Request for Proposals

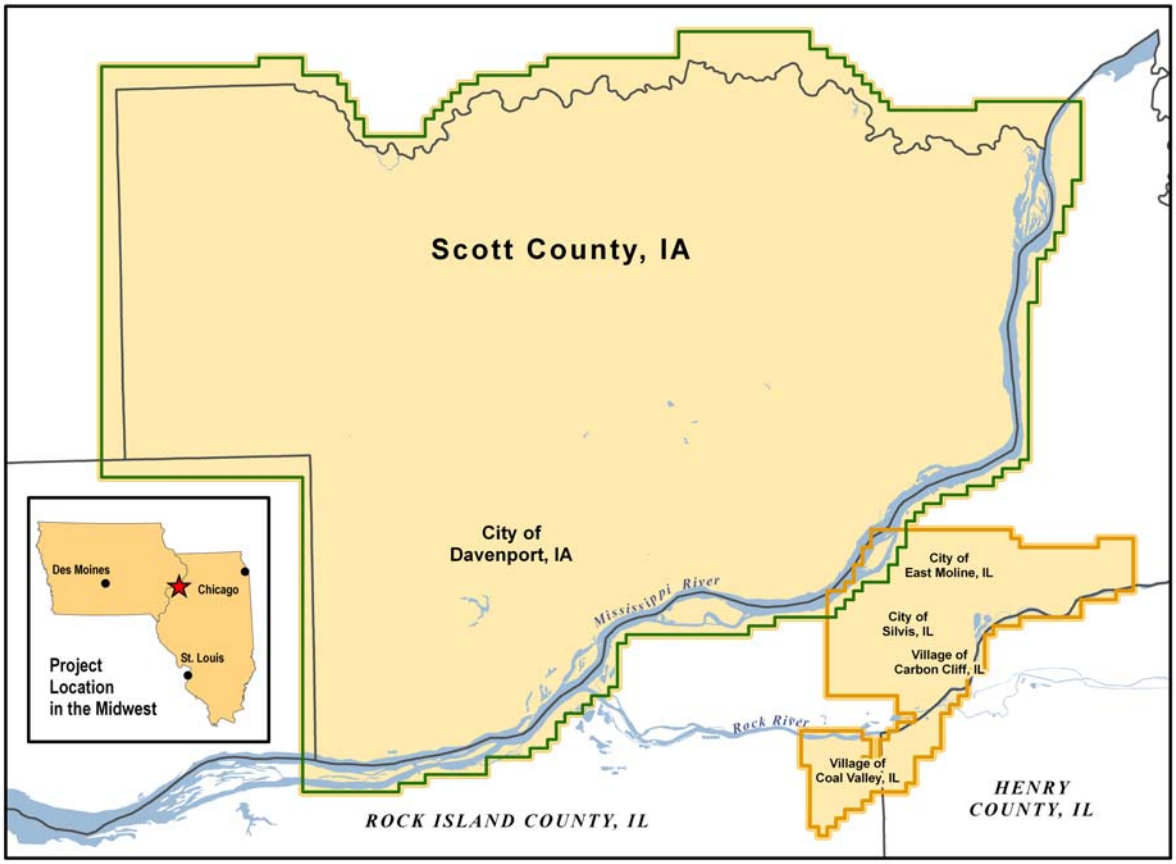
2009
Quad Cities
Aerial Mapping Project

A cooperative project between:
Scott County, Iowa • City of Davenport, Iowa • City of East Moline, Illinois • City of Silvis, Illinois • Village of Carbon Cliff, Illinois • Village of Coal Valley, Illinois

Coordinated by the Bi-State Regional Commission

January 15, 2009

Due Date: February 6, 2009



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Section 1: General Information

1.1 Project Overview

A consortium of several jurisdictions and agencies in the Quad Cities, Illinois/Iowa area are working together to coordinate a joint purchase of spring 2009 aerial photography and aerial mapping services.

The 2009 project potentially consists of the following public agencies: Scott County, IA; City of Davenport, IA; City of East Moline, IL; City of Silvis, IL; Village of Carbon Cliff, IL; and the Village of Coal Valley, IL with general coordination by the Bi-State Regional Commission (a regional Council of Governments), hereinafter referred to as the "Consortium."

The Consortium is requesting proposals from professional mapping firms for new 2009 spring season aerial flights and color digital orthorectified photography for the project area.

In addition to orthorectified photography, the Cities of Davenport, IA; East Moline, IL; Silvis, IL; Village of Carbon Cliff, IL; and the Village of Coal Valley, IL are proposing to contract for additional mapping services to be produced from the 2009 aerial photography. Each city reserves the right to negotiate their respective contracts with the vendor selected for the project. Individual bid proposal forms are included in Section 10.

1.2 General Purpose

The specifications listed in this request for proposals (RFP) are intended to be the basis for the individual contracts with each of the Consortium agencies for spring 2009 aerial flights and subsequent production and delivery of color digital orthorectified photography. The aerial mapping company shall provide all labor, materials, supplies, equipment, transportation, management, and other items required to complete the project based on the mapping options selected by the Consortium agencies.

1.3 Methodology

This document specifies the acquisition of the aerial imagery shall be accomplished with a large format, film based, analog, mapping camera. Proposals based on acquiring the imagery with a large format direct digital camera system are also acceptable. A proposal based on a direct digital camera system shall include a complete description of the digital camera system, image acquisition process, data compilation process and include the manufacturer's camera calibration. A film based and/or a direct digital proposal from a vendor is acceptable.

1.4 RFP Schedule

RFP issued: 01-15-2009
Clarification Deadline: 01-23-2009
Answers posted: 01-28-2009
Proposals Due: by 2 PM CST on 02-06-2009
Vendor Interviews: To be determined

The above dates are subject to change at the option of the Consortium.

Section 2: Submission Guidelines and Requirements

2.1 Proposals

Each proposal shall describe the approach to satisfying each item in the Scope of Services in sufficient detail to enable the Consortium to evaluate and compare it to other proposals. All proposals should include the following information and any other information the respondent deems pertinent to the project.

- Describe the techniques and technologies that will be used to fulfill the Scope of Work.
- Describe how much and what type of involvement you expect from the individual Consortium agencies to complete the project.
- Prepare a cost for each item listed on the Bid Proposal Forms.

Alternate methods, technologies, and/or products included in proposals that will improve project quality or reduce project cost are encouraged.

2.2 Basis for Selection

MINIMUM EVALUATION CRITERIA

Proposals will be evaluated by the following Evaluation Criteria:

- Completeness of your response to this RFP
- Experience and performance on similar projects
- Qualifications of personnel assigned to this project
- Methods
- Delivery Schedule
- Cost

This is meant for informational purposes only and the Consortium reserves the right to make its selection on any subjective criteria it deems appropriate.

2.3 Bid Bond

Each proposal must be accompanied by a certified check, cashier's check, or bid bond in the amount of five percent (5%) of the bid, made payable to the Bi-State Regional Commission. Proposals without a bid bond will be returned. An unsuccessful vendor's bid bond will be returned not later then thirty (30) days after the selection of a vendor.

2.4 Location of Work Performed

All work performed for this project shall be done within the United States of America, i.e., the conterminous 48 states, Alaska, and Hawaii. It will not be acceptable for any portion of the project to be done in a foreign country. The successful vendor will be required to provide a letter to the Bi-State Regional Commission stating; "No foreign labor or off-shore production services will be used to produce any of the products associated with this contract."

2.5 Equipment
The vendor must include in the proposal a complete list of all equipment proposed for use on this project.

2.6 Personnel
The vendor must provide a list of the key personnel who will be involved in the project, including the overall project manager, and the managers responsible for the QA/QC on orthophoto production, DTM processing and planimetric mapping compilation.

The contracting project manager and project supervisors should document their experience in undertaking digital orthophoto projects similar in scale, scope and complexity to this project.

2.7 Subcontractors
The vendor must identify all subcontractors proposed and their roles in the project, providing for itself and for each subcontractor a brief corporate history describing business locales, types of services and products offered, the number of years in business, and the number of employees.

2.8 Project References and Experience
The vendor must have successfully completed three projects similar in scope and complexity to this RFP within the last two years. Reference projects shall include the production of color digital ortho-rectified imagery and topographic mapping. Vendor shall provide a brief project description including project cost and project references with contact information for each of the three reference projects.

2.9 Alternates
The specifications contained in this request for proposal (RFP) are intended to be the minimum required to meet the project objectives and each respondent should submit a proposal that responds to these specifications. Proposals that include alternate methodologies (i.e. digital acquisition) and/or increased quality (i.e. reduced building lean) are encouraged if such proposals can conclusively demonstrate that the resulting product will meet or exceed the product quality defined in the RFP. **Any alternate proposal should be listed separately from the base RFP and described in detail.**

2.10 Reponses to this Proposal
All information must be complete and legible. An authorized representative of the firm must sign the original proposal in ink. This RFP and the contents of the successful proposal will become a part of the contract awarded as a result of this solicitation.

Proposals must be sealed and submitted in an envelope that clearly states, on the outside, “2009 Quad Cities Aerial Mapping Proposal.” The name of the firm and contact person must also be listed on the outside of the envelope. Any restrictions on the use of data within proposals must be clearly stated in the proposal itself. Non-disclosure cannot be guaranteed after the selection stage of this procurement due to public record laws.

2.10 Responses to this Proposal (Continued)

Please submit one signed original, one hardcopy, and one complete copy in PDF file format on a CD to:

Lisa J. Miller, GIS Director
Bi-State Regional Commission
1504 Third Avenue, P.O. Box 3368
Rock Island, IL 61204-3368

Proposals are due at 2:00PM CST on 02-06-2009

Proposals received after the deadline will not be accepted. Proposals may be withdrawn and/or modified in writing prior to the submission deadline. Request for withdrawal must be in writing by the contact person named on the outside of the envelope. Proposals that are resubmitted must be sealed and received prior to the submission deadline. Each respondent may submit only one proposal.

