:
   1. Repair existing and permanent facilities damaged by use, to original or specified condition.

1.14 PROGRESS CLEANING AND WASTE REMOVAL

A. Collect and maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition to the satisfaction of the Owner. Accomplish cleanup on a daily basis.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and rubbish from site daily and dispose off-site. Sort and recycle as applicable.

E. Provide dumpsters or trash containers needed for the proper removal of project materials, trash, or debris related to the work. Keep all work areas and project sites neat and free of

trash and clutter at all times. Project site consists of occupied apartment units. Do not leave trash around the project site. Take all considerations necessary for safety.

1.15 PROTECTION OF INSTALLED WORK

A. Protect installed Work and provide special protection where specified in individual specification sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

C. Protect finished pavement, concrete, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

D. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer and provide all required protection as determined necessary. Any damage caused shall be repaired to like new condition.

E. Prohibit traffic from landscaped areas.

1.16 FIRE PREVENTION FACILITIES

A. Prohibit smoking within building or on site under construction. **NO SMOKING IS PERMITTED ON SITE [INTERIOR OR EXTERIOR]. NO EXCEPTIONS.**

B. Establish fire watch for cutting and welding and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.

C. Portable Fire Extinguishers: NFPA 10; 10 pound capacity, 4A-60B: C UL rating.
   1. Provide one fire extinguisher at each building under construction.
   2. Provide minimum one fire extinguisher in storage shed.

1.17 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas.

B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

C. Protect Work existing premises from theft, vandalism, and unauthorized entry.

1.18 SECURITY

A. Security Program:
   1. Protect Work and existing premises from theft, vandalism, and unauthorized entry.
   2. Maintain program throughout construction period until Owner occupancy

B. Entry Control:
   1. Restrict entrance of persons into Project site.
   2. Allow entrance only to authorized persons with proper identification.
   3. Maintain log of workers and visitors, make available to Owner on request.

1.19 DUST CONTROL

A. Execute Work by methods to minimize raising dust from construction operations.

B. Provide positive means to prevent air-borne dust from dispersing into atmosphere and to other areas of the building.

1.20 POLLUTION AND ENVIRONMENTAL CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

B. Provide dust control, erosion and sediment control, etc. to allow for proper execution of the Work.

C. Provide protective coverings, etc. as necessary to protect work.

1.21 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove existing utilities, connections, finishes, etc. as applicable to the work. Remove back to the nearest termination, junction box, etc. as applicable to the work. Coordinate with requirements on the drawings.

B. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Product requirements.

B. Product options and substitution procedures.

C. Equipment electrical characteristics and components.

1.2 MANUFACTURED PRODUCTS

A. Where a particular system, product, or material is specified by name it shall be considered a standard and most satisfactory for its particular purpose. Any other product or material considered equal or better in all respects must be approved by the Architect prior to bidding.

B. All products used on this project shall be new, unless otherwise noted on the drawings or as specified herein.

1.3 PRODUCTS

A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.

B. Do not use materials and equipment removed from existing premises, except as specifically identified or allowed by the Contract Documents.

C. Provide interchangeable components of same manufacturer for components being replaced.

D. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.

E. Do not use materials and equipment removed from existing premises, except as specifically permitted by Contract Documents.

F. Furnish interchangeable components from same manufacturer for components being replaced.

G. **Products shall be ordered in the first 30 days of the contract**. **Provide documentation of orders upon request.**

H. **It shall be solely the Contractor's responsibility to order products to allow timely delivery for installation. The failure to order materials early in the project shall not be a reason for a contract time extension or additional costs related to expedited shipping and/or delivery. Nor shall this be a reason for a product substitution.**

1.4 LABELING

A. Attach label from agency approved by authority having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.

B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label.
   1. Model number.
   2. Serial number.
   3. Performance characteristics.

1.5 PRODUCT DELIVERY REQUIREMENTS

A. Transport and handle products in accordance with manufacturer's instructions.

B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.

C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

D. Coordinate material delivery to avoid Owner involvement.

1.6 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect products in accordance with manufacturers' instructions.

B. Store with seals and labels intact and legible.

C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

D. For exterior storage of fabricated products, place on sloped supports above ground.
   1. Obtain Owner approval for locations of storage / laydown areas.

E. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

F. Secure materials to prevent blow off / blow over during weather events, wind, etc.

G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.

H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

J. Be responsible for all aspects of storage and safekeeping of all materials and products.

K. Remove all damaged materials from the project site.

1.7 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only:
   1. Any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers with NO Provision for “Approved Equal”:
   1. Products of one of the manufacturers named and meeting specifications, NO options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with Provision for “Equal / Approved Equal” Substitutions :
   1. Products of one of manufacturers named and meeting specifications.
   2. Submit request for substitution [Approved Equal] for any manufacturer not named in accordance with “Product Substitution Procedures”.

1.8 PRODUCT SUBSTITUTION PROCEDURES – REFER TO SECTION 01 25 00

PART 2 PRODUCTS

2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

A. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.

B. Cord and Plug: Furnish minimum 6 foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

2.2 TOLERANCES

A. Monitor fabrication and installation tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply fully with manufacturer's tolerances.

2.3 EXTRA MATERIALS

A. Not Applicable

PART 3 EXECUTION

3.1 FIELD VERIFICATION

A. Verify the actual dimensions of existing conditions and assume responsibility for workable solutions for all new work, prior to ordering materials / products. Verification that the new work and items are workable for existing conditions while providing adequate clearances is the responsibility of the Contractor.

END OF SECTION

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SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Close-out of the actual work, including warranties, project record documents and operations / maintenance manuals, and final cleaning. Close-out of all contract obligations.

1.2 CLOSEOUT PROCEDURES

A. Notify Owner [7] days prior to the work being complete to establish the desired inspection date. Owner / Architect will either proceed with the inspection or notify Contractor of unfulfilled requirements.
   1. 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 punch list inspection.

B. Owner / Architect shall inspect the completed project and notify the Contractor of any deficiencies. Deficiencies will form 'punch list' for final acceptance.

C. Provide submittals to Owner required by authorities having jurisdiction.

D. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3 PUNCHLIST REQUIREMENTS

A. Review and inspect all work prior to notifying the Owner for a Punchlist inspection of the work. Provide written documentation certifying review along with documentation of Contractor generated Punchlist.

B. If work is clearly not complete, the Punchlist will be suspended until such time that it is evident that the Contractor has completed and reviewed/inspected their own work.
   1. Architect anticipates [1] punchlist inspection and [1] back-punch / final inspection as part of our services to the Owner.
   2. Failures by the Contractor to complete the work, complete punchlists, etc. may result in a backcharge to the Contractor for the additional time to closeout the project.

C. Review and provide the noted repairs and corrective work necessary at each of the Punchlist inspections to allow project close out.
   1. Back-punch walk through may result in additional punchlist items which need to be addressed by the Contractor.

D. Provide adequate time in the construction schedule to accomplish punchout work within the overall contract period indicated within the bid documents.

E. The failure to identify any punchlist item during a walk through / inspection does not release the Contractor from contractual responsibility to address any item during the warranty period.

1.4 SUBSTANTIAL COMPLETION

A. Certificate of Substantial Completion will be issued upon completion of all the work.

1.5 PREREQUISITIES TO FINAL ACCEPTANCE AND PAYMENT

A. Prior to acceptance and final payment, all claims or disputes must have been resolved and the Contractor must have provided the following items to the Owner:
   1. Notarized affidavit of waiver of liens [contractor of record], sub-contractors and material suppliers
   2. Certificates of release from authorities having jurisdiction over permitting.
   3. Final statement of charges [100% application for payment].

a. Submit a final Application for Payment according to Section 01 29 00, Payment Procedures.
4. Documented evidence of completing 'punch list' as applicable.
5. Manufacturer's original warranties [copy to RDA].
6. Evidence that claims have been settled.
7. O+M Manuals including Manufacturer's maintenance and repair instructions.
8. Manufacturer's maintenance and repair instructions.
9. Record Drawings.
10. Final cleaning of all work areas:
11. Restore all work staging and lay-out areas to pre-construction conditions, including but not limited to, removal of debris, temporary facilities, grading and grass seeding and cleaning or repair of impacted structures.

1.6 PHOTOGRAPHIC DOCUMENTATION

A. When requested by the Owner, photos of the completed punch list along with any supporting documentation can be submitted, in lieu of a final walkthrough.

1.7 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
1. Drawings.
2. Specifications.
3. Addenda.
4. Change Directives/Orders and other modifications to the Contract.
5. Reviewed Shop Drawings, Product Data, and Samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Record actual revisions to the Work. Record information concurrent with construction progress.

C. Ensure entries are complete and accurate, enabling future reference by Owner.

D. Store record documents separate from documents used for construction.

E. Record information concurrent with construction progress, not less than weekly.

F. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and modifications.

G. Submit documents to Architect.

1.8 PROJECT WARRANTIES

A. General: Original warranties are required to be provided to the Owner prior to final payment.

B. Submit two sets prior to final inspection or when available, bound in 8-1/2 x 11-inch text pages, binder covers.

C. Prepare binder cover with printed title "WARRANTIES" and title of project.

D. Bind warranties in a heavy duty three ring loose leaf binder. Provide a typed description of the product under warranty and phone number of the installer.

E. General: The warranty and guarantee provisions of the General Conditions apply to all work of the contract, including but not limited to the following specific categories related to individual units of work specified in various sections of these specifications:
1. Refer to GDPM Contract Requirements / Terms and Conditions for additional information / requirements.

2. Special Project Warranty (Guarantee): A warranty specifically written and signed by the Contractor for a defined portion of the work, and, where required, countersigned by sub-contractor, installer, manufacturer, or other entity engaged by the Contractor.
3. Specified Product Warranty: A warranty which is required by the contract documents, to be provided for a manufactured product incorporated in the Work, regardless of whether manufacturer has published a similar warranty without regard for specific incorporation into the work, or has written and executed a special project warranty as a direct result of contract document requirements.
4. Coincidental Product Warranty: A warranty which is not specifically required by the Contract Documents (other than as specified in this Section); but which is available on a product incorporated into the work, by virtue of the fact that the manufacturer of the product has published a warranty in connection with purchases and users of the product without regard for specific applications except as otherwise limited by terms of the warranty.

F. All work undertaken as part of the project shall be warranted for a period of not less than [1] year. Individual sections / products may have specific additional warranty requirements.

G. Provide notarized copies of warranty documents to the Owner.
1. Execute and assemble transferable warranty documents from subcontractors, suppliers, and manufacturers.

H. Original warranties are required to be provided to the Owner prior to final payment.

1.9 OPERATION AND MAINTENANCE DATA

A. Submit TWO sets prior to final inspection, bound in 8-1/2 x 11 inch text pages, three D side ring binders with durable plastic covers.
1. **Submit one copy for review by the Architect/Owner, electronic submission preferred**. Submit at 75% of overall gross contract completion. Failure to submit O+M at this point will delay Applications for Payment.
2. Prepare one final copy upon approval and correction of any missing or deficient items by the Architect/Owner.
3. Provide (2) CDs of the O+M Manual in PDF format that is formatted and organized to match the hard copy.

B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS" and title of project. Label on the front and spine of the binder.

C. Internally subdivide binder contents with permanent page dividers, logically organized, with tab titles legibly printed under reinforced laminated plastic tabs.

D. Contents:
1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, subcontractors, and major equipment suppliers.
2. Part 2: Permit and Inspection Information
3. Part 3: Project submittals, organized by CSI division
4. Part 4: Operation and maintenance instructions, arranged by system.
    a. Building Products, Equipment, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations.
    b. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
    c. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and special operating instructions.

   d. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
   e. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
   f. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
   g. Include original shop drawing submittals, fold larger submittals to fit into binder.
5. Part 5: Project documents and certificates.
   a. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers.
6. Part 6: Colors / finishes / samples
7. Part 7: Other documentation required.

1.10 FINAL CLEANING

A. Execute final cleaning prior to final inspection.
   1. Clean site; sweep paved areas, rake clean landscaped surfaces.
   2. Remove waste and surplus materials, rubbish, and construction facilities from site.

B. Restore all work staging and lay-out areas to pre-construction conditions, including but not limited to, removal of debris, temporary facilities, grading and grass seeding and cleaning or repair of impacted structures.

1.11 STARTING OF SYSTEMS

A. Coordinate schedule for start-up of various equipment and systems.

B. Notify Architect / Owner [7] days prior to start-up of each item.

C. Ensure each piece of equipment or system is ready for operation. Verify each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.

D. Verify tests, meter readings, and specified electrical characteristics agree with those required by equipment or system manufacturer.

E. Verify wiring and support components for equipment are complete and tested.

F. Execute start-up under supervision of applicable Contractor’s personnel in accordance with manufacturer’s instructions.

G. Submit written report stating equipment or system has been properly installed and is functioning correctly.

1.12 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of Products to Owner's personnel prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled times, at Project Site location.

D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

E. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time at equipment location/project site.

F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

1.13 TESTING, ADJUSTING AND BALANCING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

B. Retain services of an independent firm to perform testing, adjusting, and balancing if outlined in specific specifications. Include cost for these services in the bid amount.

C. Reports will be submitted by independent firm to Architect / Owner indicating observations and results of tests and indicating compliance or non-compliance with specified requirements and with requirements of Contract Documents.

D. Cooperate with independent firm; furnish assistance as requested.

E. Re-testing required because of non-conformance to specified requirements will be the responsibility of the Contractor.

1.14 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual specification sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Prohibit traffic from landscaped areas.

1.15 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products in quantities specified in individual specification sections.

B. Deliver to Owner and place in location as directed; obtain receipt prior to final payment. Items shall be boxed and labeled with contents.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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SECTION 02 41 16 - STRUCTURE DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Demolishing designated structures.
   2. Demolishing designated foundations.
   3. Demolishing designated slabs-on-grade.
   4. Demolishing and / or Disconnecting and capping designated utilities.
   5. Protecting items designated to remain.
   6. Removing demolished materials.

B. Related Requirements:
   1. Section 31 05 13 - Soils for Earthwork: Backfill materials.
   2. Section 31 05 16 - Aggregates for Earthwork: Backfill materials.
   3. Section 31 10 00 - Site Clearing: Clearing outside periphery of structures.

1.2 SEQUENCING

A. Coordinate sequencing of demolition activities.

1.3 SUBMITTALS

A. Delegated Design Submittals: Submit signed and sealed Shop Drawings with design calculations and assumptions for bracing, shoring, and underpinning if applicable to the work.

B. Existing Building Documentation: Submit the following for existing buildings indicated to remain.
   1. Photographic survey indicating conditions before, during, and after demolition Work.

C. Permits: Submit copies of permits required by regulatory agencies for demolition and sidewalk and street closings.

1.4 CLOSEOUT SUBMITTALS

A. Project Record Documents: Accurately record actual locations of capped utilities, subsurface obstructions, and field changes.

B. Operation and Maintenance Data: Submit description of system, inspection data, and parts lists.

1.5 QUALITY ASSURANCE

A. Perform Work according to City of Dayton, State of Ohio, EPA standards.

B. Conform to applicable code for demolition of structures, safety of adjacent structures, dust control, runoff control, disposal.

C. Conform to applicable code for procedures when hazardous or contaminated materials are discovered.

D. Permits: Obtain required permits from authorities having jurisdiction.

1.6 QUALIFICATIONS

A. Demolition Firm: Company specializing in performing Work of this Section with minimum five years' documented experience.

1.7 EXISTING CONDITIONS

A. Buildings indicated to be demolished will be vacated before start of Work.

B. Owner assumes no responsibility for actual condition of buildings to be demolished.

C. Notify Architect / Owner upon discovery of hazardous materials not identified in environmental specifications.

D. Hazardous Materials: Known hazardous materials will be removed before start of Work by Contractor.

E. Do not sell demolished materials on-Site.

F. Maintain existing sidewalks, driveways, and paving to greatest extent possible, coordinate with civil drawings.

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. Fill Material: as specified in Section 31 05 13 - Soils for Earthwork; 31 05 16 - Aggregates for Earthwork.

B. Compact all fill material in preparation for redevelopment of the site.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine existing buildings indicated to be demolished before demolition.

B. Determine where removals may result in structural deficiency or unplanned building collapse during demolition. Coordinate demolition sequence and procedures to prevent structures from becoming unstable.

C. Determine where demolition may affect structural integrity or weather resistance of adjacent buildings indicated to remain.
   1. Identify measures required to protect buildings from damage.
   2. Identify remedial Work including patching, repairing, bracing, and other Work required to leave buildings indicated to remain in structurally sound, weathertight, and watertight condition.

D. Verify hazardous material abatement is complete before beginning demolition.

E. Existing Building Documentation
   1. Document condition of adjacent buildings indicated to remain.
   2. Make arrangements with building owners and occupants to survey interior and exterior of existing buildings.
   3. Employ commercial photographer to provide following graphic documentation:
      a. Photographically document existing building exterior before beginning demolition and after completing demolition.

3.2 PREPARATION

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.

B. Call local utility line information service at 811 not less than **three** working days before performing Work.
   1. Request underground utilities [including private utilities] to be located and marked within and surrounding construction areas.

C. Notify affected utility companies before starting Work, and comply with utility's requirements.

D. Do not close or obstruct roadways without permits.

E. Erect and maintain temporary barriers and security devices, including warning signs and lights, and similar measures, for protection of the public and existing improvements indicated to remain.

F. Protect existing site amenities and buildings indicated to remain.

G. Prevent movement or settlement of adjacent structures. Provide bracing and shoring.

3.3 DEMOLITION

A. General:
   1. Use of explosives is not permitted.
   2. Conduct demolition to minimize interference with adjacent occupied buildings.
   3. Cease operations immediately when adjacent structures appear to be in danger. Notify Architect / Owner. Do not resume operations until directed.
   4. Conduct operations with minimum interference to public or private accesses to occupied adjacent structures. Maintain protected continuous egress and access from adjacent structures.
   5. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon, or limit access to their property.
   6. Sprinkling:
      a. Sprinkle Work with water to minimize dust.
      b. Provide hoses and water connections required for this purpose.

B. Capped Utilities:
   1. Disconnect, remove and cap designated utilities to street connection or as required by the utility company.
   2. Identify utilities at termination of demolition.
   3. Record termination or capped location on Record Documents.

C. Remove foundation walls and footings complete.

D. Remove concrete slabs-on-grade.

E. Remove underground tanks, components, and piping from Site.

F. Backfill areas excavated, open pits and holes resulting from demolition.

G. Rough grade and compact areas affected by demolition to maintain Site grades and contours.

H. Continuously clean up and remove demolished materials from Site. Do not allow materials to accumulate on-Site.

I. Do not burn or bury materials on-Site; leave Site in clean condition.

END OF SECTION

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SECTION 02 50 00 - HAZARDOUS MATERIALS SPECIFICATIONS

PART 1 GENERAL

1.1 HAZARDOUS MATERIALS

A. There are known hazardous materials in the area of work of this project. Refer to the attached Environmental Report from macparan consulting.

1.2 SUMMARY

A. Contractors must comply with Occupational Safety and Health Administration regulation 29 CFR 1926.62 “Lead in Construction Standard” as well as the Environmental Protection Agency Lead, Renovation, Repair and Painting Rule.

B. Contractor shall follow all applicable EPA rules and regulations when working with hazardous materials. It shall be the contractor’s responsibility to remain in compliance at all times during the project.

C. If any work person encounters any material which they suspect may be hazardous or toxic, they shall immediately advise the Owner. The Contractor shall take immediate and appropriate action to protect the building users and workers in accordance with federal, state, and local laws, codes and regulations. The architect and architect's consultants shall have no responsibility for the discovery, presence, handling, removal or disposal of or exposure of persons to hazardous materials in any form at the project site, including but not limited to asbestos, asbestos products, polychlorinated biphenyl (pcb) or other toxic substances.

1. The contractor is hereby advised that RDA Group Architects, LLC is not a design professional in the determination of the presence of hazardous materials, nor is RDA a design professional involved in making recommendations regarding the testing, removal, encapsulation or other corrective measures pertaining to hazardous materials.
2. If the work which is to be performed under the contract interfaces in any way with the existing components which contain hazardous materials, it is the contractor’s responsibility to contact the owner's environmental consultant regarding the proper means & methods to be utilized in dealing with hazardous materials.
3. By execution of the contract for construction, the contractor hereby agrees to bring no claim for negligence, breach of contract, indemnity or otherwise against the architect, his principles, employees, agents or consultants if such a claim in any way would involve the investigation of or remedial work related to hazardous materials in the project.
4. By execution of the contract for construction, the contractor further agrees to defend, indemnify and hold the architect, his principles, employees, agents or consultants harmless from any such asbestos or other hazardous materials related claims that may be brought by the contractor's subcontractors, suppliers or other third parties who may be acting under the direction of the contractor pursuant to this project.

END OF SECTION

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Cincinnati

3959 Fulton Grove Rd.
Cincinnati, Ohio 45245
(513) 752-9111
(513) 752-7973 (Fax)

Cleveland

3100 East 45th Street
Suite 446
Cleveland, Ohio 44127
(216) 916-7378

Florida

11982 Granite Woods Loop
Venice, Florida 34292
(513) 265-3299

Services

Phase I ESA's
Phase II Investigations
Asbestos
Lead-Based Paint
Industrial Hygiene
Indoor Air Quality/Mold
Radon
Safety
Training

Asbestos-Containing Materials Inspection Report

DeSoto Bass Courts
811 Oldfield Place
Dayton, Ohio 45417

Prepared for:

Greater Dayton Premier Management (GDPM)
400 Wayne Avenue
Dayton, Ohio 45417
Phone: (937) 977-5882

Prepared by:

m.a.c. Paran Consulting Services, Inc.

George S. Beaudion
Certified Asbestos Hazard Evaluation Specialist #ES31662

Michelle Paraniuk, M.S., President

March 2023

Table of Contents

1.0 Executive Summary

1.1 Background

m.a.c. Paran Consulting Services, Inc. performed a limited asbestos inspection for Greater Dayton Premier Management (GDPM). The inspection was performed at DeSoto Bass Courts, 811 Oldfield Place, Dayton, Ohio. The objectives of the inspection were to (1) identify, by type and location, friable and non-friable asbestos-containing materials [ACM] in specified areas of the structure; (2) assess the current condition of the ACM identified; and (3) provide estimated quantities of ACM. The inspection was conducted by Mr. George S. Beaudion, certified Ohio Asbestos Hazard Evaluation Specialist (License #ES31662), in February 2023.

1.2 Inspection Results

The following is a summary of the materials confirmed by the laboratory to contain >1% asbestos. Please note that the quantities provided in this summary are approximate amounts and should be verified by an abatement contractor prior to the onset of removal activities.

- No suspect asbestos-containing materials sampled contained >1% asbestos.

Note 1: The inspection was limited to 34 units and the Senior Citizens Building.

Note 2: This report should be used in conjunction with the initial limited asbestos inspection performed in 2017. See Appendix C.

Note 3: While care was taken to identify all asbestos-containing materials identified in the areas sampled, additional materials may be located within non-accessible areas. If, through renovation or demolition these materials are discovered, they should be treated as asbestos-containing until further testing proves otherwise.

2.0 Inspection Procedures

2.1 General Asbestos Inspection and Sampling Procedures

The inspection was performed in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAPS, 40 CFR 61.145) and the Ohio Administrative Code (OAC, 3745-20) regulations governing asbestos emission and waste control from demolition/renovation activities. Bulk sampling of materials suspect to contain asbestos was conducted following Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA, 40 CFR 763.90), the accepted industry standard for conducting asbestos investigations in all types of buildings.

The vast majority of physically accessible spaces within the building were accessed and inspected for suspect asbestos-containing materials. The Inspector then grouped suspect materials into homogeneous areas for sampling. A homogeneous area consists of materials with like appearance, color, texture, and application date. A physical assessment (visual observation and touching the material) was also made of the current condition and degree of friability for each identified material (a material is considered friable if it can be crumbled using hand pressure). A list of homogeneous areas identified for this assessment is included on the Bulk Sample Summary Table.

The Inspector assessed all identified asbestos-containing materials. The inspection encompassed both friable and non-friable materials. The Inspector then assumed that the specific material remained homogeneous (based upon the material's appearance and application) throughout the building. In situations where materials appeared to alternate between asbestos containing and non-asbestos containing, the Inspector looked for visible differences between materials. If differences were not apparent, the Inspector made a professional decision to err on the side of conservatism and assumed that all materials were asbestos-containing.

The Inspector made every effort to locate all asbestos-containing materials identified during the inspection, however, should unidentified suspect asbestos-containing materials be discovered, please contact m.a.c. Paran Consulting Services, Inc. for assistance in material identification.

2.2 Method of Sampling and Analysis

2.2.1 Bulk Sample Collection Methods

To avoid disturbing suspected asbestos-containing materials more than necessary and minimize the potential release of asbestos fibers, the Inspector performed bulk sampling in accordance with the industry accepted procedures outlined in the current EPA Guidance Document and the AHERA sampling protocol. Each sample collected was pre-wetted and obtained using a clean coring tool, utility knife, or other appropriate tool. Each sample was then placed in a clean, sealable vial and labeled with a unique sample identification number. Care was taken to obtain a sample that was representative of all layers of a material. To avoid cross-contamination, the tools used for sample collection were thoroughly cleaned before collecting the next sample. If requested, the sample site was labeled with a pre-printed adhesive-backed sample identification tag bearing the corresponding sample identification number. Pertinent sample information was recorded on a standardized bulk sample log sheet including the date of inspection, name of the Inspector, a brief description and the location of the sample, and the type of material sampled (e.g., thermal systems insulation).

2.2.2 Analysis of Bulk Samples

Bulk samples were analyzed for asbestos content by Polarized-Light Microscopy (PLM) and dispersion staining (Method Reference: EPA/600/R-931/116). This analytical method, which EPA currently recommends, for the determination of asbestos in bulk samples, can be used for qualitative identification of six morphologically different types of asbestos fibers: chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite asbestos.

PLM analysis requires the microscopist to take a portion of the sample and treat it with an oil of a specific refractive index. This prepared slide is then subjected to a variety of tests while being viewed under varying polarizations of light. Each asbestos type displays unique characteristics when subjected to these tests. The percentages of the identified types of asbestos are determined by visual estimation.

For samples containing low concentrations of asbestos, the Inspector may choose to have the laboratory perform point count analysis. This additional step is employed to more accurately determine the percent of asbestos that is in the material being sampled. Using the point counting procedure, eight mounts are made by dispersing eight sub-samples of the bulk sample into a suitable fluid. A reticule is placed on the eyepiece of the microscope that superimposes a grid of points over the field of view. Fifty non-empty points are examined for each mount, yielding 400 points, some of which may be identified as asbestos and the rest as non-asbestos material. A simple calculation gives the percentage asbestos; 4 points in 400 would be 1.0%.

2.2.3 Reporting of Analysis Results

The method specifies that the asbestos content in a bulk sample shall be estimated and reported as a finite percentage (rounded to the nearest percent) within the range of 0 to 100. Minute quantities of asbestos in bulk samples may be reported as “trace” (tr) or less than 1 percent. The composition of the bulk sample is reported in percentages of asbestos (i.e., chrysotile, amosite, crocidolite, or other) and non-asbestos (i.e., cellulose, fiberglass, mineral wool, synthetic, or other) components. The original laboratory reports are presented in Appendix A.

2.2.4 Laboratory

Analysis of all suspect asbestos-containing materials was performed by Eurofins CEI, Inc. using polarized light microscopy. Eurofins CEI, Inc. successfully participates in, and is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), administered by the National Institute of Standards and Technology.

2.3 Physical and Hazard Assessment

2.3.1 Physical Assessment Factors

Per AHERA requirements, the Inspector performed a physical assessment of all friable asbestos-containing materials. This involved physically observing and documenting the current condition of each friable material and assessing its potential for future disturbance (or fiber release potential).

The Inspector categorized the materials’ current condition as Good, Fair, or Poor. AHERA protocol is not specific as to how these categories are arrived at, but in general, the following guideline is used:

- Good – less than 10% area damage
- Fair – more than 10%, but less than 25% area damage
- Poor – more than 25% area damage

The Inspector then made an assessment of the materials' potential for future disturbance (or fiber release potential) using the general factors listed in Table 2-1 on the following page. The first three factors focus on the current condition of the asbestos-containing material. Evidence of deterioration, delamination, physical damage, or water damage indicates that fiber release has occurred, is occurring, or is likely to occur in the future. Such evidence is based on the appearance of the material and/or the presence of dislodged or crumbled material in the surrounding area. The first three factors focus on the potential for fiber release due to disturbance or erosion. Surface erosion is likely to occur when asbestos-containing materials are located in air plenums or near forced-air streams. Exposed and easily accessible materials in areas frequented by building occupants, or subject to mechanical vibrations are more vulnerable to disturbance or damage than materials in other locations.

Table 2-1: Factors for Assessing Potential Fiber Release
Current Condition of Asbestos-Containing Materials
• Evidence of deterioration or delamination from the underlying surface (substrate) • Evidence of physical damage (e.g., presence of debris) • Evidence of water damage
Potential for Future Disturbance, Damage, or Erosion of Asbestos-Containing Material
• Proximity to air plenum or direct airstream • Visibility, accessibility (to building occupants and maintenance personnel), and degree of activity (air movement, vibration, movement of building occupants) • Change in building use

2.3.2 Hazard Assessment Factors

Based upon the physical assessment, friable asbestos-containing materials are then given a hazard rank with corresponding response options to aid the building owner in prioritizing response actions (see Table 2-2). The hazard ranks range from 7 – most hazardous, to 1 – least hazardous as shown in Table 2-2 below. The highest rank is reserved for materials that are "significantly damaged" or material that is so extensively damaged that it requires immediate corrective action. Hazard ranks 4 – 6 reflect materials which are "damaged" with rank 6 indicating a high potential for further damage, and rank 5 indicating a moderate potential for damage. Hazard rank 4 denotes that a material has been damaged; however, the potential for any further damage is low. Hazard ranks 1 – 3 are reserved for materials currently in good condition with future disturbance potentials being high, moderate, or low (3, 2, 1, respectively). Non-friable materials are categorized as non-friable.

