

RESOLUTION NO. 22-

BE IT RESOLVED by the City Council of the City of Huntsville, Alabama, that the Mayor be, and is hereby authorized, to enter into an agreement between the City of Huntsville and OMI, Inc., in the total amount of FORTY-TWO THOUSAND NINE HUNDRED EIGHTY-NINE THOUSAND AND .23/100 DOLLARS (\$42,989.23) for Environmental Site Assessment Services for Resolute Way I-565 Interchange, Project No. 71-22-SP16, in Huntsville, Alabama, on behalf of the City of Huntsville, a municipal corporation in the State of Alabama, which said agreement is substantially in words and figures similar to that document attached hereto and identified as "Agreement between the City of Huntsville and OMI, Inc., for Environmental Site Assessment Services for Resolute Way I-565 Interchange, Project No. 71-22-SP16," consisting of a total of seventeen (17) pages plus thirty (30) additional pages consisting of Attachments 1-15, and the date of February 24, 2022, appearing on the margin of the first page, together with the signature of the President or President Pro Tem of the City Council, and an executed copy of said document being permanently kept on file in the Office of the City Clerk of the City of Huntsville, Alabama.

ADOPTED this the 24th day of February, 2022.

President of the City Council of
the City of Huntsville, Alabama

APPROVED this the 24th day of February, 2022.

Mayor of the City of Huntsville,
Alabama

AGREEMENT BETWEEN
CITY OF HUNTSVILLE, ALABAMA
AND
OMI, INC.
FOR
ENVIRONMENTAL SITE ASSESSMENT SERVICES
FOR
RESOLUTE WAY I-565 INTERCHANGE

Project No. 71-22-SP16
February 24, 2022

**_____
President of the City Council of the
City of Huntsville, AL
Date: February 24, 2022**

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**AGREEMENT BETWEEN
CITY OF HUNTSVILLE, ALABAMA
AND
OMI, INC.
FOR
ENVIRONMENTAL SITE ASSESSMENT
FOR
RESOLUTE WAY I-565 INTERCHANGE**

Project I.D Number 71-22-SP16

THIS AGREEMENT made as of the 24th day of February in the year 2022, by and between the CITY OF HUNTSVILLE, ALABAMA (hereinafter called OWNER), and OMI, INC., (hereinafter called ENGINEER).

WITNESSETH, for the considerations hereinafter set forth, the parties hereto agree as follows:

ARTICLE 1 - ENGAGEMENT OF THE ENGINEER

The OWNER hereby engages the ENGINEER, and the ENGINEER hereby accepts the engagement to provide general engineering and consultation as a representative of the OWNER to include the following:

- 1.1 Professional engineering services for Environmental Site Assessment Services for Resolute Way I-565 Interchange, as further described in ARTICLE 2, and hereinafter called PROJECT.
- 1.2 By executing this Agreement, the ENGINEER represents to the OWNER that the ENGINEER is a professional qualified to act as the ENGINEER for the PROJECT and is licensed and certified to practice engineering by all public entities having jurisdiction over the ENGINEER and the PROJECT. The ENGINEER further represents to the OWNER that the ENGINEER will maintain all necessary licenses, certifications, permits or other authorizations necessary to act as ENGINEER for the PROJECT until the ENGINEER's remaining duties hereunder have been satisfied. The ENGINEER shall assign only qualified personnel to perform any service concerning the PROJECT. All services rendered by the ENGINEER for the PROJECT shall be performed by or under the immediate supervision of experienced and qualified professionals licensed, certified, and registered as appropriate in the State of Alabama possessing the expertise in the discipline of the service being rendered. The ENGINEER assumes full responsibility to the OWNER for the negligent acts, errors and omissions of its consultants or others employed or retained by the ENGINEER in connection with the PROJECT.
- 1.3 Execution of this Agreement by the ENGINEER constitutes a representation that the ENGINEER has become familiar with the PROJECT site and the local conditions under which the PROJECT is to be implemented. The ENGINEER agrees to provide all necessary engineering services required to professionally accomplish the ENGINEER's defined scope of services.

ARTICLE 2 – DESIGN SERVICES OF THE ENGINEER

- 2.1 ENGINEER shall provide for OWNER professional engineering services for Environmental Site Assessment for Resolute Way I-565 Interchange.

- 2.2** These services shall include consultation and advice; customary civil, structural, mechanical and electrical engineering design services; and Architectural services incidental thereto, as outlined herein and further described in the SCOPE OF SERVICES, ATTACHMENT 1.
- 2.3** The ENGINEER shall serve as the OWNER's professional representative in those portions of the PROJECT to which this Agreement applies and shall consult with and advise the OWNER during the performance of these services.
- 2.4** The ENGINEER shall promptly correct, or have corrected, any errors, omissions, deficiencies or conflicts in the ENGINEER's work product or that of his sub-contractors/sub-consultants, without additional compensation for time, reproduction or distribution.
- 2.5** Field surveying work is required and shall be performed in accordance with "Standards of Practice for Surveying in the State of Alabama" as required by the Alabama Board of Registration for Engineering and Land Surveyors. Surveying shall include P.K. Nails or other permanent stationing markings as well as staking of right-of-way, easements and parcels of land acquired by the City of Huntsville. Property corners shall be set at the new right-of-way. Easements shall be staked as requested by the City of Huntsville. The above field work shall be performed as a minimum as needed at the time of right-of-way acquisition and one additional time near the 100% submittal stage as determined by the OWNER. The cost for these services is included in the fees for Basic Services.

Survey data shall be based on a US Public Land Survey System corner or quarter corner. Said corner or quarter corner shall be field verified by the surveyor and a state plane coordinate provided in deliverables submitted to the City of Huntsville. All survey work shall be based on the following datum's:

Coordinate System:	US State Plane
Zone:	Alabama East 0101
Vertical Datum:	The North American Vertical Datum of 1988 (NAVD 88)
Horizontal Datum:	The North American Datum of 1983 (NAD 83)
Geoid Model:	Geoid18
Units:	US Survey Feet

- 2.6** A valid City of Huntsville license shall be maintained throughout the term of this contract. Additionally, the engineering firm shall be required to obtain and pay for all other federal, state or local permits, licenses, and fees which may be necessary or required in order to perform the work detailed herein.

ARTICLE 3 – CONSTRUCTION ADMINISTRATION SERVICES

ARTICLE OMITTED

ARTICLE 4 - ADDITIONAL SERVICES

The following services of the ENGINEER are not included in Article 2. Nevertheless, the ENGINEER shall provide such services if authorized in writing by the OWNER, and they shall be paid for by the OWNER as provided in Article 7, unless otherwise noted.

- 4.1** Making revision in drawings, specifications or other documents when such revisions are inconsistent with written direction by the OWNER previously given, are required by the enactment of revision of codes, laws or regulations subsequent to the preparation of such documents and not reasonably anticipated, or are due to other causes not within the control or responsibility of the ENGINEER, either in whole or in part.

- 4.2 Preparing drawings, specifications and supporting data in connection with change orders, provided that such change orders are issued by the OWNER due to causes not within the control or responsibility of the ENGINEER, either in whole or in part.
- 4.3 Providing additional services for repair or replacement of work damaged by acts of God or other cause during construction provided that such services are required by causes not the responsibility of the ENGINEER, either in whole or in part.
- 4.4 Providing expert witness services and other services arising out of claims.

ARTICLE 5 - RESPONSIBILITIES OF OWNER

The OWNER, without cost to the ENGINEER, will perform the following in a timely manner so as not to delay the services of the ENGINEER:

- 5.1 Assist ENGINEER by placing at ENGINEER's disposal all available information pertinent to the PROJECT including previous reports and any other data relative to design or construction of the PROJECT.
- 5.2 Provide all criteria and full information as to OWNER's requirements for the PROJECT, including design objectives and constraints, space, capacity and performance requirements, flexibility and expendability, and any budgetary limitations. The OWNER shall also furnish copies of all design and construction standards, which OWNER will require to be included in the drawings and specifications.
- 5.3 Assist the ENGINEER as necessary in acquiring access to and making all provisions for the ENGINEER to enter upon public and private lands as required for the ENGINEER to perform the work under this agreement.
- 5.4 Designate in writing a person to act as the OWNER's representative with respect to the work to be performed under this Agreement, such person to have complete authority to transmit instructions, receive information, interpret and define the OWNER's policies and decision with respect to materials, equipment elements and systems pertinent to the work covered by this Agreement. Examine all studies, reports, sketches, drawings, specifications, proposals and other documents presented by ENGINEER, obtain advice of an attorney, insurance counselor and other consultants as OWNER determines appropriate for such examination and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of ENGINEER.
- 5.5 When requested by the ENGINEER, the OWNER will intercede on the ENGINEER's behalf when data from, or review by, third parties is not on schedule through no fault of the ENGINEER.
- 5.6 The OWNER's review of any documents prepared by the ENGINEER or its consultants shall be solely for the purpose of determining whether such documents are generally consistent with the OWNER's intent. No review of such documents shall relieve the ENGINEER of its responsibility for the accuracy, adequacy, fitness, suitability and coordination of its work product.

ARTICLE 6 - PERIOD OF SERVICES

- 6.1 The ENGINEER shall commence services pursuant to this agreement as of February 25, 2022. The final completion date for the completion of design services outlined in Article 2 shall be June 25, 2022.

The ENGINEER shall perform these services with reasonable diligence and expediency consistent with sound professional practices. The ENGINEER shall include in his schedule an allowance for time required for OWNER's review of submissions and for approvals of authorities having jurisdiction over the PROJECT. When approved by the OWNER, the schedule shall not be exceeded by the ENGINEER, except for cause.

If the ENGINEER becomes aware of delays due to time allowances for review and approval being exceeded, delay by the OWNER, the OWNER's consultants, or any other reason beyond the ENGINEER's control, which may result in the schedule of performance of the ENGINEER's services not being met, the ENGINEER shall promptly notify the OWNER. If the OWNER becomes aware of any delays or other causes that will affect the ENGINEER's schedule, the OWNER shall promptly notify the ENGINEER. In either event, the ENGINEER's schedule for performance of its services shall be equitably adjusted.

ARTICLE 7 - PAYMENT TO THE ENGINEER

7.1 BASIC SERVICES

The OWNER shall compensate the ENGINEER for services rendered pursuant to this Agreement, excepting those services described as Additional Services in Article 4 of this Agreement, by payment of a Lump Sum Total Amount of FORTY-TWO THOUSAND NINE HUNDRED EIGHTY-NINE THOUSAND AND .23/100 DOLLARS (\$42,989.23) for Environmental Site Assessment Services. Additional services of the ENGINEER as described in Article 4, if any, shall be compensated on an hourly basis in accordance with Attachment 5.

7.2 REIMBURSABLE EXPENSES

The scope of work for sub-contracted services is defined in the ENGINEER's scope of services, Attachment 1. The scope includes provisions for administration expenses for subcontracted services and reimbursable direct expenses including but not limited to laboratory tests and analyses; computer services; word processing services; permit fees, bonds, telephone, printing, binding and reproduction charges; and other similar costs.

Indirect costs will have administrative fee reimbursements limited to no more than 5%. Direct costs are also limited to no more than 5% reimbursement.

7.3 EFFECTIVE DATE

This contract shall have no force or effect unless and until it is executed by the OWNER and the ENGINEER and a properly executed copy is mailed to the ENGINEER with a notice to proceed (NTP). If a NTP is not issued within sixty (60) days commencing from the last date of execution of this CONTRACT by the OWNER and the ENGINEER, then this CONTRACT shall be NULL AND VOID, the OWNER will not be obligated to any payment to the ENGINEER and the ENGINEER will not be obligated to perform any work under said CONTRACT.

PAYMENT SUMMARY

Environmental Site Assessment Services – Lump Sum Amount of	\$42,989.23
TOTAL CONTRACT AMOUNT:	\$42,989.23

ARTICLE 8 - GENERAL PAYMENT PROCEDURE

8.1 INVOICES

- 8.1.1** The ENGINEER shall submit monthly invoices to The Administrative Officer in the Engineering Department for the basic services described under Articles 2 and 4 for the design of the PROJECT. Invoices must include the City of Huntsville project name and number, dates of services, contract amount, previous billings and current billing. Along with each invoice, the ENGINEER must submit a consultant progress report in the format shown in Attachment 6 hereto. No payment will be made without the consultant progress report completed and attached. Monthly progress reports shall be submitted monthly even if no request for payment is made. If services under Article 4 are included in the invoice for additional services not included under the lump sum provisions, or services billed as time and material, the classification and hours of such persons rendering the services shall be attached to the invoice.
- 8.1.2** The signature of the ENGINEER on the invoice shall constitute the ENGINEER's representation to the OWNER that the services indicated in the invoice have progressed to the level indicated, have been properly and timely performed as required herein, that the reimbursable expenses included in the invoice have been reasonably incurred, that all obligations of the ENGINEER covered by prior invoices have been paid in full, and that, to the best of the ENGINEER's knowledge, information and informed belief, the amount requested is currently due and owing, there being no reason known to the ENGINEER the payment of any portion thereof should be withheld. Submission of the ENGINEER's invoice for final payment and reimbursement shall further constitute the ENGINEER's representation to the OWNER that, upon receipt from the OWNER of the amount invoiced, all obligations of the ENGINEER to others, including its consultants, incurred in connection with the PROJECT, have been paid in full. ENGINEER must designate on Attachment 6 – Progress Report in the appropriate space provided that such action has been completed.

8.2 TIME FOR PAYMENT

The OWNER shall make payment for services in Articles 2 and 4 within 60 days of receipt of valid invoice.

8.3 OWNER'S RIGHT TO WITHHOLD PAYMENT

In the event the OWNER becomes credibly informed that any representations of the ENGINEER, provided pursuant to Article 8.1.2, are wholly or partially inaccurate, the OWNER may withhold payment of sums then or in the future otherwise due to the ENGINEER until the inaccuracy, and the cause thereof, is corrected to the OWNER's reasonable satisfaction. Additionally, failure by the ENGINEER to supply substantiating records shall be reason to exclude related costs from the amounts which might otherwise be payable by the OWNER to the ENGINEER.

8.4 REIMBURSABLE EXPENSES

- 8.4.1** In addition to the requirements set forth in 8.1 above, invoices for reimbursable expenses shall include such documentation as the OWNER may require. Reasonable expenses are limited to the following expenses:
- (a) Transportation outside the immediate Huntsville area (50 mile radius) approved in advance by the OWNER in writing and incurred in connection with the PROJECT. (Per Department of Treasury, Internal Revenue Service Publication 1542, Per Diem Rates, for travel within the continental United States). Refer to website: www.irs.gov/pub/irs-pdf/p1542.pdf for more information;

- (b) Charges for long-distance communications;
- (c) Fees paid for securing approval of authorities having jurisdiction over the PROJECT,
- (d) Actual costs of reproduction for items in excess of those included in the required services;
- (e) Postage and handling charges incurred for drawings, specifications and other documents.