The proposals shall be binding upon the respondent if accepted by the Consortium agency within 45 calendar days of the date they are due. Negligence on the part of the respondent in preparing the proposal confers no right of withdrawal after the time fixed for the submission of proposals.

The vendor must identify what elements if any, of the project will be subcontracted and the name of the subcontractor(s). The vendor awarded a contract as a result of this RFP is responsible for the quality and timeliness of the subcontracted work elements.

The Consortium reserves the right to reject any or all proposals, to waive irregularity in any proposal, to waive any specific requirements set out in the RFP and to select the firm deemed most advantageous to the Consortium. This RFP does not commit the Consortium to pay any cost incurred in preparation of a proposal submitted in response to this request. The Consortium agencies reserve the right to negotiate with any qualified respondent and to cancel this RFP in whole or in part.

Acceptance of any proposal will be contingent on signing/entering into a written contract with the individual Consortium agency.

2.10 Responses to this Proposal (Continued)

Vendors are to submit questions related to the specific project requirements and contents of proposals in written form only (no phone calls) and submitted by fax, U.S. Mail, or e-mail by 2pm CST on January 23, 2009. The responses to all of the questions shall be sent to all vendors via fax or e-mail by January 28, 2009. No oral questions will be entertained prior to or after the deadline for written questions specified above. Submit all questions to:

Lisa J. Miller, GIS Director
Bi-State Regional Commission
1504 Third Avenue, P.O. Box 3368
Rock Island, IL 61204-3368
E-mail: lmiller@bistateonline.org
Fax: (309) 793-6305

Please do not attempt to contact the staff of any of the agencies participating in this consortium; all inquires should be submitted through Ms. Miller as stated above.

Section 3: Aerial Photography

3.1 Scope of Work

The vendor shall acquire new, color aerial photography of the project area during the spring of 2009. This photography will primarily be used to produce digital ortho-rectified imagery which will subsequently be used to support computerized geographic information systems and other government mapping applications. In addition to the digital orthos, the project aerial photography will be used to support planimetric feature stereocompilation.

Photography shall be obtained from a flight height of 4,800ft AMT covering all of the project area. This photography will be used to produce 100sc digital ortho-rectified imagery with 0.5ft ground sample distance (GSD) pixel resolution. The specific project area requiring coverage at 4,800ft AMT is shown on Attachment 11.1. Photo coverage shall be designed to provide "neat model" production of digital ortho-rectified photography for a minimum of one-eighth mile outside of the project boundary.

3.2 Aircraft and Crew

The Vendor shall be responsible for operating and maintaining all aircraft used in conformance with all governing Federal Aviation Administration and Civil Aeronautics Board regulations over such aircraft. Any inspection or maintenance of the aircraft resulting in missing favorable weather will not be considered as an excusable cause for delay.

Preference may be given to vendors who own the aircraft and aerial camera system(s) used on this project. All respondents must identify the firm that will actually be acquiring the aerial photography, the relationship that firm has with the vendor, and the ownership of the aircraft and camera equipment to be used.

All flight crew members must have two years or more experience flying precise photographic missions for aerial surveys. Individual resumes of the flight crew members shall be included with the proposals.

The aircraft furnished shall be capable of stable performance and shall be equipped with essential navigation and photographic instruments and accessories, all of which shall be maintained in operational condition during the period of the contract. No windows or glass, except for optically flat glass shall be interposed between the camera lens system and the terrain. The camera lens system shall not be in the direct path of any exhaust gasses, effluence, or oil from aircraft engines.

3.3 Acquisition Delays

The Vendor shall inspect and constantly monitor the photographic coverage and film quality and shall undertake immediate reflights of areas wherein coverage does not meet specifications. Rejection of photography by the Vendor or a Consortium agency shall not in itself be a reason for granting a delay or of another photo season.

3.4 Environmental Conditions during Photography

The following weather conditions are a minimum which shall be met or exceeded during the photo missions:

1. *Sun angle.* Photography shall be taken when the sun angle is 30 degrees or greater above the horizon. There shall be no objectionable shadows created by relief or low solar altitude.
2. *Cloud cover*. Images shall be free of clouds and cloud shadows. No photography will be accepted with clouds or cloud shadows appearing on more than 5 percent of the area in any one final ortho-rectified image tile.
3. *Season*. Photography shall be acquired during the leaf-free season in the spring of the year. Deciduous trees must be barren. Acquisition of the color photography shall not begin until after March 24th or in the event of an early spring until after the grass has turned green.
4. *Turbulence*. Photography will not be taken during adverse conditions when wind and thermal currents are causing excess tilt, crab, or drift in the photography.
5. *Haze*. Photography will not be taken when the ground is obscured by haze, fog, or dust.
6. *Snow cover.* Photography will not be taken when snow is present on the ground.
7. *High water.* Photography will not be taken when the ground is obscured by flood water. Streams must be in their normal banks.
8. *Ground conditions*. Conditions that might obscure ground detail shall be the responsibility of the vendor.

3.5 Aerial Camera

The aerial camera used for this project shall be a fully calibrated precision analog mapping camera equipped with a single low distortion, high resolution lens, forward motion compensation (FMC), and a gyro-stabilized mount designed for vertical aerial photography with a 9” x 9” format. A USGS camera calibration report, no more than three years old shall be submitted with the response to these technical specifications for each camera system to be used on this project. The absence of a calibration report verifying that the camera meets the specified requirements may be cause for disqualification of the Vendor. The alternate use of a digital camera must be clearly defined in the proposal and shall include the proposed process, equipment, specifications, and manufacturer’s camera calibration.

The calibration report must document the camera system meets or exceeds the following requirements:

1. A calibrated focal length of 153 mm ± 3.0 mm
2. A minimum aperture of *f*4.5
3. Radial distortion in the usable angular field does not exceed 10 micrometers for any tested point. In addition, at least 15 of the tested points shall have radial distortion values of 5 micrometers or less.
4. A usable angular field of view of at least 90 degrees
5. A minimum area weighted average resolution (AWAR) of the camera lens of 90.0 line pairs per millimeter
6. Eight fiducial marks recorded on each negative
7. A between-the-lens variable speed shutter with a minimum efficiency rating of 70 percent at a speed of 1/200 or 1/250 of a second
8. An appropriate glass filter with a metallic anti-vignetting coating and with surfaces parallel within 10 seconds of arc
9. Film magazine platen upon which the film is flattened at instant of exposure shall not depart from a true plane by more than 13 micrometers when the camera/magazine vacuum is applied.
10. Stereo model flatness:
    a. Average departure from flatness not to exceed 13 micrometers
    b. Difference between highest and lowest value not to exceed 25 micrometers
    c. Average values for tested points not to exceed 6 micrometers

3.6 Photographic Coverage

1. Each vendor shall prepare a flight plan for the aerial photography and include the flight plan with their response to the RFP. All flight lines must extend at least two exposures beyond the required coverage boundary.
2. The photographic survey areas of the project shall be stereoscopically covered by successive and adjacent overlaps of photographs within the usable portion of the field of the lens.
3. Lack of acceptable stereoscopic coverage shall be corrected by reflights at the vendor's own expense.
4. Except on short flight lines, a minimum of two runoff or blank exposures is required between usable frames immediately prior to the start of the photography for each flight line or part of a flight line.
5. Any exposures within the project area with a color balance shift compared to the remainder of the roll will result in unacceptable exposures.
6. Forward overlap in the line of flight shall average not less than 57% or more than 62% at mean elevation of the terrain, unless otherwise specified. Individual overlaps shall not be less than 55% or more than 68%, excepting the situation where in a forward overlap in areas of low elevation must exceed 68% to attain the minimum 55% forward overlap in adjacent areas of higher elevation.
7. Junction areas between adjoining flight lines shall be covered stereoscopically by both lines (wherever there is a change in direction between two flight lines).
8. Side overlap between adjacent parallel flight lines shall be 30% +/- 10% at the mean elevation of the terrain.
9. Flight line deviation shall not exceed a distance greater than 10% of the width of the coverage of the photograph.
10. Departures from flight height required shall not exceed –2% or +5% unless changed by Air Traffic Control Centers.

11. Changes in the course of the aircraft between successive overlapping photographs within a flight line shall not exceed 3 degrees.
12. While exposing aerial photography, the camera shall be compensated for crab of the aircraft, with a resultant error not exceeding 3 degrees.
13. The tilt within a single frame shall not exceed 4 degrees nor shall the difference in tilt between two consecutive overlapping frames within a flight line exceed 4 degrees. The average tilt for all negatives of the same nominal scale shall not exceed 1 degree.
14. The combined effect of aircraft course corrections, crab, and tilt shall result in an apparent crab not greater than 5 degrees on successive photographs. Apparent crab is defined as the angle between the indicated principal point and the conjugate image of the indicated principal point of the adjacent photograph within the same flight line.
15. Exposure of the film shall be in accordance with the manufacturer's recommendations. The negatives shall be clear and sharp in detail, free from light streaks and static marks, and of uniform tone and degree of contrast to permit ground details to show clearly in all scene reflectance, with particular emphasis on pattern recognition in the shadow areas.
16. The photo missions shall be executed within the shortest possible timeframe to insure consistent ground and lighting conditions.

3.7 Reflights

Unacceptable aerial photography shall be re-flown at the earliest opportunity, weather permitting by the vendor at no additional cost to the Consortium agency, with the reflight coverage overlapping the accepted photography by at least two stereo models.

3.8 Airborne GPS

Airborne GPS technology may be used to capture the photography and reduce the amount of ground control necessary to perform the project. In such instance, the vendor shall describe the onboard equipment which it owns and is installed in the aircraft. The type of receivers, number of ground base stations, and locations to be used shall be described. The vendor shall also list the AGPS data processing software and procedures.

3.9 Aerial Film

The natural color negative film used shall be KODAK Aerocolor III Negative Film 2444 or AGFA Aviphot Color X100 PE1 or approved equal. Outdated film shall not be used. The film must be stored and handled in accordance with the manufacturer's recommendations.

