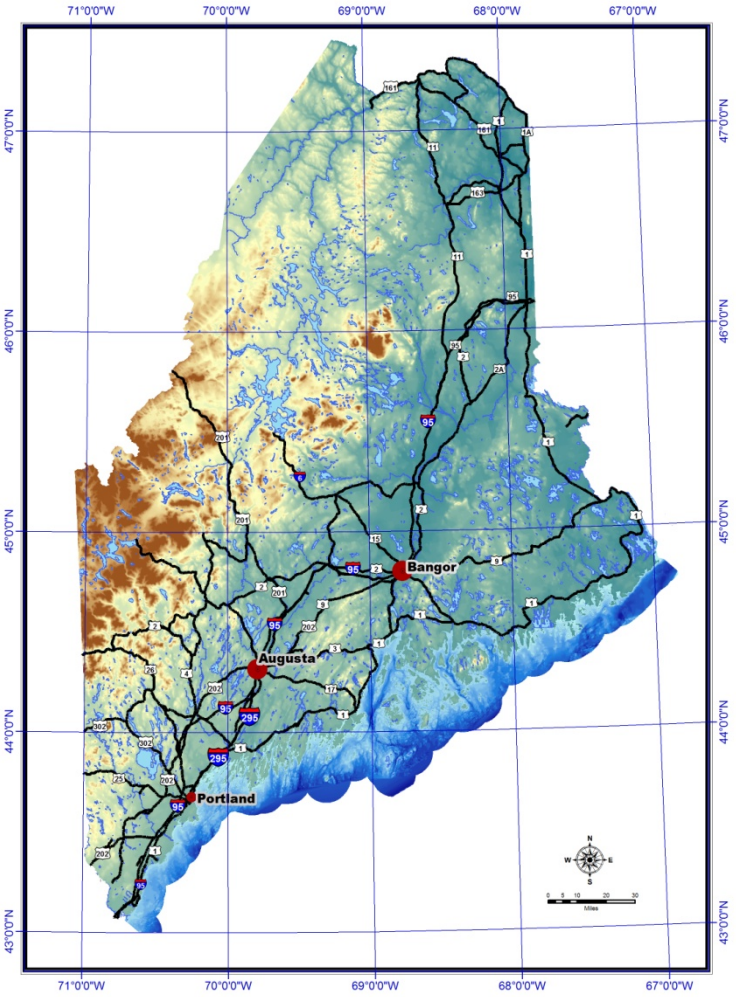
RFP# 201104074
Development
of
Statewide Parcel Digital
Spatial Data



Spatial Alternatives

Yarmouth, Maine

Sebago Technics
Engineering Expertise You Can Build On

Westbrook & Lewiston, Maine

June 15, 2011

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Division of Purchases
Burton M. Cross Building, 4th Floor
111 Sewall Street
9 State House Station
Augusta, ME 04333-0009
RFP #201104074

June 15, 2011

To Whom It May Concern:

Spatial Alternatives, Inc. is pleased to respond to you RFP for Development of statewide parcel digital spatial data. We are a full service GIS consulting company focused on assisting our clients with all of their GIS needs. In teaming with Sebago Technics, I believe we have put together a team with long experience working with Maine municipalities and experience creating parcels throughout the state. Our team has the skills and experience to complete this task and provide you with an excellent base of parcel data to use in your GIS efforts. Spatial Alternatives worked closely with the Office of GIS during the original two rounds of parcel grants and completed over 18 municipalities grants. More importantly, we have worked with a number of towns in this area over a number years and work hard to maintain relationships with our clients. Sebago Technics has experience with parcel creation and has worked in a wide array of municipalities throughout the state. Between our two companies, I believe we will provide the State of Maine with the best opportunity to both gather and create the best and most complete parcel composite data layer possible within the budget provided.

Judy Colby-George, owner of Spatial Alaternatives will be the Prime Contractor for this project, while working closely with Jon Giles of Sebago Technics as their main contact. This RFP contains Sections 1-6 as outlines in the RFP and includes appendices with Resumes of key staff, Sample project report, and online project management software. Spatial Alternatives Federal ID number is 01-0546580. Judy Colby-George is the owner of Spatial Alternatives and as such is authorized to sign this proposal and guarantee the pricing through October 31, 2011. She has not participated and will not participate in any action contrary to the RFP.

Thanks you for the opportunity to provide you with our response to the RFP and we look forward to working with you in the future.

Sincerely yours,

Judy Colby-George

Judy Colby-George, Principal

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June 14, 2011
11172

Judy Colby-George, Principal
Spatial Alternatives
117 West Main Street
Yarmouth, ME 04096

Dear Ms. Colby-George:

This letter is to affirm our willingness and desire to team with Spatial Alternatives (SA) in responding to the State of Maine's Request for Proposal titled "Development of statewide parcel digital spatial data"", dated May 2011. As we have discussed Sebago Technics, Inc. (Sebago) will be performing an estimated 50% of the work. Specifically Sebago will:

- Assist with the gathering and compiling existing GIS parcel data (Task 1).
- Develop digital parcel data from hardcopy tax maps (Task 2).
- Updating digital parcel data (Task 3).
- Acquiring existing, digital assessors data (Task 4).
- Creation and acquisition of FGDC-compliant metadata (Task 5).

Our staff will be represented by Jon Giles and Ben Bolduc. Both Mr. Giles and Mr. Bolduc are experienced in the GIS service offering and we are looking forward to assisting SA with this study. Jon and Ben bring over 18 years of geospatial experience working with local government, the State of Maine, utilities and public and private sector geospatial data consumers. This experience combined with our network of contacts will be of great value in collecting, creating, updating, and standardizing the GIS parcel data collected during this project.

Thank you for selecting Sebago Technics to be a part of the Spatial Alternatives team for this geospatial project. We look forward to working with you and all of the stakeholders.

Sincerely,

SEBAGO TECHNICS, INC.