8.4.2 The ENGINEER shall set forth with particularity on its invoice the nature and cost of the expense item being billed, and attach to its invoice the written authorization, if any, required for such item; and shall bill expenses at actual cost or prevailing rate and without the addition of administrative charge, any multiple or surcharge.

8.5 W-9 TAXPAYER FORM

All ENGINEERING FIRMS are required to submit a Federal Tax Form W-9 to City of Huntsville at the time a contract is awarded. No payments of invoices can be made until this W-9 Tax Form has been properly submitted. A copy of the W-9 Tax Form can be requested from the OWNER or at the following website: www.irs.ustreas.gov/pub/irs-pdf/fw9.pdf.

ARTICLE 9 - GENERAL CONSIDERATIONS

9.1 GENERAL

OWNER and ENGINEER agree that the following sections and provisions shall apply to the work to be performed under this Agreement and that such provisions shall supersede any conflicting provisions of this Agreement.

9.2 SUB-CONTRACTED SPECIALIZED SERVICES

The ENGINEER may sub-contract specialized services required of the PROJECT to competent and experienced sub-consultants approved by the OWNER in writing. As a prime professional, the ENGINEER shall act as OWNER's representative for contracting, directing, and managing the services of sub-consultants. The OWNER shall have the right to reject any consultant provided that the OWNER raises a timely objection. At the time of the execution of this Agreement, the parties anticipate that the consultants listed in Attachment "7" hereto will be retained by the ENGINEER to provide services with respect to the PROJECT. Expenses payable to the ENGINEER for administration of subcontracted services are limited to no more than 5% of the cost of the subcontracted services.

9.3 PEER REVIEW

The OWNER reserves the right to conduct, at the OWNER's expense, peer review of designs and drawings prepared by the ENGINEER and/or sub-consultant(s) for the PROJECT. The ENGINEER and sub-consultant(s) agree that knowledge and consent to review of their work by other engineers of the OWNER's choosing is hereby given in accordance with the ADMINISTRATIVE CODE (RULES AND REGULATIONS) of the Alabama State Board of Licensure for Professional Engineers and Land Surveyors, Chapter 330-X-14-.06(a) (13) effective January 2008 and as may be amended now or in the future pertaining to the Code of Ethics for review of the work of another engineer.

9.4 CLARIFICATION OF WORK

If reviewing agencies raise questions regarding the work of ENGINEER, OWNER will participate in such meetings as deemed necessary to explain and clarify this work.

9.5 SUCCESSORS AND ASSIGNS

OWNER and ENGINEER each binds himself and his partners, successors, executors, administrators and assigns to the other party of this Agreement and to the partners, successors, executors, administrators and assigns of such other party, with respect of all covenants of this Agreement; except as above, neither OWNER nor ENGINEER shall assign, sublet or transfer his interest in this Agreement without written consent of the other. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of any public body that may be party hereof, nor shall it be construed as giving any rights or benefits hereunder to anyone other than OWNER and ENGINEER.

9.6 CHANGES

9.6.1 The OWNER may, at any time by written order, make changes within the general scope of the Agreement in the services to be provided. If such changes cause an increase or decrease in ENGINEER's cost of, or time required for performance of any services, whether or not changed by any order, an equitable adjustment shall be made, and the Agreement shall be modified in writing accordingly. Upon notification of change, ENGINEER must assert any claim of ENGINEER for adjustment in writing within 30 days from the date of receipt unless OWNER grants a further period of time.

9.6.2 If findings in any phase of this PROJECT significantly alter the scope of work for subsequent phases, or if regulations are changed resulting in a scope of work change for any phase, engineering fees set forth in Article 7 may be renegotiated by the OWNER and ENGINEER.

9.7 ENGINEER'S RECORDS

Documentation accurately reflecting services performed, and the time expended by the ENGINEER and his personnel and records of reimbursable expenses shall be prepared concurrently with the performance of the services and shall be maintained by the ENGINEER. The ENGINEER shall maintain record copies of all written communications, and any memoranda of verbal communications related to the PROJECT. All such records and documentation shall be maintained for a minimum of five (5) years after the PROJECT date of final completion or for any longer period of time as may be required by law or good practice. If the ENGINEER receives notification of a dispute or of pending or commencement of litigation during this five-year period, the ENGINEER shall continue to maintain all PROJECT records until final resolution of the dispute or litigation. The ENGINEER shall make such records and documentation available to the OWNER upon notice and shall allow the authorized representative(s) of the OWNER to inspect, examine, review and copy the ENGINEER's records at the OWNER's reasonable expense.

9.8 SEAL ON DOCUMENTS

9.8.1 Final plans and drawings shall be marked "ISSUED FOR CONSTRUCTION". When a firm, partnership, or corporation performs the work, each drawing shall be sealed and signed by the licensed engineer or engineers who were in responsible charge of the work.

9.8.2 When plans and drawings issued for construction were not performed by a firm, partnership, or corporation, the first sheet or title page shall be sealed, dated, and signed by the engineer who was in responsible charge. Two or more licensed professional engineers may affix their signatures and seals provided it is designated by a note under the seal the specific subject matter for which each is responsible. In addition, each drawing shall be sealed and signed by the licensee or licensees responsible for each sheet.

9.8.3 When plans or drawings are a site adaptation of a standard design or plan or make use of a standard drawing of others, the ENGINEER shall take measures to assure that the site adaptation, standard drawing, or plan is appropriate and suitable for the use proposed by the ENGINEER including meeting the specific site conditions, functionality, design criteria, safety considerations, etc. After taking such measures, the ENGINEER shall seal the standard drawing or plan as shown above in sections 9.8.1 and 9.8.2. The ENGINEER shall not utilize standards of others without their written consent where written consent is required or implied.

9.8.4 Each sheet of documents, specifications, and reports for engineering practice and of maps, plats, charts, and reports for land surveying practice, shall be signed, sealed, and dated by the licensed engineer or land surveyor who prepared the documents or under whose responsible charge the documents were prepared. Where more than one sheet is bound together in one volume, including but not limited to reports and specifications, the licensee who prepared the volume, or under whose responsible charge the volume was prepared, may sign, seal, and date only the title or index sheet, provided that this sheet clearly identifies all of the other sheets comprising the bound volume, and provided that any of the other sheets which were prepared by, or under the responsible charge of, another licensee, be signed, sealed, and dated by the other licensee.

9.9 USE AND OWNERSHIP OF DOCUMENTS

All rights of ownership, copyrights, construction documents, including all drawings, specifications and other documents, electronic media, computer source code, or things prepared by or on behalf of the ENGINEER for the PROJECT are hereby transferred to the OWNER and shall be the sole property of the OWNER and are free of any retention rights of the ENGINEER. The ENGINEER hereby grants to the OWNER an unconditional right to use or to refer to, for any purpose whatsoever, the construction documents and any other documents or electronic media, computer source code prepared by or on behalf of the ENGINEER for the PROJECT, free of any copyright claims, trade secrets or other proprietary rights with respect to such documents. The ENGINEER shall be permitted to retain copies thereof for its records. The ENGINEER's documents and other work products are not intended or represented to be suitable for re-use by OWNER or others on extensions of the PROJECT or on any other PROJECT. Any re-use without specific written verification or adaptation by ENGINEER will be at OWNER's sole risk and without liability or legal exposure to ENGINEER, and OWNER shall indemnify and hold harmless ENGINEER from all claims, damages, losses and expenses including attorneys' fees arising out of, or resulting from, such reuse by the OWNER; provided however, that this agreement to indemnify and save harmless shall not apply to any reuse of documents retained by, or through, the contractor.

9.10 ESTIMATE OF CONSTRUCTION COST

Since ENGINEER has no control over the construction cost of labor, materials, or equipment, or over the construction contractor(s) methods of determining prices, or over competitive bidding or market conditions, his opinion of probable PROJECT cost or construction cost provided for herein are to be made on the basis of his experience and qualifications and represent his best judgment as a design professional familiar with the construction industry; but, ENGINEER cannot and does not guarantee that proposals, bids or construction costs will not vary from opinions of probable cost prepared by him. If OWNER wishes greater assurance as to the construction cost, he will employ an independent cost estimator.

9.11 TERMINATION FOR CAUSE

This Agreement may be terminated by either party upon seven (7) days written notice to the other should such other party fail substantially to perform in accordance with its material terms through no fault of the party initiating the termination.

9.12 TERMINATION BY THE OWNER WITHOUT CAUSE

The OWNER may terminate this Agreement without cause upon seven (7) days' written notice to the ENGINEER. In the event of such a termination without cause, the ENGINEER shall be compensated for all services performed prior to termination, together with Reimbursable Expenses incurred. In such event, the ENGINEER shall promptly submit to the OWNER its invoice for final payment and reimbursement which invoice shall comply with the provisions of Paragraph 8.1.

ARTICLE 10 - INDEMNITY AND INSURANCE

10.1 INSURANCE

The ENGINEER shall carry insurance of the following kinds and amounts in addition to any other forms of insurance or bonds required under the terms of the contract specifications. The ENGINEER shall procure and maintain for the duration of the job until final acceptance by the OWNER, or as later indicated, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the ENGINEER, his agents, representatives, employees or subcontractor.

10.2 MINIMUM SCOPE OF INSURANCE:

A. General Liability:

Insurance shall be written on an occurrence basis. Claims-made coverage will be accepted only on an exception basis after the OWNER's approval. The same insurance company should write General Liability Coverage and OWNERs ENGINEERs Protective Insurance.

B. Commercial General Liability

Products and Completed Operations
Contractual
Personal Injury
Explosion, Collapse and Underground
Broad Form Property Damage

C. Professional Liability:

Insurance may be written on a "claims-made" basis, providing coverage for negligent acts, errors or omissions in the performance of professional services. Coverage shall be maintained for a discovery and reporting period of no less than five (5) years after completion of the professional services and Certificates of Insurance shall be submitted to the OWNER on a yearly basis during this time frame. Coverage shall be no less comprehensive than that which is carried by at least 25% of the registered engineers or engineering firms contracting in the State of Alabama. Such coverage shall be carried on a continuous basis including prior acts coverage to cover the subject PROJECT. The professional liability insurance shall contain contractual liability coverage.

D. Automobile Liability:

Business Automobile Liability providing coverage for all owned, hired and non-owned autos. Coverage for loading and unloading shall be provided under either automobile liability or general liability policy forms.

E. Workers' Compensation Insurance:

Statutory protection against bodily injury, sickness or disease or death sustained by employee in the scope of employment. Protection shall be provided by a commercial insurance company or a recognized self-insurance fund authorized before the State of Alabama Industrial Board of Relations. "Waivers of Subrogation" in favor of the OWNER shall be endorsed to Workers' Compensation Insurance.

F. Employers Liability Insurance:

Covering common law claims of injured employees made in lieu of or in addition to a worker's compensation claim.

10.3 MINIMUM LIMITS OF INSURANCE:

A. General Liability:

Commercial General Liability on an "occurrence form" for bodily injury and property damage:

\$ 2,000,000 General Aggregate Limit
\$ 2,000,000 Products - Completed Operations Aggregate
\$ 1,000,000 Personal & Advertising Injury
\$ 1,000,000 Each Occurrence

B. Professional Liability:

Insurance may be made on a "claims-made" basis:

\$ 500,000 Per Claim - Land Surveyors
\$ 1,000,000 Per Claim - Other Professionals

C. Automobile Liability:

\$ 1,000,000 Combined Single Limit per accident for bodily injury and property damage.

D. Workers' Compensation:

As required by the State of Alabama Statute. The coverage should include waiver of subrogation.

E. Employers Liability:

\$ 1,000,000 Bodily Injury by Accident or Disease
\$ 1,000,000 Policy Limit by Disease

10.4 OTHER INSURANCE PROVISIONS:

The OWNER is hereby authorized to adjust the requirements set forth in this document in the event it is determined that such adjustment is in the OWNER's best interest. If the insurance

requirements are not adjusted by the OWNER prior to the OWNER's release of specifications with regard to the PROJECT in question, then the minimum limits shall apply. The City of Huntsville/OWNER shall be named on the policies of general liability and automobile insurance and on the certificate of insurance as an Additional Insured. Additional Insured status on the Commercial General Liability policy shall be through ISO Additional Endorsement CG 20 10 11 85 or equivalent and coverage shall be afforded on a primary basis. Liability is not necessarily limited to the minimum amounts of insurance required herein, especially where other insurance coverage is available.

The policies are to contain, or be endorsed to contain, the following provisions:

A. All Coverage:

The ENGINEER is responsible to pay all deductibles. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled, non-renewal or materially changed by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the OWNER. Cancellation of coverage for non-payment of premium will require ten (10) days written notice to the OWNER.

10.5 ACCEPTABILITY OF INSURERS:

Insurance is to be placed with insurers authorized by the State of Alabama with an A. M. Best rating of A-V or better.

10.6 VERIFICATION OF COVERAGE:

The OWNER shall be indicated as a Certificate Holder and the ENGINEER shall furnish the OWNER with Certificates of Insurance reflecting the coverage required by this document. The A. M. Best rating and deductibles, if applicable, shall be indicated on the Certificate of Insurance for each insurance policy. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf and must be an original signature. Certificates signed using digital signatures will not be accepted. Certificates signed using digital signatures will not be accepted unless accompanied by a written statement from the insurance/surety company indicating that their electronic signature is intended as their signature. All certificates are to be received and approved by the OWNER before work commences. The OWNER reserves the right to require complete, certified copies of all required insurance policies at any time.

10.7 CONSULTANTS AND/OR SUBCONTRACTORS WORKING FOR THE ENGINEER:

The ENGINEER shall furnish separate certificates and/or endorsements for each subcontractor and/or consultant showing insurance of the same type or types and to the extent of the coverage set forth in this Article 10.

10.8 HOLD HARMLESS AGREEMENT:

A. Professional Liability Exposures:

The ENGINEER, to the fullest extent permitted by law, shall indemnify and hold harmless the OWNER, its elected and appointed officials, employees, agents, and representatives against all claims, damages, losses, judgments and expenses, including, but not limited to, attorney's fees, arising out of or resulting from the performance of the work, caused by any negligent act, error or omission of the ENGINEER or any of their consultants, or anyone directly or indirectly employed by them or anyone for whose acts they are legally liable. Such obligation should not be construed to negate, abridge, or otherwise reduce

any other right or obligation of indemnity, which would otherwise exist as to any party or person, described in this paragraph.