Aerial film that remains in the camera overnight must be rolled forward a minimum of three exposures immediately before additional photography is exposed on a subsequent date.

All aerial negatives for each flight line shall be exposed from the same aerial camera.

3.10 Film Processing

Film processing, including developing, fixing, washing, and drying of all exposed film, must be performed in modern automatic aerial film processor. The resultant processed original aerial film negatives shall be clear and sharp in detail and uniform in density. The negatives must be free of static marks, tears, scratches, or other blemishes. The Vendor must provide quality assurance of the aerial photography and photo laboratory procedures. The Vendor shall outline the Quality Assurance / Quality Control program used during photo processing.

3.11 Film/Digital Image Inspection and Flight Log Report

Immediately after the film has been processed the aerial photography will be checked for acceptable exposure, resolution, contrast, overlap, crab and tilt level, absence of foreign markings, etc. For each roll of film, two consecutive stereo models shall be analyzed on a stereo plotter to verify that there was no residual parallax due to vacuum loss in the camera magazine during the aerial photography. An image quality report shall be prepared documenting the film and or digital image inspection results. Copies of the image quality report and flight logs indicating exposures taken, photographic parameters/ conditions, etc, shall be provided to the Bi-State Regional Commission for review by an independent photogrammetric consultant.

3.12 Flight/Photo Index

In lieu of contact prints a flight/photo index shall be delivered in a geo-referenced AutoCAD version 2008 DWG file and ESRI shape file formats. Photo center point locations (derived from the airborne GPS/IMU survey) and image foot prints or edge of image swath shall be included. The photo center locations shall be attributed with the roll, flight line, and frame number. The flight lines shall be attributed with the acquisition date, time, flight height, line number, camera serial number, and direction of flight. Two copies of the flight/photo index shall be delivered to the Bi-State Regional Commission for review by an independent photogrammetric consultant as soon as possible after the acquisition of the aerial imagery.

3.13 Film Ownership and Storage

All aerial film acquired as part of this project is the explicit property of the individual Consortium agencies. The Consortium agencies may elect to have the successful vendor store the aerial film at the vendor's facility. The Vendor will store the film in environmentally safe, humidity controlled conditions for a period up to ten years at no additional cost to the Consortium agencies.

Section 4: Digital Orthophotography Production

4.1 General

A set of color digital orthophoto tiles will be created by scanning the negatives produced from the aerial photography and processing the image files using the latest, state-of-the-art technology. Orthophotos will be generated using the digital terrain model, control, and aero-triangulation data. A complete orthorectification will be carried out with a specifically developed set of algorithms that remove image displacement due to topographic relief and the tip and tilt of the aircraft at the moment of exposure. Every effort should be made to minimize the effect of building lean on the usability of the orthophotos.

4.2 Project Diagram

The project area described in this RFP includes all of Scott County, the City of Davenport, IA; the City of East Moline, IL; the City of Silvis, IL; the Village of Carbon Cliff, IL; the Village of Coal Valley, IL; and a one-eighth mile border area outside the project limits. Attachment 11.1, "Project Diagram" delineates the project area.

4.3 Control Requirements

4.3.1 Coordinate Datums

1. The horizontal datum for the jurisdictions in Iowa shall be the Iowa State Plane South Zone, NAD83 (1996 HARN Adjustment).
2. The horizontal datum for the jurisdictions in Illinois shall be the Illinois State Plane West Zone, NAD83 (1997 HARN Adjustment)
3. The vertical control for both Iowa (except for the City of Davenport) and Illinois shall be based on NAVD88.
4. All mapping data (planimetric, DTM, and contour) for the City of Davenport shall be provided in the City of Davenport vertical datum.
   a. Conversion: (NGVD 1929) – 537.36ft = Davenport Datum (1992 GPS Survey)
   b. Conversion (NAVD 1988) – 537.13ft = Davenport Datum (2005 GPS Survey)

5. All units of measure shall be based on U.S. Survey Feet.

4.3.2 Scott County

Scott County has existing permanent 3D GPS monuments located on an approximate 3 mile grid. Twenty-six (26) monuments in Scott County will be targeted by Scott County prior to the aerial flights.

The aerial targets will be in the form of a 4-way cross with a panel width of 12 to 18 inches and an overall target length of ten feet. The targeting material will be 3 ply harlequin vinyl as manufactured by Mutual Industries and will be securely fastened to the ground. Where the existing ground conditions will not permit the use of a cross shaped target, a “T” shaped target will be placed. Vertical offsets will be measured and digital pictures of each target site will be captured during the field targeting and provided with the control data to the aerial vendor.

Additional existing 3D GPS monuments will be targeted. The coordinates of these points will be withheld from the vendor and used as independent checks of the horizontal accuracy of the digital orthophotography.

The mapping vendor shall give Scott County a minimum three week notice prior to beginning the aerial flights.

See Attachment 11.2 for a layout of the Scott County ground control targeting.

4.3.3 The City of Davenport, IA

The City of Davenport has existing permanent 3D GPS monuments. Seventeen (17) monuments will be targeted by the City prior to the aerial flights.

The aerial targets will be in the form of a 4-way cross with a panel width of 12 to 18 inches and an overall target length of ten feet. The targeting material will be 3 ply harlequin vinyl as manufactured by Mutual Industries and will be securely fastened to the ground. Where the existing ground conditions will not permit the use of a cross shaped target, a "T" shaped target will be placed. Vertical offsets will be measured and digital pictures of each target site will be captured during the field targeting and provided with the control data to the aerial vendor.

The mapping vendor shall give the City of Davenport a minimum three week notice prior to beginning the aerial flights.

See Attachment 11.3 for a layout of the Davenport ground control targeting.
Note: Both the Davenport Datum and NAVD 1988 Datum are available for the seventeen Davenport monument sites.

4.3.4 The City of East Moline, IL; The City of Silvis, IL; The Village of Carbon Cliff, IL; and The Village of Coal Valley, IL.

It is the vendor's responsibility to furnish the necessary ground control/targeting for the City of East Moline, IL; the City of Silvis, IL; the Village of Carbon Cliff; and the Village of Coal Valley, IL. Respondents shall identify in their proposal the number and layout of ground control targets required. It is the vendor's responsibility to remove all of the targeting materials after the flights.

4.4 NSSDA Accuracy Statements

1. The 100 scale digital orthos shall be compiled to meet 3.0 feet horizontal accuracy at 95% confidence level. The horizontal accuracy of the digital orthophotos will be tested using the NSSDA standards.
2. The 100 scale planimetric features shall be compiled to meet 2.0 feet horizontal accuracy at 95% confidence level. The horizontal accuracy of the planimetric features will be tested using the NSSDA standards.
3. The 2ft contours produced from the DTM shall meet 1.0ft vertical accuracy at 95% confidence level. The vertical accuracy of the digital terrain model will be tested using the NSSDA standards.
4. The NSSDA positional accuracy testing will be performed by an independent consultant.

4.5 Aerotriangulation

4.5.1 General

The aerial vendor may use either fully analytical aerial triangulation (FAAT) techniques or softcopy (DAAT) to extend and densify ground control for the aerial photography. The use of airborne GPS/IMU technology is suggested in lieu of conventional aerial triangulation as long as project accuracy standards are maintained. The vendor shall provide a complete description of their methodology for performing the aerial triangulation adjustment including the equipment and software used.

4.5.2 Horizontal and Vertical Control

All horizontal ground control positions computed by analytic triangulation must be in the appropriate state plane coordinate system and referenced to NAD83 (HARN). All vertical control except for the City of Davenport must be referenced to NAVD1988. Distance units shall be US Survey feet.

4.5.3 Software

An industry-standard software program must be used for analytic aerial triangulation computations. The package used must be capable of strip adjustments, as well as large bundle (blocks of photos and strips) adjustments and should also have gross error detection facilities. The proposal should describe the package used for adjustment computations on this project.

4.5.4 Aerial Triangulation Report

Upon completion of all aerial triangulation work, the contractor will prepare a formal aerial triangulation report for delivery to the Consortium. The deliverables and report will include, but not necessarily be limited to, the following:

1. All misclosures at ground control points with and without use of checkpoints.
2. Final adjusted aerial triangulation solution to horizontal and vertical ground control.
3. Control point residuals and average residuals for each adjustment.
4. An ASCII file containing all points and their corresponding final adjusted State Plane Coordinate values.
5. A narrative of any problems that arose during the aerial triangulation and how they were resolved.

4.6 Film Scanning

Scanning devices used shall be precision photogrammetric scanners capable of capturing 256 levels of color and capable of scanning at resolutions finer than needed to obtain the output resolution requirements listed below. Interpolation from a finer input resolution to a coarser output resolution is allowable, but interpolation from a coarser input resolution to a finer output resolution is specifically prohibited. The proposal shall state the scanning resolution planned for this project. The final ortho-rectified imagery shall contain 0.5ft GSD pixels.

Film negatives from each flight line shall be pre-scanned to determine the optimum scan parameters for contrast and brightness. The optimum scan parameters shall produce full depth image histograms with emphasis on feature recognition in the shadows and the light areas of the image. During the scanning process, the contrast and brightness of the images shall be closely monitored. Each flight line shall be compared to the adjacent flight lines to ensure a uniform consistency throughout the entire project. The respondents shall discuss the particular scanner to be used as well as its geometric accuracy.

4.7 Surface Model

1. The existing surface models from the 2005 project will be made available to the successful vendor.
2. The 2005 surface models supported different levels of accuracy. 400sc ortho-rectified imagery was produced for the rural areas of Scott County. 100sc ortho-rectified imagery and a 2ft contour capable DTM was produced for the City of Davenport and surrounding urban areas. A 4ft contour capable DTM was produced for Rock Island County, Illinois, which includes East Moline, Silvis, Carbon Cliff, and Coal Valley.
3. The Bi-State Regional Commission is furnishing the 2005 surface model on an “as is” basis without any support whatsoever, and without representation or warranty, including but not in any manner limited to fitness and completeness of the surface model. It is the responsibility of the successful vendor to update the existing surface model as required to meet the accuracy standards as specified in this proposal.
4. Proposals shall include a complete description of the procedure for updating the existing surface models and collecting new surface models where required. The vendor shall describe the quality assurance measures used to verify the accuracy of the surface models.
5. Surface models must contain mass elevation points taken at uniform grid spacing and 3D break lines as required.
6. The grid spacing of the mass points and collection of break lines will be designed to meet the accuracy standards as specified in this proposal.
7. The vertical accuracy of the surface models shall be sufficient to obtain the required horizontal accuracies of the mapping.