Troy F. McDonald, PLS
Vice President, Survey

TFM:tfm/dlf

1. Corporate Background

Spatial Alternatives (SA) is a full service GIS consulting firm which serves municipalities, small utilities, and other consultants. Judy Colby-George started Spatial Alternatives 10 years ago after working with a small GIS services company (Geo-Systems) for ten years. SA is proficient in all aspects of GIS implementation from needs assessment, to data development, to end use customization. Working with a variety of tools, SA specializes in developing planning scenarios to analyze the impacts of different policy options and developing methods which engage the public in decision making. SA provides continuing GIS support to a number of clients, serving as their in-house GIS support. SA is known throughout the state for high quality GIS work with an attention to customer service and making GIS accessible to a wide range of clients.

SA believes that we are the best qualified firm to bring the State of Maine the most complete data set possible due to our long history working with municipalities in the state. SA is dedicated to providing high quality GIS services to clients as we currently have a long term relationship with many of the towns which are the focus of this Request for Proposals. Spatial Alternatives specializes in municipal GIS applications and works with a large number of Maine towns and cities to develop their GIS data and help them to integrate GIS into their daily workflows. Together with our partner Sebago Technics, all work will be completed by Maine based firms ensuring a high level of local presence that cannot be achieved when working from a far.

SA is a corporation incorporated in the State of Maine. We have a single office in the town of Yarmouth. The President and majority owner of the company is Judy Colby-George. She will also be the lead contact for the SA Project Team. Other members of the SA staff will be Christine Manderson, who has worked with SA for the past 8 years and has developed parcel data for a number of towns and performs most of our yearly parcel updates.

Judy Colby-George will be the project manager and key contact for this project. She has been working with municipalities to develop their GIS capacity for the past 20 years. She has developed parcel data for more than 20 municipalities. Judy has been using ESRI software for more than 20 years and currently uses ArcGIS10.0 for all our work. Judy has worked with a number of municipalities for well over 10 years. As principle and owner of SA, the State can be assured Judy will be the project manager for the entire duration of the project.

Chris Manderson is our GIS Application Specialist. She has a background in programming and has been working with ArcGIS since it was released. She has been working with SA for 8 years. She has been performing most of our

parcel updates in that time and has a wealth of experience developing parcels in Maine. Most recently she has developed parcel data for both Pownal and Milford.

Judy Colby-George will design the parcel methodology and be the contact between the State and the Project Team. She will work on the parcel data in those areas where there is particular difficulty or confusion in producing the required parcel mapping composites. She will also manage the subcontractor relationship as well as the delivery and approval of the final data to the Maine GeoLibrary.

Each person working on the project will be able to devote the time and attention to ensure a quality product is achieved. Resumes for the Project Team personnel are found in Appendix A.

SA will be teaming with Sebago Technics, Inc. Sebago Technics is a corporation incorporated in Maine and has offices in Westbrook and Lewiston, Maine. Sebago Technics (STI) was founded in 1981 as a multi-service engineering consulting firm and has been providing GIS services for the last decade. STI provides engineering consulting services to public and private clients throughout Maine and New England. STI's core staffs of engineers, land surveyors, landscape architects, and soil scientists have played significant roles in many major projects throughout Maine and New England.

Jon Giles, PLS, will be the project manager and primary contact for Sebago Technics on this project. Jon Giles joined Sebago Technics in 2007 and has been working in the GIS and mapping field for over 20 years. Since joining STI he has managed many GIS projects for our public and private clients, including parcel mapping, coastal floodplain mapping, and utility mapping. Jon continues to practice land surveying as well and is a licensed Maine land surveyor. Prior to joining Sebago Technics, he was the vice president of an aerial mapping firm based in Maine and was the City of Portland's GIS Coordinator for 9 years. As such he has extensive relationship with GIS users and producers throughout Maine and New England. Jon has overseen numerous parcel mapping projects, including the City of Portland's in-house project to map over 30,000 parcels. Additionally he has produced several parcel mapping projects for public and private customers while at Sebago Technics. His experience in land surveying and aerial mapping will also aid the Project Team's efforts in utilizing the most appropriate base data to control the creation of the parcel mapping and updates. The land surveying background will be crucial in making quick informed decisions about how to resolve discrepancies between adjacent tax maps and towns using established boundary principles and other mapping data when available.

Ben Bolduc, LSIT, will be other primary staffer from Sebago Technics on the Project Team. He has been with Sebago Technics since 2004 and brings to

the project over 15 years of surveying and mapping experience. Since joining Sebago Technics he has progressed to crew chief and has been working on GIS/GPS projects with STI's GIS Manager Jon Giles. Ben has been using ArcGIS for the last several years working on GIS projects throughout Maine, for local GIS mapping projects and for a statewide multi-year project for a major telecommunications company. As part of these projects, he makes regular use of georeferencing scanned maps, various orthoimagery datasets, and plans to create accurate spatial products efficiently and thoroughly.

Resumes and additional information specific to an Introduction to Sebago Technics, a Company Profile of Sebago Technics, and a description of Project Organization at Sebago Technics is included in Appendix A.

2. Experience

Spatial Alternatives

SA has extensive experience creating and maintaining parcel data within the State of Maine. In the past 36 months SA has:

- Maintained and updated parcel and other related data for at least 10 towns and cities (Bath, Bowdoinham, Cape Elizabeth, Cumberland, Falmouth, Gray, Ogunquit, Phippsburg, Richmond, and West Bath)
- Developed parcels for Pownal and Milford
- Developed Comprehensive Plan Maps and developed build out models for Cape Elizabeth, Chebeague Island, Cumberland, Islesboro, Kennebunkport, and Yarmouth
- Worked on detailed parcel analysis and scenario development for Harpswell, Kennebunkport, Damariscotta, and Standish.