To the fullest extent permitted by law, the ENGINEER shall defend, protect, indemnify, and hold harmless the OWNER, its elected and appointed officials, officers, directors, employees, agents, and representatives from and against any and all liability, claims, demands, damages, loss, costs, fees and expenses (including actual fees and expenses of attorneys, expert witnesses, and other consultants) for infringement of patent rights, copyrights, or other intellectual property rights, except with respect to designs, processes or products of a particular manufacturer expressly required by the OWNER in writing. If the ENGINEER has reason to believe the use of a required design, process or product is an infringement of a patent, the ENGINEER shall be responsible for such loss unless such information is promptly given to the OWNER.

B. Other Than Professional Liability:

The ENGINEER agrees, to the fullest extent permitted by law, to defend, protect, indemnify and hold harmless the OWNER, its elected and appointed officials, officers, directors, employees, agents, and representatives from and against any and all liability, claims, demands, damages, loss, judgments, costs, fees, and expenses (including actual fees and expenses of attorneys, expert witnesses, and other consultants) attributable to personal injury, including bodily injury sickness, disease or death, or to injury to or destruction of tangible property, including loss of use resulting therefrom actually or allegedly caused by the ENGINEER or the ENGINEER's consultants, subcontractors, or suppliers, including, without limitation, any breach of contract or any negligent acts, errors, or omissions in the performance of the professional services provided pursuant to or as a result of this Agreement. Neither, the OWNER nor the ENGINEER shall be obligated to indemnify the other party in any manner whatsoever for the other parties own negligence.

ARTICLE 11- MISCELLANEOUS PROVISIONS

11.1 GOVERNING LAW

This Agreement shall be governed by the law of the State of Alabama.

11.2 INTENT AND INTERPRETATION

11.2.1 The intent of this contract is to require complete, correct and timely execution of the work. Any work that may be required, implied or inferred by the contract documents, or any one or more of them, as necessary to produce the intended result shall be provided by the ENGINEER.

11.2.2 This contract is intended to be an integral whole and shall be interpreted as internally consistent. What is required by any one contract document shall be considered as required by the contract.

11.2.3 When a word, term or phrase is used in this contract, it shall be interpreted or construed, first, as defined herein; second, if not defined, according to its generally accepted meaning in the engineering industry; and third, if there is no generally accepted meaning in the engineering industry, according to its common and customary usage.

11.2.4 The words "include", "includes", or "including", as used in this contract, shall be deemed to be followed by the phrase, "without limitation".

11.2.5 The specification herein of any act, failure, refusal, omission, event, occurrence or condition as constituting a material breach of this contract shall not imply that any other, non-specified act, failure, refusal, omission, event, occurrence or condition shall be deemed not to constitute a material breach of this contract.

11.2.6 Words or terms used as nouns in this contract shall be inclusive of their singular and plural forms, unless the context of their usage clearly requires a contrary meaning.

11.3 TIME IS OF THE ESSENCE

Time limitations contained herein, or provided for hereby, are of the essence of this Agreement. The ENGINEER understands and acknowledges that time is of the essence in completion of the PROJECT and that the OWNER will incur damages if the PROJECT is not completed on time.

11.4 SUCCESSORS AND ASSIGNS

The ENGINEER shall not assign its rights hereunder, excepting its right to payment, nor shall it delegate any of its duties hereunder without the written consent of the OWNER. Subject to the provisions of the immediately preceding sentence, the OWNER and the ENGINEER, respectively, bind themselves, their successors, assigns and legal representatives to the other party to this Agreement and to the successors, assigns and legal representatives of such other party with respect to all covenants of this Agreement.

11.5 NO THIRD-PARTY BENEFICIARIES

This Agreement shall inure solely to the benefit of the parties hereto and their successors and assigns. Nothing contained herein is intended to or shall create a contractual relationship with, or any rights in favor of, or any cause of action in favor of, any third party, against the OWNER or the ENGINEER.

11.6 INTELLECTUAL PROPERTY/ CONFIDENTIALITY

All information, documents, and electronic media, computer source code furnished by the OWNER to the ENGINEER belong to the OWNER, are considered proprietary and confidential, unless otherwise indicated by the OWNER, and are furnished solely for use on the OWNER's PROJECT. Such information, documents, and electronic media, computer source code shall be kept confidential by the ENGINEER, shall only be released as necessary to meet official regulatory requirements in connection with the PROJECT, and shall not be used by the ENGINEER on any other PROJECT or in connection with any other person or entity, unless disclosure or use thereof in connection with any matter other than services rendered to the OWNER hereunder is specifically authorized in writing by the OWNER in advance. This Section 11.6 shall survive the expiration of this Agreement.

11.7 SUBCONTRACT REQUIREMENTS

The ENGINEER shall include the terms and conditions of this Agreement in every subcontract or agreement with a consultant for this PROJECT so that these terms and conditions shall be binding upon each subcontractor or consultant. The subcontractor(s)/consultant(s) will maintain all licenses and certifications to practice its profession or trade by all public entities having jurisdiction over the PROJECT. The subcontractor (s)/consultant(s) further represent to the OWNER that the subcontractor(s)/consultant(s) will maintain all necessary licenses, certifications, permits or other authorizations necessary for the PROJECT until the remaining duties hereunder have been satisfied.

11.8 NOTICES

Unless otherwise provided, all notices shall be in writing and considered duly given if the original is hand delivered; if delivered by facsimile to 256-427-5325, or is sent by U.S. Mail, postage prepaid to City of Huntsville Engineering, P. O. Box 308 (35804), 320 Fountain Circle (35801), Huntsville, AL. All notices shall be given to the addresses set forth above. Notices, hand delivered or delivered by facsimile, shall be deemed given the next business day following the date of delivery. Notices given by U.S. Mail shall be deemed given as of the second business day following the date of posting.

11.9 STRICT COMPLIANCE

No failure of the OWNER to insist upon strict compliance by the ENGINEER with any provision of this Contract for Professional Services shall operate to release, waive, discharge, modify, change or affect any of the ENGINEER's obligations.

11.10 WAIVER

No provision of this Agreement may be waived except by written agreement of the parties. A waiver of any provision on one occasion shall not be deemed a waiver of that provision on any subsequent occasion, unless specifically stated in writing. A waiver of any provision shall not affect or alter the remaining provisions of this Agreement.

11.11 SEVERABILITY

If any provision of this Agreement, or the application thereof, is determined to be invalid or unenforceable, the remainder of that provision and all other provisions of this Agreement shall remain valid and enforceable.

11.12 ETHICS

The ENGINEER shall not offer or accept any bribes or kickbacks from or to any manufacturer, consultant, trade contractor, subcontractor, supplier or any other individual or entity in connection with the PROJECT. The ENGINEER shall not confer on any governmental, public or quasi-public official having any authority or influence over the PROJECT any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised. The ENGINEER shall not, without the express written permission of the OWNER, engage or recommend to the OWNER engagement of any consultant, trade contractor, subcontractor, or supplier to provide services on behalf of the ENGINEER, OWNER or PROJECT in which the ENGINEER has a direct or indirect proprietary or other pecuniary interest; or call for the use of or by exclusion require or recommend the use of products, materials, equipment, systems, processes or procedures in which the ENGINEER or in which any consultant, trade contractor, subcontractor, or supplier of the ENGINEER has a direct or indirect proprietary or other pecuniary interest. Without prior notification and written approval of the OWNER, the ENGINEER and the ENGINEER'S subconsultants shall not offer services to the OWNER'S contractor.

11.14 ENTIRE AGREEMENT

This Agreement represents the entire agreement between the OWNER and the ENGINEER and supersedes all prior communications, negotiations, representations or agreements, either written or oral. This agreement may be amended only by written instrument signed by both OWNER and ENGINEER.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

ENGINEER:
OMI, INC.

OWNER:
CITY OF HUNTSVILLE

BY: _____
Keith Mandel

BY: _____
Tommy Battle

TITLE: _____
President

TITLE: _____
Mayor

ATTEST: _____

ATTEST: _____

Given under my hand this _____ day

Given under my hand this _____ day

Of _____, 2022.

Of _____, 2022.

Notary Public

Notary Public

My commission expires _____

My commission expires _____

ATTACHMENT 1
SCOPE OF SERVICES

(Refer to Letter dated February 11, 2022, from Jesse Wheat, Sharon Thompson and Keith Mandel to Kathy Martin and attachments).

OMI, Inc.

February 11, 2022

City of Huntsville
Engineering Department
320 Fountain Circle
Huntsville, Alabama 35801

ATTN: Ms. Kathy Martin, P.E., City Engineer

SUBJECT: Proposal for NEPA Environmental Assessment Studies
Proposed Resolute Way I-565 Interchange
Huntsville, Madison County, Alabama
OMI Proposal No. P-6333B

Ladies and Gentlemen:

OMI, Inc. (OMI) is pleased to present this proposal to provide individual National Environmental Policy Act (NEPA) Environmental Assessment (EA) studies, for inclusion in an EA that is being prepared by the U.S Army Garrison- Redstone Arsenal (RSA) for the project (hereinafter referred to as project or proposed action). Preparatory to this proposal, Ms. Sharon Thompson and Mr. Keith Mandel of OMI discussed the project with Ms. Kathy Martin and Mr. Alan Clements, of the City of Huntsville (COH). This proposal documents our understanding of the project and defines the scope of services, completion schedule, limitations, cost estimate, and authorization procedures.

PROJECT INFORMATION

The RSA and the COH have proposed construction of a new highway interchange on Interstate 565 (I-565) for access to the Redstone Gateway Enhanced Use Lease (EUL) development on RSA. As a federal undertaking involving a federal highway and multiple federal agencies, including the US Department of the Army and the Federal Highway Administration (FHWA), the proposed action is subject to compliance with the National Environmental Policy Act (NEPA) of 1969, as amended, and Section 106 of the National Historic Preservation Act (NHPA). The RSA has been identified as the

City of Huntsville
OMI Proposal Number: P-6333B
February 11, 2022
Page 2

lead federal agency for the NEPA process for the proposed action; and, therefore, has lead responsibility.

SCOPE OF SERVICES

An EA is used as a screening document to determine whether an agency must prepare an Environmental Impact Statement (EIS) or make a Finding of No Significant Impact (FONSI). It is OMI's understanding that individual studies are needed to support the Human Environmental Impact Summary portion of the EA being prepared by RSA for areas outside of RSA boundaries. More specifically, OMI will examine and evaluate the potential environmental impacts to the following:

- Right-of-way;
- Relocations;
- Prime and unique farmlands;
- Community cohesion;
- Visual or aesthetic impact; and,
- Environmental Justice (EJ) and Title VI.

Due to the nature of the project, and unless otherwise directed, OMI will utilize the Federal Highway Administration and the Alabama Department of Environmental Management general guidelines for assessing the proposed action's potential environmental impacts.

Additionally, OMI will contract with Tennessee Valley Archaeological Research (TVAR) to perform the Phase I Cultural Resources Survey as outlined in the attached Statement of Work, dated September 28, 2020. See also the attached corresponding TVAR proposal, dated September 14, 2021.

OMI, Inc.

City of Huntsville
OMI Proposal Number: P-6333B
February 11, 2022
Page 3

OMI anticipates several in-person or virtual meetings with governmental agencies and other stakeholders during the course of this study.

OMI will also correspond with the COH on a regular basis to discuss the status and findings to date regarding the project.

At the completion of our work, a written report will be prepared and submitted to the COH summarizing the procedures, findings, and conclusions.

SCHEDULE

Based on our present schedule, OMI anticipates this work can be completed and a draft report of findings submitted within 90 business days of receiving written authorization to proceed. Should significant environmental concerns or unforeseen circumstances that would affect this schedule arise, you will be contacted immediately. Completion of this study in a timely manner is contingent upon timely response from applicable agencies.

LIMITATIONS

OMI assumes only a build alternative is to be considered for this scope of work.

OMI understands RSA is utilizing a previous noise study and a hazardous materials expert relative to the noise and hazardous materials impacts.

OMI assumes there will be no impacts to recreation areas to be evaluated as part of this scope of services.

OMI will interface with the necessary regulatory agencies.

OMI, Inc.

City of Huntsville
 OMI Proposal Number: P-6333B
 February 11, 2022
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OMI understands RSA and the COH are only requesting assistance with the scope of services listed above and we are not responsible for studies regarding other potential impacts to the environment.

Project design drawings and calculations will be provided by the COH.

The COH will provide existing data regarding right-of-way and/or relocation studies and will work with OMI to obtain additional data if needed.

Specific right-of-way and/or relocation studies and/or other activities, beyond the general requirements to assess the listed potential impacts to the environment will be considered beyond this scope of services.

Any additional services, required or requested, will be considered beyond this scope of services.

COST ESTIMATE

The table below summarizes the estimated fees to complete the outlined scope of services.

<u>ENVIRONMENTAL</u>	
Principal Engineer- 24 hours @ \$190 per hour	\$4,560.00
Sr. Environmental Scientist, Geologist - 60 hours @ \$130 per hour	\$7,800.00
Environmental Scientist - 120 hours @ \$90 per hour	\$10,800.00
CAD Operator – 40 hours @ \$63 per hour	\$2,520.00
Clerical- 24 hours @ \$55.00 per hour	\$1,320.00
Misc. Expenses (Cost plus 5%)	\$1,417.50

OMI, Inc.

City of Huntsville
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<u>ENVIRONMENTAL</u>	
Sub Total	\$28,417.50
Archeology Phase I Survey (Cost plus 5%)	\$14,571.73
Grand Total	\$42,989.23

OMI will not modify our scope of work or exceed this budget without your prior approval.

AUTHORIZATION

To authorize OMI to provide these services, please execute and return the attached Work Authorization Sheet. Please note any special instructions or information such as billing or site access requirements on this Work Authorization Sheet. Also enclosed with this proposal are General Conditions which discuss such items as right-of-entry, insurance, and invoicing. These Conditions are considered an integral part of this proposal.

OMI, Inc.

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February 11, 2022
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* * * * *

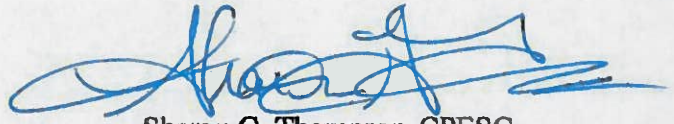
OMI appreciates the opportunity to provide these services to the City of Huntsville. Please direct any questions regarding this letter to the undersigned.

Respectfully submitted,

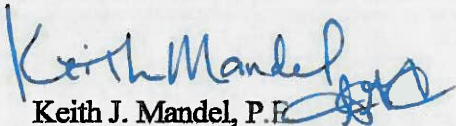
OMI, Inc.