4.8 Orthorectification

1. Vendors shall describe in detail the technical procedures, equipment, and software to be used for the production of digital orthophotos. A complete description of the digital orthophoto technical methodology will include but not be limited to compilation of the terrain model, ortho rectification process, image mosaicking, radiometric accuracy, estimated file size, and all quality control procedures. Vendors should provide any relevant detail about image processing techniques that they propose to use to enhance the usefulness of the digital image.

2. The orthophotography produced must be mosaicked with consistent tonal and color scale ranges within and between images. Details in dark toned and highlighted areas should be preserved. Match lines created for mosaicking shall be selected interactively. Match lines are only allowed where adjacent images lie at the surface of the DTM used to create the orthorectified images and are at the same elevation.

3. Mosaic lines shall not cross through buildings, bridges, or any other structure not at ground level. Join lines between overlapping images shall be interactively selected by the Vendor to minimize tonal variations and visible join lines.

4. There shall be no “ghosting” or distortion of buildings, bridges, overpasses, etc. Buildings, bridges, and overpasses must be spatially correct and not contain bends, breaks, or discontinuities.

5. To minimize distortion of above ground features, the Vendor shall restrict ortho-rectification primarily to neat model areas, using the centers of each photograph rather than every other photograph.

6. The images shall be edge matched so that tonal values are consistent across the edges and there is minimal evidence of the join. Radiometry must be balanced between neighboring tiles.

7. The final ortho-rectified tiles must tile together seamlessly.

8. In addition to any of the above listed image defects, visible seams between orthophoto images that evidence a noticeable edge or a feathering effect will be grounds for rejection.

4.8.1 Grid-Based Image Tiles

1. The delivery of the orthorectified photography shall be tiled and provide seamless coverage for each agency’s specified coverage area (See Attachments 11.1 and 11.5). The digital images are to be edge-matched with no pixel gaps between geographic partitions. Density matching of the digital ortho images is required to create the appearance of a seamless mosaic.

2. The tiling scheme shall be based on the existing 2005 scheme of 1,500ft x 1,500ft even coordinate grids. The Bi-State Regional Commission will provide a digital copy of the 2005 tiling scheme.

3. The final ortho tiles created for this project shall cover an area 1,500ft x 1,500ft square and contain 0.5ft GSD pixels.

4. The entire range of a 1,500ft by 1,500ft tile shall be filled with ortho-rectified imagery.

5. The final orthorectified image tiles shall be provided in uncompressed TIF files with the associated world files.

6. Image tiles that include coverage of two or more jurisdictions shall be provided to each of the included jurisdictions.

4.8.2 Section-Based Image Tiles (City of Davenport)

1. The City of Davenport image tiles will be based on their existing ¼ section coverage including a 200ft buffer on all sides. This same coverage area will be provided to Scott County in the grid based image tiles as specified in 4.8.1 above. (See Attachment 11.4)

Section 5: Topographic Mapping

5.1 Data Collection

1. The topographic mapping features shall be 3D stereo compiled from the triangulated project aerial imagery and positional accurate to the project accuracy standards.

2. Appropriate ESRI utilities shall be utilized to topologically structure the vector data. This shall include complete mathematical closure of all contiguous features.

3. No duplicate structure or graphic entities are allowed.

4. No duplicate vertices are allowed within features.

5. All vector information crossing tile edges shall be edge-matched and coordinate connectivity must be present. True mathematical closure is required for features that cross tile boundaries. All digitized features that are continuous across map boundaries shall be edited to effect smooth, continuous lines.

6. Where graphic elements visually meet, they must also digitally meet. All confluences of line, area, and polygon data must be exact mathematically, that is, no “overshoots,” “undershoots,” or “offsets” are permitted. Lines that intersect must join precisely.

7. Line Quality - A high cartographic appearance shall be achieved. Transitions from straight line to curvilinear line segments shall be smooth and without angular inflections at the point of intersection. The digital representation must not contain extraneous data at a non-visible level. There should be no jags or hooks or zero length segments. Curvilinear graphic features should be smooth, with a minimum number of points. When appropriate, line smoothing programs should be used to minimize the angular inflection in curvilinear lines. Any lines that are straight, or should be straight, should be digitized using only two points that represent the beginning and ending points of the line.

8. Linear elements should not be broken or segmented unless that segmentation reflects a visual or attribute code characteristic or unless the break is forced by database limitations.

9. Area and Polygon Closure and Centroids - For area features being digitized, the last coordinate pair must be exactly (mathematically) equal to the first coordinate pair.

10. Features that cross map sheet or model boundaries shall not have duplicate data points at those boundaries except where those boundaries coincide with delivery areas. Post-processing procedures shall be used as necessary to minimize data redundancies.

11. Road centerlines must be continuous 3D polylines, thinned and noded at street intersections.

12. Railroad centerlines must be continuous 3D polylines, thinned and noded at street intersections.

13. Prior to beginning full production of the planimetric mapping, the project vendor shall provide Pilot Projects for review and acceptance by the Consortium.

14. Individual layers shall be provided for each unique feature. The layer names, line styles, and colors shall be approved during the Pilot Project.

5.2 Digital Terrain Model with 2ft Contours (City of Davenport)

1. The City of Davenport is requesting a digital terrain model (DTM), which will support the generation of 2ft contours. Attachment 11.3 details the DTM Mapping Limits for the City of Davenport.

2. The DTMs shall match the City of Davenport tiling grid scheme and shall tile seamlessly.

3. The DTMs shall contain mass elevation points taken at uniform grid spacing and 3D break lines compiled on photogrammetric workstations.

4. The grid spacing of the mass points and collection of break lines shall be designed to meet the accuracy standards as specified in this proposal.

5. Break lines shall not intersect or begin and end at the same x,y coordinates. The break lines shall include the following features:

    a. Defined breaks in grade
    b. Drainage
    c. Edge of banks
    d. Edge of roads
    e. Centerline of roads
    f. Centerline of railroads
    g. Surface water boundaries
    h. Other linear features defining a change in slope
    i. Obstructed areas

6. Road centerlines must be continuous 3D polylines, thinned and noded at street intersections.

7. Railroad centerlines must be continuous 3D polylines, thinned and noded at street intersections.

8. The contours shall be provided as continuous 3D polylines, thinned and smoothed. All contours shall have the elevation specified as a property of attribute. Break contours for buildings and other man-made structures that do not conform to the ground.

9. Contours shall portray the shape of the terrain within specified accuracy standards. Accuracy standards notwithstanding, contours shall clearly reflect the crown or cross slope of all paved areas, and will truly depict all drainage ways.

10. Every fifth contour will be shown as an index contour (10 foot intervals). All index contours shall be clearly distinguishable and labeled with their elevations given in full feet. Labels will be oriented to follow the contours and shall be readable looking uphill. The index contours shall be annotated and not clipped.

11. Spot elevation data shall be used to supplement elevation data provided by contours, generally where exact elevations are needed and in areas of relatively flat terrain and where the contours are widely spaced.

    a. At all road/railroad intersections
    b. On the road centerline at the center of bridges and similar structures
    c. On the road centerline over all culverts
    d. At the crest of all closed contours
    e. At the lowest point of all closed depressions, contours, significant saddles, cuts and depressions
    f. In visible areas of dense vegetation where ground control is visible
    g. The surface elevation of all open water bodies shall be indicated by one or more water elevation readings near the center of the water body, or the portion of the water body shown on the map
    h. Spot elevations shall be shown in other areas with sufficient frequency so that there is a maximum map distance of one inch (1” = 100’ scale) in any direction between a contour or spot elevation
    i. All spot elevations shall be labeled with decimal values giving their elevation to the nearest one-tenth of a foot
    j. Spot elevation labels shall be placed so that they do not obscure other map details and will read from west to east

12. Prior to beginning full production of the digital terrain models, the project vendor shall provide a Pilot Project for review and acceptance by the City of Davenport.

13. Individual layers shall be provided for each unique feature. The layer names, line styles, and colors shall be approved by the City of Davenport during the review of the Pilot Project.

5.3 Planimetric Mapping (City of Davenport)

1. The City of Davenport is requesting 100scale planimetric mapping for the area shown and labeled on Attachment 11.3 as “Planimetric Limits.”

2. If required, a separate flight height for the City of Davenport shall be designed to capture the entire list of planimetric features listed and meet the specified accuracies.

3. Planimetric data and Contour data shall be collected for the entire City of Davenport plus 200 feet outside of the City’s corporate boundaries.

4. Planimetric and Contour data shall be delivered in AutoCad format with the data being tiled in accordance with the grid provided by the City of Davenport.

5. All AutoCAD drawing and layers shall meet the standards of the AutoCAD drawing file examples provided by the City of Davenport.

6. Symbology for planimetric data shall meet the standards of the AutoCAD drawing file examples provided by the City of Davenport.

7. The planimetric features shall be 3D stereocompiled from the triangulated project aerial imagery and positionally accurate to the project accuracy standards. The feature stereo compilation must be performed for general GIS compatibility and specifically supporting impervious surface area determination. The features shall be collected as closed shapes/polygons, and attributed if and as required.

8. The elevation (z) component of the 3D compiled features shall be maintained and provided in the final deliverables.

9. Road centerlines must be continuous 3D polylines, thinned and noded at street intersections.

10. Railroad centerlines must be continuous 3D polylines, thinned and noded at street intersections.

11. Building outlines shall be topologically clean with no over and/or under shoots.

12. Apparent residences shall be differentiated from “out buildings.”

13. The planimetric feature compilation and conversion process shall ensure duplication of feature data in CAD and GIS versions.

