

Appendix I.
Scope of Work



JOHN MILNER ASSOCIATES, INC.

Restoration & Rehabilitation • Preservation Planning • Archeological & Historical Research • Cultural Landscapes • Materials Conservation

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FED EX DELIVERY

November 21, 2003

Rummel, Klepper & Kahl, LLP
81 Mosher Street
Baltimore, MD 21217

ASSOCIATES

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Attn: Thomas Heil

**Re: Revised Professional Services Proposal
Supplemental Cultural Resources Services
US 113 North/South Study (Milford Area)
Kent and Sussex Counties, Delaware**

Dear Tom:

John Milner Associates, Inc. (JMA) is pleased to submit this Supplemental Professional Services Proposal for the referenced project. The purpose of the proposed services is to further assist the Federal Highway Administration (FHWA) and the Delaware Department of Transportation (DeIDOT) in meeting their Section 106 compliance responsibilities. The Scope of Services was developed in consultation with Rummel, Klepper & Kahl (RK&K), DeIDOT, and the State Historic Preservation Office (SHPO).

SCOPE OF SERVICES

JMA proposes to undertake five (5) tasks as part of the Scope of Work, as follows: 1) Development of Archeological Sensitivity Models for Prehistoric and Historic Sites; 2) Field Reconnaissance; 3) Context Development and National Register evaluations for selected properties; 4) Public Engagement Initiatives; and 5) Project Management and Project Meetings. Each will be described below.

Development of Archeological Sensitivity Models for Prehistoric and Historic Sites

Geographical Information Systems (GIS) spatial analysis related to environmental variables and known historic and prehistoric archeological sites within the US 113 study area will be a useful tool in site location prediction. The use of predictive models is popular due to the cost effectiveness of being able to compute high probability areas for the identification of both unidentified historic and prehistoric archeological sites within a project area. The ultimate goal of this predictive model is to isolate archeologically sensitive zones within the US 113 Milford Project Area that can be used as a tool in further planning within the project. A result of this predictive model may be a determination that when high probability zones are designated, alternative options can be relocated or reengineered to avoid impact of potential archaeological sites. The overall

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West Chester, PA Philadelphia, PA Alexandria, VA Charlottesville, VA Croton-on-Hudson, NY Louisville, KY

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outcome of the production of these archeological sensitivity maps is the potential for a decrease in archaeological mitigation costs, resulting avoidance and continued preservation of cultural resources within the Milford Project Area.

A fundamental data base to be used for this predictive model has already been created based on existing documentation available at the Delaware SHPO during earlier phases of this project. Within the initial 5-mile by approximately 41-mile study area, attribute data was collected for 3480 individual Cultural Resource Properties (CRS). These CRS points were digitized in ArcGIS from mosaics of the 1964 orthophotographs for the 5-mile by approximately 41-mile area associated with US Route 113 in Delaware.

For prehistoric site sensitivity, the primary data sets that will be incorporated into this predictive model are surface water, groundwater, known archeological site locations, archeological site temporal designations, wetlands, soils, site facing, and others as determined. Prehistoric sensitivity models previously developed by archeologists working in Delaware will be reviewed.

In addition to the environmental variables listed above for prehistoric site sensitivity, historic site sensitivity will also rely on published historic maps and atlases (the 1859 Byles' *Map of Kent County*, and the 1868 Beers' *Atlas of the State of Delaware*), as well as aerial photographs. Additional historic sources consisting of manuscript road papers and other land plats will be included in the sensitivity research in order to account for historic sites that pre-date the mid-nineteenth century. Repositories likely to be visited include the Delaware Public Archives, Sussex County Deed Office, the Historical Society of Delaware, and the Historical Society of Pennsylvania.

Upon completion of collecting and checking the GIS layers and data, ArcGIS (ArcView 8.3) and the Spatial Analyst Extension will be used to construct a model that identifies the environmental factors that highly correlate to known archeological sites within the study area. This model will then be used to identify areas where the ideal set of environmental indicators identified in the model is present within the project area. The areas with this ideal set will be designated as having high probability for archeological sites. As environmental indicators decline in abundance, the level of sensitivity will also decline. A map of sensitivity will be created in ArcGIS and in paper format.

Field Reconnaissance

JMA proposes to conduct field reconnaissance activities to determine the presence or absence of cultural resources already addressed in the Route 113 GIS inventory, as well as other cultural resources not previously identified and recorded in the GIS inventory. This task will consist of 1) a windshield survey of existing (i.e., previously recorded resources in the GIS inventory) and potential architectural resources within the designated project area; and 2) limited archeological field checking focused at specific locations (such as stream crossings, high probability areas, low probability areas, cross roads) as defined by the project team.