During the 2 rounds of GeoLibrary Parcel grants, SA worked exclusively on 18 municipalities:

- 4 Rapid Development Grant Towns (Bath, Cumberland, Phippsburg, and Yarmouth)
- 2 Level Two Parcel Conversions (Thorndike and Jackson)
- 5 Level Two Parcel Creation Grants (Bowdoin, North Yarmouth, Ogunquit, Richmond, and Unity)
- 4 Level Three Parcel Conversion Grants (Cape Elizabeth, Falmouth, Gray, and Topsham)
- 3 Level Three Parcel Creation Grants (Bowdoinham, West Bath, and Winslow)
- Assisted AVCOG in development of Level Two parcels for Paris, Norway, Oxford, and Woodstock

This accounts for 30% of all the parcel grants which were awarded. SA delivered all of its grants on time (with the exception of 2 towns which could not provide their assessing data until after the contract deadline because it had not yet to been created). All of the parcel mapping data was accepted by

the Maine Office of GIS without needing to be revised due to our understanding of the parcel mapping specifications and quality of work.

Listed below are some specific towns which we have worked with recently and over a long period of time.

Town of Falmouth, Maine ***5638 Parcels***

Judy Colby-George originally created Falmouth's parcel base in 1994 (at Geo-Systems) and has provided yearly updates for the past 16 years. SA provides a number of services to the town of Falmouth, ranging from needs assessment to project customization to data development.

SA updates the towns building footprints and street map each year, along with the parcel data. SA maintains the towns zoning data.

Contact:
Jennifer Phinney, Information Systems Administrator
Falmouth, ME 04105
jphinney@town.falmouth.me.us
207-781-5253

Town of Cumberland, Maine ***3367 Parcels***

Judy Colby-George originally created Cumberland's parcel base in 1994 (at Geo-Systems) and has provided yearly updates for the past 10 years. SA provides a number of services to the town of Cumberland, ranging from needs assessment to project customization to data development. SA works closely with town to collect infrastructure data and assisted with the most recent Comprehensive Plan.

Contact:
William Shane, Town Manager
Cumberland, ME 04021
wshane@cumberlandmaine.com
207-829-2205

Town of Gray, Maine ***4688 Parcels***

Judy Colby-George originally created Gray's parcel base in 1997 (at Geo-Systems) and has provided yearly updates for the past 15 years. Currently SA is working with the town to renumber all their parcels with an identifier that reflects the grid which the tax maps are printed on. SA worked to upgrade the town's parcels to Level 3 as one of the Parcel Grants. SA provides a number of services to the town of Gray, ranging from needs assessment to project customization to data development.

Level 3 Parcel Conversion: $25,000 (includes photogrammetry costs)
Time Frame: Jan - August
Contact:
Helen Taylor
Assessor, Town of Gray
Gray, Maine 04039
assessor@graymaine.org,
207-657-3339

Town of West Bath, Maine ***1435 Parcels***

SA created West Bath's parcels to the State's Level 3 accuracy; SA has updated the data yearly since its creation.

Level 3 Parcel Creation Cost: $9,000 (includes photogrammetry costs)
Time Frame: 1year, June 2006 – June 2007
Contact:
Pamela Hile
Town Administrator, West Bath
219 Foster's Point Road, West Bath, ME 04530
wbadmin@suscom-maine.net
207-443-4342

Town of Pownal, Maine ***863 Parcels***

SA created Pownal's parcels to the State's Level 2 accuracy,

Level 2 Parcel Creation Cost: $2100
Time Frame: February – May, 2011
Contact: Justin Poirer
429 Hallowell Rd, Pownal, Maine 04069
townclerk@pownalmaine.org
207-688-4611

Town of Milford, Maine ***1435 Parcels***

SA created Milford's parcels to the State's Level 2 accuracy. These parcels were developed for the Bangor Area Stormwater Project and will be given to the town but the town was not involved in their creation.

Level 2 Parcel Creation Cost: $3,000
Time Frame: February – March, 2011
Contact: LaMarr Clannon, Maine NEMO
Partnership for Environmental Technology Education
584 Main Street
South Portland, ME 04106
207-771-9020
lcannon@maine.rr.com

Other Parcel Creation/Update Projects:

City of Bath
Town of Bowdoin
Town of Bowdoinham
Town of Brunswick
Town of Cape Elizabeth
Town of Cumberland
Town of Jackson
Town of Ogunquit
Town of Phippsburg
Town of Pownal
Town of North Yarmouth
Town of Richmond
Town of Searsmont
Town of Thorndike
Town of Topsham
Town of Unity
Town of Woolwich
Town of Yarmouth
Greater Portland COG
Androscoggin Valley COG

Clients with GIS projects not related to Parcel Creation or Updates:

City of South Portland
Town of Bar Harbor
Town of Chebeague
Town of Damariscotta
Town of Harpswell
Town of Islesboro
Town of Kennebunkport
Town of Standish
Town of Woolwich
Town of Yarmouth
Bangor Area Stormwater Group
Greater Portland COG
Androscoggin Valley COG
Brunswick Sewer District
Yarmouth Water District
Bath Water District
State Planning Office
Maine NEMO
Planning Decisions

Sebago Technics

Sebago Technics bring additional geospatial experience to the Project Team. During the last 36 months STI has completed several related projects including:

- Annual tax map maintenance for the Town of Waterboro, ME
- Created parcel mapping of the Towns of Limington and the Isle of Haut.
- Created parcel composite and draft land use and shoreland zoning maps for Town of Waterboro, ME

Other geospatial projects completed in the last 36 months by Sebago Technics includes:

- Provides ongoing mapping services to FairPoint of Northern New England
- Produced coastal flooding maps for 9 towns as part of a series of wave studies conducted by STI on behalf of 9 towns.
- Completed GPS/GIS storm sewer mapping project of the Hart Brook Watershed for the City of Lewiston, ME.
- Completed mapping of all electric services at the former Loring Airbase in Limestone, ME for Maine Public Service.

Listed below are specific project details for a related municipal mapping project:

Town of Waterboro, Maine ***4500 Parcels***

Sebago Technics converted the Town of Waterboro's hardcopy tax maps to a digital set of tax maps beginning in 2002 and have been updating these annually since then. In 2008 the Town requested us to georeference the individual tax map sheets in ArcGIS to produce a composite of the parcels for use in a series of draft zoning and shoreland zoning maps. As part of this project we also developed more detailed mapping of waterbodies for production of shoreland zoning mapping. We also provide on call GIS and mapping support to the Town as needed.