Jesse J. Wheat, P.G.
Staff Geologist



Sharon G. Thompson, CPESC
Senior Environmental Scientist



Keith J. Mandel, P.E.
Senior Engineer

Attachments: Exhibit A Resolute Way Project Limits for NEPA Studies
Statement of Work for Phase I Cultural Resources Survey Resolute Way I-565
Interchange, Huntsville, Madison County, Alabama, dated September 28, 2020
TVAR Proposal for a Cultural Resources Survey Resolute Way I-565 Interchange,
Huntsville, Madison County, Alabama, dated September 14, 2021
General Conditions
Work Authorization Sheet
Property Access Authorization

Distribution via email to: Kathy.martin@huntsvilleal.gov; alan.clements@huntsvilleal.gov

OMI, Inc.



September 14, 2021
revised February 11, 2022

Kathy Martin, P.E.
City Engineer
Engineering Office
320 Fountain Circle SW
Huntsville, Alabama 35801

RE: Proposal for A Phase I Cultural Resources Survey for the Resolute Way I-565 Interchange, Huntsville, Madison County, Alabama

Dear Ms. Kathy Martin,

Tennessee Valley Archaeological Research (TVAR) is pleased to provide the City of Huntsville, Alabama with a proposal for a Phase I cultural resources survey associated with Redstone Arsenal and the City of Huntsville's proposed new highway interchange on Interstate 565 for access to the Redstone Gateway Enhanced Use Lease development on Redstone Arsenal, Huntsville, Madison County, Alabama. The archaeological survey area will consist of the project footprint and any associated disturbance, grading, or modifications to the land as shown on project plans within a 34 ha (84 acre) area. Portions of the survey area located within the boundaries of Redstone Arsenal have already been surveyed and will not be included in this project.

The purpose of the survey is to provide OMI, Inc. and their client, the City of Huntsville, with an inventory of cultural resources within the survey area and descriptions and National Register of Historic Places (NRHP) eligibility status recommendations regarding each resource identified. The archaeological portion of the work will be consistent with the Secretary of the Interior's *Standards and Guidelines for Identification* (36 CFR §61; 48 CFR §44720-23) and will meet the minimum requirements established by Sections 106 and 110 of the National Historic Preservation Act, the Alabama Department of Transportation, the Environmental Management Division, US Army Garrison-Redstone, and the Alabama Historical Commission.

We appreciate the opportunity to submit this scope of work and cost proposal.

Sincerely,

Erik S. Porth
Senior Archaeologist
(205) 246-3551 (cell)
erik@tvaresearch.com

A PHASE I CULTURAL RESOURCES SURVEY FOR THE RESOLUTE WAY I-565 INTERCHANGE, HUNTSVILLE, MADISON COUNTY, ALABAMA

I. INTRODUCTION

Under contract with OMI, Inc. (OMI), who is contracted with the City of Huntsville, Tennessee Valley Archaeological Research (TVAR) will conduct a Phase I cultural resources survey associated with the proposed construction of a new highway interchange on I-565 for access to the Redstone Gateway Enhanced Use Lease (EUL) development on Redstone Arsenal, Madison County, Alabama. This project is a federal undertaking and the US Army Garrison-Redstone will be the lead federal agency. The area of potential effect (APE) for this project is an approximately 34 ha (84 acre) project footprint that will include all areas subject to ground disturbance, modification, and grading associated with the proposed interchange construction as shown on project plans. The portion of the APE within the boundaries of Redstone Arsenal has already been investigated and will not be included in this project (Alexander et al. 1998; Alexander et al. 1999). Further, viewshed effects for all historic properties within a one mile radius of the EUL have already been assessed and will not be required for this project (Hoksbergen and Stamps 2011). Thus, the cultural resources survey will consist of a literature search, reconnaissance studies, Phase I archaeological investigations, laboratory and geo-spatial analyses, and reporting.

The purpose of the survey is to assist the City of Huntsville in its Section 106 and 110 compliance and to provide an inventory of cultural resources within the APE, a description of the current conditions at the resources identified, and National Register of Historic Places (NRHP) eligibility status recommendations regarding each resource identified. All work will be consistent with the Secretary of the Interior's *Standards and Guidelines for Identification* (36 CFR §61; 48 CFR §44720-23) and will meet the minimum requirements established by Sections 106 and 110 of the National Historic Preservation Act, the Alabama Department of Transportation, the Environmental Management Division, US Army Garrison-Redstone, and the Alabama Historical Commission (AHC).

II. DESCRIPTION OF WORK TO BE PERFORMED

A. Archaeological Survey

The methods of the archaeological survey will adhere to the following guidelines.

- Prior to fieldwork, background research will be conducted. This will include a review of Alabama site files to determine if any previously recorded archaeological sites exist within the project area and examinations of historical maps and aerial images to discern locations of structures and prior impacts to the survey area.
- Large portions of the APE have been heavily disturbed by the construction of I-565, access roads, businesses, utilities, parking lots, and other modern disturbances (see Figure 1). Staff will conduct reconnaissance-level survey of areas within the APE that have been disturbed

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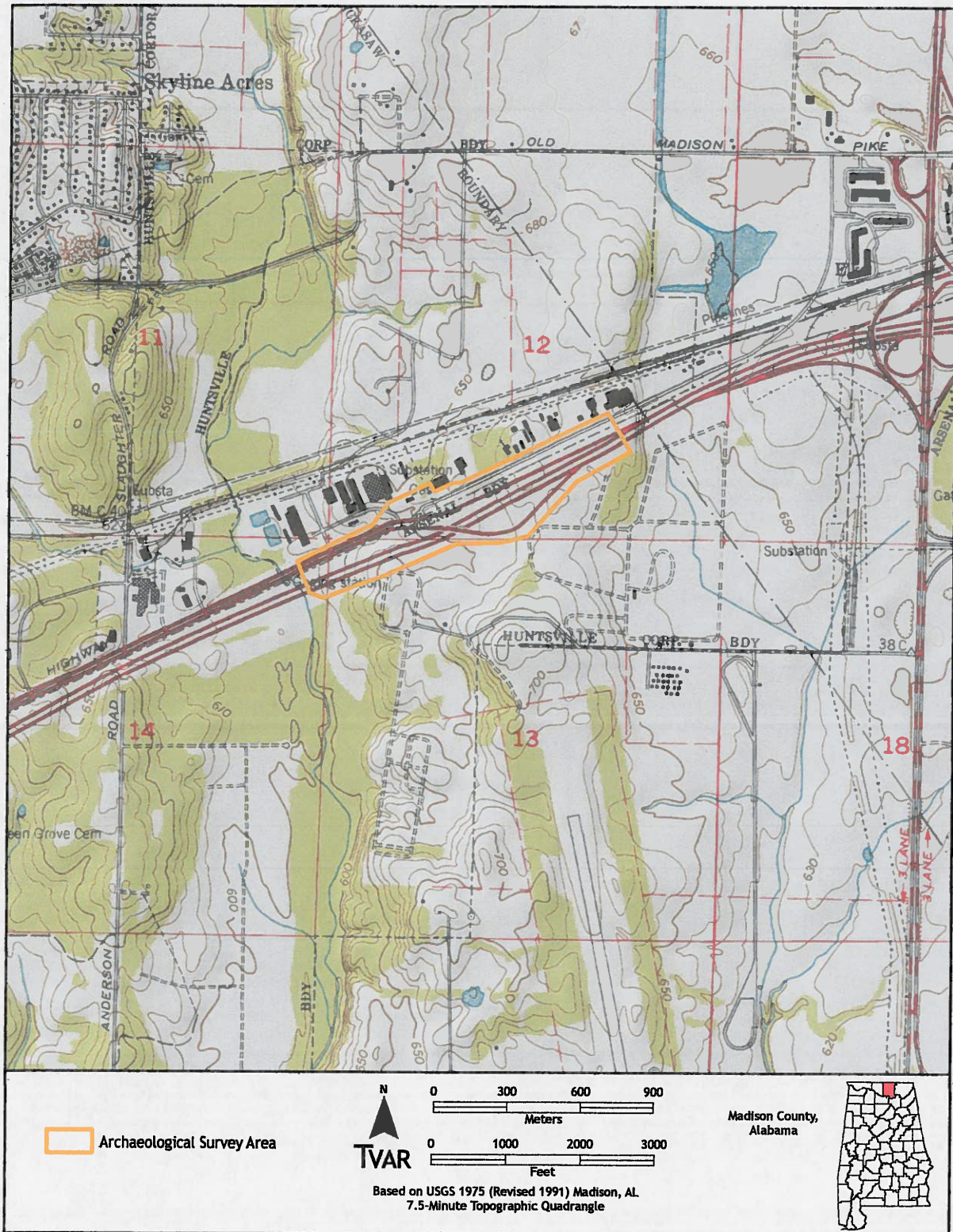


Figure 1. Project location.

and those areas will be photographed and described in the field notes, with an estimate to the extent they have been destroyed.

- Locations within the archaeological survey area that are accessible by foot and that have surface visibility equal to or greater than 50 percent will be examined along transects placed at intervals no greater than 15 m. All exposed surface locations investigated during the survey will be recorded using a field computer (Topcon GRS-1/Trimble Geo-7x/Dell Latitude 7212 tablet) equipped with a global positioning system (GPS) receiver with sub-meter precision and specialized data-capturing software tailored to archaeological surveying.
- All systematic shovel testing will be conducted at 30 m intervals where appropriate. Shovel tests will be 30-x-30 cm square units excavated to a depth of 70 centimeters below surface (cmbs) or until impenetrable substrate, subsoil, or the water table is encountered. If artifacts are recovered at 70 cmbs, TVAR will extend the test to a depth of 2.2 m using a hand auger. No shovel tests will be conducted beyond the survey area. If there is potential for the presence of deeply buried cultural deposits, select shovel tests that do not reach subsoil by 70 cmbs will be extended to a depth of 2.2 m using a hand auger.
- Should archaeological resources be identified during the investigation, TVAR will implement a close interval (10 m) shovel testing program using 30-x-30 cm units to delineate the horizontal and vertical boundaries of the resources within the survey area. Delineation shovel testing will be conducted at 10 m intervals and in an opportunistic manner; no delineation shovel tests will be conducted beyond the limits of the survey area. Close interval shovel testing will continue until two sequential negative tests are completed, or conditions (e.g., slope, erosion, or man-made disturbance) make testing impractical.
- If during the course of this investigation TVAR determines deeply buried cultural deposits are present within the survey area, the final report will include recommendations for carrying out intensive deep testing to further explore these cultural deposits.
- All deposits excavated via shovel testing and hand-augering will be screened through 1/4-inch mesh. Artifacts recovered in the screen will be bagged and labeled by provenience, including a shovel test number and a temporary site number. All shovel test locations investigated during the delineation of archaeological resources will be recorded using a field computer.
- Any historic cemeteries identified during the survey will be reported, described, and included in maps, but no shovel testing will take place within a cemetery.
- If human remains are encountered during the survey, all ground-disturbing activities in the vicinity of the remains will immediately be stopped, and TVAR will immediately notify Redstone Arsenal. The treatment of any human remains discovered within the project area will comply with Alabama state code concerning archaeological sites and treatment of human remains.

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- Qualified staff members will examine collected artifacts and faunal material to produce an inventory of the collections made at each identified resource and provide a description of each artifact. When possible, laboratory analysis will include, at a minimum, identification to appropriate types and/or taxa and assessment of the ages of the artifacts and of the deposits or sites from which they were collected.

B. Archival Research

The proposed EUL highway interchange is located on land once known as the rural community of Elko, Alabama prior to the westward development of the City of Huntsville and the establishment of Redstone Arsenal. TVAR historians will complete land histories for each site identified during the archaeological survey. Title and deed information will be gathered by viewing records at the Madison County Courthouse. TVAR archaeologists and historians will also compile a descriptive historical context for the specific project area. Further archival research will be undertaken as needed to compile the historical context and land histories and may include materials from the AHC archives, Redstone Arsenal, the Huntsville-Madison County Public Library, Huntsville Historic Preservation Office, prior research, and/or internet sources.

The deliverables for this survey will include a detailed historical context of Madison County along with land histories for any identified sites within the APE. In addition, historical aerial photographs will be acquired from the Cartographic Research Laboratory at The University of Alabama, as well as the US Geological Survey. TVAR has already conducted extensive research in Madison County, Alabama and understands where best to obtain the most relevant research materials.

C. Survey Forms

TVAR will obtain an official state site number and complete or update an Alabama state archaeological site survey form for each new or previously recorded archaeological site identified during the survey. TVAR will submit a Historic Structure Inventory form for each newly recorded architectural resource in the digital format required by AHC. Additionally, TVAR will provide the City of Huntsville with electronic copies of all resource forms on the CD containing project photographs and the digital report.

D. Management Summary

TVAR will submit a management summary and shapefiles detailing the results of the survey to the Redstone Arsenal cultural resource manager no later than five business days after the completion of fieldwork. The management summary will include TVAR's NRHP recommendation of each resource identified during the course of the investigations. Shapefiles will show survey coverage, shovel test (and other field units) and site locations, areas of pedestrian survey, and areas with a potential for buried deposits. Shapefiles will be projected in NAD 83 (feet) Alabama State Plane. All maps will include graphic scale bars in both meters and feet and a north arrow.

E. Report

TVAR will incorporate the findings of this investigation into a single comprehensive report discussing the findings of the survey. The report will include historical background research within

the survey area, a discussion of field methodology, descriptions of all areas surveyed, a statement of research potential for each site identified, a discussion of site distributions, and general conclusions about the significance of the sites from archaeological and historical perspectives. Summary recommendations concerning project impact on any cultural resource recommended eligible will be offered in the concluding chapter of the report. The report will clearly state TVAR's opinion regarding the NRHP eligibility of each identified resource. At the requested level of investigation, the eligibility of some sites may not be determined.

TVAR will submit a single comprehensive management summary and shapefiles for NRHP eligible and potentially eligible sites recorded during the survey no later than five business days after the completion of fieldwork. A digital copy of the draft report will be submitted to the Redstone Arsenal cultural resource manager for initial review of findings and recommendations within 40 business days after the completion of fieldwork, or no later than 60 days prior to the end of the period of performance (POP). The report will meet accepted professional standards for survey reports and will be of publishable quality.

Upon receipt of the draft report comments, TVAR will provide a digital version and up to four printed and bound versions of the final report to the Redstone Arsenal cultural resource manager within 30 calendar days, or no later than 40 days prior to the end of the POP. The Redstone Arsenal cultural resource manager will then disseminate the final report to the City of Huntsville, the State Historic Preservation Office (SHPO), the AHC, and consulting Native American tribes. If the final report warrants comments from OMI, the City of Huntsville, the SHPO, AHC, or consulting Native American tribes, TVAR will submit completed final reports within four weeks of receipt of those comments.