As proposed by JMA field reconnaissance is not a systematic field investigation of entire alternatives, only field observation to determine presence/absence. Specific archeological methods to be employed during the field reconnaissance will be determined at the time of the investigation, but will likely consist of a combination of surface reconnaissance, shovel testing, and remote sensing.

Context Development and National Register Evaluations for Selected Properties

National Register evaluations will be prepared for properties adjacent to Route 113 in the Milford project area. Under terms of this proposal JMA anticipates that context development and National Register evaluations will be prepared for up to 10 architectural properties adjoining Route 113 for which Determinations of Eligibility have not previously been completed. Using the guidelines for the preparation of National Register nominations, statements of significance, issues of context and integrity, and reviews of the existing data will be included in the National Register evaluations. Existing historic contexts will be used wherever applicable, and this proposal also includes budgeting for the possible development of new historic contexts. The National Register evaluations will be fully illustrated, including maps, drawings, and photographs. The National Register evaluations data will address the issues in relation to the state cultural resources management documents and historic contexts.

Public Engagement Initiatives

Public Engagement Initiatives are anticipated to be multi-directional and adaptable to existing contingencies as well as future developments. JMA proposes that these Initiatives will include the development of a project Cultural Resources brochure specific to the Milford Project Area, attendance at public meetings and workshops, and the development of public engagement protocols that will guide future work in the project area. Each item is briefly described below.

At this stage of the project, JMA proposes to develop and produce a brochure describing the planning study and the role that cultural resources plays in the highway planning process. The brochure will be composed of an 8 ½ by 11-inch tri-fold page. The brochure will include copies of photographs and historic maps, and a brief written description of the salient points of historical development in the project area. The text will be written in a readable style, similar to other DelDOT public information brochures.

Public Engagement will also include interaction with the public at various events and activities as dictated by the project team. For purposes of this proposal, JMA has included the budgetary considerations for attendance at nine public presentations.

JMA proposes to aid in the development of public engagement protocols that will guide future work in the project areas. These protocols should be developed in consultation with DelDOT project personnel and other members of the project team, and would seek

to provide consistent and regular information to the public regarding historic preservation, cultural resources, and the role of DelDOT in recordation, evaluation, and treatment. Consultation with Native Americans and Federally recognized tribes is assumed as part of these protocols.

Project Management and Project Meetings

Under the terms of this proposal, JMA personnel (1x) will attend thirteen project team meetings, and nine Section 106 Consultation Meetings (2x JMA personnel).

Deliverables

Project deliverables will include an Executive Summary of the Sensitivity Models with Results/Recommendations for the Milford project area, National Register evaluations for the Milford area (for properties adjacent to Route 113), and supporting GIS electronic sensitivity modeling data.

The Executive Summary will present the goals, methods, and results of the project, and the National Register evaluations will be prepared in accordance with SHPO guidelines. Brief descriptions of the National Register evaluations will be included in the text of the report, and the evaluations will be attached as appendices. The summary will be illustrated, including maps, drawings, and photographs. After review of the draft by RK&K, DelDOT and the SHPO, the Executive Summary will be revised accordingly and produced in a final version. Under the terms of this proposal three (3) review copies of the draft summary will be delivered to RK&K. Upon approval of the final summary, JMA will provide three (6) bound copies, and one (1) unbound copy, all with original photographs, to RK&K and DelDOT, and one (1) bound copy to the SHPO.

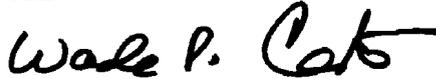
SCHEDULE

John Milner Associates maintains a solid reputation for the timeliness and quality of our services, and will conduct the services described above in an efficient manner. JMA understands that tasks associated with the Milford Project Area are tentatively scheduled to begin in December 2003 and be completed by September 2004. Sensitivity modeling will utilize include all of the CRS points entered within the GIS, and will not be limited to the discrete project areas. Development of alignment alternatives in the Milford Project Area will be conducted concurrently with the development of sensitivity models.

I trust that the Services, Schedule, Personnel, and Compensation and Terms outlined in this Professional Services Proposal are responsive to your needs. JMA emphasizes professionalism, expertise, and timeliness in our services to provide exceptional value to our clients. If you find this Proposal acceptable, please sign one copy and return it to my attention. The other copy is for your files. Should you have any questions or wish to discuss the project further, please do not hesitate to contact me at our West Chester office (610-436-9000).