Cost: $11,000 (for 2008 zoning project)
Contact:
Tom Ursia, Town Planner
24 Townhouse Rd, Waterboro, ME 04030
townplanner@waterboro-me.gov
207-247-6166 x224

3. Understanding of Project Requirements

It is our understanding the State is interested in acquiring digital parcel data for all the municipalities listed in the RFP to create a composite tax parcel layer for the State. The data is meant to aid broadband deployment within the State of Maine by creating the necessary GIS data to support this long term project. It is for this reason the State is interested in

- acquiring any existing digital parcel data
- updating existing digital parcel data to reflect changes through April 1, 2011
- creating Level 2 digital parcels data for all remaining towns which have tax maps, but no existing GIS parcel data.
- harvesting tax assessing data from all towns listed who have electronic assessing data.

The Project Team does not believe that all of the work the State wishes to be completed can be accomplished for the funding level currently available. Therefore, it is our intent to focus on the

1. Collection of any remaining, previously undiscovered existing parcel data.
2. Create new Level 2 parcel mapping data where it doesn't already exist, specifically those towns depicted in the map in the Project Methodology section of our proposal.
3. Update digital parcel data which is older than 5 years.
4. Collect digital tax assessing data from all towns listed in the RFP who have electronic assessing data available, especially those towns for which the Project Team is creating parcel mapping data.
5. Create town specific and final parcel composite specific FGDC-compliant metadata for the final version of the parcel mapping products.

The Project Team feels this addresses Tasks 3.1 through 3.5 of the RFP given the current level of funding and provides the State with the largest area that is likely to be completed given the available funds and existence of data suitable for use in such a parcel mapping endeavor. Our proposed project area is what we can propose is possible given our Team's knowledge of several important factors affecting the success of this project. These are discussed below in the Project Methodology section of our proposal and are based on our research, familiarity, and local knowledge of available data sets and cooperating organizations.

4. Project Methodology

4.1 Project Plan

The Project Team will begin the process by contacting all of the communities identified by the State in the RFP. The Project Team intends to work with regional agencies around the state to contact municipalities within their jurisdiction or service areas, as it has been our experience that existing relationships have a much better

success rate in retrieving information. This work will take place within the first four months of the project. It is likely we will have to extend the data gathering for the project because it is highly unlikely that there will be much response from small communities with mostly volunteer staff during the months of July and August. The Project Team will contact each municipality three times, if at that time we have not managed to contact anyone or have not had a positive response, we will consider them non-compliant and cease effort to get their data. A list of towns which are non-compliant will be forwarded to the State and if OGIS and the Maine GeoLibrary wish to contact the towns and ask for the compliance, we will accept their data through May, 2012. The establishment of this date is to ensure adequate time to process any data from a town, which may arrive late in the process, into the final deliverable products.

The Project Team will develop digital parcels data which meet the State of Maine specifications for Level 2 parcel development. This will be done through a series of steps broadly defined as:

- Creating Empty Geodatabase Container For Data
- Acquisition Of And Approach To Converting Parcel Data And Tax Maps.
- Developing Base Framework
- Rubbersheeting And Digitizing Tax Maps
- Developing Tax Parcels ID
- Joining Tax Database To Parcels For QA/QC

Creating Empty Geodatabase Container For Data

We will develop county specific geodatabases as a way to organize the data and work production. Each assessing database will be standardized with field names identified in the State Parcel Standard and loaded into the geodatabase. Existing parcel data will also be standardized and loaded. This will be done as information is collected. The geodatabase for the tax parcels will be developed with all fields listed in the Maine GeoLibrary standards. Each field will have a domain (where appropriate) to ensure data consistency.

Acquisition Of And Approach To Converting Parcel Data And Tax Maps.

Once contact has been established between the Project Team and a municipality, we will work with them to get copies of their tax maps and assessing data in a way that is least onerous to the municipality. If the town has existing GIS data we will acquire that data and attempt to gather as much information about its creation as possible. If the town as unscanned tax maps, our Project Team will work with the town to transport the tax maps to where they can be scanned. Sebago Technics has large format scanning facilities in both the Westbrook and Lewiston offices which will be used on this project to ensure any materials borrowed from a municipality are kept in a safe and secure environment while they are scanned. The use of local scanning facilities which are part of the Project Team's own offices will be an important factor in minimizing the threats to these often, one of a kind municipal

document. In cases where tax mapping cannot be borrowed the project Team will use other methods to acquire a copy suitable for the purposes of this project. The scanned tax maps will be stored in TIFF and/or JPEG formats for later use in parcel creation phase of the project. Once scanned the original material will be returned to the town as necessary.

We propose to update existing parcel data within the scope of this proposal if it is older than 5 years and there is existing tax mapping which is more recent than the existing parcel mapping. Additionally we are proposing that such existing data will only be updated to the most recent tax mapping that is publicly available from the town even if that is older than April 1, 2011. We are proposing the use of only the most recent hardcopy tax maps as a means to update existing digital parcel mapping. As someone who regularly works with municipalities to update their data, this is a time consuming process which requires significant communication between the contractor and the municipality, even when the municipal assessor provides much of this information to their tax mapping contractor If they have not updated their tax maps, it requires acquiring deeds, plans, and other documentation of the changes, then plotting, mapping and interpreting this information before the parcel mapping edits can be made. This is time consuming work and which often requires acquiring deeds, plans and other information through Registry of Deeds research and contacting various land development professionals. We believe it is not in the State's interest to expend resources on this process as it will dramatically reduce the area and number of towns whose parcel data can be collected and placed in the requested parcel composite. The use of existing, finished tax mapping updates will produce a more efficient process that in turn will allow the Project Team to map a larger number of towns.