Draft and final reports will include the following:

- Maps showing surveyed area with USGS 7.5-minute quadrangle base map.
- A summary of the background information and appropriate precontact and historic context of the study area.
- A detailed description of the study methods and techniques.
- Maps showing survey transects and shovel tests for the entire project area.
- Maps showing the locations of all findings, including each identified resource.
- A clear and concise presentation of the NRHP eligibility recommendations for each identified resource. This will include a table listing for each identified resource, whether it is recommended as eligible, not eligible, or potentially eligible, or whether its eligibility is unknown due to factors outside the control of TVAR.
- A site map for each identified resource that includes at least one identifiable landmark, the boundaries of the resource, and all investigations.

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- A summary of the results of laboratory analyses with contextual details presented.
- High-quality photographs showing conditions in the project area, of each identified resource, and of a representative sample of any features and/or artifacts recorded during the investigation.
- Plans for curation of artifacts and documents, including the appropriate repository.
- A references cited section that includes all cited works and conforms to the most recent Society for American Archaeology guidelines.
- State site forms or update forms, as appropriate, for each identified resource in an appendix. TVAR will obtain state site numbers for each previously unidentified site prior to submitting the draft report. Other appendices will include a shovel test roster.

III. PERSONNEL AND ORGANIZATIONAL/INSTITUTIONAL QUALIFICATIONS

Erik S. Porth (Ph.D., RPA) or Hunter B. Johnson (M.A., RPA) will serve as Principal Investigator for this project and direct all archaeological field and laboratory methods, as well as manage all deliverables, reporting, and the project timeline. Jillian Rael (M.A.) will serve as Senior Historian and direct all historical background research. Porth and Rael both meet the minimum qualifications set forth by the Secretary of the Interior's (Historic Preservation) *Professional Qualification Standards*. Curricula vitae for Porth and Rael are included at the end of this document. All laboratory personnel meet the qualifications specified by the Secretary of the Interior's *Standards and Guidelines, Professional Qualifications Standards-Archeology*. TVAR will provide adequate equipment and facilities to ensure the proper treatment, analysis, and curation of materials and data generated by this project. The company also has GIS software, well-trained, experienced GIS technicians, and field computers equipped with company-developed applications for data collection.

IV. ORGANIZATIONAL/INSTITUTIONAL QUALIFICATIONS

- TVAR maintains a large enough inventory of hand tools to simultaneously conduct multiple small- and large-scale field projects. These implements include shovels, mattocks, trowels, brush axes, machetes, bow saws, loppers, and various types and sizes of screens.
- TVAR currently has a pool of 21 archaeological technical staff members to conduct survey work throughout the Southeast. In addition to a full-time architectural historian, TVAR employs a full-time historian, two part-time preservation planners, and a consulting part-time Senior Architectural Historian
- The company occupies a 10,000 square-foot office and laboratory complex in Huntsville, Alabama. The facility accommodates 16 offices, a library, a conference room, three laboratory analysis areas, both indoor and outdoor wet laboratory areas, a photography labo-

ratory, a climate-controlled artifact storage room, and an equipment storage room. The laboratory complex houses multiple laptop and desktop computers, printers, and flatbed scanners as well as an electrolysis tank and a 3-D scanner. Near its main office and laboratory complex, TVAR also maintains off-premises storage facilities and outdoor work areas.

- TVAR invests heavily in technology (hardware and software) and the development of field and laboratory applications. Architecture surveys rely on GIS and GPS technology for mapping and to define and model historical viewsheds, which are often required in cultural resource assessments of standing architecture. In the field, TVAR's archaeological data collection is accomplished using hand-held computers equipped with high-resolution GPS receivers and company-developed GIS software applications, which are fully integrated with the company's comprehensive relational database and geodatabase. The data collection system results in more efficient and accurate recordation of data and the automated generation of field maps. This, in turn, furnishes daily maps and datasets for project managers to monitor progress and adjust field methodologies as needed, which eliminates needs to return to the field for the collection of additional information. TVAR employs several GIS technicians trained in the use and application of various GIS software programs and survey instruments.

V. SCHEDULE/DELIVERABLES:

- Shapefiles with site polygons for NRHP-eligible or potentially eligible sites will be submitted to the Redstone Arsenal cultural resource manager no later than five business days after the completion of fieldwork.
- Management summary submitted to the Redstone Arsenal cultural resource manager no later than five business days following the completion of fieldwork.
- Draft report to be submitted to the Redstone Arsenal cultural resource manager no later than 40 business days after the completion of fieldwork.
- Final report draft including all changes requested by the Redstone Arsenal cultural resource manager based on the draft report will be submitted no later than 30 calendar days following the receipt of comments.
- Final report including all changes requested by OMI, the City of Huntsville, the SHPO, AHC, and Native American tribes based on the draft report will be submitted no later than 30 calendar days following the receipt of comments.
- All site forms and site form updates.
- ArcGIS shapefiles containing data on the location, nature, and condition of each identified resource.

8 - Tennessee Valley Archaeological Research

VI. CURATION

All artifacts and documents generated during this investigation will be curated at The University of Alabama, Museum of Natural History, Office of Archaeological Research's (OAR) Erskine Ramsay Archaeological Repository located in Moundville, Alabama. TVAR maintains a curation agreement with the OAR.

VII. REFERENCES CITED

- Alexander, Lawrence S., H. Russell Campbell, Daniel J. Minnich, and James M. Moore
 1998 *Phase I Archaeological Survey of Ground Disturbance Areas 4, 5, and 7 on Redstone Arsenal, Madison County, Alabama*. Alexander Archaeological Consultants. Submitted to U.S. Army Aviation and Missile Command, Directorate of Environmental Management and Planning, Contract No. DAA403-96-P-1942. Copies available from Alexander Archaeological Consultants, Wildwood, Georgia.
- Alexander, Lawrence S., Daniel J. Minnich, H. Russell Campbell, and William D. Stevens
 1999 *Phase I Archaeological Survey of 1052 Hectares on Redstone Arsenal, Madison County, Alabama*. Alexander Archaeological Consultants. Submitted to U.S. Army Aviation and Missile Command, Directorate of Environmental Management and Planning, Contract No. DACA 39-98-M-0101. Copies available from Alexander Archaeological Consultants, Wildwood, Georgia.
- Hoksbergen, Benjamin J. and Katie Stamps
 2011 *A Section 106 Assessment of Impacts to Historic Properties Resulting from the Redstone Gateway EUL Development at Redstone Arsenal, Madison County, Alabama*. Environmental Management Division, Garrison, Redstone Arsenal, Alabama.

VIII. CAVEATS FOR SURVEY

TVAR's ability to adequately provide the services outlined above is contingent on the following critical assumptions:

- TVAR staff will have unrestricted access to the project area during the survey, including gated access.
- Extreme weather (excessive heat index values, flash flooding, storms, etc.) will not delay the fieldwork portion of the project in a significant way.
- Work stoppage will not delay the fieldwork or reporting portions of the project in a significant way.
- TVAR will restrict this investigation to the archaeological survey area (see Figure 1).
- This budget does not include funds for excavating and reintering human remains. If human remains are encountered during the project, the budget will have to be amended accordingly.
- This budget does not include funds for clearing forested areas of the sites.

Resolute Way I-565 Interchange - 9

**Cost Proposal For A Cultural Resources Survey for the Resolute Way I-565 Interchange in Huntsville,
Madison County, Alabama
Submitted by Tennessee Valley Archaeological Research**

<i>Project Task</i>	<i>Hourly Rate</i>	<i>Work Hours</i>	<i>Total Rate</i>
Project Setup			
Principal Investigator	\$70.97	4	\$283.88
GIS Specialist	\$50.69	4	\$202.76
		subtotal	\$486.64
Fieldwork			
Principal Investigator/Senior Archaeologist	\$70.97	12	\$851.64
Field Director	\$43.57	32	\$1,394.24
Archaeological Field Tech II	\$39.54	32	\$1,265.28
		subtotal	\$3,511.16
Laboratory Analysis			
GIS Specialist	\$50.69	5	\$253.45
GIS Technician	\$37.34	16	\$597.44
Laboratory Supervisor	\$50.69	8	\$405.52
Archaeological Lab Tech II	\$39.54	24	\$948.96
		subtotal	\$2,205.37
Report Writing/Project Oversight			
Principal Investigator/Senior Archaeologist	\$70.97	40	\$2,838.80
Archaeologist II	\$56.77	40	\$2,270.80
Senior Historian	\$53.73	12	\$644.76
Historian	\$43.57	40	\$1,742.80
		subtotal	\$7,497.16
		combined subtotal	\$13,700.33
Out-of-Pocket Expenses			
Miscellaneous Supplies/Printing			\$75.00
Curation Fee (\$410/box)	\$410.00	0.25	\$102.50
		subtotal	\$177.50
		COST NOT TO EXCEED	\$13,877.83

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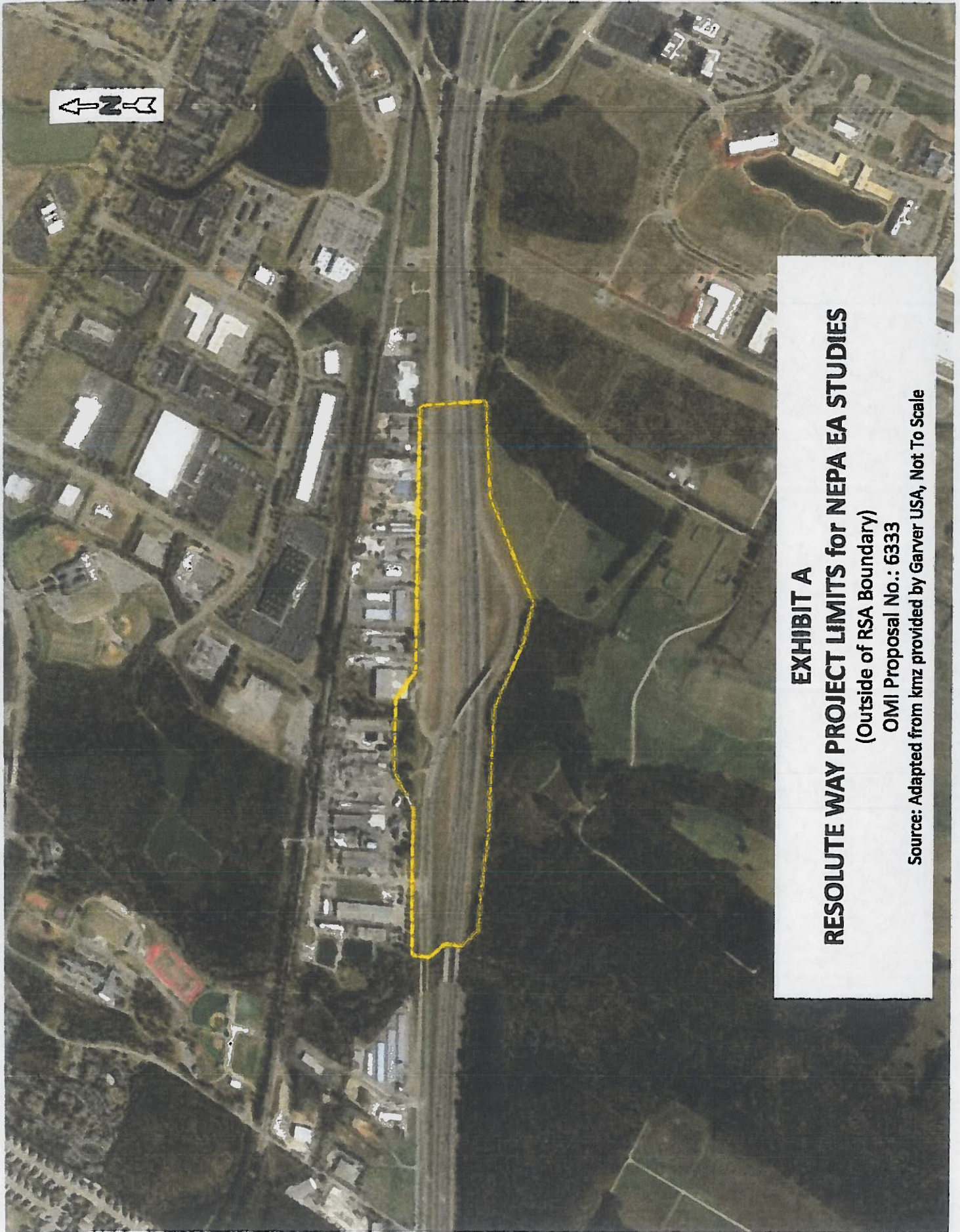


EXHIBIT A
RESOLUTE WAY PROJECT LIMITS for NEPA EA STUDIES
(Outside of RSA Boundary)
OMI Proposal No.: 6333
Source: Adapted from kmz provided by Garver USA, Not To Scale

**Statement of Work
for**

**Phase I Cultural Resources Survey
for the Resolute Way I-565 Interchange,
Huntsville, Madison County, Alabama**

28 September 2020

4.2 Draft reports must be delivered to the Redstone Arsenal CRM no later than 60 days prior to the end of the Period of Performance.

4.3 Final reports must be submitted no later than 40 days prior to the end of the Period of Performance to allow for the standard 30-day SHPO review period.

4.4 All collected material and associated records must be curated by the end of the Period of Performance.

5.0 SPECIAL CONSIDERATIONS

The following shall be considered during the performance of this contract:

5.1 Rights: All original materials, visual aids, software, and tests developed in performance of the tasks listed herein are properties of the United States and shall not be used, distributed, or published by the contractor or any contractor employee, directly or indirectly, without specific permission provided by the Redstone Arsenal CRM.

5.2 The contractor shall provide a Principal Investigator (PI) who meets the Secretary of the Interior's Professional Qualifications Standards for Archaeology and Historic Preservation.

5.2.1 The PI shall provide direct supervision to all research assistants who work on the project.

5.2.2 The PI shall maintain coordination with the Redstone Arsenal CRM. The PI will provide a list of personnel with the draft report.

5.3 Classified Material: The contractor will not encounter classified material in the course of investigations.

5.4 The contractor shall comply with safety requirements in accordance with all local, state and federal safety laws and regulations.

6.0 EQUIPMENT

6.1 The contractor shall provide all equipment necessary to perform the work.

7.0 REPORTING REQUIREMENTS

**Statement of Work
for**

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7.1 The PI shall advise the Redstone CRM when any members of the research team will be working at Redstone Arsenal and shall obtain appropriate badges and vehicle passes.

7.1.1 The PI shall consult with the Redstone CRM to coordinate access to land on test ranges or other sensitive or locked areas.

7.2 The PI shall provide the Redstone CRM with a local contact telephone number where he/she can be reached after working hours in the event unforeseen circumstances require schedule changes or other notification.

7.3 The PI shall meet weekly with the Redstone Arsenal CRM either in-face or virtually, if requested, to provide an update on the project.

7.4 Alabama State Site File forms shall be filled out for any unrecorded historic or prehistoric archaeological site located as a result of this research. The location of the site shall be recorded as well as visual observations. The Alabama State Site File form shall be completed and submitted to the Redstone CRM within two weeks of the recording of the site. The contractor will be responsible for filing the forms with the Keeper of the Alabama State Site File.