Sincerely,

JOHN MILNER ASSOCIATES, INC.



Wade P. Catts
Senior Project Manager

ACCEPTED: Rummel, Klepper &
Kahl, LLP

By: _____

Title: _____

Date: _____

cc. Daniel G. Roberts
Joe Makar



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FED EX DELIVERY

October 1, 2003

Rummel, Klepper & Kahl, LLP
81 Mosher Street
Baltimore, MD 21217

Attn: Thomas Heil

Re: Professional Services Proposal
Supplemental Cultural Resources Services
US 113 North/South Study (Georgetown South Area)
Kent and Sussex Counties, Delaware

John Milner Associates, Inc. (JMA) is pleased to submit this Supplemental Professional Services Proposal for the referenced project. The purpose of the proposed services is to further assist the Federal Highway Administration (FHWA) and the Delaware Department of Transportation (DelDOT) in meeting their Section 106 compliance responsibilities. The Scope of Services was developed in consultation with Rummel, Klepper & Kahl (RK&K), DelDOT, and the State Historic Preservation Office (SHPO).

SCOPE OF SERVICES

JMA proposes to undertake four (4) tasks as part of the Scope of Work, as follows: 1) Development of Archeological Sensitivity Models for Prehistoric and Historic Sites; 2) Field Verification of GIS Data for the Georgetown South Project Area; 3) Public Engagement Initiatives; and 4) Project Management and Project Meetings. Each will be described below.

Development of Archeological Sensitivity Models for Prehistoric and Historic Sites

Costs associated with the development of background information and sensitivity modeling for the Georgetown South Project Area are included in JMA's Milford Project Area proposal, under separate cover. However, an explanation of the procedures that will be followed and the sources of information required is included herein.

Geographical Information Systems (GIS) spatial analysis related to environmental variables and known historic and prehistoric archeological sites within the US 113 study area will be a useful tool in site location prediction. The use of predictive models is popular due to the cost effectiveness of being able to compute high probability areas for the identification of both unidentified historic and prehistoric archeological sites within a project area. The ultimate goal of this predictive model is to isolate archeologically sensitive zones within the US 113 Georgetown South Project Area that can be used as a tool in further planning within the project area. A result of this predictive model may be a

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determination that when high probability zones are designated, alternative options can be relocated or reengineered to avoid impact of potential archaeological sites. The overall outcome of the production of these archeological sensitivity maps is the potential for a decrease in archaeological mitigation costs, resulting in avoidance and continued preservation of cultural resources within the Georgetown South Project Area.

A fundamental data base to be used for this predictive model has already been created based on existing documentation available at the Delaware SHPO during earlier phases of this project. Within the initial 5-mile by approximately 41-mile study area, attribute data was collected for 3480 individual Cultural Resource Properties (CRS). These CRS points were digitized in ArcGIS from mosaics of the 1964 orthophotographs for the 5-mile by approximately 41-mile area associated with US Route 113 in Delaware.

The present data base will be checked by the re-examination of site collections using current knowledge and techniques. This is necessary because the descriptions on the Cultural Resource Survey forms at the SHPO have not been updated since the 1960's or there is no temporal designation or description of the site collections. The environmental characteristics associated with these known sites will be acquired through the analysis of available environmental layers from federal, state, and local sources. This compilation of data will be used to build a statistical model that recognizes areas that contain the highest correlation between known cultural resources and their ideal environmental variables. The types of environmental variables to be used in this predictive model are determined by project needs, the geology, the geography, and other environmental attributes of the project area.

For prehistoric site sensitivity, the primary data sets that will be incorporated into this predictive model are surface water, groundwater, known archeological site locations, archeological site temporal designations, wetlands, soils, site facing, and others as determined. Prehistoric sensitivity models previously developed by archeologists working in Delaware will be reviewed.

In addition to the environmental variables listed above for prehistoric site sensitivity, historic site sensitivity will also rely on published historic maps and atlases (the 1868 Beers' *Atlas of the State of Delaware*), as well as aerial photographs. Additional historic sources consisting of manuscript road papers and other land plats will be included in the sensitivity research in order to account for historic sites that pre-date the mid-nineteenth century. Repositories likely to be visited include the Delaware Public Archives, Sussex County Deed Office, the Historical Society of Delaware, and the Historical Society of Pennsylvania, and the Maryland State Archives.