Table 2-2: Classifications for Hazard Potential of Friable Asbestos-Containing Materials		
Hazard Rank	**Condition**	**Disturbance Potential**
7	Poor	Any
6	Fair	High
5	Fair	Moderate
4	Fair	Low
3	Good	High
2	Good	Moderate
1	Good	Low

2.3.3 Physical and Hazard Assessments of Materials Encountered

The physical and hazard assessments made for all asbestos-containing materials identified during this inspection can be found in Section 4.0 “Inventory of Asbestos-Containing Materials”.

3.0 Bulk Sample Data Summary

The following table presents the results of materials sampled.

Table 3-1: Bulk Sample Summary – DeSoto Bass Courts

Room/Location	Material Description	Homogeneous Area (HA) Number	Sample Number	Laboratory Results
800 Oldfield Bedroom	Hard Plaster	1	DB – 1	None Detected
800 Oldfield Living Room	Hard Plaster	1	DB – 2	None Detected
800 Oldfield Bedroom	12” Floor Tile (black, white)	2	DB – 3	None Detected
800 Oldfield Bedroom	Yellow Mastic on HA #2	2A	DB – 3	None Detected
800 Oldfield Bedroom	12” Floor Tile (black, white)	2	DB – 4	None Detected
800 Oldfield Bedroom	Yellow Mastic on HA #2	2A	DB – 4	None Detected
800 Oldfield Bedroom	12” Floor Tile (tan)	3	DB – 5	None Detected
800 Oldfield Bedroom	Yellow Mastic on HA #3	3A	DB – 5	None Detected
800 Oldfield Bedroom	12” Floor Tile (tan)	3	DB – 6	None Detected
800 Oldfield Bedroom	Yellow Mastic on HA #3	3A	DB – 6	None Detected
800 Oldfield Bathroom	Textured Finish on Ceiling and Walls	4*	DB – 7	None Detected
800 Oldfield Bathroom	Textured Finish on Ceiling and Walls	4	DB – 8	None Detected
800 Oldfield Bathroom	Textured Finish on Ceiling and Walls	4	DB – 9	None Detected
1736 Germantown Living Room	Hard Plaster	1	DB – 10	None Detected
1736 Germantown Bedroom	Hard Plaster	1	DB – 11	None Detected

*<1,000 square foot total

Table 3-1: Bulk Sample Summary – DeSoto Bass Courts				
Room/Location	**Material Description**	**Homogeneous Area (HA) Number**	**Sample Number**	**Laboratory Results**
1736 Germantown Living Room	Drywall/Compound	5	DB – 12	None Detected
1736 Germantown Living Room	Cove Base Adhesive (tan)	6	DB – 13	None Detected
811 Danner Front Bedroom	Hard Plaster	1	DB – 14	None Detected
811 Danner Back Bedroom	12” Floor Tile (light Brown)	7	DB – 15	None Detected
811 Danner Back Bedroom	Yellow Mastic on HA #7	7A	DB – 15	None Detected
811 Danner Back Bedroom	12” Floor Tile (light Brown)	7	DB – 16	None Detected
811 Danner Back Bedroom	Yellow Mastic on HA #7	7A	DB – 16	None Detected
811 Danner Front Bedroom	Drywall/Compound	5	DB – 17	None Detected
806 Boone Front Bedroom	Hard Plaster	1	DB – 18	None Detected
26 Bragg Hallway	Drywall/Compound	5	DB – 19	None Detected
26 Bragg Front Bedroom	Drywall/Compound	5	DB – 20	None Detected
26 Bragg Front Bedroom	12” Floor Tile (white, tan)	8	DB – 21	None Detected
26 Bragg Front Bedroom	Yellow Mastic on HA #8	8A	DB – 21	None Detected
26 Bragg Front Bedroom	Black Mastic on HA #8	8B	DB – 21	None Detected
26 Bragg Front Bedroom	12” Floor Tile (white, tan)	8	DB – 22	None Detected
26 Bragg Front Bedroom	Yellow Mastic on HA #8	8A	DB – 22	None Detected

Table 3-1: Bulk Sample Summary – DeSoto Bass Courts				
Room/Location	**Material Description**	**Homogeneous Area (HA) Number**	**Sample Number**	**Laboratory Results**
26 Bragg Front Bedroom	Black Mastic on HA #8	8B	DB – 22	None Detected
65 Benning Bathroom	Drywall/Compound	5	DB – 23	None Detected
65 Benning Front Bedroom	Textured Finish on Ceiling	9**	DB – 24	None Detected
65 Benning Back Bedroom	Textured Finish on Ceiling	9	DB – 25	None Detected
65 Benning Living Room	Textured Finish on Ceiling	9	DB – 26	None Detected
2 Benning Kitchen	Textured Finish on Ceiling and Walls	10*	DB – 27	None Detected
2 Benning Kitchen	Textured Finish on Ceiling and Walls	10	DB – 28	None Detected
2 Benning Kitchen	Textured Finish on Ceiling and Walls	10	DB – 29	None Detected
2 Benning Bathroom	Textured Finish on Ceiling	9	DB – 30	None Detected
1045 Hughes Furnace Room	Drywall/Compound	5	DB – 31	None Detected
22 Bragg Front Bedroom	Drywall/Compound	5	DB – 32	None Detected
1037 Danner Kitchen	Drywall/Compound	5	DB – 33	None Detected
1045 Danner Back Bedroom	Drywall/Compound	5	DB – 34	None Detected
1045 Danner Hallway	12” Floor Tile (dark brown)	11	DB – 35	None Detected
1045 Danner Hallway	Yellow, Grey Mastic on HA #11	11A	DB – 35	None Detected
1045 Danner Hallway	12” Floor Tile (dark brown)	11	DB – 36	None Detected

*<1,000 square foot total
**<5,000 square foot total

Table 3-1: Bulk Sample Summary – DeSoto Bass Courts				
Room/Location	**Material Description**	**Homogeneous Area (HA) Number**	**Sample Number**	**Laboratory Results**
1045 Danner Hallway	Yellow, Grey Mastic on HA #11	11A	DB – 36	None Detected
807 Danner Front Bedroom	Hard Plaster	1	DB – 37	None Detected
807 Danner Front Bedroom	Drywall/Compound	5	DB – 38	None Detected
802 Wilberforce Living Room	Hard Plaster	1	DB – 39	None Detected
802 Wilberforce Kitchen	Drywall/Compound	5	DB – 40	None Detected
802 Wilberforce Bathroom	Textured Finish on Ceiling	9	DB – 41	None Detected
1705 Banker Front Bedroom	Hard Plaster	1	DB – 42	None Detected
1745 Banker Front Bedroom	12” Floor Tile (tan, brown)	12	DB – 43	None Detected
1745 Banker Front Bedroom	Black Mastic on HA #11	12A	DB – 43	None Detected
1745 Banker Front Bedroom	12” Floor Tile (tan, brown)	12	DB – 44	None Detected
1745 Banker Front Bedroom	Black Mastic on HA #11	12A	DB – 44	None Detected
914 Custer Place Front Bedroom	Hard Plaster	1	DB – 45	None Detected
1035 Carver Place Kitchen	Hard Plaster	1	DB – 46	None Detected
816 Wilberforce Living Room	Drywall/Compound	5	DB – 47	None Detected
816 Wilberforce Kitchen	Textured Finish on Ceiling	13*	DB – 48	None Detected
816 Wilberforce Kitchen	Textured Finish on Ceiling	13	DB – 49	None Detected

*<1,000 square foot total

Table 3-1: Bulk Sample Summary – DeSoto Bass Courts				
Room/Location	**Material Description**	**Homogeneous Area (HA) Number**	**Sample Number**	**Laboratory Results**
816 Wilberforce Kitchen	Textured Finish on Ceiling	13	DB – 50	None Detected

4.0 Inventory of Asbestos-Containing Materials

The following table presents a list of asbestos-containing materials identified during the inspection.

Table 4-1: Asbestos-Containing Materials Inventory – DeSoto Bass Courts			
Room/Location	**Material Type**	**Condition/ Hazard Rank**	**Estimated Quantity**
Not Applicable	None	Not Applicable	Not Applicable

Attachment A

Laboratory Report/Chain of Custody

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February 14, 2023

Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

CLIENT PROJECT: Desoto Bass Courts, 23-11.1
CEI LAB CODE: B233226

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on February 9, 2023. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,

Tianbao Bai, Ph.D., CIH
Laboratory Director

NVLAP TESTING
NVLAP LAB CODE: 600323-0

eurofins | CEI

ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Mac Paran Consulting Services, Inc.

CLIENT PROJECT: Desoto Bass Courts, 23-11.1

LAB CODE: B233226

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 02/14/23

TOTAL SAMPLES ANALYZED: 50

SAMPLES >1% ASBESTOS:

2752 Pleasant Rd Suite 100A • Fort Mill, SC 29708 • 803.526.5146

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Desoto Bass Courts, 23-11.1 **LAB CODE: B233226**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
DB-1	Layer 1	B233226.01	White	Plaster Skim Coat	None Detected
	Layer 2	B233226.01	Gray	Plaster Base Coat	None Detected
DB-2	Layer 1	B233226.02	White	Plaster Skim Coat	None Detected
	Layer 2	B233226.02	Gray	Plaster Base Coat	None Detected
DB-3		B233226.03A	Black	12" Floor Tile	None Detected
		B233226.03B	Yellow	Mastic	None Detected
DB-4		B233226.04A	Black	12" Floor Tile	None Detected
		B233226.04B	Yellow	Mastic	None Detected
DB-5	Layer 1	B233226.05A	Yellow	Mastic	None Detected
	Layer 2	B233226.05A	White	12" Floor Tile	None Detected
		B233226.05B	Black	Mastic	None Detected
DB-6	Layer 1	B233226.06A	Yellow	Mastic	None Detected
	Layer 2	B233226.06A	White	12" Floor Tile	None Detected
		B233226.06B	Black	Mastic	None Detected
DB-7		B233226.07	White	Textured Finish	None Detected
DB-8		B233226.08	White	Textured Finish	None Detected
DB-9		B233226.09	White	Textured Finish	None Detected
DB-10	Layer 1	B233226.10	White	Plaster Skim Coat	None Detected
	Layer 2	B233226.10	Gray	Plaster Base Coat	None Detected
DB-11	Layer 1	B233226.11	White	Plaster Skim Coat	None Detected
	Layer 2	B233226.11	Gray	Plaster Base Coat	None Detected
DB-12		B233226.12	White,Tan	Drywall/Joint Compound	None Detected
DB-13		B233226.13	Cream	Adhesive	None Detected
DB-14	Layer 1	B233226.14	White	Plaster Skim Coat	None Detected
	Layer 2	B233226.14	Gray	Plaster Base Coat	None Detected
DB-15		B233226.15A	White	12" Floor Tile	None Detected
		B233226.15B	Yellow	Mastic	None Detected
DB-16		B233226.16A	White	12" Floor Tile	None Detected
		B233226.16B	Yellow	Mastic	None Detected
DB-17		B233226.17	White,Tan	Drywall/Joint Compound	None Detected
DB-18	Layer 1	B233226.18	White	Plaster Skim Coat	None Detected

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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Desoto Bass Courts, 23-11.1 **LAB CODE: B233226**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 2	B233226.18	Gray	Plaster Base Coat	None Detected
DB-19		B233226.19	White,Tan	Drywall/Joint Compound	None Detected
DB-20		B233226.20	White,Tan	Drywall/Joint Compound	None Detected
DB-21		B233226.21A	White	12" Floor Tile	None Detected
	Layer 1	B233226.21B	Yellow	Mastic	None Detected
	Layer 2	B233226.21B	Black	Mastic	None Detected
DB-22		B233226.22A	White	12" Floor Tile	None Detected
	Layer 1	B233226.22B	Yellow	Mastic	None Detected
	Layer 2	B233226.22B	Black	Mastic	None Detected
DB-23		B233226.23	White,Tan	Drywall/Joint Compound	None Detected
DB-24		B233226.24	White	Textured Finish	None Detected
DB-25		B233226.25	White	Textured Finish	None Detected
DB-26		B233226.26	White	Textured Finish	None Detected
DB-27		B233226.27	White	Textured Finish	None Detected
DB-28		B233226.28	White	Textured Finish	None Detected
DB-29		B233226.29	White	Textured Finish	None Detected
DB-30		B233226.30	White	Textured Finish	None Detected
DB-31		B233226.31	White,Tan	Drywall/Joint Compound	None Detected
DB-32		B233226.32	White,Tan	Drywall/Joint Compound	None Detected
DB-33		B233226.33	White,Tan	Drywall/Joint Compound	None Detected
DB-34		B233226.34	White,Tan	Drywall/Joint Compound	None Detected
DB-35	Layer 1	B233226.35A	Yellow,Gray	Mastic	None Detected
	Layer 2	B233226.35A	Gray	12" Floor Tile	None Detected
		B233226.35B	Yellow	Mastic	None Detected
DB-36	Layer 1	B233226.36A	Yellow,Gray	Mastic	None Detected
	Layer 2	B233226.36A	Gray	12" Floor Tile	None Detected
		B233226.36B	Yellow	Mastic	None Detected
DB-37	Layer 1	B233226.37	White	Plaster Skim Coat	None Detected
	Layer 2	B233226.37	Gray	Plaster Base Coat	None Detected
DB-38		B233226.38	White,Tan	Drywall/Joint Compound	None Detected
DB-39	Layer 1	B233226.39	White	Plaster Skim Coat	None Detected

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Desoto Bass Courts, 23-11.1 **LAB CODE: B233226**

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 2	B233226.39	Gray	Plaster Base Coat	None Detected
DB-40		B233226.40	White,Tan	Drywall/Joint Compound	None Detected
DB-41		B233226.41	White	Textured Finish	None Detected
DB-42	Layer 1	B233226.42	White	Plaster Skim Coat	None Detected
	Layer 2	B233226.42	Gray	Plaster Base Coat	None Detected
DB-43		B233226.43A	White	12" Floor Tile	None Detected
		B233226.43B	Black	Mastic	None Detected
DB-44		B233226.44A	White	12" Floor Tile	None Detected
		B233226.44B	Black	Mastic	None Detected
DB-45	Layer 1	B233226.45	White	Plaster Skim Coat	None Detected
	Layer 2	B233226.45	Gray	Plaster Base Coat	None Detected
DB-46	Layer 1	B233226.46	White	Plaster Skim Coat	None Detected
	Layer 2	B233226.46	Gray	Plaster Base Coat	None Detected
DB-47	Layer 1	B233226.47	White	Plaster Skim Coat	None Detected
	Layer 2	B233226.47	Gray	Plaster Base Coat	None Detected
DB-48		B233226.48	White	Textured Finish	None Detected
DB-49		B233226.49	White	Textured Finish	None Detected
DB-50		B233226.50	White	Textured Finish	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
Date Analyzed: 02-14-23
Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-1	Plaster Skim Coat	Heterogeneous			60%	Binder	None Detected
Layer 1		White			35%	Silicates	
B233226.01		Non-fibrous			5%	Paint	
		Bound					
Layer 2	Plaster Base Coat	Homogeneous	<1%	Cellulose	65%	Silicates	None Detected
B233226.01		Gray			35%	Binder	
		Non-fibrous					
		Bound					
DB-2	Plaster Skim Coat	Heterogeneous			60%	Binder	None Detected
Layer 1		White			35%	Silicates	
B233226.02		Non-fibrous			5%	Paint	
		Bound					
Layer 2	Plaster Base Coat	Homogeneous	<1%	Cellulose	65%	Silicates	None Detected
B233226.02		Gray			35%	Binder	
		Non-fibrous					
		Bound					
DB-3	12" Floor Tile	Homogeneous			100%	Vinyl	None Detected
B233226.03A		Black					
		Non-fibrous					
		Tightly Bound					
B233226.03B	Mastic	Homogeneous			100%	Mastic	None Detected
		Yellow					
		Non-fibrous					
		Bound					
DB-4	12" Floor Tile	Homogeneous			100%	Vinyl	None Detected
B233226.04A		Black					
		Non-fibrous					
		Tightly Bound					

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

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Cincinnati, OH 45245

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Date Received: 02-09-23
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Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous	Non-Fibrous		ASBESTOS %
B233226.04B	Mastic	Homogeneous Yellow Non-fibrous Bound		100%	Mastic	None Detected
DB-5 Layer 1 B233226.05A	Mastic	Homogeneous Yellow Non-fibrous Bound		100%	Mastic	None Detected
Layer 2 B233226.05A	12" Floor Tile	Homogeneous White Non-fibrous Tightly Bound		100%	Vinyl	None Detected
B233226.05B	Mastic	Homogeneous Black Non-fibrous Bound		100%	Tar	None Detected
DB-6 Layer 1 B233226.06A	Mastic	Homogeneous Yellow Non-fibrous Bound		100%	Mastic	None Detected
Layer 2 B233226.06A	12" Floor Tile	Homogeneous White Non-fibrous Tightly Bound		100%	Vinyl	None Detected
B233226.06B	Mastic	Homogeneous Black Non-fibrous Bound		100%	Tar	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
Date Analyzed: 02-14-23
Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-7	Textured Finish	Heterogeneous			60%	Binder	None Detected
B233226.07		White			35%	Calc Carb	
		Non-fibrous			5%	Paint	
		Bound					
DB-8	Textured Finish	Heterogeneous			60%	Binder	None Detected
B233226.08		White			35%	Calc Carb	
		Non-fibrous			5%	Paint	
		Bound					
DB-9	Textured Finish	Heterogeneous			60%	Binder	None Detected
B233226.09		White			35%	Calc Carb	
		Non-fibrous			5%	Paint	
		Bound					
DB-10	Plaster Skim Coat	Heterogeneous			60%	Binder	None Detected
Layer 1		White			35%	Silicates	
B233226.10		Non-fibrous			5%	Paint	
		Bound					
Layer 2	Plaster Base Coat	Homogeneous	<1%	Cellulose	65%	Silicates	None Detected
B233226.10		Gray			35%	Binder	
		Non-fibrous					
		Bound					
DB-11	Plaster Skim Coat	Heterogeneous			60%	Binder	None Detected
Layer 1		White			35%	Silicates	
B233226.11		Non-fibrous			5%	Paint	
		Bound					
Layer 2	Plaster Base Coat	Homogeneous	<1%	Cellulose	65%	Silicates	None Detected
B233226.11		Gray			35%	Binder	
		Non-fibrous					
		Bound					

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
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Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-12 B233226.12	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	20%	Cellulose	70% 10% <1%	Gypsum Calc Carb Paint	None Detected
DB-13 B233226.13	Adhesive	Homogeneous Cream Non-fibrous Bound			100%	Mastic	None Detected
DB-14 Layer 1 B233226.14	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Silicates Paint	None Detected
Layer 2 B233226.14	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65% 35%	Silicates Binder	None Detected
DB-15 B233226.15A	12" Floor Tile	Homogeneous White Non-fibrous Tightly Bound			100%	Vinyl	None Detected
B233226.15B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
DB-16 B233226.16A	12" Floor Tile	Homogeneous White Non-fibrous Tightly Bound			100%	Vinyl	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
Date Analyzed: 02-14-23
Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
B233226.16B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
DB-17 B233226.17	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	15% 5%	Cellulose Fiberglass	70% 10% <1%	Gypsum Calc Carb Paint	None Detected
DB-18 Layer 1 B233226.18	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Silicates Paint	None Detected
Layer 2 B233226.18	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65% 35%	Silicates Binder	None Detected
DB-19 B233226.19	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	20%	Cellulose	70% 10% <1%	Gypsum Calc Carb Paint	None Detected
DB-20 B233226.20	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	20%	Cellulose	70% 10%	Gypsum Calc Carb	None Detected
DB-21 B233226.21A	12" Floor Tile	Homogeneous White Non-fibrous Tightly Bound			100%	Vinyl	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
Date Analyzed: 02-14-23
Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
Layer 1 B233226.21B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
Layer 2 B233226.21B	Mastic	Homogeneous Black Non-fibrous Bound			100%	Tar	None Detected
DB-22 B233226.22A	12" Floor Tile	Homogeneous White Non-fibrous Tightly Bound			100%	Vinyl	None Detected
Layer 1 B233226.22B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
Layer 2 B233226.22B	Mastic	Homogeneous Black Non-fibrous Bound			100%	Tar	None Detected
DB-23 B233226.23	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	20%	Cellulose	70% 10% <1%	Gypsum Calc Carb Paint	None Detected
DB-24 B233226.24	Textured Finish	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Calc Carb Paint	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
Date Analyzed: 02-14-23
Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-25 B233226.25	Textured Finish	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Calc Carb Paint	None Detected
DB-26 B233226.26	Textured Finish	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Calc Carb Paint	None Detected
DB-27 B233226.27	Textured Finish	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Calc Carb Paint	None Detected
DB-28 B233226.28	Textured Finish	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Calc Carb Paint	None Detected
DB-29 B233226.29	Textured Finish	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Calc Carb Paint	None Detected
DB-30 B233226.30	Textured Finish	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Calc Carb Paint	None Detected
DB-31 B233226.31	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	20%	Cellulose	70% 10% <1%	Gypsum Calc Carb Paint	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
Date Analyzed: 02-14-23
Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-32 B233226.32	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	20%	Cellulose	70% 10% <1%	Gypsum Calc Carb Paint	None Detected
DB-33 B233226.33	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	15% 5%	Cellulose Fiberglass	70% 10% <1%	Gypsum Calc Carb Paint	None Detected
DB-34 B233226.34	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	20%	Cellulose	70% 10%	Gypsum Calc Carb	None Detected
DB-35 Layer 1 B233226.35A	Mastic	Homogeneous Yellow,Gray Non-fibrous Bound	<1%	Synthetic Fiber	100% <1%	Mastic Non-Fibrous Debris	None Detected
Layer 2 B233226.35A	12" Floor Tile	Homogeneous Gray Non-fibrous Tightly Bound			100%	Vinyl	None Detected
B233226.35B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
DB-36 Layer 1 B233226.36A	Mastic	Homogeneous Yellow,Gray Non-fibrous Bound	<1%	Synthetic Fiber	100% <1%	Mastic Non-Fibrous Debris	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
Date Analyzed: 02-14-23
Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		 Non-Fibrous		ASBESTOS %
Layer 2 B233226.36A	12" Floor Tile	Homogeneous Gray Non-fibrous Tightly Bound			100%	Vinyl	None Detected
B233226.36B	Mastic	Homogeneous Yellow Non-fibrous Bound			100%	Mastic	None Detected
DB-37 Layer 1 B233226.37	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Silicates Paint	None Detected
Layer 2 B233226.37	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65% 35%	Silicates Binder	None Detected
DB-38 B233226.38	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	15% 5%	Cellulose Fiberglass	70% 10% <1%	Gypsum Calc Carb Paint	None Detected
DB-39 Layer 1 B233226.39	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Silicates Paint	None Detected
Layer 2 B233226.39	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65% 35%	Silicates Binder	None Detected

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ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
Date Analyzed: 02-14-23
Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-40 B233226.40	Drywall/Joint Compound	Heterogeneous White,Tan Fibrous Bound	15% 5%	Cellulose Fiberglass	70% 10% <1%	Gypsum Calc Carb Paint	None Detected
DB-41 B233226.41	Textured Finish	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Calc Carb Paint	None Detected
DB-42 Layer 1 B233226.42	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Silicates Paint	None Detected
Layer 2 B233226.42	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65% 35%	Silicates Binder	None Detected
DB-43 B233226.43A	12" Floor Tile	Homogeneous White Non-fibrous Tightly Bound			100%	Vinyl	None Detected
B233226.43B	Mastic	Homogeneous Black Non-fibrous Bound			100%	Tar	None Detected
DB-44 B233226.44A	12" Floor Tile	Homogeneous White Non-fibrous Tightly Bound			100%	Vinyl	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
Date Analyzed: 02-14-23
Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
B233226.44B	Mastic	Homogeneous Black Non-fibrous Bound			100%	Tar	None Detected
DB-45 Layer 1 B233226.45	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Silicates Paint	None Detected
Layer 2 B233226.45	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65% 35%	Silicates Binder	None Detected
DB-46 Layer 1 B233226.46	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Silicates Paint	None Detected
Layer 2 B233226.46	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65% 35%	Silicates Binder	None Detected
DB-47 Layer 1 B233226.47	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			60% 35% 5%	Binder Silicates Paint	None Detected
Analyst Opinion: Sample appears to be plaster. No drywall/compound present.							
Layer 2 B233226.47	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65% 35%	Silicates Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

Lab Code: B233226
Date Received: 02-09-23
Date Analyzed: 02-14-23
Date Reported: 02-14-23

Project: Desoto Bass Courts, 23-11.1

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous	Non-Fibrous		ASBESTOS %
DB-48	Textured Finish	Heterogeneous		60%	Binder	None Detected
B233226.48		White		35%	Calc Carb	
		Non-fibrous		5%	Paint	
		Bound				
DB-49	Textured Finish	Heterogeneous		60%	Binder	None Detected
B233226.49		White		35%	Calc Carb	
		Non-fibrous		5%	Paint	
		Bound				
DB-50	Textured Finish	Heterogeneous		60%	Binder	None Detected
B233226.50		White		35%	Calc Carb	
		Non-fibrous		5%	Paint	
		Bound				

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LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
Non-Trem = Non-Asbestiform Tremolite
Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. *Estimated measurement of uncertainty is available on request.*

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Information provided by customer includes customer sample ID and sample description.

ANALYST: Adrian Meyer

APPROVED BY: Tianbao Bai, Ph.D., CIH
Laboratory Director

NVLAP TESTING
NVLAP LAB CODE: 600323-0

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CHAIN OF CUSTODY

50

730 SE Maynard Road, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

LAB USE ONLY:	
CEI Lab Code:	B233226
CEI Lab I.D. Range:	

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact: George Beaudion
Company: m.a.c. Paran Consulting Services, Inc.	Email / Tel: gbeaudion@macparan.com/513-383-6091
Address: 3959 Fulton Grove Road	Project Name: Desoto BASS Courts
Cincinnati, Ohio 45245	Project ID#: 23-11.1
Email:	PO #:
Tel: 513-752-9111 Fax: 513-752-7973	STATE SAMPLES COLLECTED IN:

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	☐	☐	☐	☐	☑	☐
PLM POINT COUNT (400)	EPA 600	☐	☐	☐	☐	☐	☐
PLM POINT COUNT (1000)	EPA 600	☐	☐	☐	☐	☐	☐
PLM GRAV w POINT COUNT	EPA 600		☐	☐	☐	☐	☐
PLM BULK	CARB 435		☐	☐	☐	☐	☐
PCM AIR	NIOSH 7400	☐	☐	☐	☐	☐	☐
TEM AIR	EPA AHERA	☐	☐	☐	☐	☐	☐
TEM AIR	NIOSH 7402	☐	☐	☐	☐	☐	☐
TEM AIR (PCME)	ISO 10312	☐	☐	☐	☐	☐	☐
TEM AIR	ASTM 6281-15	☐	☐	☐	☐	☐	☐
TEM BULK	CHATFIELD		☐	☐	☐	☐	☐
TEM DUST WIPE	ASTM D6480-05 (2010)	☐	☐	☐	☐	☐	☐
TEM DUST MICROVAC	ASTM D5755-09 (2014)	☐	☐	☐	☐	☐	☐
TEM SOIL	ASTM D7521-16			☐	☐	☐	☐
TEM VERMICULITE	CINCINNATI METHOD			☐	☐	☐	☐
TEM QUALITTATIVE	IN-HOUSE METHOD		☐	☐	☐	☐	☐
OTHER:		☐	☐	☐	☐	☐	☐

REMARKS / SPECIAL INSTRUCTIONS: positive stop on:
3→4, 5→6, 15→16, 21→22, 35→36, 43→44

☒ BMB Accept Samples
☐ Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	2/8/23	BMB	2/9/23 10:10

Samples will be disposed of 30 days after analysis

8158 1364 7560

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SAMPLING FORM

COMPANY CONTACT INFORMATION	
Company: m.a.c. Paran Consulting Services, Inc.	Job Contact: George Beaudion
Project Name: DeSoto Bass Courts	
Project ID #: 23-11.1	Tel: gbeaudion@macparan.com/513-383-6091

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
DB-1	Plaster		PLM ☐	TEM ☐
2	↓		PLM ☐	TEM ☐
3	12" Floor Tile		PLM ☐	TEM ☐
4	↓		PLM ☐	TEM ☐
5	↓		PLM ☐	TEM ☐
6	↓		PLM ☐	TEM ☐
7	Textured Finish		PLM ☐	TEM ☐
8	↓		PLM ☐	TEM ☐
9	↓		PLM ☐	TEM ☐
10	Plaster		PLM ☐	TEM ☐
11	↓		PLM ☐	TEM ☐
12	Drywall/compound		PLM ☐	TEM ☐
13	Cove base adhesive		PLM ☐	TEM ☐
14	Plaster		PLM ☐	TEM ☐
15	12" Floor Tile		PLM ☐	TEM ☐
16	↓		PLM ☐	TEM ☐
17	Drywall/compound		PLM ☐	TEM ☐
18	Plaster		PLM ☐	TEM ☐
19	Drywall/compound		PLM ☐	TEM ☐
20	↓		PLM ☐	TEM ☐
21	12" Floor Tile		PLM ☐	TEM ☐
22	↓		PLM ☐	TEM ☐
23	Drywall/compound		PLM ☐	TEM ☐
24	Textured Finish		PLM ☐	TEM ☐
25	↓		PLM ☐	TEM ☐
26	↓		PLM ☐	TEM ☐
27	Textured Finish		PLM ☐	TEM ☐
28	↓		PLM ☑	TEM ☐

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SAMPLING FORM

COMPANY CONTACT INFORMATION	
Company: m.a.c. Paran Consulting Services, Inc.	Job Contact: George Beaudion
Project Name: DeSoto Bass Courts	
Project ID #: 23-11.1	Tel: gbeaudion@macparan.com/513-383-6091

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
DB- 29	Textured Finish		PLM ☒	TEM ☐
30	↓		PLM ☐	TEM ☐
31	Drywall/compound		PLM ☐	TEM ☐
32			PLM ☐	TEM ☐
33			PLM ☐	TEM ☐
34	↓		PLM ☐	TEM ☐
35	12" Floor Tile		PLM ☐	TEM ☐
36	↓		PLM ☐	TEM ☐
37	Plaster		PLM ☐	TEM ☐
38	Drywall/compound		PLM ☐	TEM ☐
39	Plaster		PLM ☐	TEM ☐
40	Drywall/compound		PLM ☐	TEM ☐
41	Textured Finish		PLM ☐	TEM ☐
42	Plaster		PLM ☐	TEM ☐
43	12" Floor Tile		PLM ☐	TEM ☐
44	↓		PLM ☐	TEM ☐
45	Plaster		PLM ☐	TEM ☐
46	↓		PLM ☐	TEM ☐
47	Drywall/compound		PLM ☐	TEM ☐
48	Textured Finish		PLM ☐	TEM ☐
49			PLM ☐	TEM ☐
↓ 50	↓		PLM ☒	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐
			PLM ☐	TEM ☐

Attachment B

Asbestos Hazard Evaluation Specialist License

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

9/9/2022

George Beaudion
M.A.C. Paran Consulting
3959 Fulton Grove Rd
Cincinnati, OH 45245

RE: Evaluation Specialist
Certification Number: ES31662
Expiration Date: 9/7/2023

Dear George Beaudion:

This letter and enclosed certification card approves your request to be certified as an asbestos Evaluation Specialist. You must present your card upon request at any project site while performing duties. Copies of cards are not acceptable as proof of certification.