7.5 A draft report shall be prepared for review and submitted to the Redstone Arsenal CRM. The text of the various sections of the report shall be written in an organized manner and shall be grammatically correct. The content of the report shall be of professional quality. Any statements, claims made, or conclusion, drawn in the text shall be substantiated with appropriate references or other documented sources of evidence. The substance of the report shall be sufficient to meet objectives set forth in this SOW. The PI shall be responsible for editing and reading the initial draft before it is provided to the Redstone CRM.

7.5.1 The contractor shall submit a Draft Report which shall include one (1) electronic copy of the Draft Report of the investigations within eight (8) weeks following the completion of the fieldwork. Redstone CRM will review the report and, if necessary, will provide comments for revision.

7.6 The final report of investigations shall be a complete research document containing the following sections: Management Summary, Introduction, Environmental Setting, Background Research, Field and Laboratory Procedures, Results and Recommendations, Summary, and References Cited. The report shall follow the

Statement of Work
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guidelines and specifications outlined in *Policy for Archaeological Testing and Survey in Alabama* provided by the Alabama Historical Commission (AHC) (2002). All submittals shall follow the *Society for American Archaeology* (1992) style guidelines. Reports shall include site survey forms, progress reports, and artifact inventories.

7.6.1 The contractor shall submit a Final Report following completion of the revisions. One (1) electronic and four (4) paper copies of the Final Report shall be submitted within 30 calendar days of receipt of comments from the Redstone Arsenal CRM.

7.6.2 The Redstone Arsenal CRM will submit the final reports with comments to the SHPO and other appropriate stakeholders for evaluation and comments on the findings and recommendations.

7.6.3 If SHPO and stakeholders submit comments that must be addressed, complete Final Reports with original illustrations suitable for publication shall be submitted within four (4) weeks of receipt of the comments on the Final Report. The paper documents shall be accompanied by electronic copies in both Microsoft Word and Adobe pdf format.

7.7 All reports shall be forwarded to:

Environmental Management Division
(IMRE-PWE-N, Mr. Ben Hoksbergen)
U.S. Army Garrison – Redstone
4488 Martin Road, Room A-325
Redstone Arsenal, AL 35898

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1.0 BACKGROUND

1.1 Redstone Arsenal and the City of Huntsville have proposed construction of a new highway interchange on Interstate 565 in Huntsville for access to the Redstone Gateway Enhanced Use Lease (EUL) development on Redstone Arsenal. As a federal undertaking involving a federal highway and multiple federal agencies including the US Army and the Federal Highway Administration (FHWA), this action is subject to Section 106 of the National Historic Preservation Act. The US Army Garrison – Redstone Arsenal has been identified as the lead federal agency for implementation of Section 106.

1.2 The Area of Potential Effect (APE) is defined as the entire project footprint for the the proposed interchange including the actual building footprint, any proposed areas of landscape modification and grading associated with the project, construction of access roads and staging areas, borrow areas required for construction, and areas of potential ground disturbance resulting from relocation and modification of utilities, fences, and adjacent road alignments resulting from the project.

1.3 The portion of the APE located within the boundaries of Redstone Arsenal has already been subjected to multiple cultural resources surveys associated with previous federal undertakings and the installation-wide cultural resources survey. Specific surveys that include portions of the current APE are detailed in the following reports:

Alexander, Lawrence S., H. Russell Campbell, Daniel J. Minnich, and James M. Moore
1998 *Phase I Archaeological Survey of Ground Disturbance Areas 4, 5, and 7 on Redstone Arsenal, Madison County, Alabama*. Submitted to Directorate of Environmental Management and Planning, Redstone Arsenal, by Alexander Archaeological Consultants, Wildwood, Georgia.

Alexander, Lawrence S., Daniel J. Minnich, H. Russell Campbell, and William D. Stevens
1999 *Phase I Archaeological Survey of 1052 Hectares on Redstone Arsenal, Madison County, Alabama*. Submitted to Directorate of Environmental Management and Planning, Redstone Arsenal, by Alexander Archaeological Consultants, Wildwood, Georgia.

Hoksbergen, Benjamin J., and Katie Stamps
2011 *A Section 106 Assessment of Impacts to Historic Properties Resulting from the Redstone Gateway EUL Development at Redstone Arsenal, Madison County,*

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Alabama. Environmental Management Division, Garrison, Redstone Arsenal,
Alabama.

1.4 View-shed effects relevant to the project were addressed as part of the cultural resources survey for the Redstone Gateway EUL (Hoksbergen and Stamps 2011) which examined view-shed effects for all historic properties within a 1 mile radius of the EUL.

2.0 SCOPE

2.1 The contractor shall conduct a Phase I cultural resources survey of all portions of the APE that lie outside of Redstone Arsenal boundaries.

2.2 The contractor shall evaluate all archaeological sites and other historic properties within the APE based on their eligibility for listing on the National Register of Historic Places (NRHP) as delineated in Code of Federal Regulation 36CFR60.4 and National Register Bulletin 15: *How to Apply the National Register Criteria for Evaluation*. Cultural resource management recommendations shall be based on the guidelines established in Sections 106 and 110(a)(2) of the National Historic Preservation Act (NHPA).

2.3 The contractor shall detail the results of the survey and recommendations for NRHP status and management in a technical report to be provided to the lead federal agency for submission to stakeholders and regulators.

3.0 DESCRIPTION OF WORK

3.1 Conduct Literature Search and Reconnaissance Studies.

3.1.1 Literature Search. The contractor shall perform sufficient studies to determine what cultural resources are known or likely to be located within the APE and to assess the type, extent, and validity of previous cultural resources studies in or pertinent to the project area. Research will include comprehensive library and archival research; interviews with individuals knowledgeable about the history and prehistory of the area; field checks of site locations; examination of photographs and maps of historic and/or prehistoric sites within the study area; examination or reviews of photographs, professional journals, court records, maps and descriptions of private collections; obtaining copies of site forms and other primary data from national, State, and local clearinghouses, State or local museums, and other pertinent institutions; researching of deeds, probate records, census records, and other historical documents to construct a

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complete land ownership history of each site; preparation of overviews; and the preparation and production of reports summarizing the results of the literature search.

3.1.2 Reconnaissance Studies. The contractor shall perform sufficient studies to predict the number, distribution, types, affiliation, data potential, and significance of cultural resources in the project or study area. The prediction shall be based in part on the archaeological inventories of the project area and may be coupled with remote sensing and/or other specialized studies such as geomorphology, paleoclimatic reconstruction, and GIS analysis. Additional assistance which may be required to support a reconnaissance study include literature and archival research sufficient to identify patterning or lack thereof in the distribution and type of cultural resources known or expected in the project area; contacts with knowledgeable local informants; development of a work plan, research strategy, or research design to identify significant research questions and to guide the selection of areas to be surveyed; historical or ethnohistorical studies; assessment of project impacts on cultural resources, and recommendations for further investigations; and the preparation and production of reports summarizing the results of the reconnaissance study.

3.2 Conduct a Phase I cultural resources survey of the APE.

3.2.1 The contractor shall conduct Archaeological Inventory of the APE and Evaluations of Eligibility to the National Register of Historic Places (National Register) of any site found and prepare a report and effects determinations in accordance with NHPA Section 106.

3.2.2 All personnel directing the Phase I cultural resources survey, analyzing the data, and producing the report shall meet the Secretary of the Interior's Professional Qualifications Standards for Archaeology and Historic Preservation (36 CFR 61) which can be found at https://www.nps.gov/history/local-law/arch_stnds_9.htm.

3.2.3 The Phase I cultural resources survey shall be performed in accordance with the *Policy for Archaeological Survey and Testing in Alabama* (Alabama Historical Commission 2006). The contractor's research design shall be reviewed by the Redstone Cultural Resource Manager (CRM) and approved by the Alabama Historical Commission (AHC) prior to initiation of field work.

3.2.4 The fieldwork for the Phase I cultural resources survey shall comply with standard field procedures (for placement of shovel tests, creation of a site maps, documentation of the fieldwork, etc.) that are accepted as standard by professionals in the region,

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based on consultation with the Redstone (CRM) and review of archaeological site evaluation standards promoted by the State historic Preservation Officer (SHPO) of the State of Alabama. All work must conform with the Alabama Historical Commission Standards for Archaeological Investigations (Administrative Code 460-X-9 as revised in 2006).

3.2.5 All measurements shall be recorded using metric units; English system equivalents shall be recorded parenthetically. Appropriate locational data shall be recorded using sub-meter Global Positioning System (GPS) technology when possible. Pertinent resource data shall be submitted in the appropriate format. Format must adhere to the Society for American Archaeology (SAA) Style Guide.

3.2.6 The number, size and placement of shovel tests shall be based on standard methodology as defined in *Policy for Archaeological Survey and Testing in Alabama* (Alabama Historical Commission 2006). Documentation of each identified site shall include preparation of a detailed, scaled site map produced with the aid of a total station and sub-meter GPS; detailed photographs, a general description of the site, its physiographic/vegetative situation, the number and kinds of features, probable relationship among features, description of artifact assemblages, density and frequency of artifacts, integrity of deposits, potential for yielding positive chronometric, flotation, and palynological samples; and management recommendations.

3.2.7 Alternative data collection techniques including remote sensing, metal detector survey, and soil chemical analysis shall be implemented if appropriate.

3.2.8 The contractor shall, as appropriate, take field samples using accepted methodologies. Chronometric dating such as AMS and thermo-luminescence dating (TL) techniques may be used. Laboratory and analytical tasks shall include processing, cataloging and preparation of materials for curation. All collected materials are to be separated and bagged in the field by material class (e.g. ceramics, lithics, ground stone, bone, shell, etc.) and labeled according to provenience units. All special samples including botanical and faunal material shall be submitted to an appropriate expert for identification and analysis. 100% of all faunal and botanical material collected from intact deposits shall be sorted, identified, inventoried, and analyzed.

3.2.9 All materials collected shall be properly stabilized, cataloged, analyzed, and prepared for curation. Upon successful completion of the contract, all artifacts and associated documents (i.e., reports, field notes, maps, photographs, inventories, etc.) shall be prepared for permanent curation in accordance with 36 CFR 79.

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3.3 Documentation and Reporting

3.3.1 The contractor shall prepare a technical report documenting the results of the background research, fieldwork, artifact analysis, site evaluations, and recommendations. The research design used to guide and justify the fieldwork methodology shall be summarized. Specifics for report contents shall follow the *Policy for Archaeological Survey and Testing in Alabama* (Alabama Historical Commission 2006). The contractor shall complete or revise appropriate state survey forms and include these as an appendix to the technical report.

3.3.2 The report shall include the literature and file review of previous cultural resource inventory results for the APE and the surrounding area. Minimally, copies of site forms, reports, and maps held by the State Historic Preservation Office shall be consulted.

3.3.3 The contractor shall collect GPS locational data with a sub meter GPS. All spatial data shall be provided in the Universal Transverse Mercator (UTM) coordinate system, Zone 14, North American Datum of 1983. Digital spatial data shall be fully compatible with ESRI ArcGIS on a Microsoft Windows operating system. All GIS data produced as a result of the Phase I cultural resources survey must be submitted to the Redstone Arsenal CRM.

3.3.4 All artifacts collected under this contract remain the property of the US Army, and the contractor shall curate the artifacts and associated records with this stipulation. All archaeological material collected as part of this project shall be curated at the Erskine Ramsay Archaeological Repository in Moundville, Alabama along with any paperwork, maps, and photographs generated as part of this project.

3.3.5 An electronic version of the draft report shall be submitted to the Redstone Arsenal CRM for review. Upon addressing any comments from the Redstone Arsenal CRM, one (1) electronic copy and four (4) paper copies of the final report shall be submitted to the Redstone Arsenal CRM who will submit the appropriate number of copies to the SHPO and stakeholders for review and concurrence.

4.0 PERIOD OF PERFORMANCE

4.1 The Period of Performance shall be 6 months following award of contract.

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4.2 Draft reports must be delivered to the Redstone Arsenal CRM no later than 60 days prior to the end of the Period of Performance.

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5.0 SPECIAL CONSIDERATIONS

The following shall be considered during the performance of this contract:

5.1 Rights: All original materials, visual aids, software, and tests developed in performance of the tasks listed herein are properties of the United States and shall not be used, distributed, or published by the contractor or any contractor employee, directly or indirectly, without specific permission provided by the Redstone Arsenal CRM.

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5.2.1 The PI shall provide direct supervision to all research assistants who work on the project.

5.2.2 The PI shall maintain coordination with the Redstone Arsenal CRM. The PI will provide a list of personnel with the draft report.

5.3 Classified Material: The contractor will not encounter classified material in the course of investigations.

5.4 The contractor shall comply with safety requirements in accordance with all local, state and federal safety laws and regulations.

6.0 EQUIPMENT

6.1 The contractor shall provide all equipment necessary to perform the work.

7.0 REPORTING REQUIREMENTS

**Statement of Work
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28 September 2020

7.1 The PI shall advise the Redstone CRM when any members of the research team will be working at Redstone Arsenal and shall obtain appropriate badges and vehicle passes.

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7.3 The PI shall meet weekly with the Redstone Arsenal CRM either in-face or virtually, if requested, to provide an update on the project.

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7.5 A draft report shall be prepared for review and submitted to the Redstone Arsenal CRM. The text of the various sections of the report shall be written in an organized manner and shall be grammatically correct. The content of the report shall be of professional quality. Any statements, claims made, or conclusion, drawn in the text shall be substantiated with appropriate references or other documented sources of evidence. The substance of the report shall be sufficient to meet objectives set forth in this SOW. The PI shall be responsible for editing and reading the initial draft before it is provided to the Redstone CRM.

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7.6 The final report of investigations shall be a complete research document containing the following sections: Management Summary, Introduction, Environmental Setting, Background Research, Field and Laboratory Procedures, Results and Recommendations, Summary, and References Cited. The report shall follow the

**Statement of Work
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guidelines and specifications outlined in *Policy for Archaeological Testing and Survey in Alabama* provided by the Alabama Historical Commission (AHC) (2002). All submittals shall follow the *Society for American Archaeology* (1992) style guidelines. Reports shall include site survey forms, progress reports, and artifact inventories.

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7.6.3 If SHPO and stakeholders submit comments that must be addressed, complete Final Reports with original illustrations suitable for publication shall be submitted within four (4) weeks of receipt of the comments on the Final Report. The paper documents shall be accompanied by electronic copies in both Microsoft Word and Adobe pdf format.