Upon completion of collecting and checking the GIS layers and data, ArcGIS (ArcView 8.3) and the Spatial Analyst Extension will be used to construct a model that identifies the environmental factors that highly correlate to known archeological sites within the study area. This model will then be used to identify areas where the ideal set of environmental indicators identified in the model is present within the project area. The

areas with this ideal set will be designated as having high probability for archeological sites. As environmental indicators decline in abundance, the level of sensitivity will also decline. A map of sensitivity will be created in ArcGIS and in paper format.

Field Verification of GIS Data for the Georgetown South Project Area

JMA proposes to conduct field verification activities following the completion of the archeological sensitivity mapping. Field verification will be applied to architectural resources in the Georgetown South Project Area; costs associated with Field verification of potential archeological are included in JMA's Milford Project Area proposal, under separate cover. This task will consist of a windshield survey of standing structures within designated project area. As proposed by JMA field verification is not a systematic field investigation of entire alternatives, only field verification (presence/absence).

Public Engagement Initiatives

Public Engagement Initiatives are anticipated to be multi-directional and adaptable to existing contingencies as well as future developments. JMA proposes that these Initiatives will include the development of a project Cultural Resources brochure specific to the Georgetown South Project Area, attendance at public meetings and workshops, and the development of public engagement protocols that will guide future work in the project area. Each item is briefly described below.

At this stage of the project, JMA proposes to develop and produce a brochure describing the planning study and the role that cultural resources plays in the highway planning process. The brochure will be composed of an 8 ½ by 11-inch tri-fold page. The brochure will include copies of photographs and historic maps, and a brief written description of the salient points of historical development in the project area. The text will be written in a readable style, similar to other DelDOT public information brochures.

Public Engagement will also include interaction with the public at various events and activities as dictated by the project team. For purposes of this proposal, JMA has included the budgetary considerations for attendance at six (6) public presentations.

JMA proposes to aid in the development of public engagement protocols that will guide future work in the project areas. These protocols should be developed in consultation with DelDOT project personnel and other members of the project team, and would seek to provide consistent and regular information to the public regarding historic preservation, cultural resources, and the role of DelDOT in recordation, evaluation, and treatment. Consultation with Native Americans and Federally recognized tribes is assumed as part of these protocols.

Project Management and Project Meetings

Under the terms of this proposal, JMA personnel (1x) will attend seven (7) project team meetings, and five (5) Section 106 Consultation Meetings (2x JMA personnel).

Deliverables

Project deliverables will include an Executive Summary of the Sensitivity Models with Results/Recommendations for the Georgetown South project area, and supporting GIS electronic sensitivity modeling data.

The Executive Summary will present the goals, methods, and results of the project and the DOE documentation will be prepared in accordance with SHPO guidelines. Brief descriptions of the DOEs will be included in the text of the report, and the DOEs will be attached as appendices. The summary will be illustrated, including maps, drawings, and photographs. After review of the draft by RK&K, DelDOT and the SHPO, the Executive Summary will be revised accordingly and produced in a final version. Under the terms of this proposal three (3) review copies of the draft summary will be delivered to RK&K. Upon approval of the final summary, JMA will provide three (6) bound copies, and one (1) unbound copy, all with original photographs, to RK&K and DelDOT, and one (1) bound copy to the SHPO.

SCHEDULE

John Milner Associates maintains a solid reputation for the timeliness and quality of our services, and will conduct the services described above in an efficient manner. JMA understands that tasks associated with the Georgetown South Project Area are tentatively scheduled to be completed by October 2004. Sensitivity modeling will utilize all of the CRS points entered within the GIS, and will not be limited to the discrete project areas.

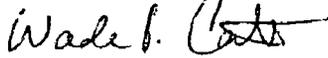
I trust that the Services, Schedule, Personnel, and Compensation and Terms outlined in this Professional Services Proposal are responsive to your needs. JMA emphasizes professionalism, expertise, and timeliness in our services to provide exceptional value to our

Rummel, Klepper & Kahl, LLP
Page 5
October 1, 2003

clients. If you find this Proposal acceptable, please sign one copy and return it to my attention. The other copy is for your files. Should you have any questions or wish to discuss the project further, please do not hesitate to contact me at our West Chester office (610-436-9000).

Sincerely,

JOHN MILNER ASSOCIATES, INC.



Wade P. Catts, RPA
Senior Project Manager

wpc/ms

cc. Daniel G. Roberts, JMA
Joe Makar, WRA

ACCEPTED: Rummel, Klepper &
Kahl, LLP

By: _____

Title: _____

Date: _____