This certification may be revoked by the Director of the Ohio Environmental Protection Agency (EPA) for violation of any of the requirements of 3745-22 or 3745-20 of the Ohio Administrative Code.

If you have any questions, please contact the Asbestos Program at 614-644-0226 or by email at asbestoslicensing@epa.ohio.gov.

Sincerely,

Joshua S. Koch
Manager, Business Operations Support Section
Ohio EPA - Division of Air Pollution Control

P.O. Box 1049 • Columbus, OH 43216-1049
644-3020 • (614) 644-3184 (fax)

Attachment C

Asbestos-Containing Materials Inspection Report 2017

Cincinnati

3959 Fulton Grove Rd
Cincinnati, Ohio 45245
(513) 752-9111
(513) 752-7973 (Fax)

Cleveland

1667 E. 40th Street
Loftworks Building,
Suite 1G2
Cleveland, Ohio 44103
(216) 916-7378
(513) 752-7973 (fax)

Services

Phase I ESA's
Phase II Investigations
Asbestos
Energy Efficiency
Lead-Based Paint
Industrial Hygiene
Indoor Air Quality/Mold
Radon
Safety
Training

Asbestos-Containing Materials Inspection

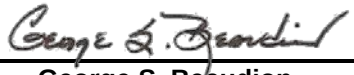
Desoto Bass Courts (OH5-2)
811 Oldfield Place
Dayton, Ohio 45417

Prepared for:

Dayton Metropolitan Housing Authority dba
Greater Dayton Premier Management (GDPM)
400 Wayne Avenue
Post Office Box 8750
Dayton, Ohio 45401-8750
(513) 977-5882

Prepared by:

m.a.c. Paran Consulting Services, Inc.



George S. Beaudion
Asbestos Hazard Evaluation Specialist # ES31662

Michelle Paraniuk, M.S., President

Date of Inspection: August 2017

Table of Contents

1.0 Executive Summary

1.1 Background

m.a.c. Paran Consulting Services, Inc. performed an limited asbestos inspection at the Desoto Bass Courts Multi-Residential Complex located at 811 Oldfield Place, Dayton, Ohio. The objectives of the inspection were to (1) identify, by type and location, friable and non-friable asbestos-containing materials [ACM] that were within the areas inspected; (2) assess the current condition of the ACM identified; and (3) provide estimated quantities of ACM identified. The inspection was conducted by Mr. George S. Beaudion and Mr. William S. Carter, certified Ohio Asbestos Hazard Evaluation Specialists (License #ES31662 and #ES34717) on July 28 and 31, 2017.

1.2 Inspection Results

The following is a summary of the asbestos-containing (containing >1% asbestos) materials present at the subject property. Please note that the quantities provided in this summary are approximate amounts, and should be verified by an abatement contractor prior to the onset of removal activities.

- **Floor Mastic-** Approximately 850 square feet of asbestos-containing floor mastic was identified throughout the three bedroom unit located at 26 Bragg. The material is in a non-friable condition.

- **2' x 4' Ceiling Tile-** Approximately 609 square feet of asbestos-containing 2' x 4' ceiling tile was identified throughout the maintenance shop/office/break room area. The material is in good condition.

Note 1: While care was taken during the inspection to identify all asbestos-containing materials, additional materials may be located within non-accessible areas of the structure (e.g., behind walls, above intact ceilings, inside concealed pipe chases, etc.). If, through renovation or demolition these materials are discovered, they should be treated as asbestos-containing until further testing proves otherwise.

Note 2: This was a limited asbestos survey. The scope of the inspection was limited to eight (8) apartments and the rental office/maintenance shop building.

2.0 Inspection Procedures

2.1 General Asbestos Inspection and Sampling Procedures

The inspection was performed following a modified protocol of the EPA Asbestos Hazard Emergency Response Act (40 CFR 763.90) commonly known as "AHERA". Although originally required only for public and private school buildings housing kindergarten through 12th-grade classes, it has become the accepted industry standard for conducting asbestos investigations in all types of buildings. Most recently, the Occupational Safety and Health Administration revised it's Asbestos in Construction Industry standard (29 CFR 1926.1101) to reference AHERA as the required method of conducting asbestos inspections in all public and commercial buildings.

The vast majority of physically accessible spaces within the building were accessed and inspected for suspect asbestos-containing materials. The Inspector then grouped suspect materials into homogeneous areas for sampling. A homogeneous area consists of materials with like appearance, color, texture, and application date. A physical assessment (visual observation and touching the material) was also made of the current condition and degree of friability for each identified material (a material is considered friable if it can be crumbled using hand pressure). A list of homogeneous areas identified for this assessment is included on the Bulk Sample Summary Table.

The Inspector assessed all identified asbestos-containing materials. The inspection encompassed both friable and non-friable materials. The Inspector then assumed that the specific material remained homogeneous (based upon the material's appearance and application) throughout the building. In situations where materials appeared to alternate between asbestos containing and non-asbestos containing, the Inspector looked for visible differences between materials. If differences were not apparent, the Inspector made a professional decision to err on the side of conservatism and assumed that all materials were asbestos-containing.

The Inspector made every effort to locate all asbestos-containing materials identified during the limited inspection, however should unidentified suspect asbestos-containing materials be discovered, please contact m.a.c. Paran Consulting Services, Inc. for assistance in material identification.

2.2 Method of Sampling and Analysis

2.2.1 Bulk Sample Collection Methods

To avoid disturbing suspected asbestos-containing materials more than necessary and minimize the potential release of asbestos fibers, the Inspector performed bulk sampling in accordance with the industry accepted procedures outlined in the current EPA Guidance Document and the AHERA sampling protocol. Each sample collected was pre-wetted and obtained using a clean coring tool, utility knife, or other appropriate tool. Each sample was then placed in a clean, sealable vial and labeled with a unique sample identification number. Care was taken to obtain a sample that was representative of all layers of a material. To avoid cross-contamination, the tools used for sample collection were thoroughly cleaned before collecting the next sample. If requested, the sample site was labeled with a pre-printed adhesive-backed sample identification tag bearing the corresponding sample identification number. Pertinent sample information was recorded on a standardized bulk sample log sheet including the date of inspection, name of the Inspector, a brief description and the location of the sample, and the type of material sampled (e.g., thermal systems insulation).

2.2.2 Analysis of Bulk Samples

Bulk samples were analyzed for asbestos content by Polarized-Light Microscopy (PLM) and dispersion staining (Method Reference: EPA/600/R-931/116). This analytical method, which EPA currently recommends, for the determination of asbestos in bulk samples, can be used for qualitative identification of six morphologically different types of asbestos fibers: chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite asbestos.

PLM analysis requires the microscopist to take a portion of the sample and treat it with an oil of a specific refractive index. This prepared slide is then subjected to a variety of tests while being viewed under varying polarizations of light. Each asbestos type displays unique characteristic when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation.

2.2.3 Reporting of Analysis Results

The method specifies that the asbestos content in a bulk sample shall be estimated and reported as a finite percentage (rounded to the nearest percent) within the range of 0 to 100. Minute quantities of asbestos in bulk samples may be reported as “trace” (tr) or less than 1 percent. The composition of the bulk sample is reported in percentages of asbestos (i.e., chrysotile, amosite, crocidolite, or other) and non-asbestos (i.e., cellulose, fiberglass, mineral wool, synthetic, or other) components. The original laboratory reports are presented in Appendix A.

2.2.4 Laboratory

Analysis of all suspect asbestos-containing materials was performed by CEI Labs using polarized light microscopy. CEI successfully participates in, and is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), administered by the National Institute of Standards and Technology.

2.3 Physical and Hazard Assessment

2.3.1 Physical Assessment Factors

Per AHERA requirements, the Inspector performed a physical assessment of all friable asbestos-containing materials. This involved physically observing and documenting the current condition of each friable material, and assessing its potential for future disturbance (or fiber release potential).

The Inspector categorized the materials’ current condition as Good, Fair, or Poor. AHERA protocol is not specific as to how these categories are arrived at, but in general the following guideline is used:

- Good – less than 10% area damage
- Fair – more than 10%, but less than 25% area damage
- Poor – more than 25% area damage

The Inspector then made an assessment of the materials’ potential for future disturbance (or fiber release potential) using the general factors listed in Table 2-1 on the following page. The first three factors focus on the current condition of the asbestos-containing material. Evidence of deterioration, delamination, physical damage, or water damage indicates that fiber release has occurred, is occurring, or is likely to occur in the future. Such evidence is based on the appearance of the material and/or the presence of dislodged or crumbled material in the surrounding area. The first three factors focus on the potential for fiber release due to disturbance or erosion. Surface erosion is likely to occur when asbestos-containing materials are located in air plenums or near forced-air streams. Exposed and easily accessible materials in areas frequented by building occupants, or subject to mechanical vibrations are more vulnerable to disturbance or damage than materials in other locations.

Table 2-1: Factors for Assessing Potential Fiber Release
Current Condition of Asbestos-Containing Materials
• Evidence of deterioration or delamination from the underlying surface (substrate) • Evidence of physical damage (e.g., presence of debris) • Evidence of water damage
Potential for Future Disturbance, Damage, or Erosion of Asbestos-Containing Material
• Proximity to air plenum or direct airstream • Visibility, accessibility (to building occupants and maintenance personnel), and degree of activity (air movement, vibration, movement of building occupants) • Change in building use

2.3.2 Hazard Assessment Factors

Based upon the physical assessment, friable asbestos-containing materials are then given a hazard rank with corresponding response options to aid the building owner in prioritizing response actions. The hazard ranks range from 7 – most hazardous, to 1 – least hazardous as shown in Table 2-2 below. The highest rank is reserved for materials that are "significantly damaged" or material that is so extensively damaged that it requires immediate corrective action. Hazard ranks 4 – 6 reflect materials which are "damaged" with rank 6 indicating a high potential for further damage, and rank 5 indicating a moderate potential for damage. Hazard rank 4 denotes that a material has been damaged; however, the potential for any further damage is low. Hazard ranks 1 – 3 are reserved for materials currently in good condition with future disturbance potentials being high, moderate, or low (3, 2, 1, respectively). Non-friable materials are categorized as non-friable.

Table 2-2: Classifications for Hazard Potential of Friable Asbestos-Containing Materials		
Hazard Rank	**Condition**	**Disturbance Potential**
7	Poor	Any
6	Fair	High
5	Fair	Moderate
4	Fair	Low
3	Good	High
2	Good	Moderate
1	Good	Low

2.3.3 Physical and Hazard Assessments of Materials Encountered

The physical and hazard assessments made for all asbestos-containing materials identified during this inspection can be found in Section 4.0 “Inventory of Asbestos-Containing Materials”.

3.0 Bulk Sample Data Summary

The following table presents the results of materials sampled.

Table 3-1: Bulk Sample Summary

Room/Location	Material Description	Homogeneous Material No. (HM)	Sample Number	Laboratory Results
1043 Danner Furnace Room	Drywall/Joint Compound	1	DB – 1	None Detected
49 Benning Place 2nd Floor Bedroom	Drywall/Joint Compound	1	DB – 2	None Detected
1709 W. Stewart 2nd Floor Bedroom	Drywall/Joint Compound	1	DB – 3	None Detected
1043 Robeson Kitchen	Drywall/Joint Compound	1	DB – 4	None Detected
26 Bragg Living Room	Drywall/Joint Compound	1	DB – 5	None Detected
49 Benning Place Kitchen	12” Floor Tile (black, white mixed)	2	DB – 6	None Detected
49 Benning Place Kitchen	Black Mastic on HM #2	2A	DB – 6	None Detected
49 Benning Place Kitchen	12” Floor Tile (black, white mixed)	2	DB – 7	None Detected
49 Benning Place Kitchen	Black Mastic on HM #2	2A	DB – 7	None Detected
49 Benning Place Living Room	Textured Finish on Ceiling (stamped pattern)	3*	DB – 8	None Detected
49 Benning Place Living Room	Textured Finish on Ceiling (stamped pattern)	3	DB – 9	None Detected
49 Benning Place Stairwell	Textured Finish on Ceiling (stamped pattern)	3	DB – 10	None Detected
26 Bragg Stairwell	Hard Plaster Wall	4	DB – 11	None Detected
49 Benning Place Living Room	Hard Plaster Wall	4	DB – 12	None Detected

* <1,000 square feet

Table 3-1: Bulk Sample Summary				
Room/Location	**Material Description**	**Homogeneous Material No. (HM)**	**Sample Number**	**Laboratory Results**
49 Benning Place 2nd Floor Bedroom	Hard Plaster Wall	4	DB – 13	None Detected
1043 Danner Furnace Room	Hard Plaster Wall	4	DB – 14	None Detected
1709 W. Stewart Living Room	Hard Plaster Wall	4	DB – 15	None Detected
1709 W. Stewart 2nd Floor Bedroom	Hard Plaster Wall	4	DB – 16	None Detected
1709 W. Stewart 2nd Floor Bedroom	Hard Plaster Wall	4	DB – 17	None Detected
49 Benning Place Furnace Room	12” Floor Tile (brown)	5	DB – 18	None Detected
49 Benning Place Furnace Room	Black Mastic on HM #5	5A	DB – 18	None Detected
49 Benning Place Furnace Room	12” Floor Tile (brown)	5	DB – 19	None Detected
49 Benning Place Furnace Room	Black Mastic on HM #5	5A	DB – 19	None Detected
Rental Office Building Restroom	Drywall/Joint Compound	6	DB – 20	None Detected
Rental Office Building Conference Room	Drywall/Joint Compound	6	DB – 21	None Detected
Rental Office Building Maint. Shop Area	Drywall/Joint Compound	6	DB – 22	None Detected
Rental Office Building Restroom	2’ x 2’ Ceiling Tile (rough finish)	7	DB – 24	None Detected
Rental Office Building Hallway	2’ x 2’ Ceiling Tile (rough finish)	7	DB – 25	None Detected
Rental Office Building Conference Room	Cove Base Adhesive (tan)	8	DB – 26	None Detected
Rental Office Building Hallway	Cove Base Adhesive (tan)	8	DB – 27	None Detected

Table 3-1: Bulk Sample Summary				
Room/Location	**Material Description**	**Homogeneous Material No. (HM)**	**Sample Number**	**Laboratory Results**
Maintenance Shop Garage Area	Pipe Fitting Insulation	9	DB – 28	None Detected
Maintenance Shop Supplies Room	Pipe Fitting Insulation	9	DB – 29	None Detected
Maintenance Shop Stairwell Area	Pipe Fitting Insulation	9	DB – 30	None Detected
Maintenance Shop Area	2’ x 4’ Ceiling Tile (large fissures)	10	DB – 31	2% Chrysotile
Maintenance Shop Area	2’ x 4’ Ceiling Tile (large fissures)	10	DB – 32	Positive Stop Analysis
Maintenance Shop Office	12” Floor Tile (white, tan)	11	DB – 33	None Detected
Maintenance Shop Office	Brown Mastic on HM #11	11A	DB – 33	None Detected
Maintenance Shop Office	12” Floor Tile (white, tan)	11	DB – 34	None Detected
Maintenance Shop Office	Brown Mastic on HM #11	11A	DB – 34	None Detected
Rental Office Building Boiler Room	Pipe Insulation	12	DB – 35	None Detected
Rental Office Building Boiler Room	Pipe Insulation	12	DB – 36	None Detected
Rental Office Building Boiler Room	Pipe Insulation	12	DB – 37	None Detected
Rental Office Building Boiler Room	Fitting Insulation	13	DB – 38	None Detected
Rental Office Building Boiler Room	Fitting Insulation	13	DB – 39	None Detected
Rental Office Building Boiler Room	Fitting Insulation	13	DB – 40	None Detected
26 Bragg Living Room	12” Floor Tile (tan, brown)	14	DB – 41	None Detected

Table 3-1: Bulk Sample Summary				
Room/Location	**Material Description**	**Homogeneous Material No. (HM)**	**Sample Number**	**Laboratory Results**
26 Bragg Living Room	Black Mastic on HM #14	14A	DB – 41	3% Chrysotile
26 Bragg Living Room	12” Floor Tile (tan, brown)	14	DB – 42	None Detected
26 Bragg Living Room	Black Mastic on HM #14	14A	DB – 42	Positive Stop Analysis
1819 Baker Place Living Room	Hard Plaster	15	DB – 43	None Detected
900 Wilberforce Hallway Closet	Hard Plaster	15	DB – 44	None Detected
1734 Germantown 2nd Floor Bedroom	Hard Plaster	15	DB – 45	None Detected
1734 Germantown 2nd Floor Bedroom	Hard Plaster	15	DB – 46	None Detected
1734 Germantown Furnace Room	Hard Plaster	15	DB – 47	None Detected
900 Wilberforce Bedroom	12” Floor Tile (white, tan)	16	DB – 48	None Detected
900 Wilberforce Bedroom	Black Mastic on HM #16	16A	DB – 48	None Detected
1819 Baker Place Kitchen (beneath pergo)	12” Floor Tile (white, tan)	16	DB – 49	None Detected
1819 Baker Place Kitchen (beneath pergo)	Black Mastic on HM #16	16A	DB – 49	None Detected
900 Wilberforce Bedroom	Textured Finish on Ceilings and Walls (rough finish)	17	DB – 50	None Detected
900 Wilberforce Kitchen	Textured Finish on Ceilings and Walls (rough finish)	17	DB – 51	None Detected
900 Wilberforce Living Room	Textured Finish on Ceilings and Walls (rough finish)	17	DB – 52	None Detected
1709 W. Stewart Furnace Room	12” Floor Tile (tan, brown flecks)	18	DB – 53	None Detected

Table 3-1: Bulk Sample Summary				
Room/Location	**Material Description**	**Homogeneous Material No. (HM)**	**Sample Number**	**Laboratory Results**
1709 W. Stewart Furnace Room	Black Mastic on HM #18	18A	DB – 53	None Detected
1709 W. Stewart Furnace Room	12” Floor Tile (tan, brown flecks)	18	DB – 54	None Detected
1709 W. Stewart Furnace Room	Black Mastic on HM #18	18A	DB – 54	None Detected
Brick/Aluminum Siding on Entrance Door Frames	Caulking	19	DB – 55	None Detected
Brick/Aluminum Siding on Window Frames	Caulking	19	DB – 56	None Detected
Brick/Slate Roof on Entrance Door Frames	Caulking	20	DB – 57	None Detected
Brick/Slate Roof on Window Frames	Caulking	20	DB – 58	None Detected

4.0 Inventory of Asbestos-Containing Materials

The following table presents a list of asbestos-containing materials identified during the inspection.

Room/Location	Material Type	Condition/ Hazard Rank	Estimated Quantity
26 Bragg	Floor Mastic (black)	Non-Friable	850 sf.
Office/Maintenance Shop Building in Shop Area	2’ x 4’ Ceiling Tile (large fissures)	Good/3	609 sf.

Appendix A

Laboratory Results

August 11, 2017

Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

CLIENT PROJECT: GDPM - Desoto Bass Apts; 17-37.8
CEI LAB CODE: A17-11134

Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on August 7, 2017. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations. If you have any questions, please feel free to call our office at 919-481-1413.

Kind Regards,

Tianbao Bai, Ph.D., CIH
Laboratory Director

NVLAP TESTING
NVLAP LAB CODE 101768-0

ASBESTOS ANALYTICAL REPORT
By: Polarized Light Microscopy

Prepared for

Mac Paran Consulting Services, Inc.

CLIENT PROJECT: GDPM - Desoto Bass Apts; 17-37.8

CEI LAB CODE: A17-11134

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 08/11/17

TOTAL SAMPLES ANALYZED: 56

SAMPLES >1% ASBESTOS: 2

TEL: 866-481-1412

www.ceilabs.com

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: GDPM - Desoto Bass Apts; 17-37.8 **CEI LAB CODE:** A17-11134

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
DB-1		A2465212	Gray,Tan	Drywall	None Detected
DB-2	Layer 1	A2465213	Gray,Tan	Drywall	None Detected
	Layer 2	A2465213	Off-white	Joint Compound	None Detected
DB-3	Layer 1	A2465214	Gray,Tan	Drywall	None Detected
	Layer 2	A2465214	Off-white	Joint Compound	None Detected
DB-4	Layer 1	A2465215	Gray,Tan	Drywall	None Detected
	Layer 2	A2465215	Off-white	Joint Compound	None Detected
DB-5	Layer 1	A2465216	Gray,Tan	Drywall	None Detected
	Layer 2	A2465216	Off-white	Joint Compound	None Detected
DB-6		A2465217A	Black	Floor Tile	None Detected
		A2465217B	Black,Tan	Mastics	None Detected
DB-7		A2465218A	Beige,Gray	Floor Tile	None Detected
		A2465218B	Black,Tan	Mastics	None Detected
DB-8		A2465219	Off-white,Beige	Textured Finish	None Detected
DB-9		A2465220	Off-white,Beige	Textured Finish	None Detected
DB-10		A2465221	Off-white,Beige	Textured Finish	None Detected
DB-11	Layer 1	A2465222	White	Plaster Skim Coat	None Detected
	Layer 2	A2465222	Gray	Plaster Base Coat	None Detected
DB-12	Layer 1	A2465223	White	Plaster Skim Coat	None Detected
	Layer 2	A2465223	Gray	Plaster Base Coat	None Detected
DB-13	Layer 1	A2465224	White	Plaster Skim Coat	None Detected
	Layer 2	A2465224	Gray	Plaster Base Coat	None Detected
DB-14	Layer 1	A2465225	White	Plaster Skim Coat	None Detected
	Layer 2	A2465225	Gray	Plaster Base Coat	None Detected
DB-15	Layer 1	A2465226	White	Plaster Skim Coat	None Detected
	Layer 2	A2465226	Gray	Plaster Base Coat	None Detected
DB-16	Layer 1	A2465227	White	Plaster Skim Coat	None Detected
	Layer 2	A2465227	Gray	Plaster Base Coat	None Detected
DB-17	Layer 1	A2465228	White	Plaster Skim Coat	None Detected
	Layer 2	A2465228	Gray	Plaster Base Coat	None Detected
DB-18		A2465229A	Black	Floor Tile	None Detected

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: GDPM - Desoto Bass Apts; 17-37.8 **CEI LAB CODE:** A17-11134

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
		A2465229B	Black,Tan	Mastics	None Detected
DB-19		A2465230A	Black	Floor Tile	None Detected
		A2465230B	Black,Tan	Mastics	None Detected
DB-20	Layer 1	A2465231	Gray,Tan	Drywall	None Detected
	Layer 2	A2465231	Off-white	Joint Compound	None Detected
DB-21	Layer 1	A2465232	Gray,Tan	Drywall	None Detected
	Layer 2	A2465232	Tan	Joint Compound	None Detected
DB-22	Layer 1	A2465233	Gray,Tan	Drywall	None Detected
	Layer 2	A2465233	Off-white	Joint Compound	None Detected
DB-24		A2465234	Gray,White	Ceiling Tile	None Detected
DB-25		A2465235	Gray,White	Ceiling Tile	None Detected
DB-26		A2465236	Tan	Adhesive	None Detected
DB-27		A2465237	Tan	Adhesive	None Detected
DB-28		A2465238	Gray	Fitting Insulation	None Detected
DB-29		A2465239	Gray	Fitting Insulation	None Detected
DB-30		A2465240	Gray	Fitting Insulation	None Detected
DB-31		A2465241	Gray,Pink	Ceiling Tile	Chrysotile 2%
DB-32		A2465242		Sample Not Analyzed per COC	
DB-33		A2465243A	Beige,Gray	Floor Tile	None Detected
		A2465243B	Brown	Mastic	None Detected
DB-34		A2465244A	Beige,Gray	Floor Tile	None Detected
		A2465244B	Brown	Mastic	None Detected
DB-35		A2465245	Tan	Pipe Insulation	None Detected
DB-36		A2465246	Tan	Pipe Insulation	None Detected
DB-37		A2465247	Tan	Pipe Insulation	None Detected
DB-38		A2465248	Gray	Fitting Insulation	None Detected
DB-39		A2465249	Gray	Fitting Insulation	None Detected
DB-40		A2465250	Gray	Fitting Insulation	None Detected
DB-41		A2465251A	Beige,Gray	Floor Tile	None Detected
		A2465251B	Black	Mastic	Chrysotile 3%
DB-42		A2465252A	Beige,Gray	Floor Tile	None Detected

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: GDPM - Desoto Bass Apts; 17-37.8 **CEI LAB CODE:** A17-11134

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
		A2465252B		Sample Not Analyzed per COC	
DB-43	Layer 1	A2465253	Off-white	Plaster Skim Coat	None Detected
	Layer 2	A2465253	Gray	Plaster Base Coat	None Detected
DB-44	Layer 1	A2465254	Off-white	Plaster Skim Coat	None Detected
	Layer 2	A2465254	Gray	Plaster Base Coat	None Detected
DB-45	Layer 1	A2465255	Off-white	Plaster Skim Coat	None Detected
	Layer 2	A2465255	Gray	Plaster Base Coat	None Detected
DB-46	Layer 1	A2465256	Off-white	Plaster Skim Coat	None Detected
	Layer 2	A2465256	Gray	Plaster Base Coat	None Detected
DB-47	Layer 1	A2465257	Off-white	Plaster Skim Coat	None Detected
	Layer 2	A2465257	Gray	Plaster Base Coat	None Detected
DB-48		A2465258A	Beige,Gray	Floor Tile	None Detected
		A2465258B	Black	Mastic	None Detected
DB-49		A2465259A	Beige,Gray	Floor Tile	None Detected
		A2465259B	Black	Mastic	None Detected
DB-50		A2465260	Off-white,Beige	Textured Finish	None Detected
DB-51		A2465261	Off-white,Beige	Textured Finish	None Detected
DB-52		A2465262	Off-white,Beige	Textured Finish	None Detected
DB-53		A2465263A	Beige	Floor Tile	None Detected
		A2465263B	Black	Mastic	None Detected
DB-54		A2465264A	Beige	Floor Tile	None Detected
		A2465264B	Black	Mastic	None Detected
DB-55		A2465265	Gray,Brown	Caulking	None Detected
DB-56		A2465266	Gray,Brown	Caulking	None Detected
DB-57		A2465267	Gray,Brown	Caulking	None Detected
DB-58		A2465268	Gray,Brown	Caulking	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

CEI Lab Code: A17-11134
Date Received: 08-07-17
Date Analyzed: 08-10-17
Date Reported: 08-11-17

Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-1	Drywall	Heterogeneous	25%	Cellulose	50%	Gypsum	None Detected
A2465212		Gray,Tan			15%	Binder	
		Fibrous			10%	Paint	
		Bound					
Lab Notes: No joint compound present.							
DB-2	Drywall	Heterogeneous	20%	Cellulose	65%	Gypsum	None Detected
Layer 1		Gray,Tan			15%	Binder	
A2465213		Fibrous					
		Bound					
Layer 2	Joint Compound	Heterogeneous	<1%	Cellulose	75%	Calc Carb	None Detected
A2465213		Off-white			15%	Binder	
		Fibrous			10%	Paint	
		Bound					
DB-3	Drywall	Heterogeneous	20%	Cellulose	65%	Gypsum	None Detected
Layer 1		Gray,Tan			15%	Binder	
A2465214		Fibrous					
		Bound					
Layer 2	Joint Compound	Heterogeneous	<1%	Cellulose	75%	Calc Carb	None Detected
A2465214		Off-white			15%	Binder	
		Fibrous			10%	Paint	
		Bound					
DB-4	Drywall	Heterogeneous	20%	Cellulose	65%	Gypsum	None Detected
Layer 1		Gray,Tan			15%	Binder	
A2465215		Fibrous					
		Bound					
Layer 2	Joint Compound	Heterogeneous	<1%	Cellulose	75%	Calc Carb	None Detected
A2465215		Off-white			15%	Binder	
		Fibrous			10%	Paint	
		Bound					