The Project Team proposes that we concentrate on creating a larger composite by gathering the most recent existing GIS parcel data and the most recent tax mapping data which is available in the form of completed tax maps. With these two types of mapping data in hand we propose to produce the following:

1. Compilation of existing, current digital parcel data holdings.
2. New Level 2 parcel mapping for municipalities which currently do not have existing digital parcel mapping. The new Level 2 mapping will reflect the most current version of the tax mapping available to the public at the time the mapping is produced. Ideally this would reflect April 2011 conditions, but this cannot be guaranteed at this point until discussion start with the individual towns. Research has shown many towns we are proposing to map will have tax mapping current to 2010 or 2009 in some cases.
3. Updated parcel mapping for municipalities which have existing parcel mapping that is older than 5 years or has changed in the number of parcels by more than 10% since the existing parcel mapping was produced; this will be completed only if more recent tax mapping is available for these towns. The updates to the existing parcel data in this case will only reflect the most

recent version of the municipality's publicly available tax mapping.

4. Acquire assessor's data from the municipality if it is digital as outlined in the State parcel standard for Level 2 mapping, including the last book and page reference to deeds in the various county registry of deeds.
5. Create town specific FGDC-compliant metadata in a text format. Additionally we will produce FGDC-compliant metadata of the entire end product.

Developing Base Framework

The base framework for the parcels will be created using existing geospatial data. The base framework will include the town boundary, hydrography data, updated road centerlines which reflect the orthophotography, and other appropriate geospatial data which might be available from other sources, such as more accurate hydrography data. The road centerlines will be buffered to create the road right of way polygon. Once the base framework is developed, tax maps will be fit to the base framework using rubbersheeting techniques. All of the data will meet or exceed the Maine GeoLibrary Level 2 Standards. In cases where existing State orthophotography may be too dated to assist with update mapping, the Project Team will attempt to use newer imagery datasets which meet the accuracy requirement of the Maine GeoLibrary Level 2 Standards. The proposed 2011 NAIP imagery may be of assistance with georeferencing newer cadastral features and developments.

Rubbersheeting and Digitizing Tax Maps

Where tax maps come together, the Project Team will review the data and determine how well the various maps fit together. In areas of disagreement where the maps are confusing or the gaps or overlaps are too great to reconcile, the Project Team will print out a map identifying the area of confusion. Also, there will likely be areas within a single map where there are parcels with unclear boundaries; these areas will also be recorded. The Project Team will deliver these errors to the town contact as part of the QA/QC package. The municipality will have two weeks to respond with any clarifications, at that time the Project Team will make whatever changes make the most sense.

Developing Tax Parcels ID

The MapLot ID will be entered at the time the parcels are created as well as the Type field. The MapLot ID will match the MapLot ID in the assessor's database. If there is no assessing database or it has not been provided to the Project Team, the MapLot ID will follow the convention of Map-Lot-Sub-Misc (000-000-000-000) where the first characters will represent the Map number, the second the Lot number, the third a Subdivision number, and the fourth held for any odd identifications which don't fit the others.

Joining Tax Database to Parcels for QA/QC

The Parcel polygons will be joined to an export of the assessor's database. This information will be used to identify any parcels that have accidentally dropped out in the digitizing process. It will also identify parcels on the tax maps which have no record in the tax database and tax records which have no matching parcel on the tax maps. This information will be reviewed by the Project Team to find obvious errors which will be corrected. A final packet of information will be sent to the town with the errors identified during digitizing, the QA/QC documents. The town will have two weeks to respond with any clarifications or concerns. At that time the data will be considered final.

Metadata Authoring

The GIS data that is created as a result of this project will have complete metadata developed. This is data about the data and is important for sharing information. It is data such as who created the data, what time frame does it represent, what are the different fields, what projection is the data created in, what is the accuracy of the data. Metadata is a critical part of the GIS infrastructure.

The major workflow prerequisites will be the acquisition of either existing spatial and tabular assessing data or digital copies of the tax maps from which to create new spatial data. For each community, there will be time involved with determining the correct person in each town to contact, describing the project, and acquiring the data. For some towns this will be relatively straightforward and easy and in other communities it will be difficult and time consuming. The Project Team will use their extensive statewide network of contacts to make this contact as simple and useful as possible. The Project Team will closely coordinate office work with this data collection so that we are continuously able to both collect data from municipalities and be working to standardize and/or create digital parcel data. Due to the large number of municipalities involved in this project, it will be critical to maintain good communication among the team and to maintain a flexible approach in order to deliver the best possible product to the State.

The Project Team will coordinate its work with the Maine Office of GIS in order to maintain an orderly flow of data development and review. Judy Colby-George will be the primary contact, with Jon Giles as the secondary contact for the project. The Project Team will work closely with the State during contract negotiations in order to ensure an orderly process. While we have prepared a set list of communities that we know we can accomplish, we completely understand if the State's priorities for this Broadband Initiative project are slightly different than our list of towns. We are willing to negotiate the boundaries of coverage with the state to a mutually satisfactory list of municipalities once contracting is underway. Since we intend to complete the inventory for all the towns in the list, we are willing to work with the State after the inventory work is complete, in case, through that process, we discover that there are changes that make sense in the coverage area.