14. Prior to beginning full production of the planimetric mapping, the Vendor shall provide a Pilot Project for review and acceptance.

15. Individual layers shall be provided for each unique feature. The layer names, line styles, and colors shall be approved by the City of Davenport during the review of the Pilot Project.

16. The following features shall be collected:

a. Land use facilities
    1) Parks and recreational facilities
    2) Golf courses
    3) Cemeteries
    4) Athletic fields
    5) Shopping centers
    6) Airports
    7) Schools

b. Natural features
    1) Trees (individual, approximately 6” in diameter or larger)
        a. Coniferous and Deciduous
        - (small, medium, large, and extra large)
    2) Wooded areas (groups of trees)
    3) Rivers
    4) Streams
    5) Lakes and ponds
    6) Swamps, marshes, and wetlands
    7) Creeks
    8) Cultivated areas
    9) Drainage ditches

c. Structures
    1) Buildings
    2) Houses
    3) Garages and sheds (approximately 100sq ft or larger)
    4) Roads, Urban (back of curb)
    5) Roads, Rural (driving surface)
    6) Railroads (both rails)
    7) Mobile trailers
    8) Paved trails
    9) Parking areas
    10) Driveways
    11) Culverts (flared end section) and headwalls
    12) Alleys
    13) Retaining walls
    14) Fences (all)
    15) Bridges
    16) Towers
    17) Utility poles
    18) Manholes
    19) Sidewalks (public)
    20) Catch basins/storm intakes
    21) Major signs
    22) Tanks

23) Dams and concrete structures
24) Electrical substations
25) Swimming pools
26) Luminary poles
27) Transmission towers
28) Fire hydrants
29) Large electrical and telephone boxes

d. Miscellaneous
1) Golf course features including green, tees, bunkers, and sand traps.
2) Field control points
3) Detention ponds

5.4 Planimetric Mapping (Scott County)

1. Scott County is requesting the compilation of "limited feature" 100sc planimetric mapping from the 4,800ft AMT flights for the entire county minus the area included in the City of Davenport Planimetric Mapping.

2. The planimetric features shall be 3D stereocompiled from the triangulated project aerial imagery and positional accurate to the project accuracy standards. The feature stereo compilation must be performed for general GIS compatibility. The features shall be collected as closed shapes/polygons, and attributed if and as required.
3. The elevation (z) component of the 3D compiled features shall be maintained and provided in the final deliverables.
4. The following planimetric features shall be collected:

- Building roof prints for all structures
- Centerlines of residential and commercial entrances/driveways

5. Building roof prints shall be topologically clean with no over and/or under shoots.

6. Apparent "residences" shall be differentiated from apparent "out buildings."

7. Driveway centerlines are for the purpose of identifying 911/emergency access points.
   a. Driveway centerlines less than 300ft in length are not required.
   b. All shared driveways leading to multiple residences/businesses are to be shown regardless of minimum length requirement.

8. The planimetric feature compilation and conversion process shall ensure duplication of feature data in CAD and GIS versions.

9. Prior to beginning full production of the planimetric mapping, the Vendor shall provide a Pilot Project for review and acceptance.

10. Individual layers shall be provided for each unique feature. The layer names, line styles, and colors shall be approved by Scott County during the review of the Pilot Project.

5.5 Planimetric Mapping (East Moline, Silvis, Carbon Cliff, and Coal Valley)

1. The above Cities are requesting the compilation of 100scale planimetric mapping from the 4,800ft AMT flights for the area shown and labeled on Attachment 11.5 as “Coverage Areas.”

2. The planimetric features shall be 3D stereo compiled from the triangulated project aerial imagery and positionally accurate to the project accuracy standards. The feature stereo compilation must be performed for general GIS compatibility and specifically supporting impervious surface area determination. The features shall be collected as closed shapes/polygons, and attributed if and as required.

3. The elevation (z) component of the 3D compiled features shall be maintained and provided in the final deliverables.

4. The following impervious features shall be collected:

    - Building roof prints for all structures 100sq ft or greater
    - Non-building features, such as pavilions, awnings, gas pump area overhead roofs, etc.
    - Driveways
    - Parking lots
    - Edge of curb/bridges
    - Edge of sidewalks in public ROW and at commercial/industrial structures
    - Airport runways, taxiways and ramps
    - Miscellaneous features 100sq ft or greater such as tennis courts, patios, swimming pools, etc.
    - Obstructed areas

5. Building outlines shall be topologically clean with no over and/or under shoots.

6. Apparent residences shall be differentiated from “out buildings.”

7. The planimetric feature compilation and conversion process shall ensure duplication of feature data in CAD and GIS versions.

8. Prior to beginning full production of the planimetric mapping, the Vendor shall provide a Pilot Project for review and acceptance.

9. Individual layers shall be provided for each unique feature. The layer names, line styles, and colors shall be approved by the City of East Moline during the review of the Pilot Project.

Section 6: LiDAR (optional)

1. LiDAR may be used to produce the digital terrain models (DTMs) if the resulting product is supplemented by the necessary 3D stereocompiled break lines (as listed in paragraph 5.1.5) and mass points to meet the accuracy standards for the project.

2. The LiDAR produced terrain models must be edited so that the resulting contours meet the horizontal and vertical accuracy as well as cartographic standards pertaining to jaggedness and islands. A sufficient number of properly placed LiDAR ground control points will be used to vertically bias the LiDAR dataset to the project's vertical coordinate system. Checkpoints must be obtained and used throughout the project area.

3. The final QC on the LiDAR elevation models and the addition of the required break lines in the elevation models will be performed on photogrammetric workstations. The processes for LiDAR capture, enhancement, editing, checkpoints, and equipment shall be clearly defined in the proposal.

Section 7: Pilot Projects

After the acquisition of the 2009 photography and prior to beginning full production of the digital ortho imagery, the vendor shall provide three separate pilot projects: one for Scott County, one for The City of Davenport, and one pilot project for the City of East Moline, Illinois. The pilot project areas are approximately 2 sq mi x 2 sq mi and are shown on Attachments 11.1 and 11.5. The pilot projects shall include the color digital orthos and planimetric mapping. The pilot projects will be used to validate all procedures and verify that the project deliverables meet the specifications. The tonal qualities of the imagery in the approved pilot projects will become the standard for the remainder of the project.

Section 8: Deliverable Items

8.1 Scott County.

1. Film/Digital Image Inspection and Flight Log Report. (3 copies)
2. Digital Flight/photo index in AutoCAD and ESRI file formats. (3 copies)
3. Aerial Triangulation report. (3 copies)
4. Ortho Pilot Project (3 copies)
5. Planimetric Pilot Project (3 copies)
6. Planimetric mapping in AutoCAD and ESRI file formats. (3 copies)
7. 100sc color digital ortho tiles, 0.5ft GSD, uncompressed TIF with TFWs supplied on an external USB hard disk drive. (3 copies)
8. Image Rectification Surface Model in AutoCAD file format. (3 copies)
9. Color MrSids of each township supplied on an external USB drive. (3 copies)
10. Color and B/W MrSids of the entire county supplied on DVDs. (3 copies)
11. Color raster dataset in ESRI file geodatabase or ArcSDE SQL format of the entire county supplied on DVD and/or an external USB hard disk drive. (2 copies)
12. Project reports including meta-data. (3 copies)

8.2 The City of Davenport, IA

1. Ortho Pilot Project (3 copies)
2. DTM Pilot Project. (3 copies)
3. Planimetric Pilot Project. (3 copies)
4. Digital Terrain Model (DTM) including contours in an AutoCAD DWG file format and ESRI geodatabase file format supplied on DVDs. (3 copies)
5. Planimetric Mapping in an AutoCAD DWG file format and ESRI geodatabase file format supplied on DVDs. (3 copies).
6. 100sc color digital orthos in Davenport tiling grid, 0.5ft GSD, uncompressed TIF with TFWs supplied on an external USB hard disk drive. (3 copies)
7. Image Rectification Surface Model in AutoCAD file format. (3 copies)
8. Color and B/W MrSids of the City of Davenport supplied on DVDs. (3 copies)
9. Hardcopy 1” = 100ft scale Planimetric check plots on paper. (3 sets required)
10. Project reports including meta-data. (3 copies)

8.3 The City of East Moline, IL

1. Ortho Pilot Project (2 copies)
2. Planimetric Pilot Project (2 copies)
3. Planimetric mapping in AutoCAD and ESRI file formats. (2 copies)
4. 100sc color digital ortho tiles, 0.5ft GSD, uncompressed TIF with TFWs supplied on an external USB hard disk drive. (2 copies)
5. Image Rectification Surface Model in AutoCAD file format. (2 copies)
6. Color MrSid of the entire City supplied on a DVD. (2 copies)
7. B/W MrSid of the entire City supplied on a DVD. (2 copies)
8. Project reports including meta-data. (3 copies)

8.4 The City of Silvis, IL

1. Planimetric mapping in AutoCAD and ESRI file formats. (2 copies)
2. 100sc color digital ortho tiles, 0.5ft GSD, uncompressed TIF with TFWs supplied on an external USB hard disk drive. (2 copies)
3. Image Rectification Surface Model in AutoCAD file format. (2 copies)
4. Color MrSid of the entire City supplied on a DVD. (2 copies)
5. B/W MrSid of the entire City supplied on a DVD. (2 copies)
6. Project reports including meta-data. (2 copies)

8.5 The Village of Carbon Cliff, IL

1. Planimetric mapping in AutoCAD and ESRI file formats. (2 copies)
2. 100sc color digital ortho tiles, 0.5ft GSD, uncompressed TIF with TFWs supplied on an external USB hard disk drive. (2 copies)
3. Image Rectification Surface Model in AutoCAD file format. (2 copies)
4. Color MrSid of the entire City supplied on a DVD. (2 copies)
5. B/W MrSid of the entire City supplied on a DVD. (2 copies)
6. Project reports including meta-data. (2 copies)

8.6 The Village of Coal Valley, IL

1. Planimetric mapping in AutoCAD and ESRI file formats. (2 copies)
2. 100sc color digital ortho tiles, 0.5ft GSD, uncompressed TIF with TFWs supplied on an external USB hard disk drive. (2 copies)
3. Image Rectification Surface Model in AutoCAD file format. (2 copies)
4. Color MrSid of the entire City supplied on a DVD. (2 copies)
5. B/W MrSid of the entire City supplied on a DVD. (2 copies)
6. Project reports including meta-data. (2 copies)

8.7 Project Reports and Meta-Data

Written progress reports must be submitted to Lisa Miller every month. Included with each delivery of data shall be a Meta-data report. The format of the Meta-data report shall be approved by the Consortium Agencies after the delivery of the pilot projects. A final report on the production process, problems encountered and including quality control information generated throughout the project will be provided at the end of the project.