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

CEI Lab Code: A17-11134
Date Received: 08-07-17
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Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-5	Drywall	Heterogeneous	20%	Cellulose	65%	Gypsum	None Detected
Layer 1		Gray,Tan			15%	Binder	
A2465216		Fibrous					
		Bound					
Layer 2	Joint Compound	Heterogeneous	<1%	Cellulose	75%	Calc Carb	None Detected
A2465216		Off-white			15%	Binder	
		Fibrous			10%	Paint	
		Bound					
DB-6	Floor Tile	Heterogeneous	<1%	Cellulose	90%	Vinyl	None Detected
A2465217A		Black			10%	Calc Carb	
		Fibrous					
		Tightly Bound					
A2465217B	Mastics	Heterogeneous	3%	Cellulose	97%	Mastic	None Detected
		Black,Tan					
		Fibrous					
		Bound					
Lab Notes: Unable to separate mastics.							
DB-7	Floor Tile	Heterogeneous	<1%	Cellulose	90%	Vinyl	None Detected
A2465218A		Beige,Gray			10%	Calc Carb	
		Fibrous					
		Tightly Bound					
A2465218B	Mastics	Heterogeneous	3%	Cellulose	97%	Mastic	None Detected
		Black,Tan					
		Fibrous					
		Bound					
Lab Notes: Unable to separate mastics.							
DB-8	Textured Finish	Heterogeneous	<1%	Cellulose	65%	Calc Carb	None Detected
A2465219		Off-white,Beige			15%	Binder	
		Fibrous			20%	Paint	
		Bound					

ASBESTOS BULK ANALYSIS

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Client: Mac Paran Consulting Services, Inc.
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CEI Lab Code: A17-11134
Date Received: 08-07-17
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Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-9 A2465220	Textured Finish	Heterogeneous Off-white,Beige Fibrous Bound	<1%	Cellulose	65% 15% 20%	Calc Carb Binder Paint	None Detected
DB-10 A2465221	Textured Finish	Heterogeneous Off-white,Beige Fibrous Bound	<1%	Cellulose	65% 15% 20%	Calc Carb Binder Paint	None Detected
DB-11 Layer 1 A2465222	Plaster Skim Coat	Heterogeneous White Fibrous Bound	<1%	Cellulose	85% 15%	Calc Carb Binder	None Detected
Layer 2 A2465222	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	3%	Cellulose	65% 22% 10%	Calc Carb Perlite Binder	None Detected
DB-12 Layer 1 A2465223	Plaster Skim Coat	Heterogeneous White Fibrous Bound	<1%	Cellulose	85% 15%	Calc Carb Binder	None Detected
Layer 2 A2465223	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	3%	Cellulose	65% 22% 10%	Calc Carb Perlite Binder	None Detected
DB-13 Layer 1 A2465224	Plaster Skim Coat	Heterogeneous White Fibrous Bound	<1%	Cellulose	85% 15%	Calc Carb Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

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Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
Layer 2 A2465224	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	3%	Cellulose	65% 22% 10%	Calc Carb Perlite Binder	None Detected
DB-14 Layer 1 A2465225	Plaster Skim Coat	Heterogeneous White Fibrous Bound	<1%	Cellulose	85% 15%	Calc Carb Binder	None Detected
Layer 2 A2465225	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	3%	Cellulose	65% 22% 10%	Calc Carb Perlite Binder	None Detected
DB-15 Layer 1 A2465226	Plaster Skim Coat	Heterogeneous White Fibrous Bound	<1%	Cellulose	85% 15%	Calc Carb Binder	None Detected
Layer 2 A2465226	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	3%	Cellulose	65% 22% 10%	Calc Carb Perlite Binder	None Detected
DB-16 Layer 1 A2465227	Plaster Skim Coat	Heterogeneous White Fibrous Bound	<1%	Cellulose	85% 15%	Calc Carb Binder	None Detected
Layer 2 A2465227	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	3%	Cellulose	65% 22% 10%	Calc Carb Perlite Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

CEI Lab Code: A17-11134
Date Received: 08-07-17
Date Analyzed: 08-10-17
Date Reported: 08-11-17

Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-17 Layer 1 A2465228	Plaster Skim Coat	Heterogeneous White Fibrous Bound	<1%	Cellulose	85% 15%	Calc Carb Binder	None Detected
Layer 2 A2465228	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	3%	Cellulose	65% 22% 10%	Calc Carb Perlite Binder	None Detected
DB-18 A2465229A	Floor Tile	Heterogeneous Black Fibrous Tightly Bound	<1%	Cellulose	90% 10%	Vinyl Calc Carb	None Detected
A2465229B	Mastics	Heterogeneous Black,Tan Fibrous Bound	3%	Cellulose	97%	Mastic	None Detected
Lab Notes: Unable to separate mastics.							
DB-19 A2465230A	Floor Tile	Heterogeneous Black Fibrous Tightly Bound	<1%	Cellulose	90% 10%	Vinyl Calc Carb	None Detected
A2465230B	Mastics	Heterogeneous Black,Tan Fibrous Bound	3%	Cellulose	97%	Mastic	None Detected
Lab Notes: Unable to separate mastics.							
DB-20 Layer 1 A2465231	Drywall	Heterogeneous Gray,Tan Fibrous Bound	20%	Cellulose	65% 15%	Gypsum Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

CEI Lab Code: A17-11134
Date Received: 08-07-17
Date Analyzed: 08-10-17
Date Reported: 08-11-17

Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
Layer 2 A2465231	Joint Compound	Heterogeneous Off-white Fibrous Bound	<1%	Cellulose	75% 15% 10%	Calc Carb Binder Paint	None Detected
DB-21 Layer 1 A2465232	Drywall	Heterogeneous Gray,Tan Fibrous Bound	20%	Cellulose	65% 15%	Gypsum Binder	None Detected
Layer 2 A2465232	Joint Compound	Heterogeneous Tan Fibrous Bound	<1%	Cellulose	75% 15% 10%	Calc Carb Binder Paint	None Detected
DB-22 Layer 1 A2465233	Drywall	Heterogeneous Gray,Tan Fibrous Bound	20%	Cellulose	65% 15%	Gypsum Binder	None Detected
Layer 2 A2465233	Joint Compound	Heterogeneous Off-white Fibrous Bound	<1%	Cellulose	75% 15% 10%	Calc Carb Binder Paint	None Detected
DB-24 A2465234	Ceiling Tile	Heterogeneous Gray,White Fibrous Bound	35% 25%	Cellulose Fiberglass	10% 10% 20%	Binder Paint Perlite	None Detected
DB-25 A2465235	Ceiling Tile	Heterogeneous Gray,White Fibrous Bound	35% 25%	Cellulose Fiberglass	10% 10% 20%	Binder Paint Perlite	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

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Date Reported: 08-11-17

Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-26 A2465236	Adhesive	Heterogeneous Tan Fibrous Bound	3%	Cellulose	97%	Mastic	None Detected
Lab Notes: Cove base not analyzed per client request.							
DB-27 A2465237	Adhesive	Heterogeneous Tan Fibrous Bound	3%	Cellulose	97%	Mastic	None Detected
Lab Notes: Cove base not analyzed per client request.							
DB-28 A2465238	Fitting Insulation	Heterogeneous Gray Fibrous Loosely Bound	5% 30%	Cellulose Fiberglass	65%	Calc Carb	None Detected
DB-29 A2465239	Fitting Insulation	Heterogeneous Gray Fibrous Loosely Bound	5% 30%	Cellulose Fiberglass	65%	Calc Carb	None Detected
DB-30 A2465240	Fitting Insulation	Heterogeneous Gray Fibrous Loosely Bound	5% 30%	Cellulose Fiberglass	65%	Calc Carb	None Detected
DB-31 A2465241	Ceiling Tile	Heterogeneous Gray,Pink Fibrous Bound	35% 23%	Cellulose Fiberglass	20% 20%	Binder Perlite	**2% Chrysotile**
DB-32 A2465242	Sample Not Analyzed per COC						

ASBESTOS BULK ANALYSIS

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Date Reported: 08-11-17

Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-33 A2465243A	Floor Tile	Heterogeneous Beige,Gray Fibrous Tightly Bound	<1% 	Cellulose 	90% 10%	Vinyl Calc Carb	None Detected
A2465243B	Mastic	Heterogeneous Brown Fibrous Bound	3%	Cellulose	97%	Mastic	None Detected
DB-34 A2465244A	Floor Tile	Heterogeneous Beige,Gray Fibrous Tightly Bound	<1%	Cellulose	90% 10%	Vinyl Calc Carb	None Detected
A2465244B	Mastic	Heterogeneous Brown Fibrous Bound	3%	Cellulose	97%	Mastic	None Detected
DB-35 A2465245	Pipe Insulation	Heterogeneous Tan Fibrous Loosely Bound	<1% 5%	Cellulose Fiberglass	60% 35%	Binder Perlite	None Detected
DB-36 A2465246	Pipe Insulation	Heterogeneous Tan Fibrous Loosely Bound	<1% 5%	Cellulose Fiberglass	60% 35%	Binder Perlite	None Detected
DB-37 A2465247	Pipe Insulation	Heterogeneous Tan Fibrous Loosely Bound	<1% 5%	Cellulose Fiberglass	60% 35%	Binder Perlite	None Detected

ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-38 A2465248	Fitting Insulation	Heterogeneous Gray Fibrous Loosely Bound	5% 30%	Cellulose Fiberglass	65%	Calc Carb	None Detected
DB-39 A2465249	Fitting Insulation	Heterogeneous Gray Fibrous Loosely Bound	5% 30%	Cellulose Fiberglass	65%	Calc Carb	None Detected
DB-40 A2465250	Fitting Insulation	Heterogeneous Gray Fibrous Loosely Bound	5% 30%	Cellulose Fiberglass	65%	Calc Carb	None Detected
DB-41 A2465251A	Floor Tile	Heterogeneous Beige,Gray Fibrous Tightly Bound	<1%	Cellulose	90% 10%	Vinyl Calc Carb	None Detected
A2465251B	Mastic	Heterogeneous Black Fibrous Bound	7%	Cellulose	90%	Mastic	**3% Chrysotile**
DB-42 A2465252A	Floor Tile	Heterogeneous Beige,Gray Fibrous Tightly Bound	<1%	Cellulose	90% 10%	Vinyl Calc Carb	None Detected
A2465252B	Sample Not Analyzed per COC						
DB-43 Layer 1 A2465253	Plaster Skim Coat	Heterogeneous Off-white Fibrous Bound	<1%	Cellulose	75% 15% 10%	Calc Carb Binder Paint	None Detected

ASBESTOS BULK ANALYSIS

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Date Reported: 08-11-17

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
Layer 2 A2465253	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	2%	Cellulose	50% 38% 10%	Calc Carb Silicates Binder	None Detected
DB-44 Layer 1 A2465254	Plaster Skim Coat	Heterogeneous Off-white Fibrous Bound	<1%	Cellulose	75% 15% 10%	Calc Carb Binder Paint	None Detected
Layer 2 A2465254	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	2%	Cellulose	50% 38% 10%	Calc Carb Silicates Binder	None Detected
DB-45 Layer 1 A2465255	Plaster Skim Coat	Heterogeneous Off-white Fibrous Bound	<1%	Cellulose	75% 15% 10%	Calc Carb Binder Paint	None Detected
Layer 2 A2465255	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	2%	Cellulose	50% 38% 10%	Calc Carb Silicates Binder	None Detected
DB-46 Layer 1 A2465256	Plaster Skim Coat	Heterogeneous Off-white Fibrous Bound	<1%	Cellulose	75% 15% 10%	Calc Carb Binder Paint	None Detected
Layer 2 A2465256	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	2%	Cellulose	50% 38% 10%	Calc Carb Silicates Binder	None Detected

ASBESTOS BULK ANALYSIS

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Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

CEI Lab Code: A17-11134
Date Received: 08-07-17
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Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-47 Layer 1 A2465257	Plaster Skim Coat	Heterogeneous Off-white Fibrous Bound	<1%	Cellulose	75% 15% 10%	Calc Carb Binder Paint	None Detected
Layer 2 A2465257	Plaster Base Coat	Heterogeneous Gray Fibrous Bound	2%	Cellulose	50% 38% 10%	Calc Carb Silicates Binder	None Detected
DB-48 A2465258A	Floor Tile	Heterogeneous Beige,Gray Fibrous Tightly Bound	<1%	Cellulose	90% 10%	Vinyl Calc Carb	None Detected
A2465258B	Mastic	Heterogeneous Black Fibrous Bound	10%	Cellulose	90%	Mastic	None Detected
DB-49 A2465259A	Floor Tile	Heterogeneous Beige,Gray Fibrous Tightly Bound	<1%	Cellulose	90% 10%	Vinyl Calc Carb	None Detected
A2465259B	Mastic	Heterogeneous Black Fibrous Bound	10%	Cellulose	90%	Mastic	None Detected
DB-50 A2465260	Textured Finish	Heterogeneous Off-white,Beige Fibrous Bound	<1%	Cellulose	65% 15% 20%	Calc Carb Binder Paint	None Detected

ASBESTOS BULK ANALYSIS

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3959 Fulton Grove Rd.
Cincinnati, OH 45245

CEI Lab Code: A17-11134
Date Received: 08-07-17
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Date Reported: 08-11-17

Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-51 A2465261	Textured Finish	Heterogeneous Off-white,Beige Fibrous Bound	<1% 	Cellulose 	65% 15% 20%	Calc Carb Binder Paint	None Detected
DB-52 A2465262	Textured Finish	Heterogeneous Off-white,Beige Fibrous Bound	<1% 	Cellulose 	65% 15% 20%	Calc Carb Binder Paint	None Detected
DB-53 A2465263A	Floor Tile	Heterogeneous Beige Fibrous Tightly Bound	<1% 	Cellulose 	90% 10%	Vinyl Calc Carb	None Detected
A2465263B	Mastic	Heterogeneous Black Fibrous Bound	10% 	Cellulose 	90%	Mastic	None Detected
DB-54 A2465264A	Floor Tile	Heterogeneous Beige Fibrous Tightly Bound	<1% 	Cellulose 	90% 10%	Vinyl Calc Carb	None Detected
A2465264B	Mastic	Heterogeneous Black Fibrous Bound	10% 	Cellulose 	90%	Mastic	None Detected
DB-55 A2465265	Caulking	Heterogeneous Gray,Brown Fibrous Bound	<1% 5%	Cellulose Fiberglass	70% 15% 10%	Caulk Binder Paint	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Mac Paran Consulting Services, Inc.
3959 Fulton Grove Rd.
Cincinnati, OH 45245

CEI Lab Code: A17-11134
Date Received: 08-07-17
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Date Reported: 08-11-17

Project: GDPM - Desoto Bass Apts; 17-37.8

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID / Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS Fibrous		Non-Fibrous		ASBESTOS %
DB-56 A2465266	Caulking	Heterogeneous Gray,Brown Fibrous Bound	<1% 5%	Cellulose Fiberglass	70% 15% 10%	Caulk Binder Paint	None Detected
DB-57 A2465267	Caulking	Heterogeneous Gray,Brown Fibrous Bound	<1% 5%	Cellulose Fiberglass	70% 15% 10%	Caulk Binder Paint	None Detected
DB-58 A2465268	Caulking	Heterogeneous Gray,Brown Fibrous Bound	<1% 5%	Cellulose Fiberglass	70% 15% 10%	Caulk Binder Paint	None Detected

LEGEND:	Non-Anth	= Non-Asbestiform Anthophyllite
	Non-Trem	= Non-Asbestiform Tremolite
	Calc Carb	= Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. Estimated measurement of uncertainty is available on request.

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ANALYST: Scott Minyard

APPROVED BY: Tianbao Bai, Ph.D., CIH
Laboratory Director

NVLAP TESTING
NVLAP LAB CODE 101768-0

ASBESTOS CHAIN OF CUSTODY

(57) A17-11, 134
A 24652 12.
A24652 68

CEI LABS
730 SE Maynard Road, Cary, NC 27511
Tel: 866-481-1412; Fax: 919-481-1442

LAB USE ONLY:
CEI Lab Code:
CEI Lab I.D. Range:

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact: George Beaudion
Company: mac Paran Consulting Services, Inc.	Email / Tel:
Address: 3959 Fulton Grove Road	Project Name: GDPM - Desoto Bass Apts
Cincinnati, Ohio 45245	Project ID#: 17-37.8
Email: gbeaudion@macparan.com	PO #:
Tel: 513-383-6091 Fax: 513-752-7973	STATE SAMPLES COLLECTED IN:

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	24 HR	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	☐	☐	☐	☐	☐	☑
PLM POINT COUNT (400)	EPA 600	☐	☐	☐	☐	☐	☐
PLM POINT COUNT (1000)	EPA 600	☐	☐	☐	☐	☐	☐
PLM GRAV w POINT COUNT	EPA 600		☐	☐	☐	☐	☐
PLM BULK	CARB 435		☐	☐	☐	☐	☐
PCM AIR	NIOSH 7400	☐	☐	☐	☐	☐	☐
TEM AIR	EPA AHERA	☐	☐	☐	☐	☐	☐
TEM AIR	NIOSH 7402	☐	☐	☐	☐	☐	☐
TEM AIR	ISO 10312	☐	☐	☐	☐	☐	☐
TEM AIR	ASTM 6281-09	☐	☐	☐	☐	☐	☐
TEM BULK	CHATFIELD		☐	☐	☐	☐	☐
TEM DUST WIPE	ASTM D6480-05	☐	☐	☐	☐	☐	☐
TEM DUST MICROVAC	ASTM D5755-09	☐	☐	☐	☐	☐	☐
TEM SOIL	ASTM D7521-13			☐	☐	☐	☐
TEM VERMICULITE	CINCINNATI METHOD			☐	☐	☐	☐
OTHER:		☐	☐	☐	☐	☐	☐

REMARKS / SPECIAL INSTRUCTIONS: See Attached

☑ Accept Samples
☐ Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
	8/3/17 7:00 PM	A	8/7/17 9:30

Samples will be disposed of 30 days after analysis

Page _____ of _____

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ASBESTOS SAMPLING FORM

CEI LABS

COMPANY CONTACT INFORMATION	
Company: mac Paran Consulting Services, Inc.	Job Contact: George Beaudion
Project Name: GDPM - Desoto Bass Apts	
Project ID #: 17-37.8	Tel: 513-383-6091

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
DB - 1	drywall/compound		PLM ☒	TEM ☐
2	↓		PLM ☐	TEM ☐
3	↓		PLM ☐	TEM ☐
4	↓		PLM ☐	TEM ☐
5	↓		PLM ☐	TEM ☐
6	Floor tile		PLM ☐	TEM ☐
7	↓		PLM ☐	TEM ☐
8	textured finish		PLM ☐	TEM ☐
9	↓		PLM ☐	TEM ☐
10	↓		PLM ☐	TEM ☐
11	PLASTER		PLM ☐	TEM ☐
12	↓		PLM ☐	TEM ☐
13	↓		PLM ☐	TEM ☐
14	↓		PLM ☐	TEM ☐
15	↓		PLM ☐	TEM ☐
16	↓		PLM ☐	TEM ☐
17	↓		PLM ☐	TEM ☐
18	Floor tile		PLM ☐	TEM ☐
19	↓		PLM ☐	TEM ☐
20	drywall/compound		PLM ☐	TEM ☐
21	↓		PLM ☐	TEM ☐
22	↓		PLM ☐	TEM ☐
X 23	No sample #23		PLM ☐	TEM ☐
24	Ceiling tile		PLM ☐	TEM ☐
25	↓		PLM ☐	TEM ☐
26	Cove base adhesive		PLM ☐	TEM ☐
27	↓		PLM ☐	TEM ☐
28	Fitting Insulation		PLM ☑	TEM ☐

AJJ-11,134

ASBESTOS SAMPLING FORM

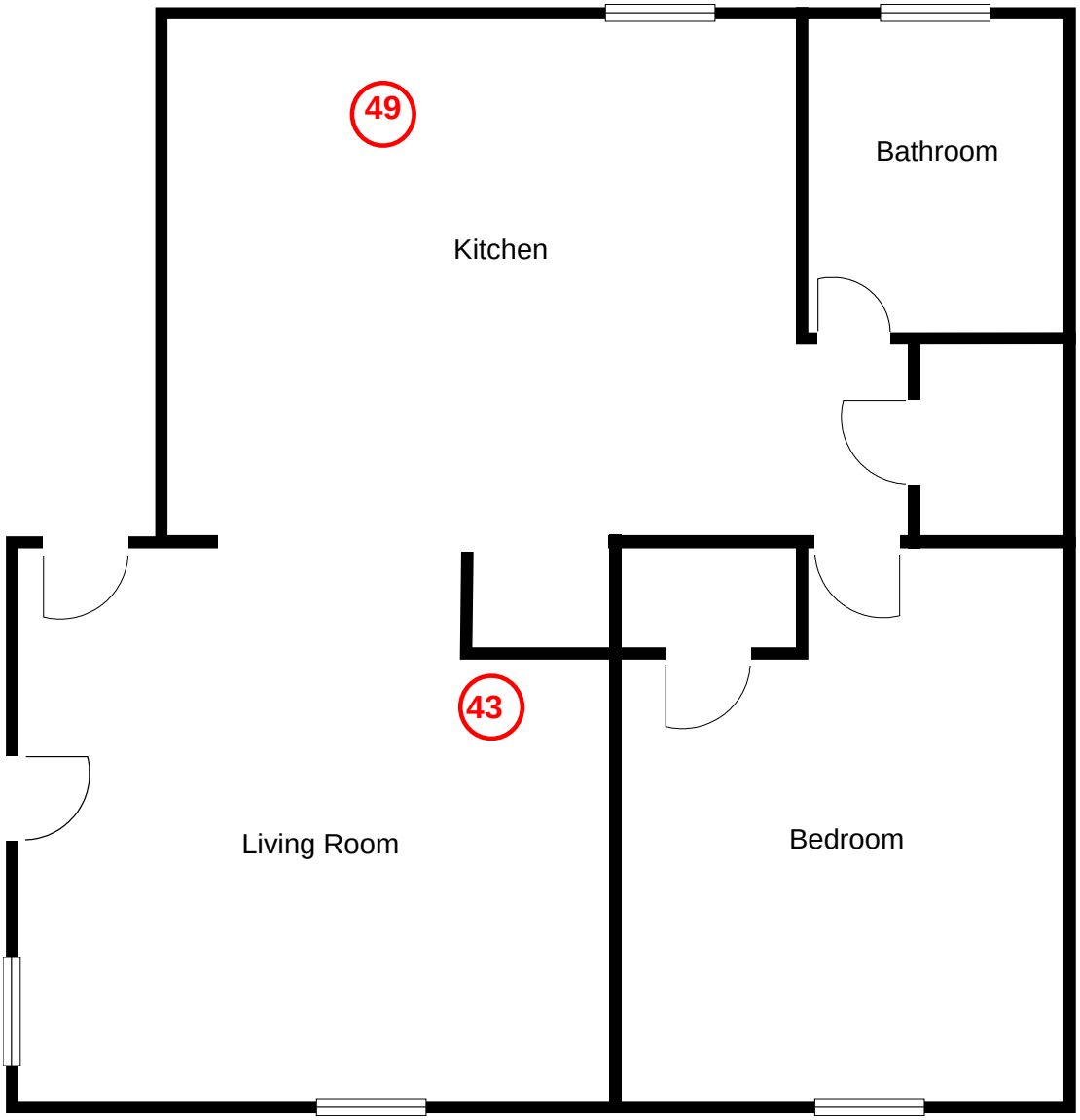
CEI LABS

COMPANY CONTACT INFORMATION	
Company: PARAN	Job Contact:
Project Name: GDPM - Desoto Bass Apts	
Project ID #: 17-37.8	Tel:

SAMPLE ID#	DESCRIPTION / LOCATION	VOLUME/ AREA	TEST	
DB - 29	Fitting Insulation		PLM ☑	TEM ☐
30	↓		PLM ☐	TEM ☐
31	Ceiling tile		PLM ☐	TEM ☐
32	↓		PLM ☐	TEM ☐
33	Floor tile		PLM ☐	TEM ☐
34	↓		PLM ☐	TEM ☐
35	CAlcium pipe insulation		PLM ☐	TEM ☐
36	↓		PLM ☐	TEM ☐
37	↓		PLM ☐	TEM ☐
38	Fitting Insulation		PLM ☐	TEM ☐
39	↓		PLM ☐	TEM ☐
40	↓		PLM ☐	TEM ☐
41	Floor tile		PLM ☐	TEM ☐
42	↓		PLM ☐	TEM ☐
43	Plaster		PLM ☐	TEM ☐
44	↓		PLM ☐	TEM ☐
45	↓		PLM ☐	TEM ☐
46	↓		PLM ☐	TEM ☐
47	↓		PLM ☐	TEM ☐
48	Floor tile		PLM ☐	TEM ☐
49	↓		PLM ☐	TEM ☐
50	textured finish		PLM ☐	TEM ☐
51	↓		PLM ☐	TEM ☐
52	↓		PLM ☐	TEM ☐
53	Floor tile		PLM ☐	TEM ☐
54	↓		PLM ☐	TEM ☐
55	CAulking		PLM ☐	TEM ☐
56	↓		PLM ☐	TEM ☐
57	↓		PLM ☐	TEM ☐
58	↓		PLM ☑	TEM ☐

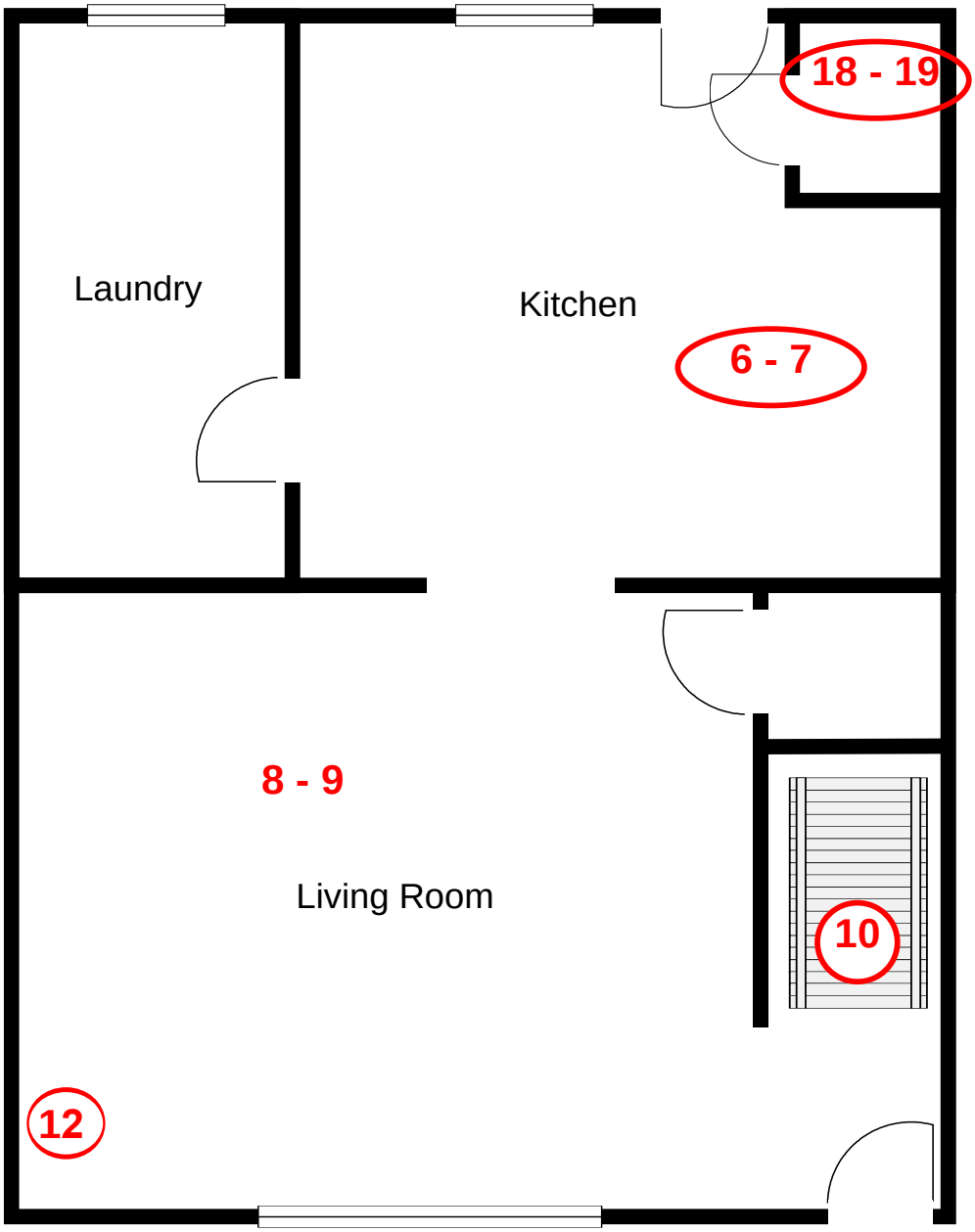
Appendix B

Drawing with Sample Locations



1st Floor

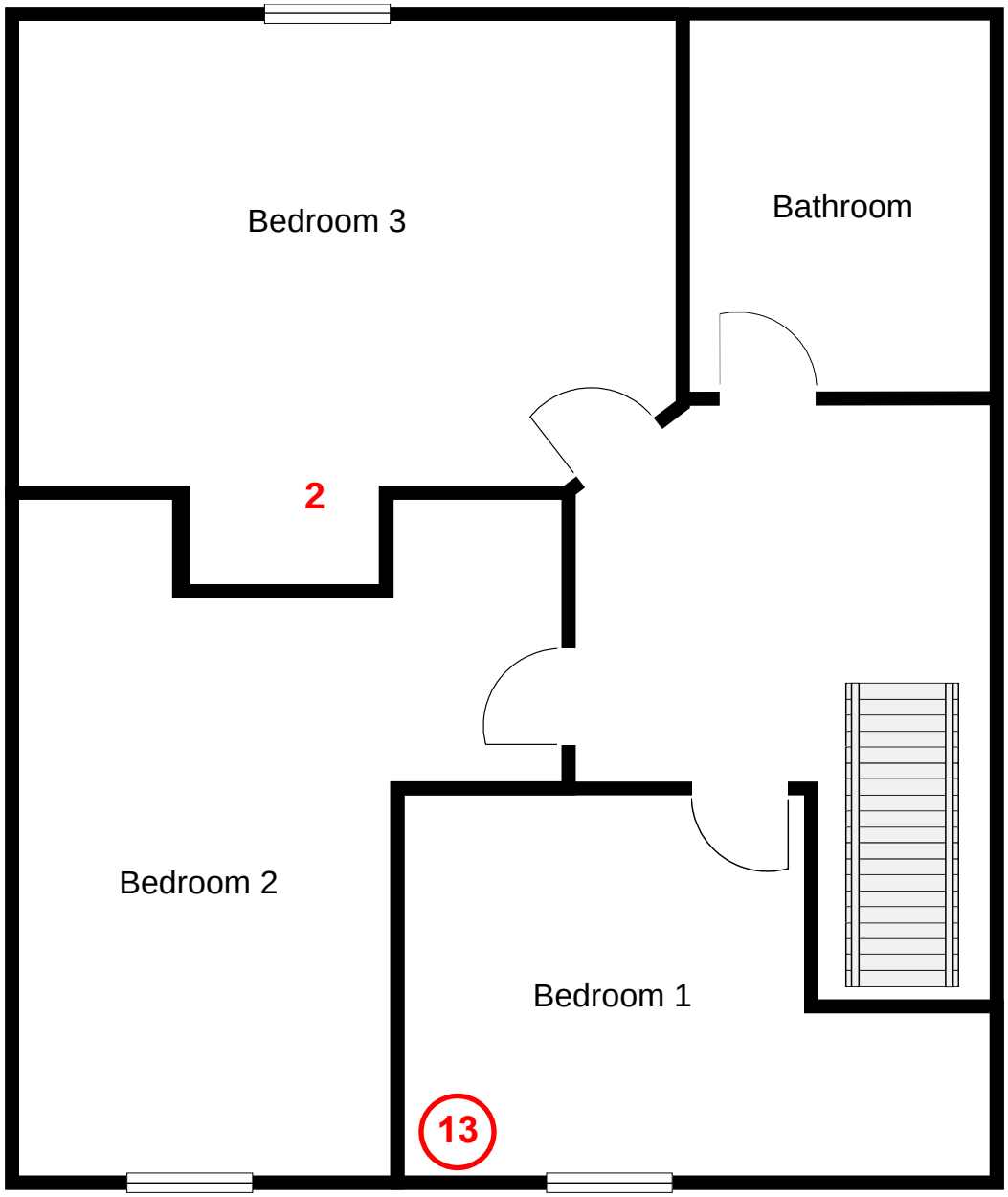
Property: Greater Dayton Premier Management
Desoto Bass Courts
1819 Banker Place
Dayton, OH 45417