4.2 Project Management Plan

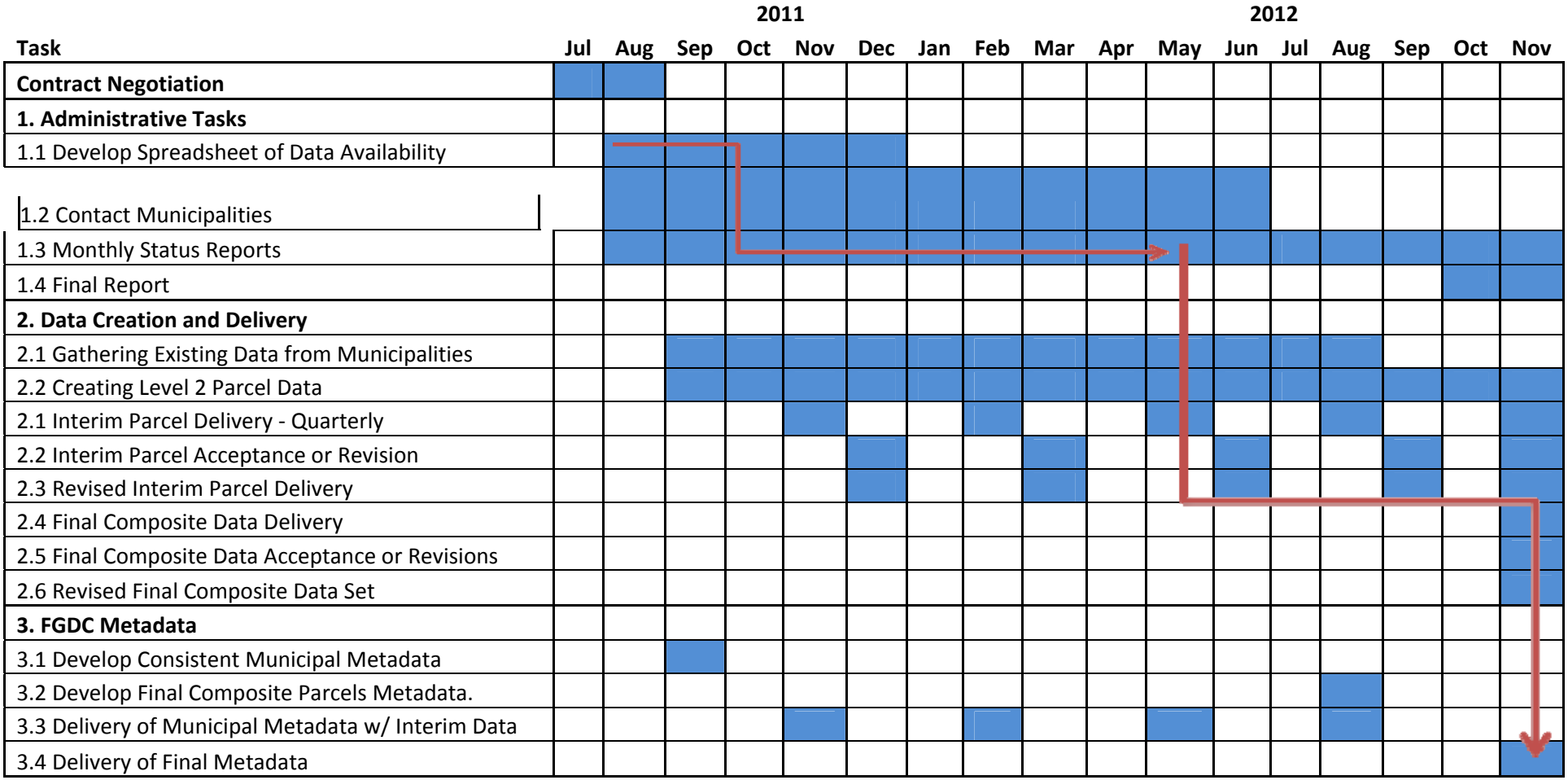
The Project Team will use a variety of methods to manage this project. We will develop a project management web site which the Project Team Leaders will keep updated and the State will have access to at any time. An example of this is contained in Appendix B. The team will also be delivering monthly updates in the form of reports, tabular data, and maps showing progress as we move through this project.

Monthly reports will be emailed to the entire Project Team and whatever State representatives are identified. When major deliverables or data are being delivered to the State for review, there will be a sign off sheet for the Project Team and the State in order to maintain clarity about dates of delivery and expected dates of review. These sheets will also be used as the final sign off for each deliverable and major delivery of data.

The Project Team will deliver completed parcel data town by town on a quarterly basis. The State representatives will have three weeks from delivery to review the parcel data submitted and send comments to the Project Team. The Project Team will have two weeks to respond to and make changes to the data for final submittal to the State. In this manner the data will be checked as it is being compiled and there will not be one large review process at the end of the project.

Examples of monthly reports (without maps and tabular data) and project management website are found in Appendix B

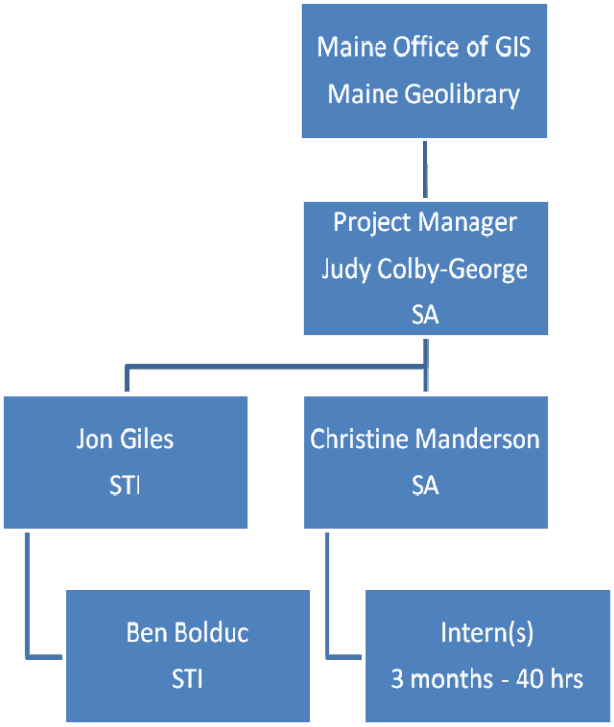
4.3 Detailed Project Work Plan



Spatial Alternatives

4.4 Project Staffing Plan

Judy Colby-George will be the project manager and key contact for this project. She will be the direct point of contact with the State's Project Team. Reporting to her will be Spatial Alternative's Christine Manderson and Sebago Technics' Jon Giles. In turn Christine Manderson will oversee the work of the student intern(s) and Jon Giles will oversee the work of Ben Bolduc Sebago Technics' offices.