7.7 All reports shall be forwarded to:

Environmental Management Division
(IMRE-PWE-N, Mr. Ben Hoksbergen)
U.S. Army Garrison – Redstone
4488 Martin Road, Room A-325
Redstone Arsenal, AL 35898

ATTACHMENT 2 - ALABAMA IMMIGRATION ACT - REPORT OF OWNERSHIP FORM

CITY OF HUNTSVILLE, ALABAMA REPORT OF OWNERSHIP FORM

A. General Information. Please provide the following information:

- ☒ Legal name(s) (Include "doing business as", if applicable): OMI, Inc.
- ☒ City of Huntsville current taxpayer identification number (if available): 155770
(Please note that if this number has been assigned by the City and if you are renewing your business license, the number should be listed on the renewal form.)

B. Type of Ownership. Please complete the un-shaded portions of the following chart by checking the appropriate box below and entering the appropriate Entity I.D. Number, if applicable (for an explanation of what an entity number is, please see paragraph C below):

Type of Ownership (check appropriate box)	Entity I.D. Number (Alabama State)
<input type="checkbox"/> Individual or Sole Proprietorship	
<input type="checkbox"/> General Partnership	
<input type="checkbox"/> Limited Partnership (LP)	Number & State:
<input type="checkbox"/> Limited Liability Partnership (LLP)	Number & State:
<input type="checkbox"/> Limited Liability Company (LLC) (Single Member)	Number & State:
<input type="checkbox"/> LLC (Multi-Member)	Number & State:
<input checked="" type="checkbox"/> Corporation	Number & State: <u>63-1138946</u> <u>AL</u>
<input type="checkbox"/> Other, please explain:	Number & State (if a filing entity under state law):

C. Entity I.D. Numbers. If an Entity I.D. Number is required and if the business entity is registered in this state, the number is available through the website of Alabama's Secretary of State at: www.sos.state.al.us/, under "Government Records". If a foreign entity is not registered in this state please provide the Entity I.D. number (or other similar number by whatever named called) assigned by the state of formation along with the name of the state.

D. Formation Documents. Please note that, with regard to entities, the entity's formation documents, including articles or certificates of incorporation, organization, or other applicable formation documents, as recorded in the probate records of the applicable county and state of formation, are not required unless: (1) specifically requested by the City, or (2) an Entity I.D. Number is required and one has not been assigned or provided.

Please date and sign this form in the space provided below and either write legibly or type your name under your signature. If you are signing on behalf of an entity please insert your title as well.

Signature: [Signature] Title (if applicable): _____
Type or legibly write name: _____ Date: _____

ATTACHMENT 3
CITY OF HUNTSVILLE STANDARDS AND DESIGN GUIDES

1. City of Huntsville Standard Specifications for Construction of Public Improvements, Contract Projects, 1991.
2. City of Huntsville Engineering Standards, 1991.
3. City of Huntsville Design and Acceptance Manual for Force Mains and Pump Stations, 2011.
4. City of Huntsville Design and Acceptance Manual for Sanitary Sewers, 2011.
5. Alabama Department of Transportation Standard Specifications for Highway Construction, Current Edition.
6. City of Huntsville Subdivision Regulations, 1991.

ATTACHMENT 4
DESIGN REVIEWS

N/A

ATTACHMENT 5 - ENGINEERS PERSONNEL FEE SCHEDULE

OMI, Inc.

CONSTRUCTION MATERIALS TESTING 2021 CITY OF HUNTSVILLE - STANDARD FEE SCHEDULE

<u>Environmental Services</u>	Cost	Unit
NPDES Permit Application, per site	\$1,525.00	each
Prepare eNOI	\$500.00	each
NPDES Monthly Monitoring Service, per inspection (less than 30 miles from OMI)	\$190.00	each
NPDES Monthly Monitoring Service, per inspection (more than 30 miles from OMI)	\$240.00	each
NPDES Priority Site, Monthly Monitoring Service, per inspection	\$270.00	each
Priority Site, Stormwater Turbidity Sampling/Testing, per sample	\$50.00	each
NPDES Permit Final Report and Termination/Close-out	\$400.00	each
CBMPP, Design and Application of CBMPP, Includes eNOI	\$1,900.00	
 <u>Concrete (in addition to hourly rates)</u>		
Concrete cylinders; sample, cast, pick-up, cure, test & report	\$21.00	each
Grout cubes (ASTM C-1019), per set of 4	\$210.00	set
Mortar cubes (ASTM C-780), per set of 6	\$230.00	set
Slump Test	\$26.00	each
Pressure Air test	\$30.00	each
Unit weight test	\$36.00	each
Concrete cores, diamond bit rental, per day	\$52.50	day
Concrete cores, compressive strength. cure, prepare, test & report	\$36.75	each
Concrete Equipment Rental	\$47.25	day
 <u>Miscellaneous (in addition to hourly rates)</u>		
Proof Roll, (soil and base stone)	\$110.00	each
Footing Inspection, (test for bearing capacity)	\$110.00	each
Rebar Inspection, (reinforcing steel)	\$120.00	each
Bolt inspection -OR- Visual weld inspection of structural steel (accessible with scissor lift, ladder, or existing scaffolding)	\$250.00	each
Bolt torque wrench rental	\$42.00	day
Concrete coring machine and equipment rental	\$84.00	day
Electric generator rental	\$63.00	day
Spray Applied Fireproofing - Thickness Test	\$55.00	each
Spray Applied Fireproofing - Density Test (Includes filed sample collection)	\$80.00	each

Rates are portal to portal.

ATTACHMENT 6 - PROGRESS REPORT
(Article 8)

PROGRESS REPORT NO. _____ FOR MONTH AND YEAR _____

PROJECT _____ PROJECT NO. _____

DATE _____ CITY'S PROJECT ENGINEER _____

CONSULTANT _____ CONSULTANT'S PROJ. MAN. _____

CURRENT MONTH % COMPLETE: _____ PREV. MONTH % COMPLETE: _____

ATTACH A "SHOULD HAVE STARTED TASKS REPORT" AND A "SLIPPING TASKS REPORT" FROM MICROSOFT PROJECTS THAT LISTS ALL ACTIVITY THAT IS BEHIND SCHEDULE.

ATTACH A "TASKS STARTING SOON" REPORT FROM MICROSOFT PROJECTS WITH A DATE RANGE OF THIRTY (30) DAYS AFTER THE DATE OF THIS PROGRESS REPORT.

STATE WHAT ACTION IS BEING TAKEN TO BRING PROJECT BACK TO SCHEDULE:

MILESTONE SUBMITTALS	SCHEDULED DATE	ACTUAL DATE
30%	_____	_____
60%	_____	_____
90%	_____	_____
100%	_____	_____
"FINAL" INVOICE SUBMITTED		_____
SUBCONSULTANTS PAID IN FULL		_____
CONTRACTED COMPLETION DATE:	June 25, 2022	_____

(These scheduled dates shall be agreed upon at the beginning of the project (Attachment 4) with the Project Engineer and noted monthly on each progress report. The scheduled contract completion date shall not be changed except by contract change order. Changes to the scheduled milestone submittal dates shall be accompanied by a new project schedule approved by the OWNER'S Project Engineer.)

UPDATED SCHEDULE ATTACHED? _____ YES _____ NO

*If yes, send an electronic copy to the Project engineer

COMMENTS:

This progress report (4 copies) shall be submitted monthly. Scheduled completion dates will not be extended without a contract modification.

CERTIFICATION: I certify that the stated information is true and accurate to the best of my knowledge.

CONSULTANT _____	DATE _____	CITY PROJECT ENGINEER _____	DATE _____
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ATTACHMENT 7 - SUB CONSULTANTS ENGAGED BY THE ENGINEER
(Article 9.2)

CONSULTANT NAME AND ADDRESS	DESCRIPTION OF SERVICES	FEE
Tennessee Valley Archaeological Research 2119 Metro Circle, Suite B Huntsville, AL 35801	Cultural Resources Survey	\$13,877.83
	SUB-TOTAL	\$13,877.83
	5% Administrative Fee	\$693.89
	TOTAL	\$14,571.72

ATTACHMENT 8 - CONTRACT DOCUMENT REQUIREMENTS LIST

REQUIREMENT	SUBMIT TO	SUBMITTAL REQUIREMENT DATE	NUMBER OF COPIES	REFERENCE SECTION OF CONTRACT AND COMMENTS
Deviations from OWNER's standards.	OWNER	Prior to incorporating deviations.	2	Article 2.5
Products or materials specified by the ENGINEER that are available from only one source.	OWNER	Prior to 100% submittal.	2	Article 2.2
Approval of contractor's Request for Payment.	OWNER	Within ten (10) days of receipt of the request from the contractor.	N/A	Article 3.4
Approval of contractor submittals	OWNER	So as to cause no delay to the contractor or the PROJECT.	N/A	Article 3.8
Change order changes that reduce construction requirements.	OWNER	Prior to authorizing a change.	N/A	Article 3.11
Any information pertaining to any claim.	OWNER	Immediately	2	Article 3.12
Information pertinent to the PROJECT, all criteria and full information as to OWNER's requirements, copies of all design and construction standards.	ENGINEER	So as to not delay the services of the ENGINEER.	2	Article 5.1, 5.2
Notification of delays.	ENGINEER; OWNER	Promptly	4	Article 6.1
ENGINEER's monthly invoices.	OWNER	Monthly	4	Article 8.1.1
Consultant progress report.	OWNER	Monthly	4	Article 8.1.1
Records, data, parameters, design calculations and other information.	OWNER	Cancellation of contract.	2	Article 9.7
Documentation, records of reimbursable expenses, record copies of all written communications, and any memoranda of verbal communications related to the PROJECT.	OWNER	Upon notice from the OWNER.	2	Article 9.4

Termination notification.	OWNER or ENGINEER	7 days prior to termination.	2	Article 9.10 & 9.11
Certificate of Insurance for ENGINEER.	OWNER	At 0% design conference	1	Article 10.2(B), 10.6, and attachment 4.
Insurance cancellation, suspension, or reduction in coverage or limits.	OWNER	30 days prior to effective date except for cancellation which is 10 days notification.	1	Article 10.4(A)
Certificate of insurance for sub consultants/subcontractors.	OWNER	At 0% design conference.	1	Article 10.7
A schedule in Microsoft Projects format showing the critical path.	Project Engineer	Within 7 calendar days of Pre-design conference, 30% complete design review. 60% design review. Attachment 4	1 hard; 1 digital	Attachment 4
Drawings.	Project Engineer	30% complete design review, 60% design review, 90% review, and 100% complete.	3	Attachment 4
Cost estimate.	Project Engineer	30% complete design review, 60% review, 90% review, and 100% complete.	3	Attachment 4
Hydraulic reports.	Project Engineer	60% design review.	N/A	Attachment 4
Preliminary plans for utilities.	Project Engineer	60% design review.	N/A	Attachment 4
Legal descriptions for takings.	Project Engineer	60% design review, 90% review, 100% complete.	N/A	Attachment 4
Traffic Control plan.	Project Engineer	60% design review.	N/A	Attachment 4
Results of geotechnical investigations.	Project Engineer	30% design review.	2	Attachment 4
Technical specifications.	Project Engineer	90% review, 100% complete.	N/A	Attachment 4
Relocation of Utilities	Project Engineer	0% review-list of all utilities that need to be contacted 60% review – from all affected parties 90% review – Signed Acceptance Utility Project Notification Form	2	Attachment 4, 10
Design Calculations	Project Engineer	90% review, 100% complete	1	Attachment 4
Digital copy of drawings.	Project Engineer	100% complete.	1	Attachment 4
Digital text files.	Project Engineer	100% complete.	1	Attachment 4
Bid Quantities.	Project Engineer	100% complete.	N/A	Attachment 4
Permits and Permit Applications	Project Engineer	100% complete.	1	Attachment 4

Field notes.	Project Engineer	100% complete.	1	Attachment 4
Digital aerial photography.	Project Engineer	100% complete.	1	Attachment 4
Progress Report (Art. 8)	Project Engineer	30% complete design review, 60% design review, 90% design review, 100% completion stage.	4 hard; 1 digital monthly	Attachment 6

ATTACHMENT 9 - REQUIREMENTS FOR DOCUMENT SUBMITTALS

DRAWINGS

All drawings shall be sized 24" x 36", unless otherwise approved by the OWNERS Project Engineer.

Title blocks shall as a minimum, contain the name of the project, date, city project number, and ENGINEER's name. The title block of drawings shall contain a space for the names of the preparer and the reviewer and/or checker. These blocks shall be signed on each submittal (See Attachment "11" for sample standard drawing format). Drawings shall contain alphanumeric revision designations. Drawings issued for review shall be issued with alpha revision designation and the revision letter shall be changed for each submittal containing drawing changes. Drawings issued for construction shall be issued with numeric designation at revision level "0" and described as "Issued for Construction" in the revision description block. Subsequent drawing changes require the revision level to be raised using successively higher numbers and the changes to be marked by circling and briefly described in a revision block.

All drawings shall be prepared in Micro station .DGN format, unless otherwise approved by the OWNERS Project Engineer. Transmittal letters shall consist of a list of files being submitted, a description of the data in each file, and a level/layer schematic of each design file. DGN design files shall have working units as follows: master units in feet, no sub-units, and 1,000 positional units. All data submitted shall use NAD 1983 Alabama East Zone horizontal datum and NAVD 88 vertical datum coordinates.

Unless otherwise specified by the Owners Project Engineer, all drawings for review submittals shall be full or half-size copies. All documents shall be clearly marked in a revision block indicating the applicable submittal milestone, i.e. 30%, 60%, 90%, etc.

OTHER DOCUMENTS

Submittals required by the State of Alabama for their review, bidding, etc., shall be of the size, form and numbers of copies as the state may require even though such submittals may differ from the submittals set forth as being required elsewhere in this Agreement.

Digital files shall be submitted by 4-3/4" CD ROM, DVD, 3 and 1/2 inch floppy disk, flash drive, or to the City of Huntsville F.T.P. site.

All print copies shall be first generation copies.

All text documents shall be prepared in Microsoft Word 2010 format.

All spreadsheets shall be in Microsoft Excel 2010 format.

All PDF files shall be searchable.

Schedules shall be in Microsoft Projects format, unless otherwise approved by the OWNERS Project Engineer.

Aerial photography files shall be in Intergraph (.COT) or (.tiff) format.

All mapping shall meet National Map Accuracy Standards unless otherwise noted. If National Map Accuracy Standards are not met, the accuracy of the map shall be identified to the Owners Project Engineer and on the maps derived from the aerial survey. National Map Accuracy Standards are shown below. This and other map standards are shown in Department of the Army, US Army Corps of Engineers standard, "EM 1110-1-1000, Engineering and Design - Photogrammetric Mapping".

All final drawings, specifications, plans, calculations, letters containing Engineering or Surveying recommendations or other Engineering or Land Surveying papers or documents involving the practice of engineering or land surveying as defined by Code of Alabama, Title 34, Chapter 11 shall be sealed, dated, and bear the signature of the person who prepared or approved them.