8.8 Delivery Schedule

Each vendor shall include with their proposal a delivery schedule for the project with the final delivery to occur before December 31, 2009.

If the Vendor fails to meet the project delivery schedule, a Consortium agency shall have the option to require the Vendor to forfeit the sum of $200 per contract for each business day that they are late. The Vendor agrees that the $200 per day late penalty shall be deducted from the final contract payment.

Section 9: Terms and Conditions

9.1 General

1. The Bi-State Regional Commission is the host agency for this proposal. After the award of the project, the individual agencies of the Consortium will provide their own contract administration and will be responsible for their own receiving, inspection, acceptance, payments, and dispute resolution. The Bi-State Regional Commission shall not be held liable for any costs, damages, etc. incurred by any other participating entity.

2. The selected vendor shall enter into contracts with the Consortium agencies that incorporate the following terms and conditions.

3. Payment to the extent of the value of work done and materials furnished will be made upon completion of the sections of the project and submission of an invoice from the vendor. Ten percent (10%) will be retained from each invoice until the project is finished to the satisfaction of the contracting entity. The retainage will be paid in full upon the acceptance of the final product as described in this RFP.

4. The Vendor assumes the responsibility for loss of or damage to deliverables in shipment until delivery is confirmed in writing by the contracting entity.

5. Each individual agency of the Consortium will review their own deliverables in a timely manner for compliance with the specifications.

6. The Vendor must agree in its proposal to promptly correct all defects and or failures to comply with the specifications contained herein for which the Vendor is responsible.

7. All aerial photography and digital orthophoto images associated with this project are the explicit property of the Consortium member agencies. The products produced from the aerial photography are the explicit property of the respective contracting entities. At the conclusion of the project, the contractor shall deliver all project materials and data to the contracting entities, unless otherwise instructed, and the contractor is expressly prohibited from retaining, using, selling, or distributing in any manner any such materials and data without the expressed written consent of the respective contracting entity.

Section 10: Bid Proposal Forms

10.1
2009 SCOTT COUNTY
BID PROPOSAL FORM

Vendors are requested to submit costs per Item as listed below considering and incorporating all specifications, considerations, and requirements previously set forth in this document.

After the final project vendor selection has been made, Scott County may reduce their scope of services in order to negotiate a revised contract amount.

See Attachment 11.1 for the 2009 Scott County extents.

Item 1: Aerial Photography Acquisition 4,800ft AMT flights $_____

Item 2: Color Digital Ortho Tiles 100sc with 1/2ft pixels $_____

- Approx. 540.8sq miles excluding the 1/8mi border.
- Including surface model in DWG file format.
- MrSids, Township by Township color.
- MrSid,Countywide color.
- MrSid,Countywide b/w.
- Color raster dataset in ESRI file geodatabase

or ArcSDE SQL format of the entire county.

Item 3: Planimetric Mapping $_____

- AutoCAD 2008 DWG file format
- ESRI ArcGIS 9.0 geodatabase file format

Item 4: Optional Color Infrared (CIR) Digital Ortho Tiles 100s with 1/2ft pixels $_____

- This item is optional and not required for consideration of proposal.
- Approx. 540.8sq miles excluding the 1/8mi border.
- Uncompressed TIF with TFWs
- MrSids, Township by Township CIR
- MrSid,Countywide CIR

Scott County

By: _____
Title

Date: _____

Contractor

By: _____
Title

Date: _____

Section 10: Bid Proposal Forms

10.2
2009 CITY OF DAVENPORT, IOWA
BID PROPOSAL FORM

Vendors are requested to submit costs per Item as listed below considering and incorporating all specifications, considerations, and requirements previously set forth in this document.

After the final project vendor selection has been made, The City of Davenport may reduce their area of coverage and/or their scope of services in order to negotiate a revised contract amount.

See Attachment 11.3 City of Davenport Extents for the areas of coverage.

Item 1: Aerial Photography Acquisition (as required) $_____

- See section 5.2.2

Item 2: DTM with 2ft Contours (Approx. 65sq mi) $_____

- AutoCAD 2008 DWG file format
- ESRI ArcGIS 9.0 geodatabase file format

Item 3: Planimetric Mapping (Approx. 65sq mi) $_____

- AutoCAD 2008 DWG file format
- ESRI ArcGIS 9.0 geodatabase file format

Item 3: MrSids (Approx. 83sq mi) $_____

- Color and B/W MrSids of the City of Davenport

The City of Davenport

By: _____
Title

Date: _____

Contractor

By: _____
Title

Date: _____

Section 10: Bid Proposal Forms

10.3
2009 CITY OF EAST MOLINE, ILLINOIS
BID PROPOSAL FORM

Vendors are requested to submit costs per Item as listed below considering and incorporating all specifications, considerations, and requirements previously set forth in this document.

After the final project vendor selection has been made, The City of East Moline may reduce their area of coverage and/or their scope of services in order to negotiate a revised contract amount.

See Attachment 11.5 City of East Moline Extents for the areas of coverage.

Item 1: Aerial Photography Acquisition 4,800ft AMT flights $_____

Item 2: Planimetric Mapping (Approx. 29.5sq mi) $_____
- AutoCAD 2008 DWG file format
- ESRI ArcGIS 9.0 geodatabase file format

Item 3: Orthophotography (Approx. 29.5sq mi) $_____
- 100sc color digital orthos
- Color & B/W MrSids
- Including surface model in DWG file format

The City of East Moline	**Contractor**
By: _____	**By:** _____
Title	**Title**
Date: _____	**Date:** _____

Section 10: Bid Proposal Forms

10.4
2009 CITY OF SILVIS, ILLINOIS
BID PROPOSAL FORM

Vendors are requested to submit costs per Item as listed below considering and incorporating all specifications, considerations, and requirements previously set forth in this document.

After the final project vendor selection has been made, The City of Silvis may reduce their area of coverage and/or their scope of services in order to negotiate a revised contract amount.

See Attachment 11.5 City of Silvis Extents for the areas of coverage.

Item 1: Aerial Photography Acquisition 4,800ft AMT flights $_____

Item 2: Planimetric Mapping (Approx. 9.3sq mi) $_____
- AutoCAD 2008 DWG file format
- ESRI ArcGIS 9.0 geodatabase file format

Item 3: Orthophotography (Approx. 9.3sq mi) $_____
- 100sc color digital orthos
- Color & B/W MrSids
- Including surface model in DWG file format

The City of Silvis	**Contractor**
By: _____	**By:** _____
Title	**Title**
Date: _____	**Date:** _____

Section 10: Bid Proposal Forms

10.5
2009 VILLAGE OF CARBON CLIFF, ILLINOIS
BID PROPOSAL FORM

Vendors are requested to submit costs per Item as listed below considering and incorporating all specifications, considerations, and requirements previously set forth in this document.

After the final project vendor selection has been made, The Village of Carbon Cliff may reduce their area of coverage and/or their scope of services in order to negotiate a revised contract amount.

See Attachment 11.5 Village of Carbon Cliff Extents for the areas of coverage.

Item 1: Aerial Photography Acquisition 4,800ft AMT flights $_____

Item 2: Planimetric Mapping (Approx. 6.0sq mi) $_____
- AutoCAD 2008 DWG file format
- ESRI ArcGIS 9.0 geodatabase file format

Item 3: Orthophotography (Approx. 6.0sq mi) $_____
- 100sc color digital orthos
- Color & B/W MrSids
- Including surface model in DWG file format

The Village of Carbon Cliff

By: _____
Title

Date: _____

Contractor

By: _____
Title

Date: _____

Section 10: Bid Proposal Forms

10.6
2009 VILLAGE OF COAL VALLEY, ILLINOIS
BID PROPOSAL FORM

Vendors are requested to submit costs per Item as listed below considering and incorporating all specifications, considerations, and requirements previously set forth in this document.

After the final project vendor selection has been made, The Village of Coal Valley may reduce their area of coverage and/or their scope of services in order to negotiate a revised contract amount.