Project Team Organizational Chart

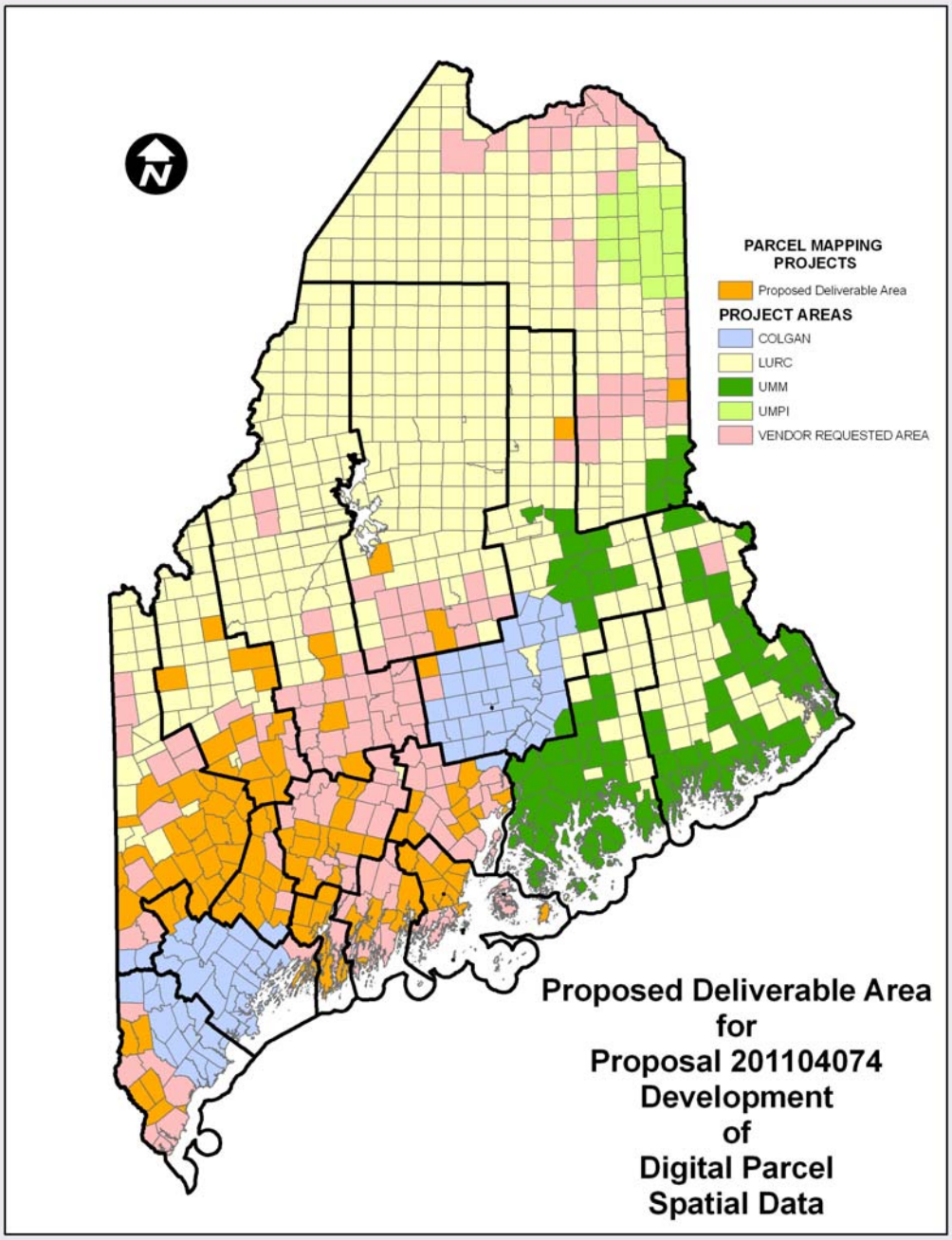
The Project Team will work with local Colleges and Universities to employ one or more interns during the course of the project. We believe that the work flow and intern experience will be enhanced by having one or two interns working at least a total of 40 hours a week for three months during the summer, rather than have them work for a longer period of time during classes. The Project Team intends to pay an intern between $10 - $15/hour depending on their experience. We have already been in contact with institutions within the state about their processes for assigning interns.

4.5. Extent of project data

The Project Team intends to develop a complete inventory for all the towns listed in the RFP. We will compile a database of all contacts, types of data available and gathered for each of the towns listed in the RFP.
We commit to developing, gathering, or updating Level II the following towns as listed in the table and shown on the map below.

Proposed List of Towns to be Delivered as a Parcel Mapping Composite

Acton	Auburn	Augusta	Avon
Bath	Belfast	Belmont	Berwick
Bingham	Boothbay Harbor	Bowdoin	Bowdoinham
Bremen	Bridgton	Brooks	Buckfield
Camden	Canton	Carrabassett Valley	Carthage
Chesterville	Damariscotta	Dexter	Dixfield
Dover-Foxcroft	Edgecomb	Eustis	Fairfield
Farmington	Freedom	Fryeburg	Gardiner
Georgetown	Gilead	Greene	Greenville
Greenwood	Hallowell	Hanover	Harpswell
Harrison	Hartford	Hebron	Hope
Houlton	Isle au Haut	Jay	Kingfield
Lewiston	Liberty	Lisbon	Litchfield
Livermore	Livermore Falls	Madison	Manchester
Mechanic Falls	Mexico	Minot	Monmouth
Monroe	Moscow	New Vineyard	Newcastle
Newry	North Berwick	Norway	Oakland
Ogunquit	Otisfield	Owls Head	Oxford
Palermo	Paris	Patten	Peru
Phippsburg	Poland	Randolph	Rangeley
Readfield	Richmond	Rockland	Rockport
Rumford	Shapleigh	Sidney	South Berwick
Stockton Springs	Stoneham	Stow	Sumner
Sweden	Thomaston	Topsham	Turner
Union	Waldo	Waldoboro	Wales
Warren	Washington	Waterford	Waterville
Wayne	Weld	West Bath	West Paris
Wilton	Windsor	Winthrop	Wiscasset
Woodstock			