1st Floor

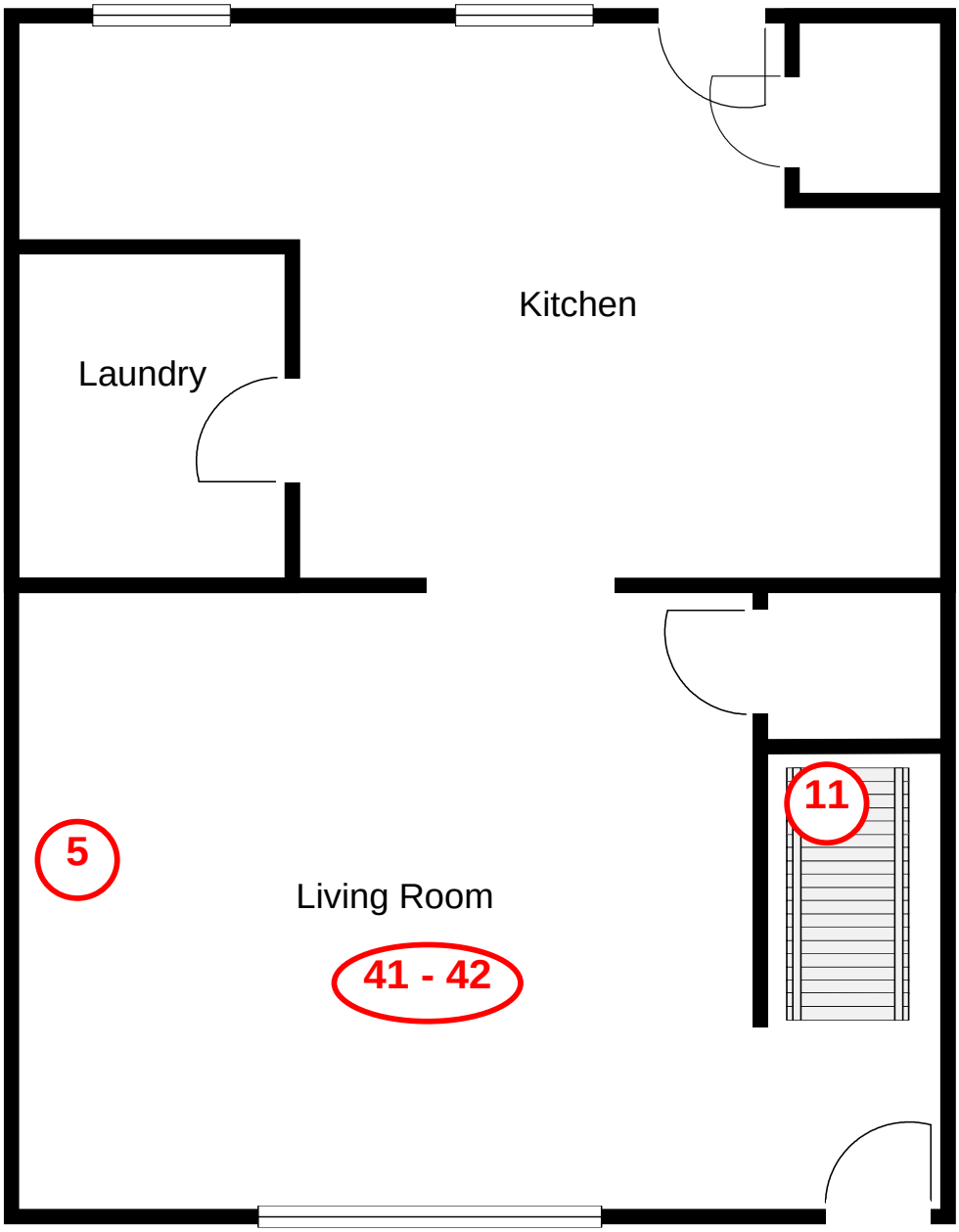
Property: Greater Dayton Premier Management
Desoto Bass Courts
49 Benning Place
Dayton, OH 45417

mac Paran



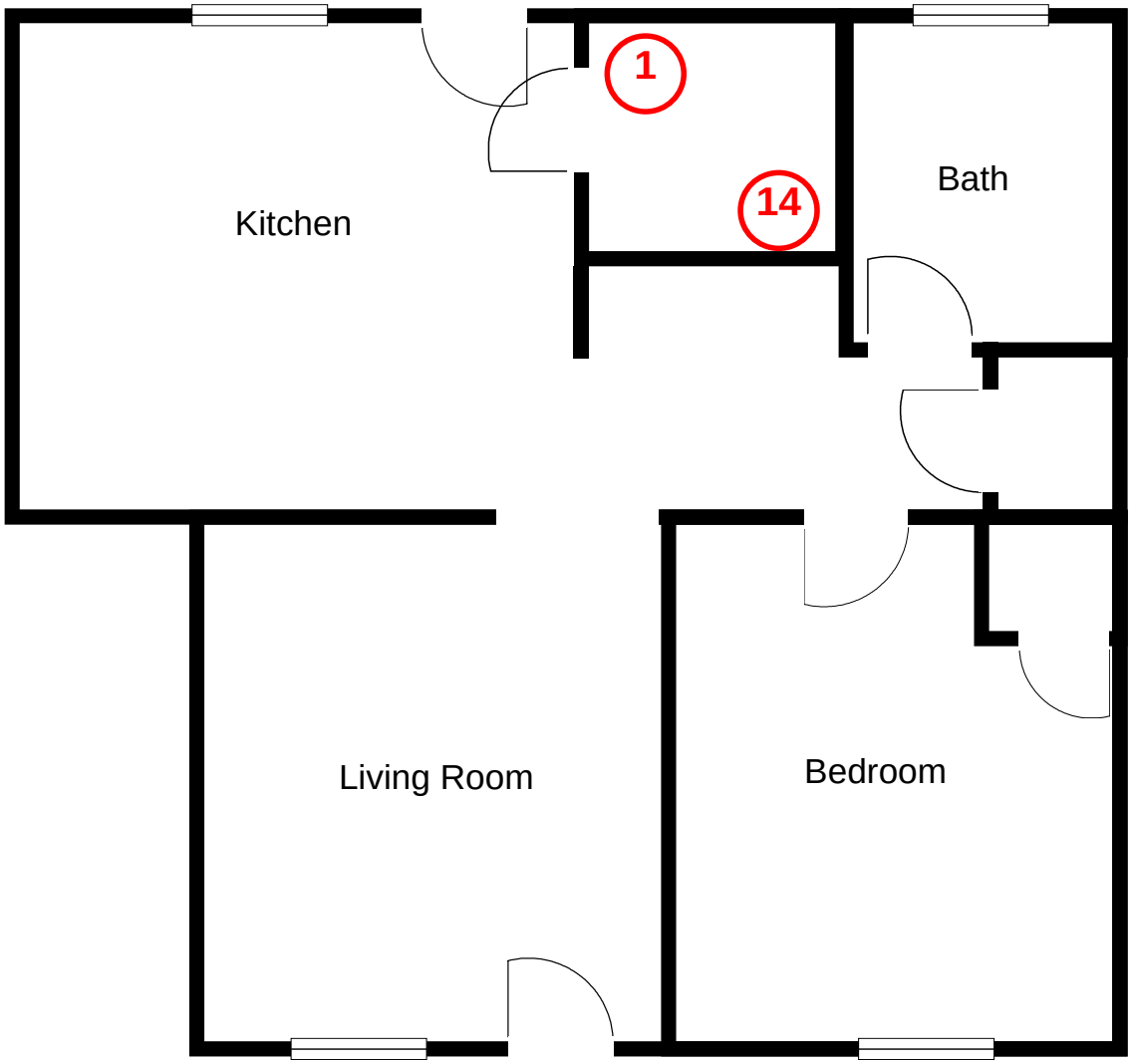
2nd Floor

Property: Greater Dayton Premier Management
Desoto Bass Courts
49 Benning Place
Dayton, OH 45417



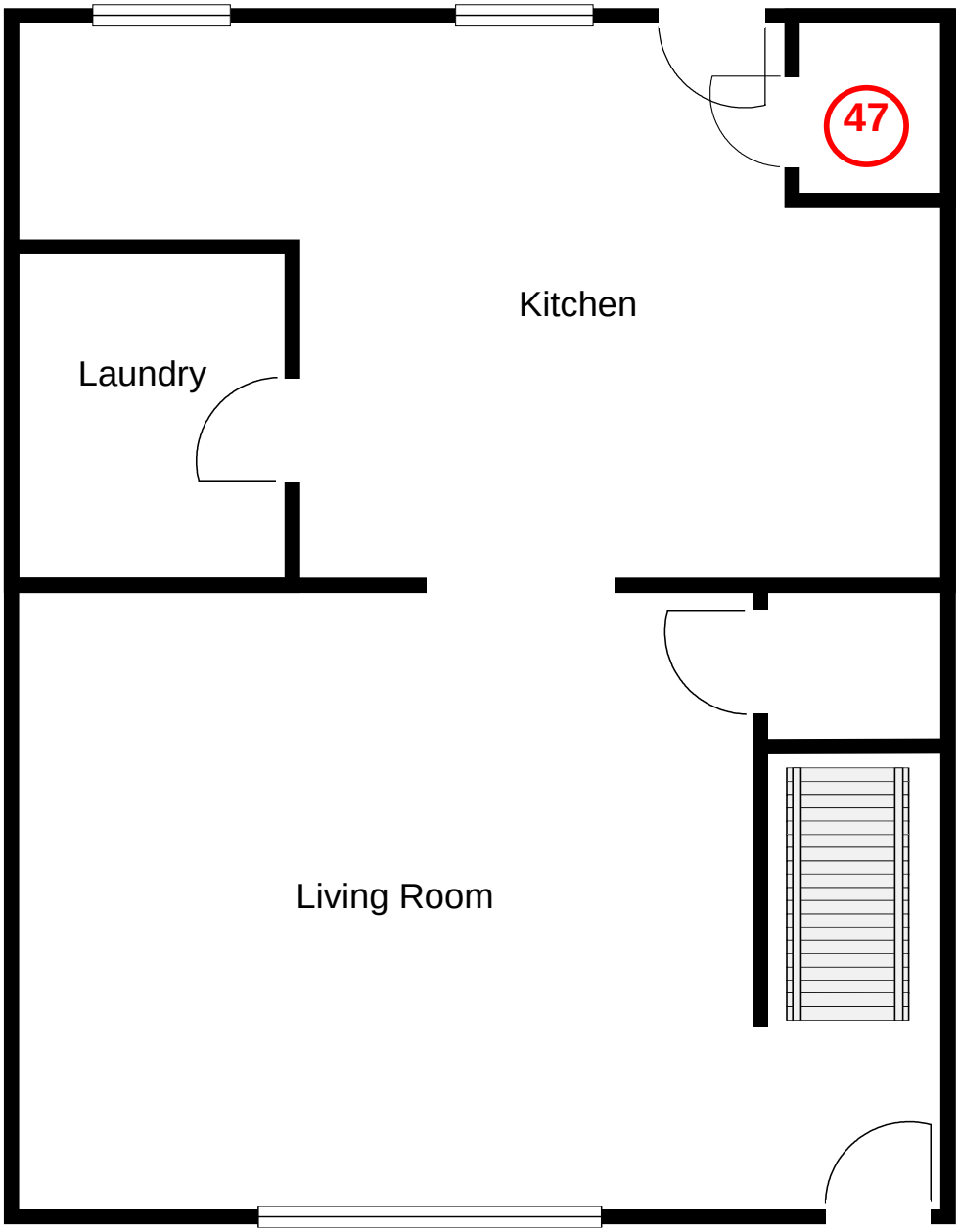
1st Floor

Property: Greater Dayton Premier Management
Desoto Bass Courts
26 Bragg Place
Dayton, OH 45417



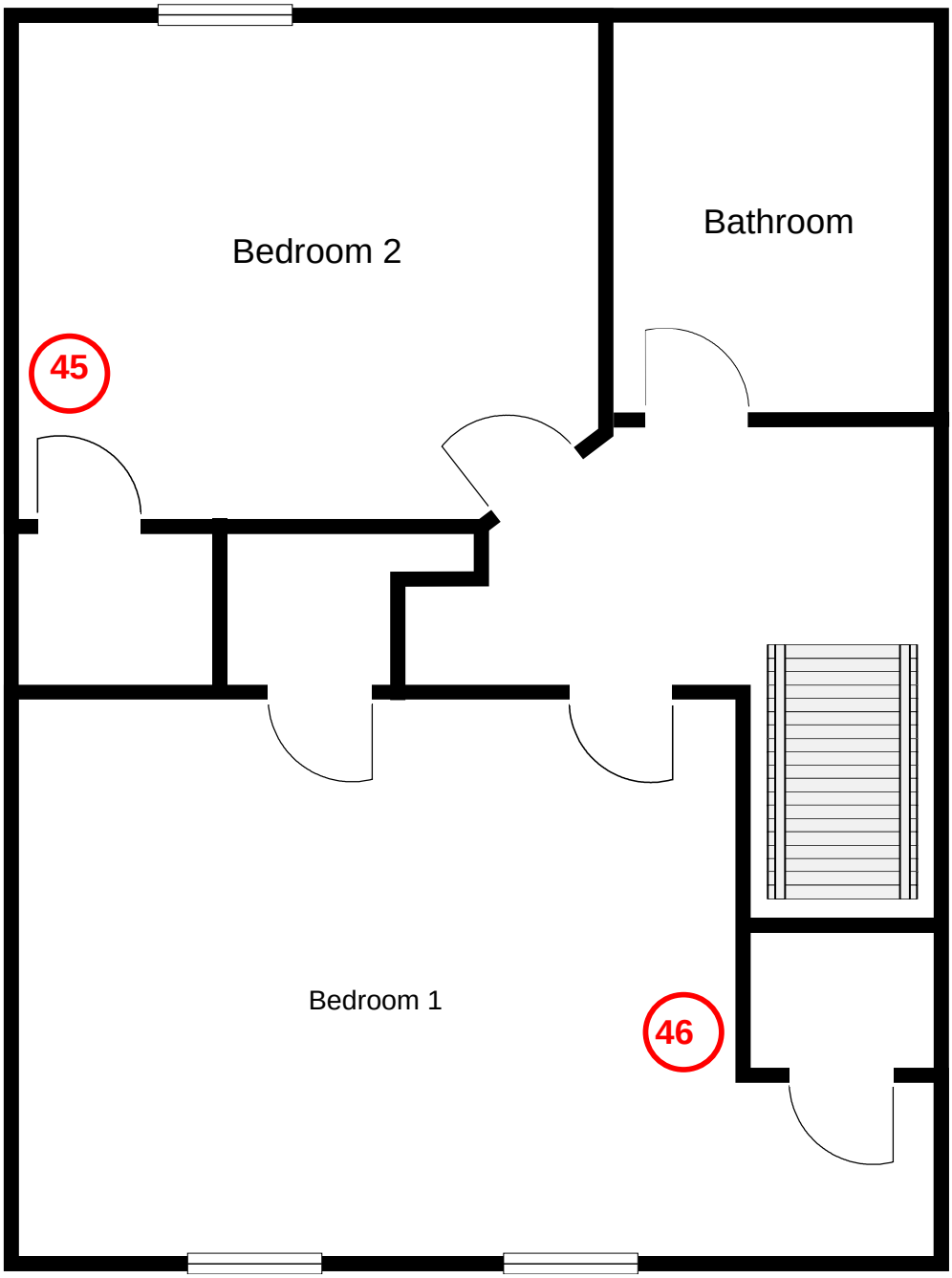
1st Floor

Property: Greater Dayton Premier Management
Desoto Bass Courts
1043 Danner Place
Dayton, OH 45417



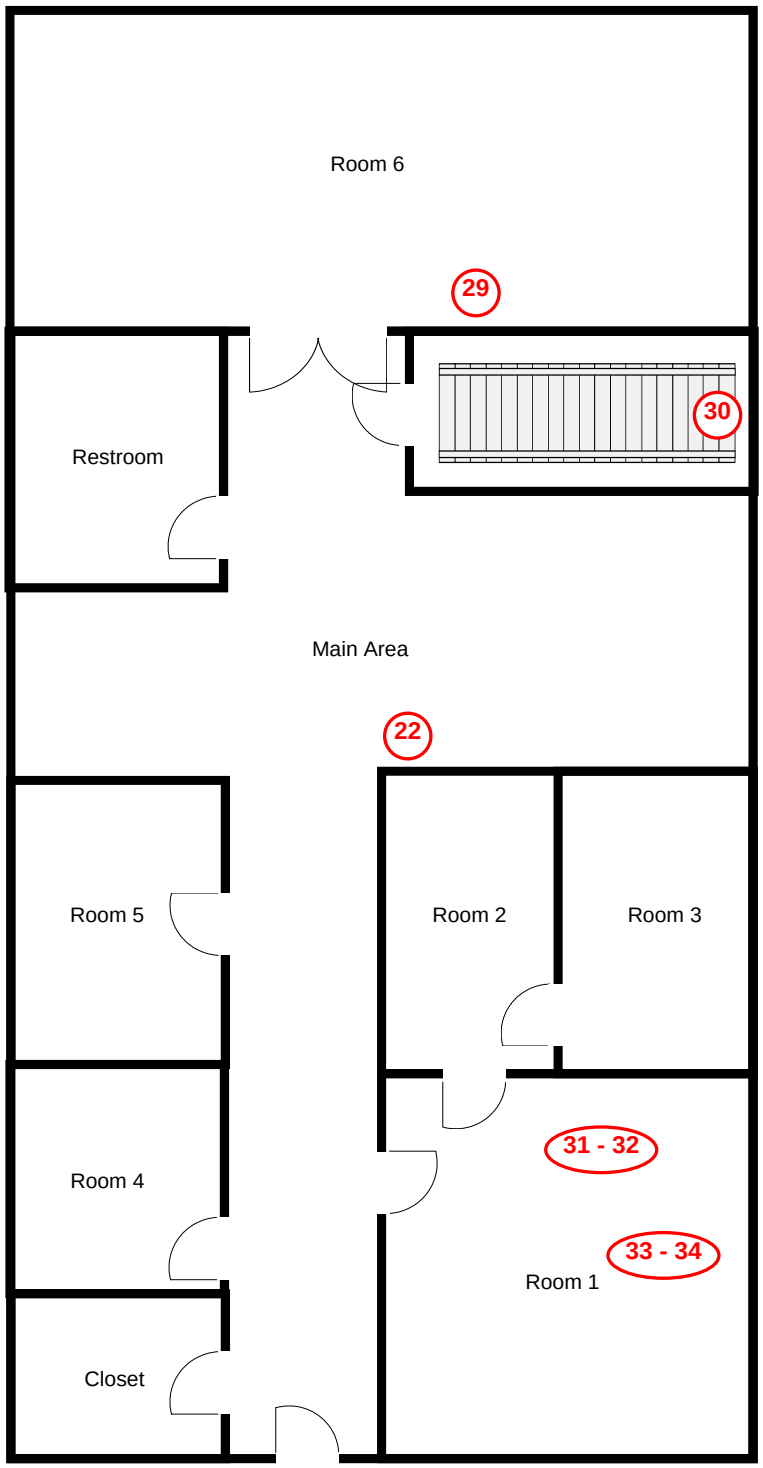
1st Floor

Property: Greater Dayton Premier Management
Desoto Bass Courts
1734 Germantown Road
Dayton, OH 45417



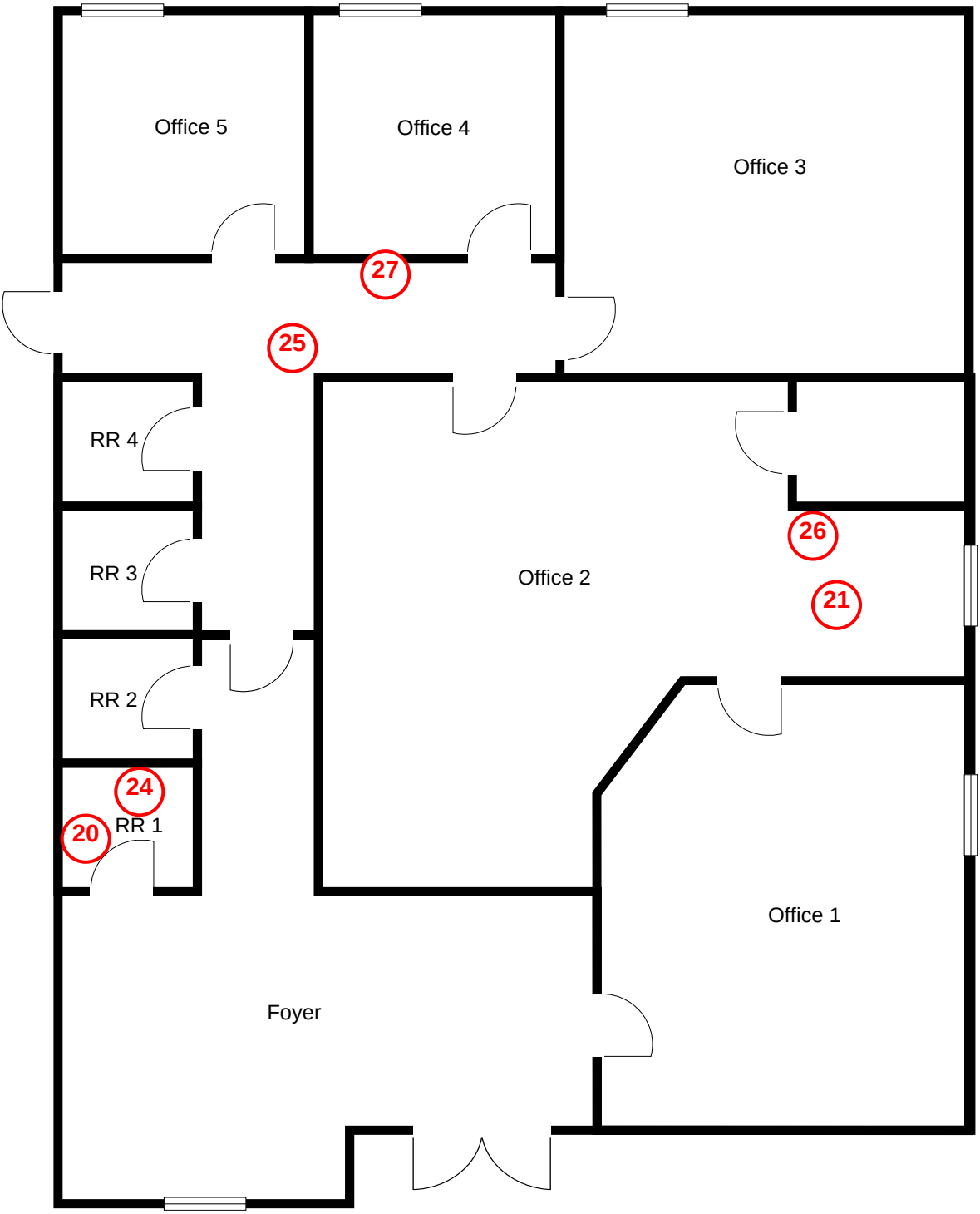
2nd Floor

Property: Greater Dayton Premier Management
Desoto Bass Courts
1734 Germantown Road
Dayton, OH 45417



Maintenance Office

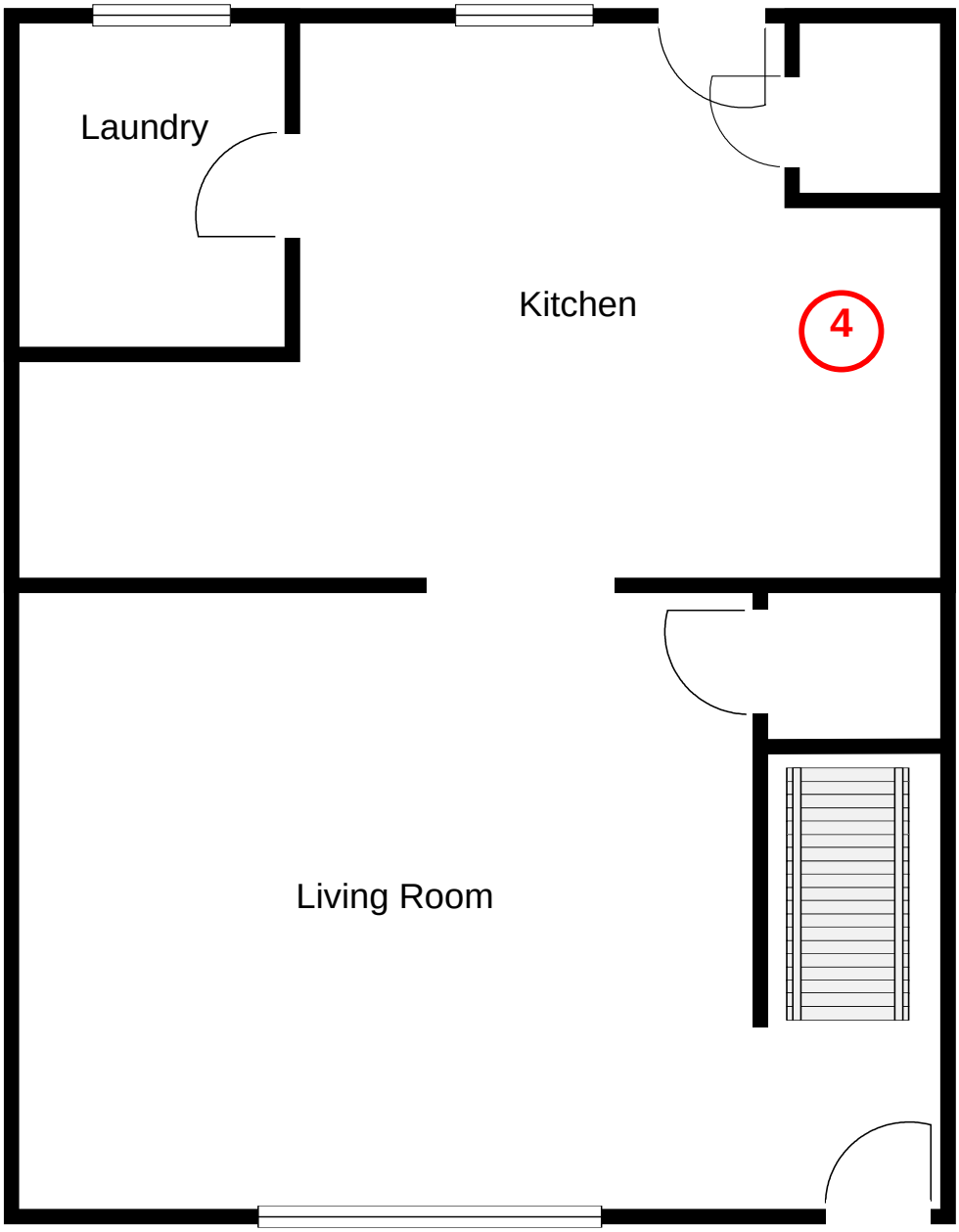
Property: Greater Dayton Premier Management
Desoto Bass Courts
811 Oldfield Place
Dayton, OH 45417



Office

Property: Greater Dayton Premier Management
Desoto Bass Courts
811 Oldfield Place
Dayton, OH 45417