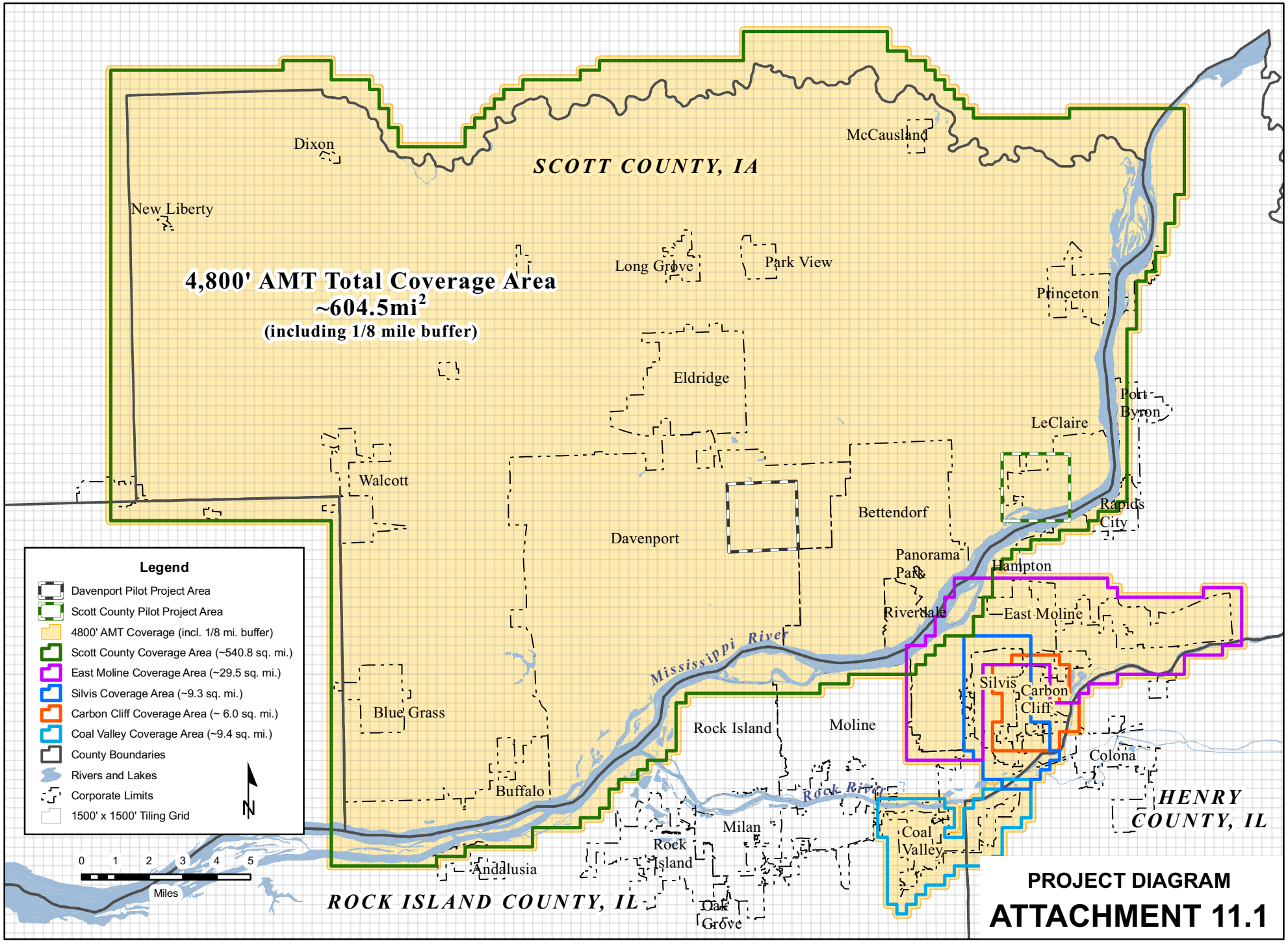
See Attachment 11.5 Village of Coal Valley Extents for the areas of coverage.

Item 1: Aerial Photography Acquisition 4,800ft AMT flights $_____

Item 2: Planimetric Mapping (Approx. 9.4sq mi) $_____
- AutoCAD 2008 DWG file format
- ESRI ArcGIS 9.0 geodatabase file format

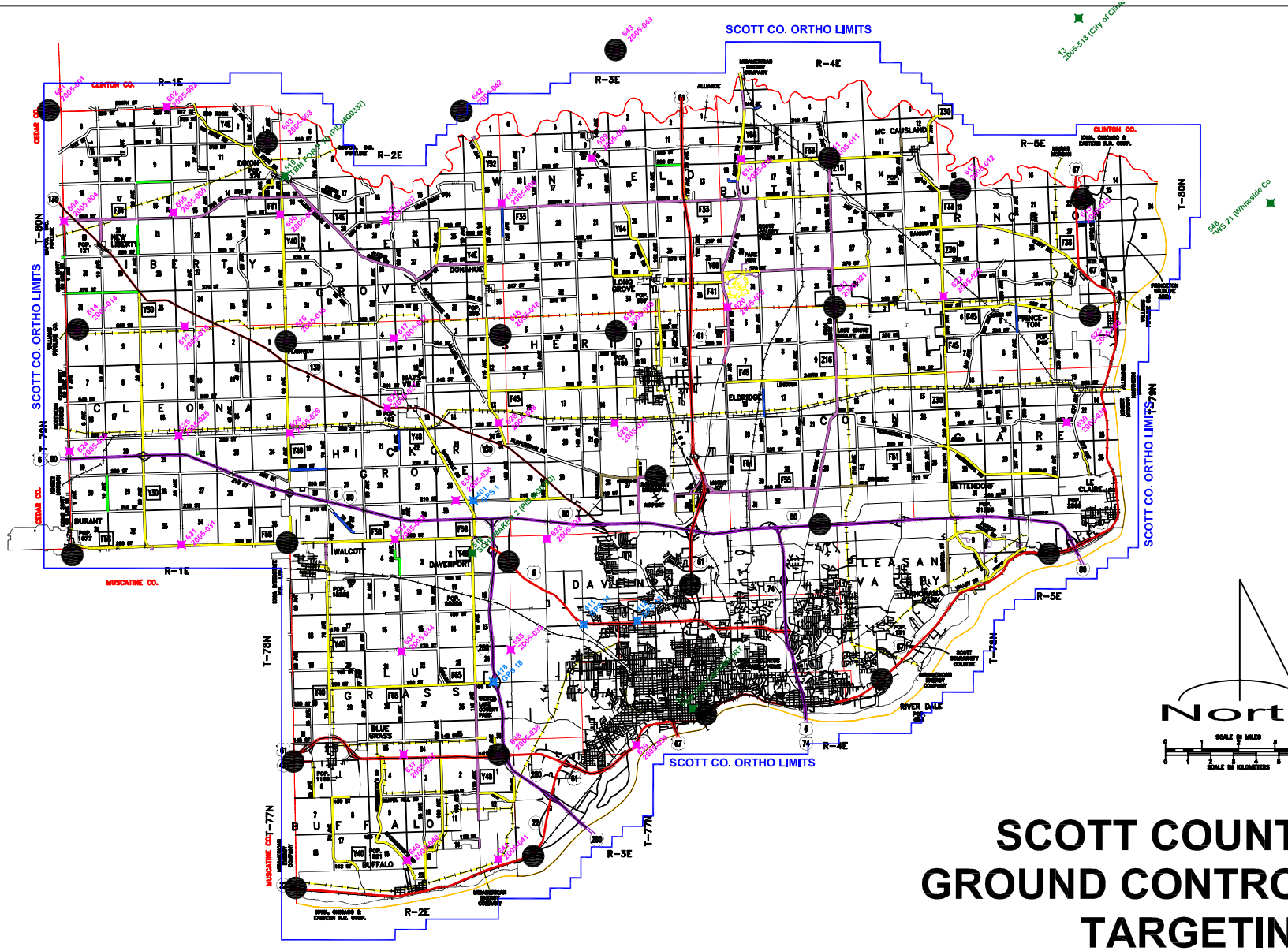
Item 3: Orthophotography (Approx. 9.4sq mi) $_____
- 100sc color digital orthos
- Color & B/W MrSids
- Including surface model in DWG file format

The Village of Coal Valley	**Contractor**
By: _____	**By:** _____
Title	**Title**
Date: _____	**Date:** _____



PROJECT DIAGRAM

ATTACHMENT 11.1



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SCOTT COUNTY GROUND CONTROL TARGETING 01-09-2009

ATTACHMENT 11.2

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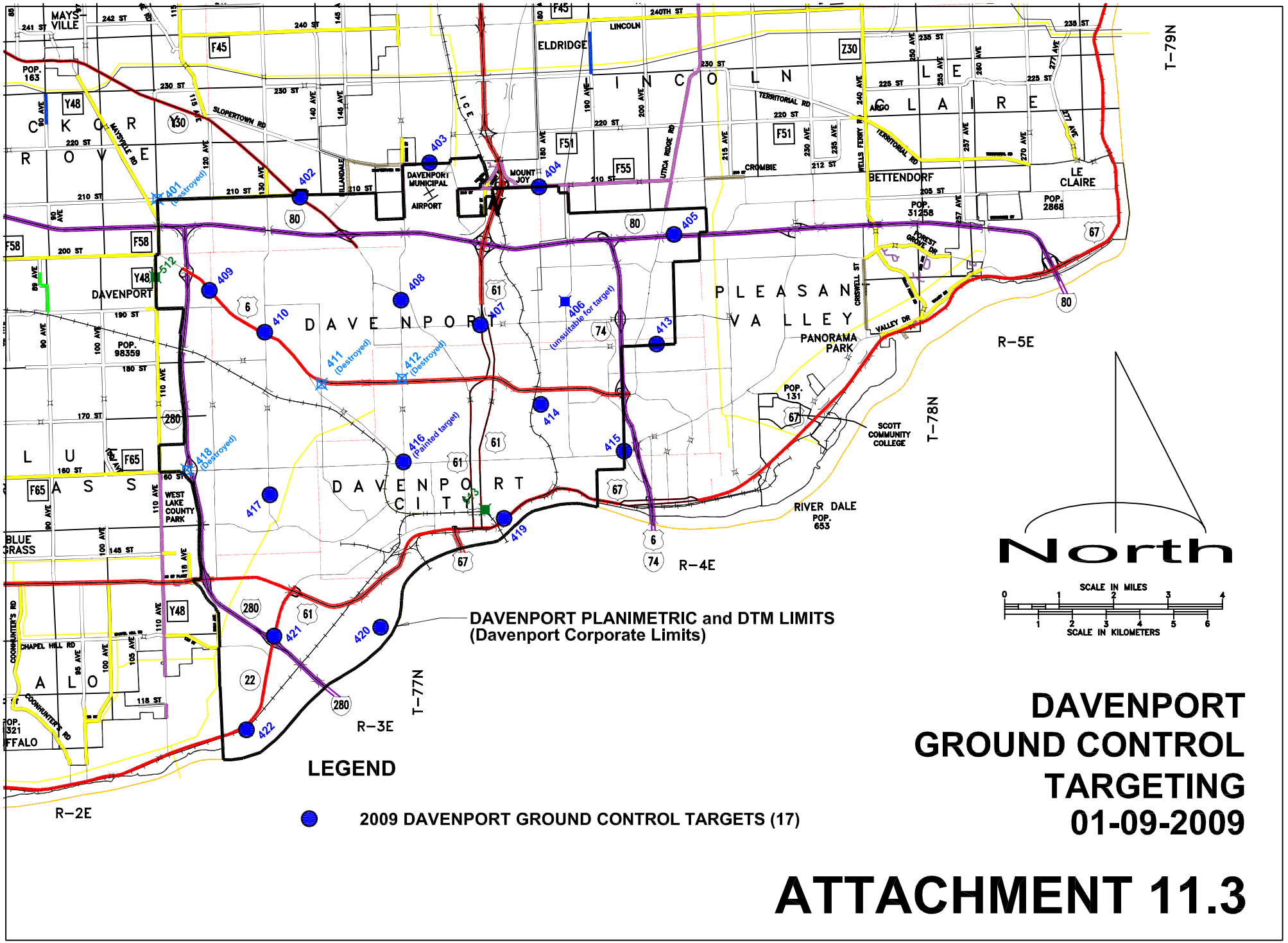