Working drawings or other documents shall contain a statement to the effect
"Preliminary-Not for construction, recording purposes or implementation."

ATTACHMENT 10 – UTILITY PROJECT NOTIFICATION FORM

NAME: _____
(Company Name)

PROJECT NAME: _____ PROJECT NUMBER: _____

CONSULTING ENGINEER: _____
(Name)

ENGINEERING
REPRESENTATIVE _____ PHONE: _____

I have reviewed design drawings or other information as available, and:

DO _____

DO NOT _____

have facilities that will require relocation. If relocation is required, a construction duration of _____ calendar days from the Notice to Proceed, is anticipated to be required for relocation.

LIST NAME(S) OF OTHER UTILITY(S) that share poles or facilities that have to be relocated prior to YOU starting your work:

NAME OF UTILITY: _____

NAME OF UTILITY: _____

NAME OF UTILITY: _____

OTHER: _____


COMMENTS: _____

BY: _____
AUTHORIZED REPRESENTATIVE

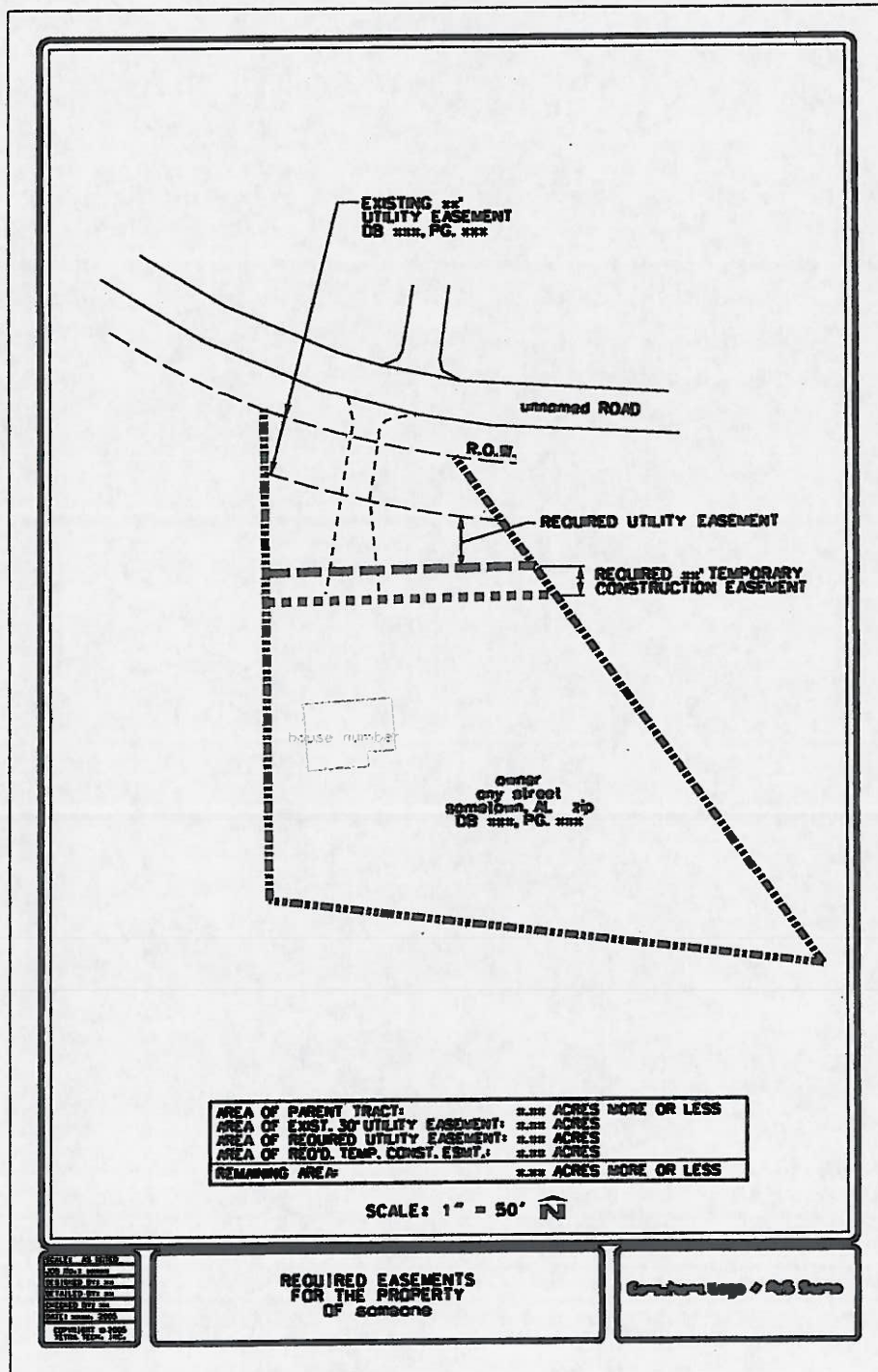
FIELD CONTACT PERSON: _____ PHONE: _____
OFFICE CONTACT PERSON: _____ PHONE: _____

DATE: _____

ATTACHMENT 11

<p style="text-align: center;">CONSTRUCTION PLANS FOR PROJECT NAME PROJECT INFORMATION FOR THE CITY OF HUNTSVILLE HUNTSVILLE, ALABAMA (PROJECT NO. XXXXXXXXX)</p>	<p style="text-align: center;">SAMPLE STANDARD DRAWING FORMAT</p>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  </div> <div style="width: 50%; text-align: right;"> <p>HUNTSVILLE The Star of Alabama</p> </div> </div> <div style="text-align: right; margin-top: 10px;"> <p>INDEX OF DRAWINGS</p> <table border="1" style="margin-left: auto; margin-right: 0;"> <thead> <tr> <th style="width: 10%;">SHEET NO.</th> <th style="width: 90%;">TITLE</th> </tr> </thead> <tbody> <tr><td>1</td><td></td></tr> <tr><td>2</td><td></td></tr> <tr><td>3</td><td></td></tr> <tr><td>4</td><td></td></tr> <tr><td>5</td><td></td></tr> <tr><td>6</td><td></td></tr> <tr><td>7</td><td></td></tr> <tr><td>8</td><td></td></tr> <tr><td>9</td><td></td></tr> <tr><td>10</td><td></td></tr> <tr><td>11</td><td></td></tr> <tr><td>12</td><td></td></tr> <tr><td>13</td><td></td></tr> <tr><td>14</td><td></td></tr> <tr><td>15</td><td></td></tr> <tr><td>16</td><td></td></tr> <tr><td>17</td><td></td></tr> <tr><td>18</td><td></td></tr> <tr><td>19</td><td></td></tr> <tr><td>20</td><td></td></tr> </tbody> </table> </div>	SHEET NO.	TITLE	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20	
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ATTACHMENT 12
SAMPLE



ATTACHMENT 13

United States National Map Accuracy Standards

With a view to the utmost economy and expedition in producing maps which fulfill not only the broad needs for standard or principal maps, but also the reasonable particular needs of individual agencies, standards of accuracy for published maps are defined as follows:

1. **Horizontal accuracy.** *For maps on publication scales larger than 1:20,000, not more than 10 percent of the points tested shall be in error by more than 1/30 inch, measured on the publication scale; for maps on publication scales of 1:20,000 or smaller, 1/50 inch. These limits of accuracy shall apply in all cases to positions of well-defined points only. Well-defined points are those that are easily visible or recoverable on the ground, such as the following: monuments or markers, such as bench marks, property boundary monuments; intersections of roads, railroads, etc.; corners of large buildings or structures (or center points of small buildings); etc. In general what is well defined will be determined by what is plottable on the scale of the map within 1/100 inch. Thus while the intersection of two road or property lines meeting at right angles would come within a sensible interpretation, identification of the intersection of such lines meeting at an acute angle would obviously not be practicable within 1/100 inch. Similarly, features not identifiable upon the ground within close limits are not to be considered as test points within the limits quoted, even though their positions may be scaled closely upon the map. In this class would come timber lines, soil boundaries, etc.*
2. **Vertical accuracy,** *as applied to contour maps on all publication scales, shall be such that not more than 10 percent of the elevations tested shall be in error more than one-half the contour interval. In checking elevations taken from the map, the apparent vertical error may be decreased by assuming a horizontal displacement within the permissible horizontal error for a map of that scale.*
3. **The accuracy of any map may be tested** *by comparing the positions of points whose locations or elevations are shown upon it with corresponding positions as determined by surveys of a higher accuracy. Tests shall be made by the producing agency, which shall also determine which of its maps are to be tested, and the extent of the testing.*
4. **Published maps meeting these accuracy requirements** *shall note this fact on their legends, as follows: "This map complies with National Map accuracy Standards."*
5. **Published maps whose errors exceed those aforesaid** *shall omit from their legends all mention of standard accuracy.*
6. **When a published map is a considerable enlargement** *of a map drawing (manuscript) or of a published map, that fact shall be stated in the legend. For example, "This map is an enlargement of a 1:20,000-scale map drawing," or "This map is an enlargement of a 1:24,000-scale published map."*
7. **To facilitate ready interchange and use of basic information for map construction** *among all Federal mapmaking agencies, manuscript maps and published maps, wherever economically feasible and consistent with the uses to which the map is to be put, shall conform to latitude and longitude boundaries, being 15 minutes of latitude and longitude, or 7.5 minutes, or 3-3/4 minutes in size.*

U.S. BUREAU OF THE BUDGET

ATTACHMENT 14**ENGINEERING DEPARTMENT - REAL ESTATE DIVISION
PLAN REQUIREMENTS****DRAWINGS:****Individual Parcels**

- Each individual parcel 8 ½" x 14" (dgn or dxf format)
- Show Calculations
 - Before
 - After
 - Taking
- *All Parcels shall be closed shapes (polygons).*
- Show Existing and Proposed Right-of-Way on each individual parcel map.
- Property Ownership

Overall Project Land Acquisition Maps

- Total project drawing in dgn or dxf format
- Indicate the following:
 - Stationing on Centerline
 - Existing Right-of-Way
 - Proposed Right-of-Way
 - Existing Easements
 - Proposed Easements
 - Existing Pavement
 - Proposed Pavement/Sidewalks/Structures
 - Existing Structures
 - Property Ownership

Color Standards

<u>Description</u>	<u>Color</u>	<u>Line Style</u>	<u>Type</u>	(SAMPLE)
Existing ROW	Red	Medium Dashed		
Proposed ROW	Red	Solid	Closed Polygon	
Existing Easements	Orange	Medium Dashed		
Proposed Easements	Orange	Solid	Closed Polygon	
TCE	Pink	Solid	Closed Polygon	

DESCRIPTIONS:

- Microsoft Word on 3.5" Diskette or CD
- Each Description shall be complete and independent (separate file).
- Hard Copies signed and stamped by PLS.

GENERAL:

- P.K. Nails or other permanent stationing markings shall be required.
- Re-staking of right-of-way or easements may be required (See Article 4).
- All survey plats to be on Alabama State Plane Datum. Strip Maps shall indicate at least 2 monuments in place with Alabama State Plane Coordinate values shown on each.

- Parcel plats and legal descriptions shall indicate the Alabama State Plane Coordinate NAD83 Alabama East Zone Value of the point of beginning.

ATTACHMENT 15 - GIS BASE MAP

DESIGN LEVEL	CONTENTS	LINE CODE	COLOR	WEIGHT	TEXT SIZE	FONT	CELL NAME
1	State Plane Coordinate Grid	0	0	0	20	0	
2	Benchmarks	0	0	0			
3	Private Street Text	0	105	0	20	0	
3	Street Text	0	3	0	20 (or 18)	0	
4	Street R/W	7	0	0			
5	Street Centerline	7	0	0			
6	Street Pavement	0	3	0			
6	Proposed Street Pavement	3	16	0			
6	Private Streets	0	105	0			
6	Proposed Private Road	3	105	0			
7	Parking Lots	1	3	1			
7	Private Lots used as Roads	1	105	1			
8	Secondary Roads--Private	2	105	0			
8	Secondary Roads	2	3	0			
8	Trails	3	3	0			
9	Secondary Roads/Trails Text	0	3	0	20	0	
10	Sidewalks	5	3	0			
11	Bridges/Culverts/Paved Ditches	0	0	0			
12	Hydrology - Major	6	1	0			
12	Hydrology -- Minor, Ditches	7	1	0			
13	Hydrology - Text	0	1	0	25	23	
14	Tailings & Quarries, Athletic Fields/Text, misc. areas	0	1	0			
15	Greenways	3	48	0			
16	Speed Tables	0	3	0			TCALM
17	Railroad Tracks (Patterned)	0	2	0			RR
18	Railroad Text	0	2	0	25	0	
19	Railroad R/W	2	2	0			
20	Utility Poles (Cell)	0	5	0			P POLE
21	Utility Easements	3	5	0			
22	Utility Text	0	5	1			
23	Geographic Names	0	3	1			
24	Building Structures	0	0	0			
24	Pools and Text	0	1	0	10	1	
24	Future Site of Structures	2	0	0			STRUCT
24	Existing Structures (exact location and shape unknown)	2	0	0			STRCEX
25	Property Lines/ refuge bdy.	6	6	1	30	1	
26	Cadastral Polygons	6	6	0			
27	Ownership Text	0	6	1			
28	Cemeteries/Text	4	6	0	10	1	
29	Lot Numbers				25	0	
30	Block Numbers				30	0	
31	Addition Names	0	0	0	35	0	
32	Open						
33	Lot Ticks						
34	Lot Lines/Property Lines	6	6	0			
35	Trees/Hedge Rows	0	6	0	AS=1		TREES
36	GPS Monuments	0	5	0	18	23	CONTRL
37	2' Topo Contour						
38	5' Topo Contour	0	7	0			

39	25' Major Topo Contour	0	7	0			
40	X Spot Elevation	0	7	0			
41	FEMA Monuments/Labels	0	3/0	0	18	1	FEMA
42	Quarter Sections						
43	Section Lines	0	5	0			
44	Features	0	2	0			
44	Cell Towers	0	12	0	AS=1		CELTWR
45	Fences (Pattern)	0	8	0	AS=1		FENCE
46	Format/Legend	0	0	0			Limleg Madleg
47	Mass Points	0	7	2			
48	Break Lines	0	7	2			
49	Open						
50	Billboards	0	37	1			BBOARD
51	Sanitary Sewer	0		3			
52	Sanitary Sewer Text						
53	Storm Water Features	0		3			
54	Storm Water Text						
55	Open						
56	Property Address	0	1	0			
57	Text Tag for Buildings	0	1	0	10-20	1	
58	One Way Arrows	1	3	1			
59	Open						
60	Open						
61	Open						
62	Monuments for Setup (point cell)						
63	Open						