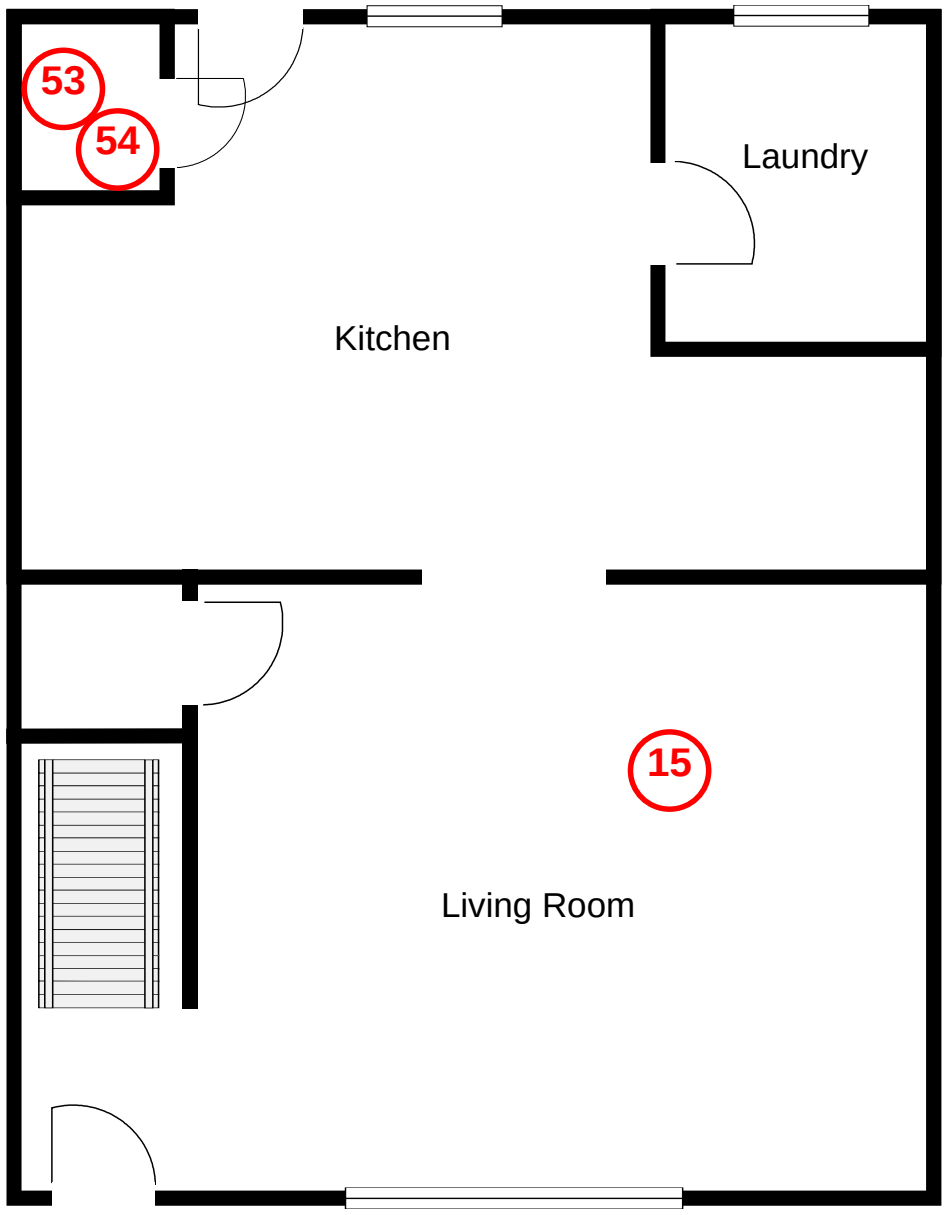
mac Paran



1st Floor

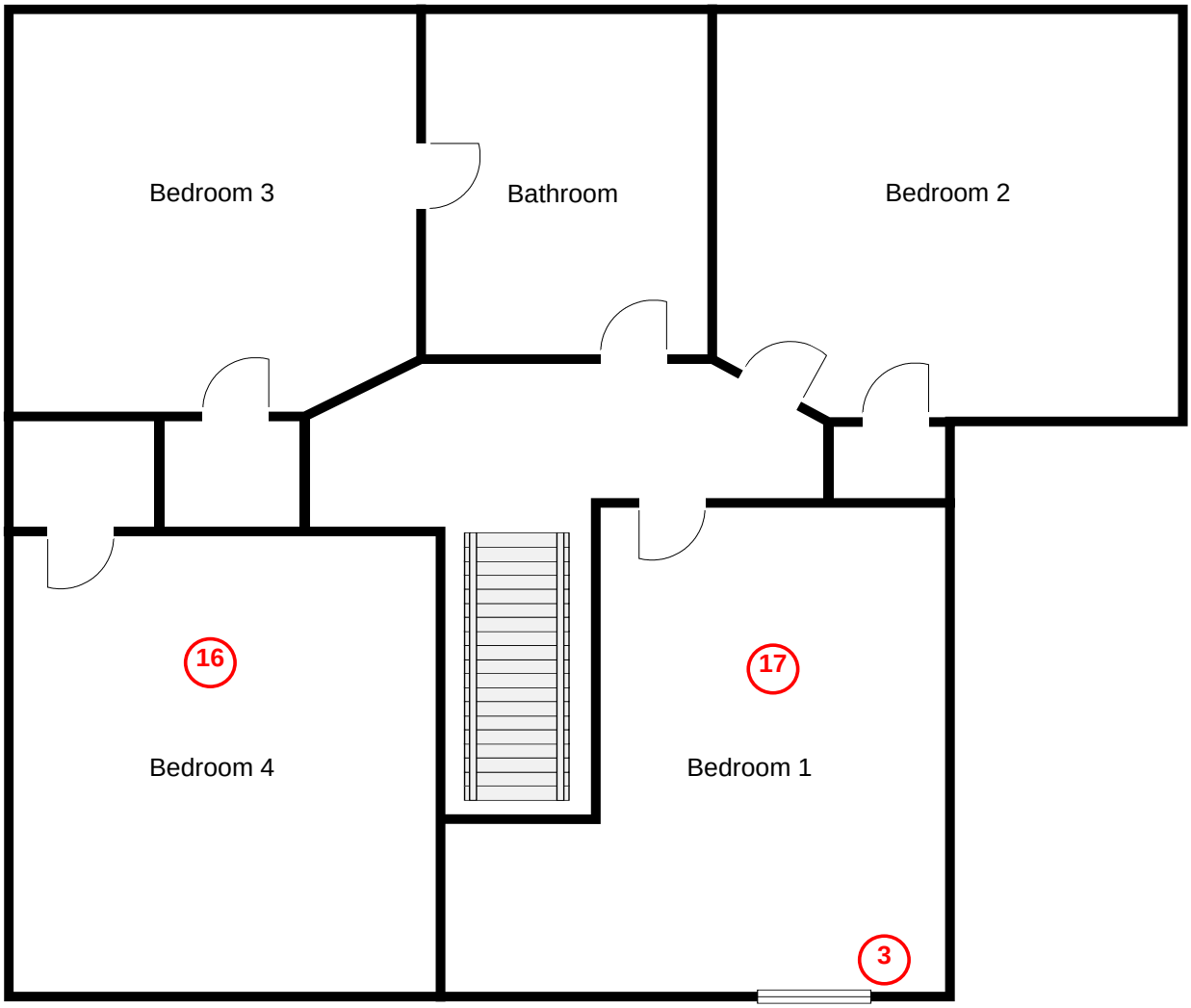
Property: Greater Dayton Premier Management
Desoto Bass Courts
1043 Robeson Place
Dayton, OH 45417

mac Paran



1st Floor

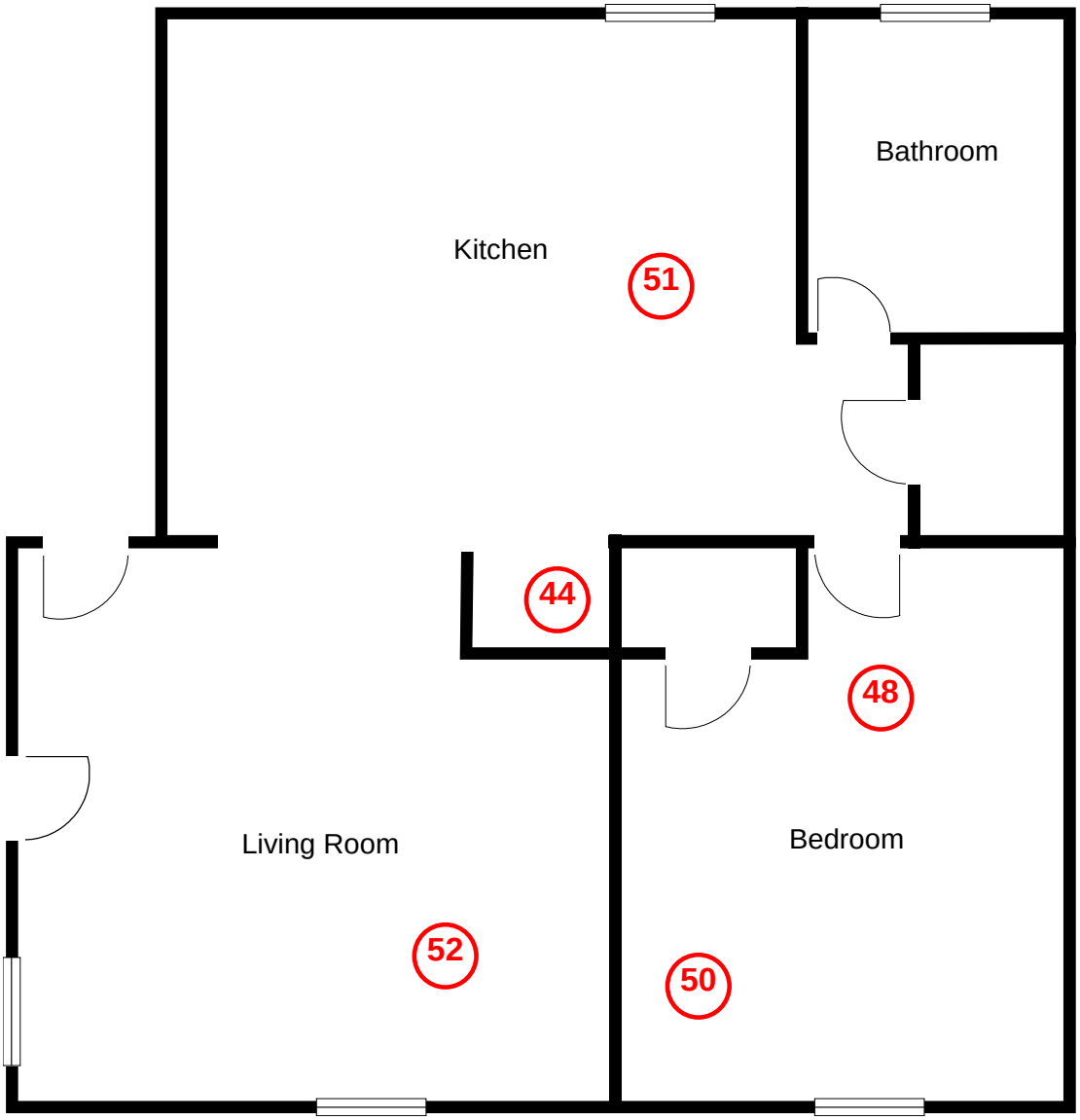
Property: Greater Dayton Premier Management
Desoto Bass Courts
1709 W. Stewart Street
Dayton, OH 45417



2nd Floor

Property: Greater Dayton Premier Management
Desoto Bass Courts
1709 W. Stewart Street
Dayton, OH 45417

mac Paran



1st Floor

Property: Greater Dayton Premier Management
Desoto Bass Courts
900/904 Wilberforce Place
Dayton, OH 45417

mac Paran

Appendix C

Asbestos Hazard Evaluation Specialist License

OHIO DEPARTMENT OF HEALTH

246 North High Street
Columbus, Ohio 43215

614/466-3543
www.odh.ohio.gov

John R. Kasich/Governor

Lance Himes/Interim Director of Health

July 06, 2017

George S Beaudion
MAC Paran Consulting
3959 Fulton Grove Road
Cincinnati OH 45245

RE: Asbestos Hazard Evaluation Specialist
Certification Number: ES31662
Expiration Date: 08/17/2018

Dear George S Beaudion:

This letter and enclosed certification card approves your request to be certified as an Asbestos Hazard Evaluation Specialist. You must present your card upon request at any project site while performing duties. Copies of cards are not acceptable as proof of certification.

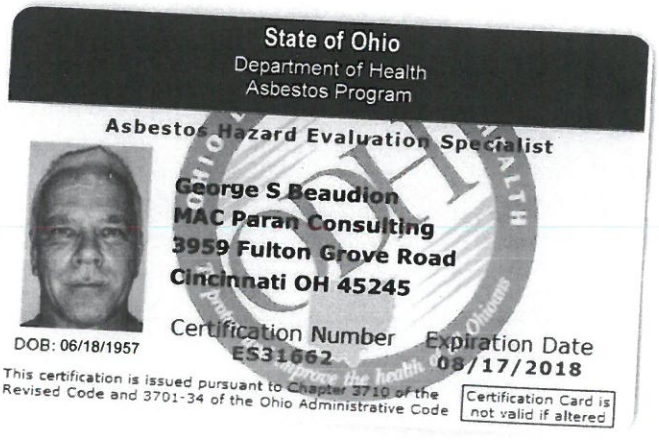
This certification may be revoked by the Director of Health for violation of any of the requirements of 3701-34 of the Ohio Adminstrative Code.

If you have any questions, please call Kathy Butcher, Licensure Specialist, at 614-644-0226.

Sincerely,

Bill Robbins

Bill Robbins, Section Chief
Bureau of Licensure Operations
Office of Health Assurance and Licensing



OHIO DEPARTMENT OF HEALTH

246 North High Street
Columbus, Ohio 43215

614/466-3543
www.odh.ohio.gov

John R. Kasich/Governor

Lance Himes/Director of Health

August 01, 2017

William Carter
MAC Paran Consulting Services Inc
3959 Fulton Grove Rd
Cincinnati, OH 45245

RE: Asbestos Hazard Evaluation Specialist ES34717R

Dear William Carter:

Enclosed please find your requested replacement card. This card can easily be identified as a replacement card by the "R" which has been printed after your card number. This card is now your **only** valid card. If your original card is presented as proof of certification by yourself or anyone else it will not be recognized by the Ohio Department of Health (ODH) as valid and, if found during an ODH asbestos project inspection, will be confiscated.

If you have any questions regarding your replacement card please call (614) 644-0226.

Sincerely,

Bill Robbins

Bill Robbins, Section Chief
Bureau of Licensure Operations
Office of Health Assurance and Licensing

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SECTION 31 05 13 - SOILS FOR EARTHWORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Subsoil materials.
   2. Topsoil materials.

1.2 QUALITY ASSURANCE

A. Furnish each subsoil and topsoil material from single source throughout Work.

PART 2 PRODUCTS

2.1 SUBSOIL MATERIALS

A. Refer to Alt & Witzig Geo-Technical Report 23CB0051 dated September 15, 2023.

2.2 TOPSOIL MATERIALS

A. Topsoil Materials as outlined in ODOT 653.02
   1. Excavated and reused materials where possible.
   2. Imported borrow.
   3. Friable loam.
   4. Reasonably free of roots, rocks larger than 1/2 inch, subsoil, debris, large weeds, and foreign matter.
   5. Containing minimum of 4 percent and maximum of 20 percent inorganic matter.

2.3 SOURCE QUALITY CONTROL

A. Testing and Analysis of Subsoil Material: Perform according to ASTM D698.

B. Testing and Analysis of Topsoil Material: Perform according to ASTM D698.

C. When tests indicate materials do not meet specified requirements, change material and retest.

D. Furnish materials of each type from same source throughout Work.

PART 3 EXECUTION

3.1 EXCAVATION

A. Excavate subsoil and topsoil from areas designated. Strip topsoil to full depth of topsoil in designated areas.

B. Stockpile excavated material meeting requirements for subsoil materials and topsoil materials.

C. Remove excess excavated materials not intended for reuse, from Site.

D. Remove excavated materials not meeting requirements for subsoil materials and topsoil materials from Site.

3.2 STOCKPILING

A. Stockpile materials on Site at locations designated by Architect/Engineer.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate differing materials with dividers or stockpile apart to prevent mixing.

D. Stockpile topsoil 8 feet high, maximum.

E. Prevent intermixing of soil types or contamination.

F. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

G. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching, until disposed of.

3.3 STOCKPILE CLEANUP

A. Remove stockpile, leave area in clean and neat condition. Grade Site surface to prevent free standing surface water.

B. When borrow area is indicated, leave area in clean and neat condition. Grade Site surface to prevent free standing surface water.

END OF SECTION

SECTION 31 05 16 - AGGREGATES FOR EARTHWORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Coarse aggregate materials.
   2. Fine aggregate materials.

1.2 QUALITY ASSURANCE

A. Furnish each aggregate material from single source throughout Work.

PART 2 PRODUCTS

2.1 AGGREGATE MATERIALS

A. Refer to Alt & Witzig Geo-Technical Report 23CB0051 dated September 15, 2023.

2.2 SOURCE QUALITY CONTROL

A. Coarse Aggregate Material - Testing and Analysis: Perform according to ASTM D698.

B. Fine Aggregate Material - Testing and Analysis: Perform according to ASTM D698.

C. When tests indicate materials do not meet specified requirements, change material and retest.

PART 3 EXECUTION

3.1 STOCKPILING

A. Stockpile materials on Site at locations designated by Architect/Engineer.

B. Stockpile in sufficient quantities to meet Project schedule and requirements.

C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.

D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

E. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching, until disposed of.

3.2 STOCKPILE CLEANUP

A. Remove stockpile, leave area in clean and neat condition. Grade Site surface to prevent free-standing surface water.

B. When borrow area is indicated, leave area in clean and neat condition. Grade Site surface to prevent free standing surface water.

END OF SECTION

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SECTION 31 10 00 - SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Removing surface debris,
   2. Removing designated paving, curbs, and site development, etc.
   3. Removing topsoil and subsoil.
   4. Rough grading and site contouring.
   5. Removing trees, shrubs, and other plant life.

B. Coordinate Scope on the Civil Engineering drawings. Follow intent of the Civil Drawings, and the full extent of the requirements to provide the proposed site improvements.

1.2 SUBMITTALS

A. Product Data: Submit data for herbicide.

PART 2 PRODUCTS

2.1 SITE CLEARING

A. Herbicide: approved by authority having jurisdiction.

PART 3 EXECUTION

3.1 PREPARATION

A. Call Local Utility Line Information service not less than three working days before performing Work. Identify all public and private utilities as is applicable to the work. Provide services of private utility location services as is applicable to the work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

3.2 PROTECTION

A. Locate, identify, and protect utilities indicated to remain, from damage.

B. Protect trees, plant growth, and features designated to remain, as final landscaping.

C. Protect bench marks, survey control points, and existing structures which are scheduled to remain from damage or displacement.

3.3 CLEARING

A. Clear areas required for access to site and execution of Work.

B. Remove paving, curbs, and other site improvements to be removed.

C. Remove trees and shrubs. Remove stumps, main root ball and root system.

D. Apply herbicide to remaining stumps or plant life to inhibit growth.

3.4 REMOVALS

A. Remove debris, rock, and extracted plant life from the Site.

B. Remove paving, curbs, and existing site improvements as identified.
   1. Neatly saw cut edges at right angle to surface. Replace / re-cut any failed edges for a new clean cut.

C. Remove abandoned utilities. Indicate removal termination point on as-built drawings if applicable.

D. Continuously clean up and remove waste materials from the Site. Do not allow materials to accumulate on Site.

E. Do not burn or bury materials on Site. Leave Site in clean condition.

3.5 TOPSOIL EXCAVATION

A. Excavate topsoil from **areas to be further excavated, relandscaped, or regraded** without mixing with foreign materials for use in finish grading.

B. Do not excavate wet topsoil.

C. Stockpile in area designated on Site to depth not exceeding **8** feet and protect from erosion. Stockpile material per the Civil Drawings until disposal.

D. Remove excess topsoil not intended for reuse from Site, unless directed otherwise by Owner.

3.6 ROUGH GRADING

A. Identify required lines, levels, contours, and datum.

B. Identify known underground, above ground, and aerial utilities. Stake and flag locations.

C. Notify utility company to remove and relocate utilities as applicable.

D. Excavate topsoil and subsoil from areas to be further excavated, re-landscaped or re-graded.

E. Stockpile topsoil in area designated on site.

F. Remove excess topsoil and subsoil not being reused, from site.

3.7 CLEAN UP

A. Remove debris, rock larger than 1.5 cu ft, and extracted plant life from site.

3.8 SCHEDULE

A. Refer to Civil Drawings for extent of scope and work areas.

END OF SECTION

SECTION 31 20 00 - EARTH MOVING

PART 1 GENERAL

1.1 SUMMARY

A. Section includes site grading, removal of topsoil and subsoil, building excavating and trenching, backfilling, and compacting.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

A. Topsoil: Reusable excavated or Imported friable loam; free of subsoil, roots, grass, weeds, large stone, and foreign matter. ASTM D 4268, pH range of 5.5 to 7, minimum of 4 percent organic material content.
   1. Amend existing in place surface soil to produce topsoil. Verify suitability of surface soil to produce topsoil. Surface soil may be supplemented with imported or manufactured topsoil from off-site sources.

B. Subsoil: Excavated material, graded free of lumps larger than 6 inches, rocks larger than 2 inches, organic material, and debris. ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM or a combination there of.

2.2 FILL MATERIALS

A. Refer to Alt & Witzig Geo-Technical Report 23CB0051 dated September 15, 2023.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Call OUPS to mark locations of all underground utilities a minimum of 3 working days prior to starting work.

B. Identify required lines, levels, contours, and datum.

C. Notify Architect/Engineer of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.

D. Maintain and protect existing utilities to remain.

E. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil bearing water runoff of airborne dust to adjacent properties.

F. Prevent surface water and ground water from entering excavations, from ponding on prepared sub-grades, and from flooding the project site and surrounding areas.

G. Verify foundation walls are braced to support surcharge forces imposed by backfilling operations.

3.2 PROTECTION OF ADJACENT WORK

A. Underpin adjacent structures which may be damaged by excavation work, including service utilities and pipe chases.

B. Grade excavation top perimeter to prevent surface water run-off into excavation or to adjacent properties.

C. Contractor shall be responsible for damage to existing utilities caused by construction operations.

3.3 TOPSOIL EXCAVATING

A. Do not excavate wet topsoil.

B. Excavate topsoil and stockpile for reuse. Remove excess topsoil not planned / required for reuse from the Site.

3.4 SUBSOIL EXCAVATING

A. Do not remove wet subsoil. Remove groundwater by pumping to keep excavations dry.

B. Excavate subsoil required for new building foundations and construction operations, and other Work.

C. Slope banks [to angle of repose or less, until shored.

D. Do not interfere with 45 degree bearing splay of foundations.

E. Correct unauthorized excavation at no cost to Owner.

F. Compact disturbed load bearing soil in direct contact with foundations to original bearing capacity; follow requirements of Geo-Technical Report.

G. Proof roll bearing surfaces. Fill soft spots with engineered fill and compact uniformly to 95 percent of maximum density.

H. Correct unauthorized excavation at no cost to the Owner.

I. Fill over-excavated areas under structure bearing surfaces in accordance with direction by Architect/Engineer.

J. Stockpile subsoil in area designated on site. Remove excess subsoil not being reused from site.

3.5 PREPARATION FOR BACKFILLING

A. Compact subgrade to density requirements for subsequent backfill materials.

B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural fill and compact to density equal to or greater than requirements for subsequent fill material.

C. Scarify subgrade surface as recommended for the conditions.

D. Proof roll to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.

3.6 FILLING

A. Fill areas to contours and elevations with unfrozen materials.

B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.

C. Place fill material in continuous layers and compact, Coordinate with Civil Drawings. Layer in maximum 8 inches compacted depth unless otherwise approved by Architect / Engineer.

D. Maintain optimum moisture content of fill materials to attain required compaction density.

E. Make grade changes gradual. Blend slope into level areas.

F. Repair or replace items indicated to remain damaged by excavation or filling.

3.7 TRENCHING

A. Excavate for storm sewer, sanitary sewer, electric, water, gas and other utilities per the Civil Drawings and to meet the applicable installation standards by the local municipality.

B. Cut trenches sufficiently wide to enable installation of utilities and allow inspection.

C. Hand trim excavation and leave free of loose matter.

D. Support pipe during placement and compaction of bedding fill.

E. Backfill trenches to required contours and elevations.

F. Place and compact fill materials as for Backfilling.

3.8 BACKFILLING

A. Backfill areas to contours and elevations. Use unfrozen and unsaturated materials.

B. Backfill systematically, as early as possible, to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.

C. Place geotextile fabric over unstable subsoil.

D. Place material in continuous layers as follows:
   1. Soil Materials: Maximum 8 inches compacted depth.
   2. Fill Materials: Maximum 8 inches compacted depth.

E. Employ placement method so not to disturb or damage foundations or utilities in trenches.

F. Maintain optimum moisture content of backfill materials to attain required compaction density.

G. Backfill against supported foundation walls.

H. Slope grade away from building minimum 2 percent for a minimum distance of 10 feet, unless noted otherwise. Coordinate with Civil Drawings.

3.9 PLACING TOPSOIL

A. Place topsoil in areas where seeding, sodding, and planting is scheduled.

B. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles, and contours of subgrade.

C. Remove large stone, roots, grass, weeds, debris, and foreign material while spreading.

D. Lightly compact placed topsoil.

E. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.10 SCHEDULE

A. Coordinate with Civil Engineering Drawings.

END OF SECTION

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SECTION 31 23 17 - TRENCHING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Excavating trenches for utilities outside building to utility service.
   2. Compacted fill from top of utility bedding to subgrade elevations.
   3. Backfilling and compaction.

1.2 QUALITY ASSURANCE

A. Perform Work according to authority having jurisdiction standards as applicable.

1.3 FIELD MEASUREMENTS

A. Verify field measurements, inverts, etc prior to fabrication.

1.4 COORDINATION

A. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 PRODUCTS

2.1 FILL MATERIALS

A. Subsoil / Granular Fill: Type as required to suit conditions, suitability installed in compacted lifts.

2.2 ACCESSORIES

A. Geotextile Fabric: Non-biodegradable, woven.

PART 3 EXECUTION

3.1 LINES AND GRADES

A. Lay pipes to lines and grades indicated.
   1. Architect/Engineer may make changes in lines, grades, and depths of utilities when changes are required for Project conditions.

B. Use laser-beam instrument with qualified operator to establish lines and grades.

3.2 PREPARATION

A. Call local utility line information service not less than three working days before performing Work.
   1. Request underground utilities to be located and marked within and surrounding construction areas.

B. Identify required lines, levels, contours, and datum locations.

C. Protect plant life, lawns and other features remaining as portion of final landscaping.

D. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

E. Maintain and protect above and below grade utilities indicated to remain.

F. Establish temporary traffic control when trenching is performed in public right-of-way. Relocate controls as required during progress of Work.

3.3 TRENCHING

A. Excavate subsoil required for utilities to utility service.

B. Perform excavation within 24 inches of existing utility service according to utility's requirements.

C. Cut trenches sufficiently wide to enable installation and allow inspection. Remove water or materials that interfere with Work.

D. Excavate bottom of trenches maximum 24 inches wider than outside diameter of pipe.

E. Excavate trenches to depth required for utilities. Provide uniform and continuous bearing and support for bedding material and pipe and utilities.

F. Do not interfere with 45-degree bearing splay of foundations.

G. When Project conditions permit, slope side walls of excavation starting 24 inches above top of pipe. When side walls cannot be sloped, provide sheeting and shoring to protect excavation as specified in this Section.

H. When subsurface materials at bottom of trench are loose or soft, excavate to greater depth as directed by Architect/Engineer until suitable material is encountered.

I. Cut out soft areas of subgrade not capable of compaction in place. Backfill and compact to density equal to or greater than requirements for subsequent backfill material.

J. Trim excavation. Remove loose matter.

K. Correct areas over excavated areas with compacted backfill as specified for authorized excavation or replace with fill concrete as directed by Architect/Engineer.

L. Remove excess subsoil not intended for reuse, from Site.

3.4 SHEETING AND SHORING

A. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.

B. Support trenches more than 5 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation.

C. Design sheeting and shoring to be removed at completion of excavation Work.

D. Repair damage caused by failure of sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.

E. Repair damage to [new] [and] [existing] Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.5 BACKFILLING

A. Refer to Alt & Witzig Geo-Technical Report 23CB0051 dated September 15, 2023.

B. Backfill trenches to contours and elevations with unfrozen fill materials.

C. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.

D. Place geotextile fabric prior to placing subsequent fill materials.

E. Place material in continuous layers as follows:
   1. Subsoil Fill: Maximum 8 inches compacted depth.
   2. Structural Fill: Maximum 6 inches compacted depth.
   3. Granular Fill: Maximum 6 inches compacted depth.

F. Employ placement method that does not disturb or damage foundation perimeter drainage, utilities in trench, and any other obstructions or utilities encountered.

G. Maintain optimum moisture content of fill materials to attain required compaction density.

H. Protect open trench to protect the public/residents.

3.6 TOLERANCES

A. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

B. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.

3.7 FIELD QUALITY CONTROL

A. Perform laboratory material tests according to ASTM D1557.

B. Perform in place compaction tests according to following:
   1. Density Tests: ASTM D1556.
   2. Moisture Tests: ASTM D3017.

C. When tests indicate Work does not meet specified requirements, remove Work, replace, compact, and retest.

3.8 PROTECTION OF FINISHED WORK

A. Reshape and re-compact fills subjected to vehicular traffic during construction.

END OF SECTION

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SECTION 32 11 23 - AGGREGATE BASE COURSES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Aggregate subbase.
   2. Aggregate base course.