DAVENPORT GROUND CONTROL TARGETING 01-09-2009

ATTACHMENT 11.3

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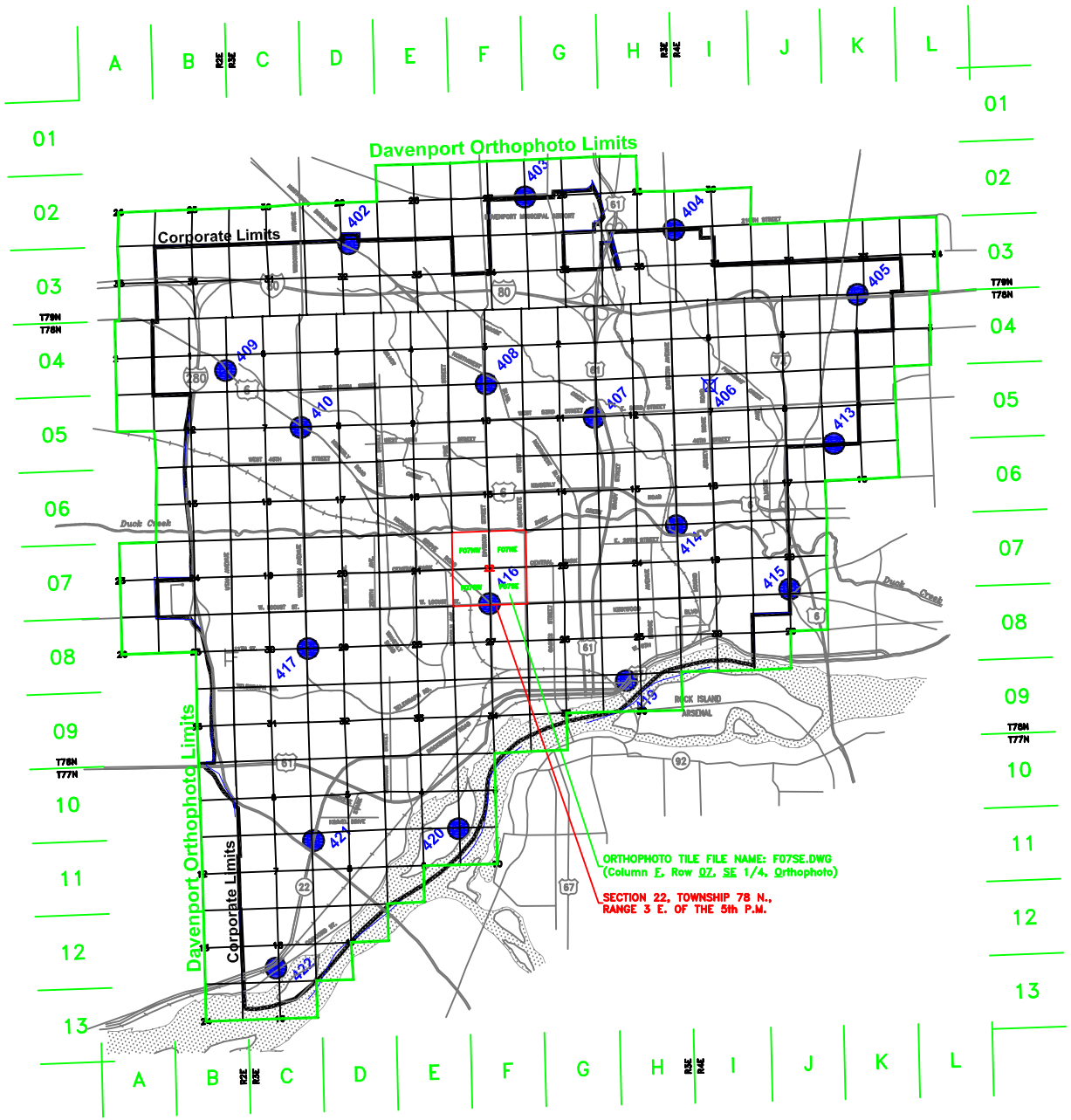

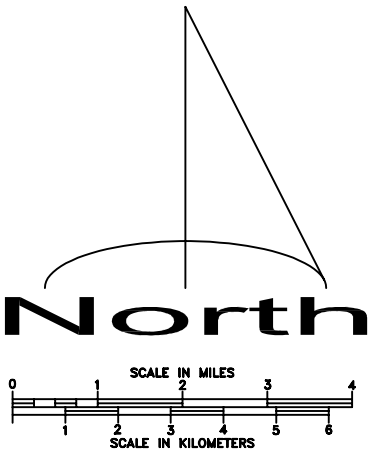

DAVENPORT SECTION BASED TILING SCHEME 01-09-2009

ATTACHMENT 11.4

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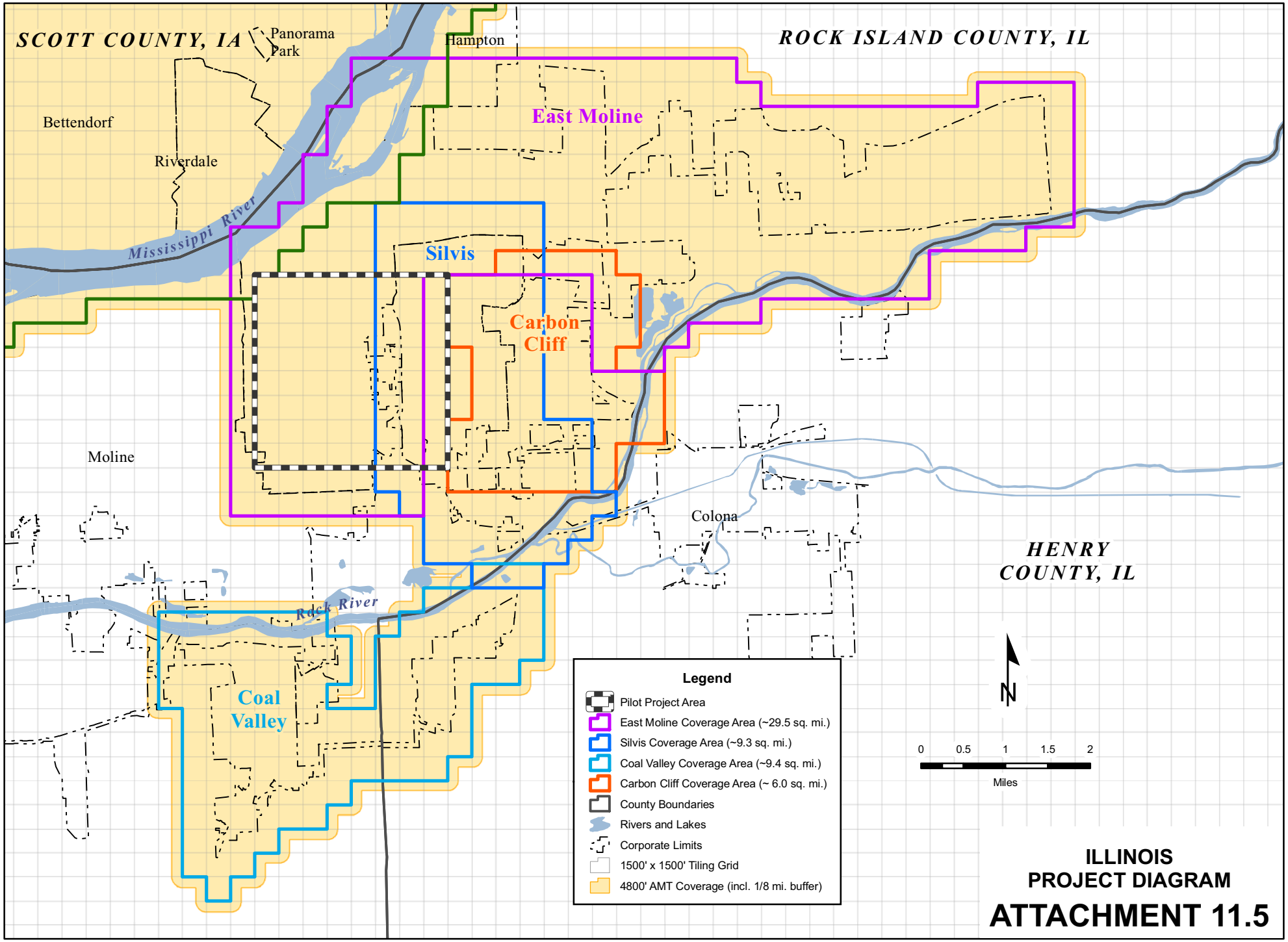

ILLINOIS PROJECT DIAGRAM

ATTACHMENT 11.5