1.2 SUBMITTALS

A. Product Data:
   1. Geotextile fabric and herbicide.

B. Materials Source: Name of aggregate materials suppliers.

1.3 QUALITY ASSURANCE

A. Furnish each aggregate material from single source throughout Work.

B. Perform Work according to ODOT standards.

PART 2 PRODUCTS

2.1 AGGREGATE MATERIALS

A. Subgrade: ODOT Item 204.
   1. Compact the subgrade materials that have a maximum dry density of 100 to 105 pounds per cubic foot to not less than 102 percent of maximum dry density. Compact all other subgrade materials to not less than 100 percent of maximum dry density. Determine the maximum dry density using AASHTO T99, AASHTOT T272, or test section method in Supplement 1015.

B. Aggregate Base Course: ODOT Item 304 [304.01 and 304.02].
   1. 98% of the material's maximum dry density as determined by the modified Proctor Test (AASHTOT-180 or ASTM D-1557)
   2. Blended Aggregate Mix.

2.2 ACCESSORIES

A. Geotextile Fabric: AASHTO M288; non-woven, polypropylene.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify compacted substrate is dry and ready to support paving and imposed loads.
   1. Proof-roll substrate in minimum two perpendicular passes to identify soft spots.
   2. Remove soft substrate and replace with compacted fill.

B. Verify substrate has been inspected, gradients and elevations are correct.

3.2 PREPARATION

A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.

B. Do not place fill on soft, muddy, or frozen surfaces.

3.3 AGGREGATE PLACEMENT

A. Install geotextile fabric over subgrade according to manufacturer's instructions.
   1. Lap ends and edges minimum 6 inches.

2. Anchor fabric to subgrade when required to prevent displacement until aggregate is installed.

B. Spread aggregate over prepared substrate to total compacted thickness indicated.

C. Roller compact aggregate to 95 percent maximum density.

D. Level and contour surfaces to elevations, profiles, and gradients indicated.

E. Add small quantities of fine aggregate to coarse aggregate when required to assist compaction.

F. Maintain optimum moisture content of fill materials to attain specified compaction density.

G. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 TOLERANCES

A. Maximum Variation From Flat Surface: 1/2 inch measured with 10 foot straight edge.

B. Maximum Variation From Thickness: 1/4 inch.

C. Maximum Variation From Elevation: 1/2 inch.

3.5 COMPACTION

A. Compact materials to 98 percent of maximum density as determined from test strip, according to ASTM D2940.

END OF SECTION

SECTION 32 12 16 - ASPHALT PAVING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Asphalt Paving, Base, Asphalt Maintenance and Rehabilitation and related materials.

1.2 SUBMITTALS

A. Product Data:
   1. Submit product information for asphalt and aggregate materials.
   2. Submit mix design with laboratory test results supporting design.

1.3 QUALITY ASSURANCE

A. Perform Work according to State of Ohio, ODOT standards as applicable.
   1. State of Ohio Department of Transportation Construction and Materials Specifications Guide shall be used as a reference for all applicable materials, construction conditions, operations, and finished products, etc.

B. Mixing Plant: Conform to State of Ohio, ODOT standard.

C. Obtain materials from same source throughout.

1.4 AMBIENT CONDITIONS

A. Do not place asphalt when ambient air or base surface temperature is less than 50 degrees F, or surface is wet or frozen.

B. Place bitumen mixture when temperature is not more than 15 degrees F below bitumen suppliers bill of lading and not more than maximum specified temperature.

PART 2 PRODUCTS

2.1 ASPHALT MATERIALS

A. Subgrade: ODOT Item 204.
   1. Compact the subgrade materials that have a maximum dry density of 100 to 105 pounds per cubic foot to not less than 102 percent of maximum dry density. Compact all other subgrade materials to not less than 100 percent of maximum dry density. Determine the maximum dry density using AASHTO T99, AASHTOT T272, or test section method in Supplement 1015.

B. Aggregate Base Course: ODOT Item 304.
   1. 98% of the material's maximum dry density as determined by the modified Proctor Test (AASHTOT-180 or ASTM D-1557)

C. Tack Coat: ODOT Item 407.
   1. Use one of following types: 702.04 RS-1, SS-1, SS-1h, CRS-1, CSS-1, or CSS-1h; or 702.13

D. Intermediate Asphalt Surface: ODOT Item 403/448, Type 1, medium duty.

E. Asphaltic Concrete Surface Course: ODOT Item 404/448, Type 1, medium duty.

2.2 ASPHALT MAINTENANCE MATERIALS

A. Sealcoat: ASTM D244; ASTM D 2939
   1. Asphalt Emulsion Pavement Sealer with mineral/sand filler, polymer additive, water.

B. Spot Primer: Oil spot primer formulated to ensure adhesion of pavement sealer to oil, gas, grease, and chemical stained areas on asphalt pavement.

C. Crack Seal: ODOT Item 423.
   1. Type II; mixture of PG 64-22 certified binder and polyester fibers; hot applied type. Modified, single component, rubber/asphalt joint and crack sealant. Formulated for sealing asphalt cracks.

PART 3 EXECUTION

3.1 EXAMINATION

A. General:
   1. Install Work in accordance with ODOT and City of Eaton standards, including all base and preparation.
   2. Scheduling: Schedule and manage work to minimize cold joints in the paving system. Coordinate requirements with Owner prior to mobilizing on the job.
   3. Clean all existing surfaces and remove any foreign debris.
   4. Ensure positive drainage to storm drains/ catch basins throughout. Provide leveling course as required to attain proper drainage [confirm conditions with Owner prior to proceeding].

B. Mechanically sweep, blow, or scrub pavement surfaces immediately prior to commencement of Work. Clean pavement surfaces of all loose foreign matter. Verify surfaces are dry.

C. Protect existing improvements, adjacent finishes, overhanging trees, and plant life from heat damage by individual shielding and water spray.

D. Protect manhole covers and frames, catch basin covers and frames.

3.2 APPLICATION – GENERAL REQUIREMENTS

A. New Asphalt Paving
   1. Adjust sub-grade elevations to prep for new asphalt paving and to match adjacent elevations of parking lot where applicable.
   2. Install new compacted aggregate base course.
   3. Notify Owner of any subgrade deficiencies requiring undercut.
   4. NOTE: Contractor responsible to maintain positive drainage across entire lot. Contact Owner for additional directive as needed by existing conditions.
   5. Apply Tack Coat
   6. Machine install base course asphalt over primed area. Minimum thickness of finished, compacted pavement to be as specified and asphalt tonnage yield should be based on the specified compacted minimum thickness. Tickets will be collected at end of each day and final tonnage yield must be within 5% of expected fully compacted yield.
   7. Apply Tack Coat
   8. Machine install surface asphalt over primed area. Minimum thickness of finished, compacted pavement to be as specified and asphalt tonnage yield should be based on the specified compacted minimum thickness. Tickets will be collected at end of each day and final tonnage yield must be within 5% of expected fully compacted yield.
   9. Compact each layer using 3 ton or greater vibratory rollers.
   10. Seal all edges of paved area where matched to existing asphalt surfaces using non-tracking sealant.

END OF SECTION

SECTION 32 13 13 - CONCRETE PAVING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Concrete paving for: paving, curbs, and sidewalks

1.2 SUBMITTALS

A. Product Data:
   1. Submit product information for concrete, cement, and aggregate materials.
   2. Submit mix design with laboratory test results supporting design.

1.3 QUALITY ASSURANCE

A. Perform Work according to State of Ohio, ODOT standards as applicable.
   1. State of Ohio Department of Transportation Construction and Materials Specifications Guide shall be used as a reference for all applicable materials, construction conditions, operations, and finished products, etc.
   2. Perform Work in accordance with ACI 330.

PART 2 PRODUCTS

2.1 MATERIALS

A. Subgrade: ODOT Item 204.
   1. Compact the subgrade materials that have a maximum dry density of 100 to 105 pounds per cubic foot to not less than 102 percent of maximum dry density. Compact all other subgrade materials to not less than 100 percent of maximum dry density. Determine the maximum dry density using AASHTO T99, AASHTOT T272, or test section method in Supplement 1015.

B. Aggregate Base Course: ODOT Item 304 [304.01 and 304.02].
   1. 98% of the material's maximum dry density as determined by the modified Proctor Test (AASHTOT-180 or ASTM D-1557)

C. Concrete: ODOT Item 452 Nonreinforced Portland cement concrete pavement

D. Concrete: ODOT Item 499.
   1. Class QC 1, 4,000 PSI design strength at 28 days; 2,000 Coulombs maximum Permeability; Cement Content minimum 520 lb.; well –graded aggregate
   2. Maximum slump 4 inches.
   3. Air Content: 6% +/- 2%; ASTM C260

E. Cement: ASTM C150 Normal Type I Portland type, gray color.

F. Fine and Coarse Aggregates: ASTM C33, Class 4S.

G. Water: ASTM C94, potable, Clean, not detrimental to concrete without deleterious amounts of chloride ions.

2.2 REINFORCEMENT MATERIALS

A. Reinforcement:
   1. Reinforcing Steel: ASTM A615/A615M, 60 ksi yield grade, deformed billet bars, uncoated finish.
   2. Welded Deformed Wire Fabric: ASTM A497/A497M; in flat sheets; unfinished.
   3. Dowels: ASTM A615/A615M; 60 ksi yield strength, plain steel bars; cut to length indicated on Drawings, square ends with burrs removed; unfinished.

2.3 ACCESSORIES

A. Forms: Wood or steel material, profiled to suit conditions; conform to ACI 301.

B. Joint Filler: ASTM D1751; Asphalt impregnated wood fiberboard.

C. Reinforcement Mesh: 6x6-W1.4xW1.4 welded wire reinforcement

D. Liquid Surface Sealer: Penetrating Silane/Siloxane Sealer; clear, non-yellowing UV resistant; vapor permeable.

E. Curing Compound: ASTM C309, white pigmented water based liquid membrane.

F. Use accelerating admixtures in cold weather only when approved by the Architect/Engineer in writing. Use of admixtures will not relax cold weather placement requirements.

G. Use set retarding admixtures during hot weather only when approved by the Architect/Engineer in writing.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Verify gradients and elevations of base.

B. Verify compacted base is ready to support paving and imposed loads.

C. Moisten substrate to minimize absorption of water from fresh concrete.

D. Sawcut and remove existing concrete to allow installation of new concrete as indicated.

3.2 FORMING

A. Place and secure forms to correct location, dimension, and profile. Secure forms to allow the placement of concrete to be continuous and true.

B. Place joint filler in joints, vertical in position, in straight lines. Secure to formwork.

C. Place control joints at maximum 30 foot intervals. Align joints.

D. Place joint filler between paving components and other appurtenances.

E. Chamfer outside corners and edges of permanently exposed concrete. – ¾” chamfer

3.3 PLACING CONCRETE - GENERAL

A. Place concrete in accordance with ACI 330.

B. Place reinforcement to achieve pavement and concrete alignment as appropriate.

C. Check with electronic level that the correct slopes have been achieved to provide drainage.

D. Do not disturb reinforcement or formwork components during concrete placement.

E. Place concrete continuously between predetermined joints.

F. Apply surface sealer per manufacturer’s instructions.

3.4 INSTALLATION

A. Finishing:
   1. Apply surface retarder where exposed aggregate finish is required.
   2. Area Paving: Light broom.
   3. Sidewalk Surfaces: Light broom, radiused and trowel joint edges.
   4. Curbs and Gutters: Light broom.
   5. Apply curing compound on exposed concrete surfaces immediately after finishing.

END OF SECTION

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SECTION 32 92 19 – SEEDING / SITE REPAIR

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Seeding and Site Repairs related to the site development.

1.2 DEFINITIONS

A. Weeds: Vegetative species other than specified species to be established in given area.

1.3 SUBMITTALS

A. Product Data: Topsoil, Seed mix, fertilizer, mulch, and other accessories.

1.4 QUALITY ASSURANCE

A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

PART 2 PRODUCTS

2.1 SEED MIXTURE

A. Seed Mixture: Green Velvet's Finest mixture, fescue or bluegrass to match existing and for soils conditions, sun/shade, etc. ODOT Item 659.09, Class II

B. Commercial Fertilizer for seed: Commercial-grade complete fertilizer, consisting of 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.

C. Slow-Release Fertilizer: Granular fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium; 5 percent nitrogen; 10 percent phosphorous; and 5 percent potassium; by weight.

D. Straw Mulch: Clean, mildew- and seed-free salt hay or threshed straw.

2.2 SOIL AND SOIL MODIFICATION MATERIALS

A. Topsoil: ASTM D 5268, Fertile, agricultural soil, typical for locality, capable of sustaining vigorous plant growth, free of subsoil, clay or impurities, plants, weeds and roots, free of stones 1 inch or larger. Equal to ODOT Item 653.

B. Fertilizer: Fifty percent of elements derived from organic sources,

C. Lime: ASTM C602, Class T agricultural limestone containing a minimum 80 percent calcium carbonate equivalent.

D. Organic Compost: leaf and mushroom compost to be added to mulch at 1 cubic yard per 5 cubic yards of mulch.

E. Weed-Control Additive: Preen weed control.

2.3 ACCESSORIES

A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are **not** acceptable.

2.4 SOURCE QUALITY CONTROL

A. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.

B. Provide recommendation for fertilizer and lime application rates for specified seed mix as result of testing.

C. Testing is not required when recent tests and certificates are available for imported topsoil. Submit these test results to testing laboratory. Indicate, by test results, information necessary to determine suitability.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify prepared soil base is ready to receive Work of this Section.

3.2 PLACING TOPSOIL

A. Spread topsoil to minimum depth of 6 inches. Rake smooth.

B. Grade topsoil to eliminate rough, low or soft areas. Slope for positive drainage.

C. Place topsoil into pits and beds intended for plant root balls to minimum thickness of 6 inches.

D. At affected areas of the site, strip existing topsoil and stockpile for reuse. Spread as required to meet new grades.

E. Provide additional fill as required to complete the work. Additional fill material shall be free of organic matter, rubbish, debris, and rocks greater than 4” diameter.

3.3 SEEDING

A. Apply seed at a rate of 10 lb per 1000 sq ft, evenly in two intersecting directions.

B. Immediately following seeding, apply agricultural mulch to a thickness of 1/8 inches.

C. Apply water with fine spray immediately after each area has been mulched.

3.4 SEED PROTECTION

A. Identify seeded areas with stakes and string around area periphery.

3.5 MAINTENANCE

A. Water to prevent grass and soil from drying out. Maintain until vigorously growing.

B. Control growth of weeds. Apply herbicides. Remedy damage resulting from improper use of herbicides.

C. Immediately reseed areas showing bare spots.

D. Repair washouts or gullies.

3.6 SCHEDULE OF SITE REPAIR

A. Backfill areas impacted by work with topsoil.

B. Re-seed area impacted by work.

C. Apply mulch/straw.

D. Water and maintain seed until vigorously growing.

END OF SECTION

SUBSURFACE INVESTIGATION & GEOTECHNICAL RECOMMENDATIONS

Renew Miami Chapel – Phase 1
1702 GERMANTOWN STREET
DAYTON, OHIO
ALT & WITZIG ENGINEERING PROJECT NO.: 23CB0051

PREPARED FOR:
RDA GROUP ARCHITECTS, LLC
7945 WASHINGTON WOODS DRIVE
DAYTON, OHIO

PREPARED BY:
ALT & WITZIG ENGINEERING, INC.
GEOTECHNICAL DIVISION
COLUMBUS, OHIO

SEPTEMBER 15, 2023

Alt & Witzig Engineering, Inc.
1825 O'Brien Road • Columbus, Ohio 43228
Ph: (614) 274-7428 • Fax: (513) 777-9070

September 15, 2023

RDA Group Architects, LLC
7945 Washington Woods Drive
Dayton, Ohio 45459
Attention: Mr. Greg Snyder

Report of Subsurface Investigation and Geotechnical Recommendations

RE: Renew Miami Chapel – Phase 1
1702 Germantown Street
Dayton, Ohio
Alt & Witzig Engineering Project No.: 23CB0051

Dear Mr. Snyder:

In compliance with your request, Alt & Witzig Engineering, Inc. has completed a subsurface investigation for the above-mentioned site. The Statement of Objectives, Scope of Work, and results of our investigation are presented in the following report. It is our pleasure to transmit an electronic copy of our findings.

The results of our test borings and laboratory tests completed to date are presented in the appendix of the report. The recommendations for the project are presented in the "Geotechnical Analyses and Recommendations" section of the report. If you have any questions or comments regarding this matter, please contact us at your convenience.

Sincerely,

ALT & WITZIG ENGINEERING, INC.

Zachary J. Stivers, P.E.

Patrick A. Knoll, P.E.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Alt & Witzig Engineering, Inc. has performed a subsurface investigation and geotechnical analysis for the proposed apartment development to be constructed at 1702 Germantown Street in Dayton, Ohio, in conformance with the scope and limitations of our proposal dated June 8, 2023 (*Alt & Witzig Engineering Proposal 2306CN006)*. This investigation was performed for RDA Group Architects, LLC. Authorization to perform this investigation was in the form of an Alt & Witzig Engineering proposal accepted by Mr. Greg Snyder of RDA Group Architects, LLC and an executed agreement.

In compliance with your original request, a total of 11 soil borings were completed at the above referenced site for the proposed apartment development.

The purpose of this investigation was to determine the various soil profile components, the engineering characteristics of the subsurface materials and to provide geotechnical recommendations with regards to feasibility of the proposed apartment community.

Based on the investigation, the following conditions and concerns are relevant for this project.

- A total of 11 borings were completed across the site for the proposed apartment development. Borings encountered approximately 3-inches of topsoil across the Site. Borings were not completed in the asphalt pavement areas. Beneath the surface material borings encountered brown clay with trace organics, undocumented fill soils in the upper 2 to 2.5-feet. Beneath the undocumented fill soil, brown and gray silty clays with varying amounts of sand and gravel to depths ranging from 5.5 to 14.5-feet. At this depth borings encountered brown and gray fine to coarse sand and gravel layers that were moist to wet with depth. The sand layer was underlain by gray silty sandy clay to boring termination depths at 16-feet. Borings B-7 and B-11 encountered silt seams at depths ranging from 7 to 9.5-feet.

- Except for topsoil and organic material, all soils encountered during boring operations were suitable for reuse as structural fill. Based on experience with soils in the area, optimum moisture contents for the sandy silty lean clays will range from 14% to 18%. Moisture contents in the upper 5-feet ranged from 10% to 28%. Based on the moisture contents of the soils in the upper 5-feet, minimal drying of the soils will be required to achieve adequate compaction. The soil tends to get dryer with increasing depth below the surface.

- The proposed structures can be supported by conventional footings dimensioned with a net allowable bearing pressure of 2,000-psf if founded on the natural medium stiff soil. Undocumented fill materials were encountered in the upper 2 to 2.5-feet. The foundations should be undercut through any soft or unsuitable material to firm suitable bearing soils.. All undercuts should be replaced with lean concrete.

1.0 INTRODUCTION

1.1 Purpose

The purpose of this investigation was to determine the various soil profile components, the engineering characteristics of the subsurface materials, and to provide geotechnical recommendations with regards to feasibility of the proposed apartment development.

1.2 Statement of Objectives

In compliance with your request, a total of 11-soil borings were completed at the above referenced site for the proposed apartments in Dayton, Ohio.

This project included:

- A review of geological maps of the area and review of geologic and related literature
- A reconnaissance of the immediate site and subsurface exploration
- Field and laboratory testing
- Engineering analysis and evaluation of the materials

1.3 Incorporations by Reference

The subsurface investigation was conducted in accordance with guidelines set forth in the scope of services and applicable industry standards. This investigation was performed for RDA Group Architects, LLC. The proposed statement of objectives and scope of work were outlined in the form of Alt & Witzig Engineering Proposal Number 2306CN006 duly authorized by Mr. Greg Snyder of RDA Group Architects, LLC.

1.4 Report Reliance

This report is solely for the use of RDA Group Architects, LLC and any reliance of this report by third parties shall be at such party's sole risk and may not contain sufficient information for purposes of other parties for other uses. This report shall only be presented in full and may not be used to support any other objectives than those set out in the scope of work, except where written approval and consent are provided by RDA Group Architects, LLC and Alt & Witzig Engineering Inc.

2.0 BACKGROUND INFORMATION

2.1 Site Location

The site of the proposed apartments is in Dayton, Ohio. Specifically, the site is located at 1702 Germantown Street. The location of the site is shown on the enclosed *Site Location Map* presented in the Appendix and in Figure 1.

Figure 1: 2022 Google Aerial

2.2 Site Description

The entire Site consists of 6 apartment buildings with parking and drives since 1942 when the buildings were constructed. Historical aerials of the site are shown in Figures 2 and 3.

Figure 2 - 1957 Aerial Photograph

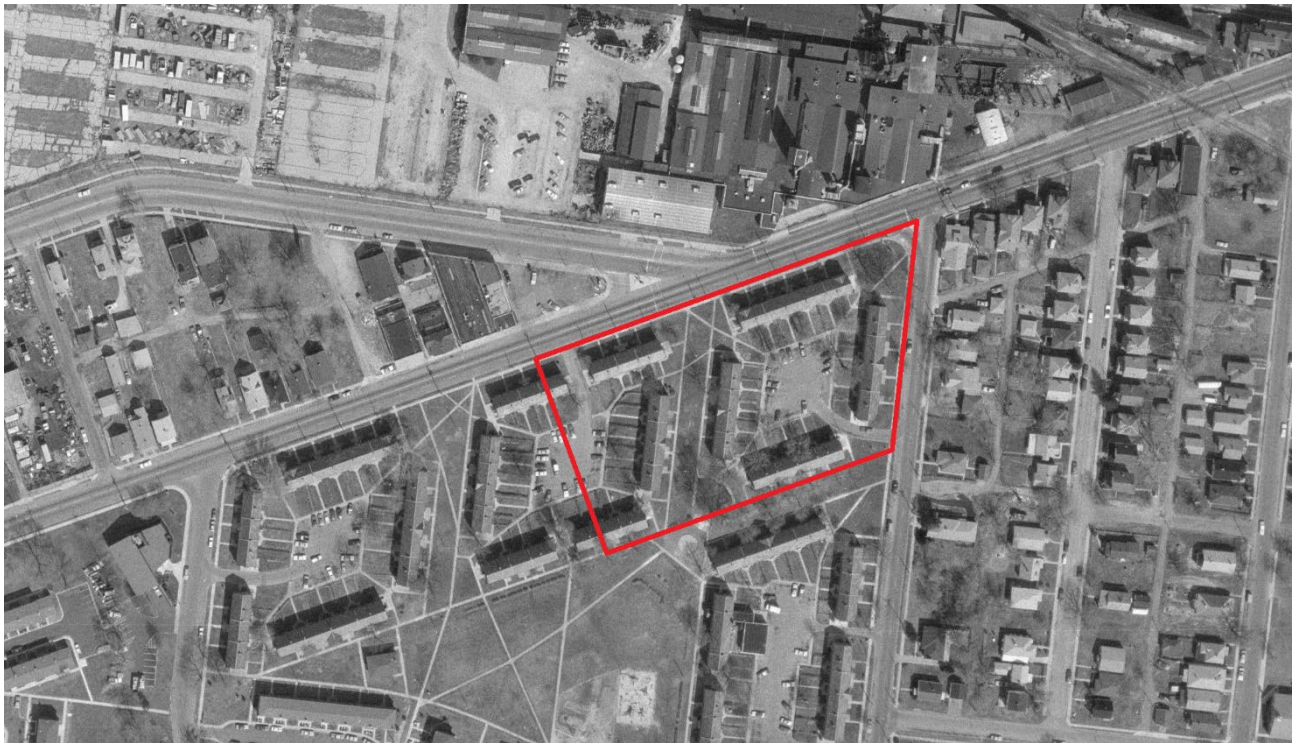


Figure 3 - 1993 Aerial Photograph

3.0 WORK PERFORMED

3.1 Boring Locations

Alt & Witzig Engineering staked the locations of the borings using available information from Google Earth and a Garmin Etrex 10 GPS unit. The boring locations were laid out according to suggested locations by Alt & Witzig Engineering and can be reviewed on the *Boring Location Plan* found in the appendix of this report and in *Figure 4*. The borings should be field located by the survey/site engineer and shown on the proposed site layout and grading plan.

Figure 4: 2022 Google Aerial – Boring Locations

3.2 Soil Sampling

The field investigation included a reconnaissance of the project site and drilling 11-borings. The soil borings were performed with a drilling rig equipped with a rotary head. Conventional hollow-stem augers were used to advance the holes. Borings were accessed by a track mounted drilling rig. During the sampling procedure, standard penetration tests were performed at regular intervals in accordance with ASTM Method D1586 to obtain the standard penetration value of the soil. The standard penetration value is defined as the number of blows a 140-lb hammer, falling 30-inches, required to advance the split-spoon sampler 12-inches into the soil. The results of the standard penetration tests indicate the relative density and comparative consistency of the soils, and thereby provide a basis for estimating the relative strength and compressibility of the soil profile components.

Soil samples were field classified and placed in unpreserved glass jars with Teflon-lined lids for transport to our geotechnical laboratory for further analysis.

3.2.1 Laboratory Analyses for Soil Samples

A supplementary laboratory investigation was conducted to ascertain additional pertinent engineering characteristics of the subsurface materials necessary in analyzing the behavior of the proposed structures. All phases of the laboratory investigation were conducted in general accordance with applicable ASTM Specifications. The laboratory-testing program included:

- ASTM D 2488 - Visual Soil Classification
- ASTM D 2216 - Moisture Content Testing

Samples of the cohesive soil from the split-spoon-sampling device were frequently tested in unconfined compression by use of a calibrated spring testing machine. In addition, a calibrated soil penetrometer was used as an aid in determining the strength of the soil. The values of the unconfined compressive strength as determined on soil samples from the split-spoon sampling area approximate values since the split-spoon sampling techniques provide a representative but somewhat disturbed soil sample.

3.3 Groundwater Elevation

Initial depths to groundwater were estimated based on where water was observed on the sampling rods. Upon completion of drilling activities, the depth to water was measured using a 100-foot tape measure with a weighted end. The depths presented on the Boring Logs are accurate only for the day on which they were recorded. The exact location of the water table shall be anticipated to fluctuate depending upon normal seasonal variations in preparation and surface runoff.

3.4 Ground Surface Elevation

Ground surface elevations were not made available at the time of the test borings. The elevations on the borings were estimated using Google Earth. It is suggested that the borings be field located by the survey/site engineer and shown on the proposed site layout and grading plan. Borings were field staked for this investigation by means of a handheld GPS unit utilizing coordinates from Google Earth.

4.0 INVESTIGATION RESULTS

The types of subsurface materials encountered have been visually classified and are described in detail on the *Boring Logs*. The results of the field penetration tests, strength tests, water level observations and laboratory water contents are presented on the *Boring Logs* in numerical form. Representative samples of the soil encountered in the field were placed in sample jars and are now stored in our laboratory for further analysis if desired. Unless notified to the contrary, all samples will be disposed of after 30-days.

4.1 Subsurface Conditions

A total of 11 borings were completed across the site for the proposed apartment development. Borings encountered approximately 3-inches of topsoil across the Site. Borings were not completed in the asphalt pavement areas.

Beneath the surface material borings encountered brown clay with trace organics, undocumented fill soils in the upper 2 to 2.5-feet. Beneath the undocumented fill soil, brown and gray silty clays with varying amounts of sand and gravel to depths ranging from 5.5 to 14.5-feet. At this depth borings encountered brown and gray fine to coarse sand and gravel layers that were moist to wet with depth. The sand layer was underlain by gray silty sandy clay to boring termination depths at 16-feet. Borings B-7 and B-11 encountered silt seams at depths ranging from 7 to 9.5-feet.

4.2 Water Observations

The following tables illustrate the water level recorded during and upon completion of boring operations.

Boring	Water Levels (feet)	
	During Drilling	Upon Completion
B-1	Dry	Dry
B-2	9	Dry
B-3	9	Dry
B-4	Dry	Dry
B-5	Dry	Dry
B-6	Dry	Dry

Boring	Water Levels (feet)	
	During Drilling	Upon Completion
B-7	11.5	Dry
B-8	Dry	Dry
B-9	Dry	Dry
B-10	Dry	Dry
B-11	Dry	Dry

It generally takes several days to weeks of observation to accurately estimate the elevation of the water table. The exact level of the water table should be expected to fluctuate based on seasonal variations. Most borings indicated dry conditions; however, water was encountered as shallow as 9-feet on the drilling rods during drilling. Water was not encountered immediately upon completion of drilling.

4.3 Seismic Parameters

An evaluation of the seismic site class has been performed for this site. The Ohio Building Code indicates that the seismic site class is determined by averaging soil conditions within the top 100-feet with respect to the shear wave velocity. This evaluation is based on data obtained on soil to termination of the borings and our knowledge of soils in the area. Based on the field and laboratory tests performed on the encountered subsurface materials to boring termination, this site should be considered a **Site Class D** in accordance with the current Ohio Building Code.

5.0 GEOTECHNICAL ANALYSES AND RECOMMENDATIONS

5.1 Project Description

The provided Site plan indicates nine (9), 2-story, wood framed, apartment buildings will be constructed across the Site with parking lots on the east and west ends of the Site. Current site elevations vary from approximately ±752' to ±755' (MSL) based on Google Earth. It is anticipated that the development will be constructed close to the existing grade with minimal cut and fills.

5.2 Site Preparation

Prior to placing any fill material, the site should be stripped of topsoil and cleared of brush and trees. The topsoil was approximately 3-inches across the site. Care should be taken to avoid over stripping of the site. An Alt & Witzig Engineering representative should be on Site during stripping operations to determine depths and areas of stripping. Stripping depths can be influenced by weather conditions at the time earthwork. During wetter conditions, the construction traffic tends to push organics into the subgrade, effectively increasing the anticipated stripping depth. Light weight track mounted equipment is recommended for stripping. If heavy equipment is utilized, the upper organic soils can be pushed to greater depths and require additional stripping.

The existing asphalt pavements should also be stripped from the project footprint, mounded in nonstructural areas, or exported from the site. It may be possible to re-use the asphalt so long as the material is crushed to a proper gradation. If this material is to be re-used it should be submitted to Alt & Witzig Engineering for review and approval. Buildings are currently located on the Site. These structures should be demolished and all foundations, slabs, etc. removed from the building footprints.

After stripping has been performed, the exposed sub-grade should be proof-roll inspected with a tandem-axle dump truck with a GVW of 55,000-lbs or more to identify any soft or yielding soils. Any soft or yielding soils must be corrected by removal and replacement with suitable on-site fill, chemical stabilization, or disking and aerating the soils. The method of stabilization will be determined by the proof-roll, weather conditions at the time of construction, and the proposed grading.

After the existing sub-grade soils are excavated to design grade, proper control of sub-grade compaction and fill, and structural fill replacement should be maintained by a representative of Alt & Witzig Engineering as per the ***Section 5.2.1 Compaction Specifications***. This will minimize volume changes and differential settlements which are detrimental to behavior of shallow foundations, floor slabs, and pavements.

Considerably heavy construction traffic over the exposed sub-grade may cause rutting and pumping. Caution should be exercised to direct construction traffic such that the sub-grade does not fail due to construction activities.

5.2.1 Compaction Specifications

After remediation of soil/yielding soils identified in the proof-roll inspection, the site should be raised to sub-grade elevation. Details on the preparation of the onsite soil for reuse is provided in ***Section 5.2.2 On-Site Borrow***. Using approved material, it is recommended that the minimum dry density as determined in accordance with ASTM D-698 be achieved in the various areas across the site. The following table illustrates the recommended compaction percentage in several areas of the site.

Area	Min. Percentage of Compaction ASTM D 698	Acceptable Material	Typical Maximum Lift Thickness
Roads, Drives, & Parking Areas (including future areas)	98%	Any besides ML, MH, CH, OL, OH	8"
Under Foundations and Footings	98%	Any besides ML, MH, CH, OL, OH	8"
Sub grade Below Slab-On-Grade	98%	ODOT #304 or other coarse-grained material approved by the geotechnical engineer	8"
Construction of Permanent Slopes	98%	Any besides ML, MH, CH, OL, OH	8”
Green Space (not including permanent slopes)	85%	Any	12"
Landscaped Areas (Upper 1 ft)	Maximum 90%	Any	12"
Utility Trench Backfill	98%	SW, SP, GW, GP	10"
USCS Classifications: GW-Well Graded Gravel GP-Poorly Graded Gravel GM-Silty Gravel GC-Clayey Gravel	SW-Well Graded Sand SP-Poorly Graded Sand SM-Silty Sand SC-Clayey Sand CL-Lean Clay	ML-Silt CH-Fat Clay MH-Elastic Silt OL-Organic Clay/Silt OH-Organic Clay/Silt	

The ability to obtain the above-mentioned compaction requirements are dependent upon the moisture contents of the fill soils.

5.2.2 On-Site Borrow Conditions/ Specifications

Except for topsoil and organic material, all soils encountered during boring operations were suitable for reuse as structural fill. Based on experience with soils in the area, optimum moisture contents for the sandy silty lean clays will range from 14% to 18%. Moisture contents in the upper 5-feet ranged from 9% to 24%. The table below summarizes the average moisture content of the soils from the 2.5-feet and 5-feet boring samples.

Average MC 2.5-feet (%)	16.3
Average MC 5-feet (%)	20.0

Based on the moisture contents of the soils in the upper 5-feet, minimal drying of the soils will be required to achieve adequate compaction. Fill soils can be mechanically dried by disking and drying in favorable weather conditions. Chemical drying can be performed utilizing lime kiln dust. Typically, 2% to 3% of LKD will lower the soil moisture conditions to allow for proper compaction. However, weather and groundwater conditions will influence the moisture conditions of the soils. Early spring and late fall/winter conditions will likely increase the required percentage of LKD required to condition soils for structural fill placement.

All fills shall be formed from material free of vegetable matter, rubbish, large rock, and other deleterious material. Prior to placement of fill, a sample of the proposed fill material should be submitted to Alt & Witzig Engineering for approval. The fill material should be placed, compacted, and dried as required to secure specified compactions. Each layer should be uniformly compacted by means of suitable equipment of the type required by the materials composing the fill. Under no circumstances should a bulldozer or similar tracked vehicles be used as compacting equipment. Material containing an excess of water so the specified compaction limits cannot be attained should be spread and dried to a moisture content which will permit proper compaction. All fills should be compacted to the specified percent of the maximum density obtained in accordance with ASTM density Test D-698. Should the results of the in-place density tests indicate that the specified compaction limits are not obtained; the areas represented by such tests should be reworked and retested as required until the specified limits are reached.

5.3 Foundation Recommendations

The proposed structures can be supported by conventional footings dimensioned with a net allowable bearing pressure of 2,000-psf if founded on suitable medium stiff soil. Undocumented fill materials were encountered in the upper 2 to 2.5-feet. The foundations should be undercut through this material to natural soils.

Isolated pockets of soft soil could be encountered during foundation excavations. Foundations should be undercut through any soft or unsuitable soil to medium stiff to stiff material. All undercuts should be replaced with lean concrete. Lean concrete is a low strength (1,500-psi 28-day compressive strength) concrete that will transfer foundation loads directly onto the soil in which the lean concrete is poured. An example of an extended foundation is provided in *Figure 5*.

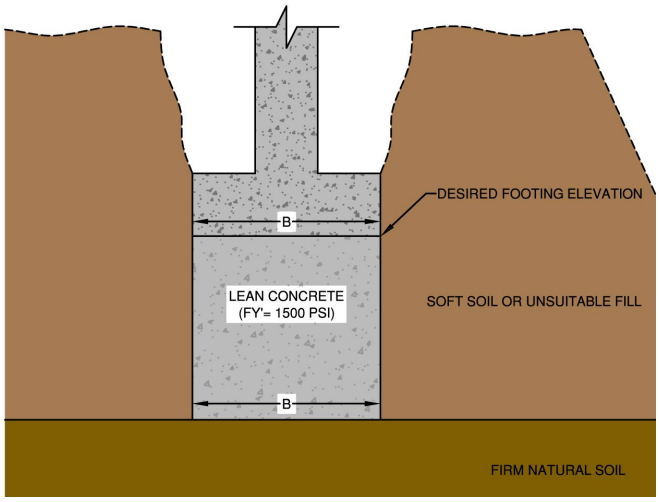


Figure 5 – Example Foundation Undercut

The above recommended bearing pressure is a "net allowable soil pressure". In utilizing this net allowable pressure for dimensioning footings, it is necessary to consider only those loads applied above the finished floor elevations. All exterior foundations should be founded a minimum of 36-inches or greater below the final grade to reduce frost action.

All foundation excavations should be inspected by Alt & Witzig Engineering, Inc. to verify that adequate bearing soils exist in the base of all footings. At the time of footing inspections, approved tests can be performed on these foundation soils.

Assuming the above outlined recommendations are followed total settlements of approximately 1-inch and differential settlements of ¾-inch are anticipated.

5.4 Floor Slab Recommendations

The ground floor for the proposed apartments can be constructed as a slab-on-grade supported by existing soils and/or well-compacted structural fill materials. Fill materials can consist of on-site soils or approved import material.

As outlined in ***Section 5.2.1***, before any fill is placed the exposed subgrade should be proof-rolled with equipment approved Alt & Witzig Engineering. This proof-rolling will expose any soft, compressible soil. Soft areas should be undercut to a depth determined at the time of the proof-roll inspection and remediated as determined by Alt & Witzig Engineering, the contractor, and the owner.

After the building area has been cut/raised to the proper elevation, a 4 to 6-inch compacted granular fill should be placed immediately beneath the floor slab. This compacted granular fill will provide a uniform surface for construction of the slab. A vapor barrier should be placed immediately below the floor slab in any areas of the building where floor coverings such as carpet, vinyl tile, ceramic tile, etc. will be placed.

5.5 Proposed Pavement Construction

Although no specific traffic information was provided, it is anticipated that light duty pavements will be primarily subjected to several hundred cars and up to 3, multi-axle delivery trucks per day. It is anticipated that the heavy-duty pavements will be primarily subjected to the same light duty traffic and several emergency vehicles per month, and up to 2 trash trucks per week. The following pavement sections were determined based on these assumed traffic conditions, utilizing a 15-year design life and a CBR value of 3.0 and the American Association of State Highway Officials (AASHTO) design method. If actual traffic conditions differ greatly from those mentioned above, the pavement section can be re-evaluated and modified accordingly.

For portions of the parking lot subjected only to lightly loaded vehicles such as automobiles, a light duty pavement section of:

Light Duty Traffic (parking stalls)
6" of ODOT #304 crushed stone
2" of asphalt intermediate coarse
1½" of asphalt surface course

For portions of the parking lot subjected to heavily loaded vehicles such as trash trucks, a pavement section of:

Heavy Duty Traffic (drive lanes)
6" of ODOT #304 crushed stone
3" of asphalt intermediate coarse
1½" of asphalt surface course

It is recommended that the area designed for placement of the trash container be constructed with a concrete pad. These concrete aprons will support the heavy twisting loads often imparted to the pavement section during pick-up of these containers. It is suggested that 6-inches of compacted ODOT #304 crushed stone and 7-inches of unreinforced concrete be used to construct the dumpster pad.

All paved areas should be designed to prevent water from collecting or ponding immediately beneath the pavement. It is suggested that underdrains be installed in the pavement area to minimize potential saturation of these soils. The soils engineer, owner, and site design engineer should discuss the design and placement of these drains prior to construction. For underdrains to be effective, minimum installation depths of 18-inches is suggested. The drains should consist of a 4-inch perforated plastic pipe encased in a clean granular backfill such as a washed No. 57 stone or pea gravel.

5.6 Temporary Excavation Recommendations

With construction of the new development, placement of numerous underground structures will be required. Excavation of these soils may be performed at a 1H:1V slope for depths of greater than 4-feet below grade or supported by a temporary retention system such as a trench box. Excavations of less than 4-feet may be performed with near vertical excavation walls. However, these excavations should be monitored for changes in the soil conditions that could affect the stability of the slopes. Flattening of the excavation slopes may be necessary due to adverse effects of precipitation on the soils. Sand layers were encountered. Slopes in the sand should be 1.5H:1V.

This soil is very sensitive to moisture so, all excavation slopes should be monitored for changes due to weather conditions and water seepage. Should excessive seepage of groundwater be encountered, flattening of the slopes should be performed as necessary for safety purposes. In addition, if any utility excavation greater than 20-feet below the existing grade is required; it must be designed by a registered engineer.

Backfill of all utility excavations in structural areas including under pavements or within 10-feet of any building areas should be continually monitored by Alt & Witzig Engineering to verify that proper lift thickness, moisture condition, and compactive effort are maintained. To enhance drainage conditions across the site, washed #57-stone is recommended for sanitary and storm pipe bedding and a minimum of 12-inches above pipes.

5.7 Groundwater Considerations

Most borings indicated dry conditions; however, water was encountered as shallow as 9-feet on the drilling rods during drilling. Water was not encountered immediately upon completion of drilling.

Based on these observations, only minor difficulties are anticipated with groundwater across the site. Depending upon the time of the year and the weather conditions when the excavations are made, seepage from surface runoff may also occur into shallow excavations and soften the sub-grade soils. Since these foundation materials tend to loosen when exposed to free water, every effort should be made to keep the excavations dry should water be encountered. Sump pumps or other conventional dewatering procedures should be sufficient to handle the groundwater on the site. **All concrete for footings should be poured the same day as the excavation is made to prevent the softening of foundation soils.**

6.0 STATEMENT OF LIMITATIONS

An inherent limitation of any geotechnical engineering study is that conclusions must be drawn on the basis of data collected at a limited number of discrete locations. The geotechnical parameters provided in this report were developed from the information obtained from the test borings that depict subsurface conditions only at these specific locations and on the particular date indicated on the boring logs. Soil conditions at other locations may differ from conditions encountered at these boring locations and groundwater levels shall be expected to vary with time. The nature and extent of variations between the borings may not become evident until the course of construction.

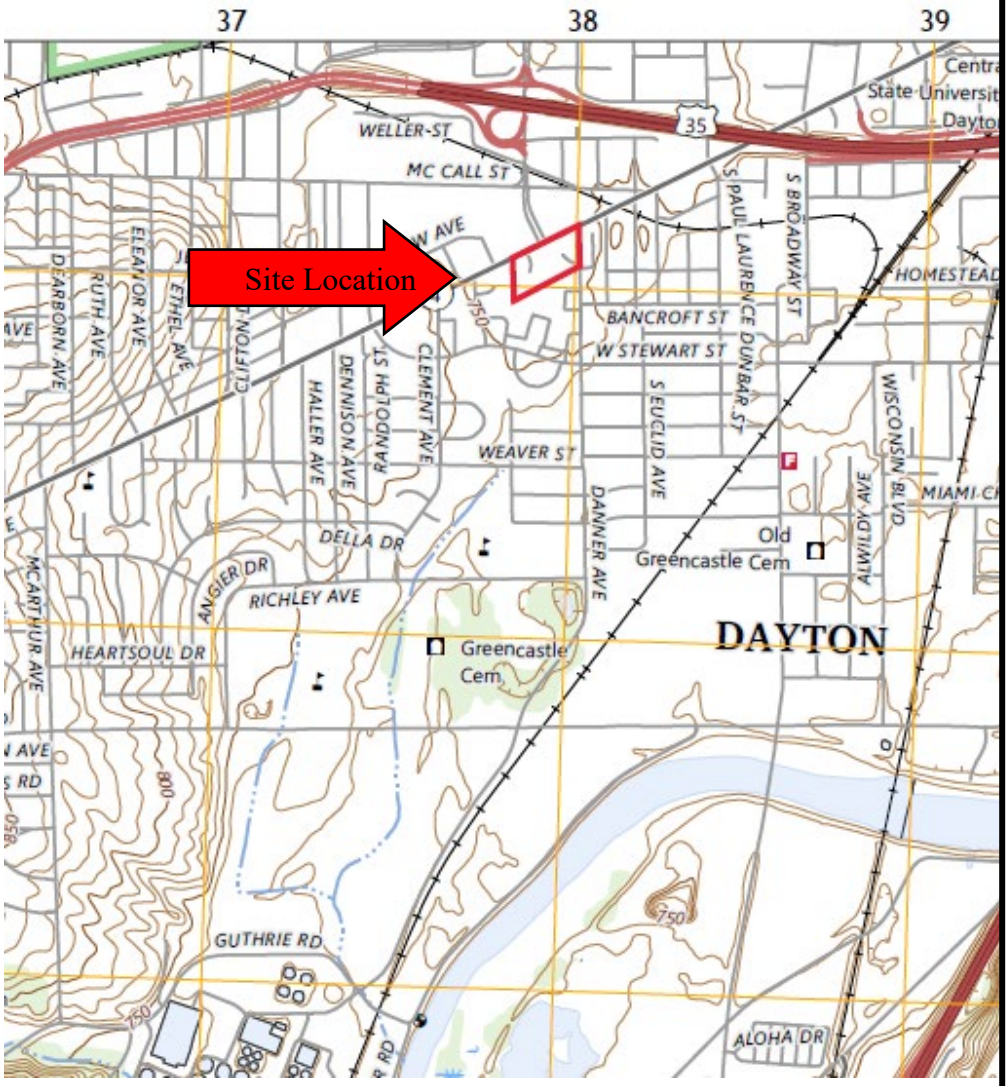
The recommendations submitted are based on the available soil information and assumed design details enumerated in this report. If actual design details differ from those specified in this report, this information should be brought to the attention of Alt & Witzig Engineering, Inc. so that it may be determined if changes in the recommendations herein are required. If deviations from the noted subsurface conditions are encountered during construction, they should also be brought to the attention of Alt & Witzig Engineering, Inc.

ALT & WITZIG ENGINEERING, INC.

APPENDIX A

Site Location Map
Boring Location Plan
Boring Logs
General Notes

FIGURE 1: SITE LOCATION MAP



USGS Topographic Map:
Dayton South Quadrangle

Township: T 2 N.
Range: R 6 E.
Section: 5

PROJECT: Renew Miami Chapel – Phase 1
LOCATION: Dayton, Ohio
CLIENT: RDA GROUP ARCHITECTS, LLC
ALT & WITZIG File No.: 23CB0051

Alt & Witzig Engineering, Inc.
1825 O'Brien Road
Columbus, Ohio 43026
TEL (614) 274-7428 · FAX (513) 777-9070
www.altwitzig.com

FIGURE 2: BORING LOCATION PLAN

PROJECT: Renew Miami Chapel – Phase 1
LOCATION: Dayton, Ohio
CLIENT: RDA GROUP ARCHITECTS, LLC
ALT & WITZIG File No.: 23CB0051

Alt & Witzig Engineering, Inc.
1825 O'Brien Road
Columbus, Ohio 43228
TEL (614) 274-7428 · FAX (513) 777-9070
www.altwitzig.com

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-01**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/8/23**
Date Completed **9/8/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

STRATA ELEV.	SOIL CLASSIFICATION SURFACE ELEVATION 753.0	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	TEST DATA: Standard Penetration Test, N - blows/foot	TEST DATA: Qu-tsf Unconfined Compressive Strength	TEST DATA: PP-tsf Pocket Penetrometer	TEST DATA: Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
752.8	TOPSOIL 3-inches	0.3										
	Brown Silty CLAY			1	SPT			9		1.3	17.7	
748.5		4.5										
	Brown Silty Sandy CLAY		5	2	SPT			8		1.8	18.2	
745.0		8.0		3	SPT			8		4.5	13.5	
744.0	Light Brown Silty Sandy CLAY with Trace Gravel	9.0										
	Gray Silty Sandy CLAY with Trace Gravel		10	4	SPT			9		4.3	9.2	
			15	5	SPT			9		2.3	11.1	
737.0		16.0										
	End of Boring at 16 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *Dry ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-02**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/8/23**
Date Completed **9/8/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

STRATA ELEV.	SOIL CLASSIFICATION SURFACE ELEVATION 753.0	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics Recovery Graphics	Ground Water	TEST DATA: Standard Penetration Test, N - blows/foot	TEST DATA: Qu-tsf Unconfined Compressive Strength	TEST DATA: PP-tsf Pocket Penetrometer	TEST DATA: Moisture Content % Dry Unit Weight (pcf)	Remarks
752.8	TOPSOIL 3-inches	0.3										
751.0	Brown CLAY *(FILL)*	2.0		1	SPT			10		4.5	16.1	
	Brown Sandy CLAY		5	2	SPT			2				
747.5		5.5										
	Brown, Moist Fine to Coarse Silty SAND with Trace Gravel			3	SPT			3				
745.0		8.0					○					
	Brown, Wet Medium to Coarse SAND with Trace Gravel		10	4	SPT			3		2.3	10.8	
742.5		10.5										
	Gray Silty Sandy CLAY with Trace Gravel											
			15	5	SPT			14		4.3	10.6	
737.0		16.0										
	End of Boring at 16 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *9 ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-03**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/8/23**
Date Completed **9/8/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

STRATA ELEV.	SOIL CLASSIFICATION SURFACE ELEVATION 753.0	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	TEST DATA: Standard Penetration Test, N - blows/foot	TEST DATA: Qu-tsf Unconfined Compressive Strength	TEST DATA: PP-tsf Pocket Penetrometer	TEST DATA: Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
752.8	TOPSOIL 3-inches	0.3										
750.5	Brown CLAY with Trace Organics *(FILL)*	2.5		1	SPT			9		4.5	20.0	
748.0	Brown CLAY with Trace Sand	5.0	5	2	SPT			7		1.3	22.8	
746.0	Brown Sandy CLAY with Trace Gravel	7.0		3	SPT		○	7		4.5	23.1	
743.0	Light Brown Silty CLAY	10.0	10	4	SPT			10		4.5	20.3	
738.5	Gray Silty CLAY	14.5										
737.0	Gray Silty Sandy CLAY with Trace Gravel	16.0	15	5	SPT			6		0.8	10.5	
	End of Boring at 16 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *9 ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-04**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/7/23**
Date Completed **9/7/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

STRATA ELEV.	SOIL CLASSIFICATION SURFACE ELEVATION 753.0	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	TEST DATA: Standard Penetration Test, N - blows/foot	TEST DATA: Qu-tsf Unconfined Compressive Strength	TEST DATA: PP-tsf Pocket Penetrometer	TEST DATA: Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
752.8	TOPSOIL 3-inches	0.3										
751.0	Brown CLAY with Trace Organics *(FILL)*	2.0										
				1	SPT			16		4.5	14.3	
	Brown Sandy CLAY		5	2	SPT			6		1.8	21.8	
745.5		7.5		3	SPT			7				
	Brown, Moist Fine to Coarse SAND											
743.5		9.5										
			10	4	SPT			8				
	Brown, Wet Fine SAND											
738.5		14.5										
			15	5	SPT			13		1.0		
737.0	Gray Silty Sandy CLAY with Trace Gravel	16.0										
	End of Boring at 16 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *Dry ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-05**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/8/23**
Date Completed **9/8/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

STRATA ELEV.	SOIL CLASSIFICATION SURFACE ELEVATION 754.0	Strata Depth	Depth Scale	Sample No.	TEST DATA: Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
753.8	TOPSOIL 3-inches	0.3										
752.0	Brown CLAY *(FILL)*	2.0		1	SPT			12		4.5	12.2	
	Brown Mottled Gray Silty Sandy CLAY with Trace Gravel											
749.0		5.0	5	2	SPT			11		3.3	18.8	
	Brown Sandy CLAY with Trace Gravel											
747.0		7.0		3	SPT			3				
	Brown, Moist Fine to Medium Silty SAND with Trace Gravel		10	4	SPT			1				
742.0		12.0		5	SPT			7		1.8	22.3	
	Brown Mottled Gray Silty CLAY with Sand											
739.0		15.0	15	6	SPT			9		3.0	11.5	
738.0	Gray Silty Sandy CLAY with Trace Gravel	16.0										
	End of Boring at 16 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *Dry ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-06**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/7/23**
Date Completed **9/7/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

STRATA ELEV.	SOIL CLASSIFICATION SURFACE ELEVATION 755.0	Strata Depth	Depth Scale	Sample No.	TEST DATA: Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
754.8	TOPSOIL 3-inches	0.3										
752.5	Brown CLAY *(FILL)*	2.5		1	SPT			11		4.5	16.6	
750.0	Brown Sandy CLAY	5.0	5	2	SPT			10				
747.5	Gray, Dry Fine to Coarse SAND with Trace Gravel	7.5		3	SPT			10				
745.0	Brown, Moist SAND with Trace Clay Pockets	10.0	10	4	SPT			8		2.8	13.2	
742.5	Brown Silty Sandy CLAY with Trace Gravel	12.5										
739.0	Gray Silty Sandy CLAY with Trace Gravel	16.0	15	5	SPT			9		1.8	11.3	
	End of Boring at 16 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *Dry ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-07**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/7/23**
Date Completed **9/7/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION / SURFACE ELEVATION 755.0	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
754.8	TOPSOIL 3-inches	0.3										
	Brown CLAY with Trace Sand			1	SPT			7		2.0	18.9	
750.0		5.0	5	2	SPT			8		1.0	20.2	
	Dark Brown Sandy CLAY											
747.5		7.5		3	SPT			10				
	Brown, Dry Medium to Coarse SAND with Trace Gravel											
745.5		9.5	10	4	SPT		○	10		1.5	23.1	
	Brown Sandy SILT											
740.5		14.5										
	Gray Silty Sandy CLAY with Trace Gravel		15	5	SPT			13		1.0	12.1	
739.0		16.0										
	End of Boring at 16 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *11.5 ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-08**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/7/23**
Date Completed **9/7/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

STRATA ELEV.	SOIL CLASSIFICATION SURFACE ELEVATION 756.0	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics Recovery Graphics	Ground Water	TEST DATA: Standard Penetration Test, N - blows/foot	TEST DATA: Qu-tsf Unconfined Compressive Strength	TEST DATA: PP-tsf Pocket Penetrometer	TEST DATA: Moisture Content % *Dry Unit Weight (pcf)*	Remarks
755.8	TOPSOIL 3-inches	0.3										
	Brown Sandy CLAY			1	SPT			25		4.5	13.1	
750.5		5.5	5	2	SPT			11		1.8		
749.0	Brown, Dry Silty SAND with Trace Gravel	7.0		3	SPT			12		3.5	20.0	
	Brown Silty CLAY with Trace Sand											
746.0		10.0	10	4	SPT			14		4.5	9.7	
	Gray Silty Sandy CLAY with Trace Gravel											
740.0		16.0	15	5	SPT			13		3.0	10.4	
	End of Boring at 16 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *Dry ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-09**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/7/23**
Date Completed **9/7/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

STRATA ELEV.	SOIL CLASSIFICATION SURFACE ELEVATION 756.0	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	TEST DATA: Standard Penetration Test, N - blows/foot	TEST DATA: Qu-tsf Unconfined Compressive Strength	TEST DATA: PP-tsf Pocket Penetrometer	TEST DATA: Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
755.8	TOPSOIL 3-inches	0.3										
	Brown Silty CLAY			1	SPT			7		4.5	18.1	
753.0		3.0										
	Dark Brown Sandy CLAY		5	2	SPT			13		4.5	21.3	
750.5		5.5										
749.0	Brown Mottled Gray Silty CLAY	7.0		3	SPT			12		2.0	11.2	
	Brown Silty Sandy CLAY with Trace Gravel		10	4	SPT			13		4.5	11.8	
741.5		14.5										
	Gray, Dry Fine to Coarse SAND with Gravel		15	5	SPT			36				
740.0		16.0										
	End of Boring at 16 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *Dry ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-10**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/7/23**
Date Completed **9/7/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

TEST DATA

STRATA ELEV.	SOIL CLASSIFICATION SURFACE ELEVATION 755.0	Strata Depth	Depth Scale	Sample No.	Sample Type	Sampler Graphics Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % *Dry Unit Weight (pcf)*	Remarks
754.8	TOPSOIL 3-inches	0.3										
	Brown CLAY			1	SPT			15		4.5	9.0	
752.0		3.0										
	Dark Brown Sandy Silty CLAY											
750.5		4.5										
			5	2	SPT			10		3.0	13.0	
	Light Brown Silty Sandy CLAY with Trace Gravel			3	SPT			9		2.5	12.9	
744.5		10.5	10	4	SPT			10		3.5	11.1	
744.0	Gray Silty Sandy CLAY with Trace Gravel	11.0										
	End of Boring at 11 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *Dry ft.*
▽ At Completion *Dry ft.*

Boring Method
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

BORING LOG

Alt & Witzig Engineering, Inc.

CLIENT **RDA Group Architects LLC**
PROJECT NAME **Renew Miami Chapel - Phase I**
PROJECT LOCATION **Dayton, Ohio**

BORING # **B-11**
ALT & WITZIG FILE # **23CB0051**

DRILLING and SAMPLING INFORMATION

Date Started **9/8/23**
Date Completed **9/8/23**
Boring Method **HSA**
Driller **J. Roark**

Hammer Wt. **140** lbs.
Hammer Drop **30** in.
Spoon Sampler OD **2** in.
Rig Type **B-57 Truck**

STRATA ELEV.	SOIL CLASSIFICATION SURFACE ELEVATION 752.0	Strata Depth	Depth Scale	Sample No.	TEST DATA: Sample Type	Sampler Graphics / Recovery Graphics	Ground Water	Standard Penetration Test, N - blows/foot	Qu-tsf Unconfined Compressive Strength	PP-tsf Pocket Penetrometer	Moisture Content % / *Dry Unit Weight (pcf)*	Remarks
751.8	TOPSOIL 3-inches	0.3										
	Brown CLAY			1	SPT			7		3.8	23.5	
747.5		4.5										
	Brown CLAY with Trace Sand and Trace Root		5	2	SPT			14		0.3	24.1	
745.0		7.0										
	Brown SILT with Trace Sand			3	SPT			7		0.5	25.0	
742.5		9.5										
	Brown Silty Sandy CLAY with Trace Gravel		10	4	SPT			9		1.8	20.2	
741.0		11.0										
	End of Boring at 11 feet											

Sample Type
SS - Driven Split Spoon
ST - Pressed Shelby Tube
CA - Continuous Flight Auger
RC - Rock Core
CU - Cuttings
CT - Continuous Tube

Groundwater
○ During Drilling *Dry ft.*
▽ At Completion *Dry ft.*

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GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Soil Classification System is used to identify the soil unless otherwise noted.

SOIL PROPERTY SYMBOLS

N:	Standard "N" penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2 inch O.D. split-spoon.
Qu:	Unconfined compressive strength, TSF
Qp:	Penetrometer value, unconfined compressive strength, TSF
Mc:	Water content, %
LL:	Liquid limit, %
PL:	Plastic limit, %
Dd:	Natural dry density, PCF
▼ :	Apparent groundwater level at time noted after completion

DRILLING AND SAMPLING SYMBOLS

SS:	Split-spoon - 1 3/8" I.D., 2" O.D., except where noted
ST:	Shelby tube - 3" O.D., except where noted
AU:	Auger sample
DB:	Diamond bit
CB:	Carbide bit
WS:	Washed sample

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

TERM (NON-COHESIVE SOILS)	BLOWS PER FOOT
Very loose	0 - 4
Loose	5 - 10
Firm	11 - 30
Dense	31 - 50
Very Dense	Over 50

TERM (COHESIVE SOILS)	Qu (TSF)
Very soft	0 - 0.25
Soft	0.25 - 0.50
Medium	0.50 - 1.00
Stiff	1.00 - 2.00
Very Stiff	2.00 - 4.00
Hard	4.00+

PARTICLE SIZE

Boulders	8 in.(+)	Coarse Sand	5 mm-0.6 mm	Silt	0.075 mm - 0.005 mm
Cobbles	8 in. - 3 in.	Medium Sand	0.6mm-0.2 mm	Clay	0.005mm(-)
Gravel	3 in. - 5 mm	Fine Sand	0.2mm-0.075 mm		