PARCEL MAPPING PROJECTS
Proposed Deliverable Area
PROJECT AREAS
COLGAN
LURC
UMM
UMPI
VENDOR REQUESTED AREA
Proposed Deliverable Area for Proposal 201104074 Development of Digital Parcel Spatial Data

5. Cost Schedule

Item	Amount
Direct costs for compiling inventory of all towns listed in RFP.	$ 20,000
Direct costs for compiling, developing, or updating parcel data	$124,000
Administrative, project management, and other indirect costs	$ 6,000
Total Contract Amount	$150,000

Appendix A

Resumes

Judy Colby-George
Spatial Alternatives Inc.
117 West Main Street, Yarmouth, ME 04096
(207) 846-2355 jcg@spatialalternatives.com

CAREER SUMMARY

Principal, Spatial Alternatives, Yarmouth, Maine 2001 – Present
Principal of a geographic information systems consulting firm, specializing in planning and environmental applications.

Geo-Systems, Yarmouth, Maine 1991-2001
GIS analyst for a geographic information systems consulting firm. Worked on a variety of projects for municipal, state, and private clients. Responsible for project management, design, and implementation.

GENERAL PROFESSIONAL EXPERIENCE

Twenty-four years experience in the GIS field ranging from creating and updating GIS datasets, development of customized interfaces, and providing detailed analysis to solve client problems.
Use of CommunityViz software to assist municipalities in visualization and analyzing different growth strategies.
Twenty years of experience working with municipalities using GIS data to enhance decision-making.
Extensive experience preparing maps for public presentation.
Extensive experience customizing ArcView to meet client needs and add functionality.
Development of needs assessments to guide the implementation of GIS technology.
Eight years of experience creating customized training to meet client needs.
Broad knowledge of GIS and related technologies for application to planning and environmental issues.

EDUCATION

University of Wisconsin-Madison, 1996

M.S., Land Resources, Degree program focusing on GIS and Coastal Planning
Master's Thesis: Developing an Integrated Marine GIS for the State of Maine

University of Wisconsin-Madison, 1989

B.S., Geography and Certificate of Environmental Studies.
Degree focused on environmental modeling and planning issues.

SOFTWARE EXPERTISE:

- ArcGIS
- ArcView
- CommunityViz
- Spatial Analyst
- 3D Analyst
- ArcIMS
- ArcInfo
- ArcCad
- AutoCAD

Chris Manderson
Spatial Alternatives Inc.
117 West Main Street, Yarmouth, ME 04096
(207) 846-2355 clm@spatialalternatives.com

CAREER SUMMARY

GIS Application Specialist, Spatial Alternatives 2003 – Present
Provide clients with GIS services including developing and implementing new software applications which integrate with their GIS data, database design, field data collection, data management and technical support.

Programmer, Contract for Integrated Disability Resources, 1998 - 2004
Developed new components and modified existing components for insurance software, including client and financial applications.

Systems Analyst, City of Fort Collins, Fort Collins, Colorado 1994 - 1995
Enhanced and maintained database utility billing system using a combination of programming languages. Responsibilities included design, implementation and training.

Programmer, Northern Data Systems, Falmouth, Maine 1988 - 1993
Designed and programmed new application for motor vehicle registration, incorporating complex requirements set by the Bureau of Motor Vehicles. Coordinated the work of two programming team members.

GENERAL PROFESSIONAL EXPERIENCE

Seventeen years experience in the software business, including all aspects of software development from design and development through implementation.
Experience includes training, documentation and technical support.
Developed software for a variety of verticals including municipal, utility and insurance.
Eight years of experience utilizing ArcGIS and creating custom GIS applications.
Provided excellent customer support, including documentation, training and answering technical questions.
Developing Parcel data and updating parcel data for multiple municipalities.

EDUCATION

Boston University, 1988
B.S., Computer Science

SOFTWARE EXPERTISE

ArcGIS	ArcView
ArcPad	Visual Basic
Access	SQL

Jon Giles, PLS
GIS Manager

Sebago Technics
Engineering Expertise You Can Build On

Education:

University of Maine
Orono, ME
- *Bachelor of Science, Survey Engineering, 1992*

Registrations:

Professional Land Surveyor:
- Maine #2316

Memberships:

- *Former Member of the Legislative Working Group on Maine's Freedom of Access Laws, (Fall 1995)*
- *Maine Library of Geographic Information Board Member, appointed by the Maine Speaker of the House of Representatives (2002-2005, 2008-Present)*

Awards:

- *Public Works Director's Commendation (July 2005)*
- *Public Works Employee of the Month (Oct 2004)*
- *Police Department Commendation (2004)*
- *Co-recipient of Public Works Team Award (2002)*

Presentations/ Publications:

- *"Understanding GIS Data Accuracies", presenter at New England Chapter of the Urban & Regional Information Systems Association (URISA) meeting, Portsmouth, NH, November 2008.*
- *"Imagery for the Land Surveyor", presenter at the Maine Society of Land Surveyors Annual Meeting, Rockport, ME, February 2007.*

Mr. Giles has more than eighteen years experience in the field of survey and mapping. As a licensed surveyor in the State of Maine, he has worked as a land surveyor, performed boundary, engineering, topographic, Global Positioning System (GPS) control surveys and legal research.

Previously, Mr. Giles served as Vice President of a consulting firm in Maine where he managed the firm's survey, GPS, and Geographic Information System (GIS) related work. In addition to these tasks, he also conducted sales of aerial mapping projects for the firm throughout New England.

During his career with the City of Portland, he served as a surveyor and GIS Coordinator. In these positions, he was involved with both the fieldwork as well as the office work associated with a wide range of City survey, mapping, and engineering projects. He supervised the planning, implementation, and development of a large municipal GIS system and also has extensive experience with software maintenance, data and software purchasing, contractor management, intern management, and coordinating inter and intra departmental. As Sebago Technics' GIS Manager, Mr. Giles has been integral in the application of GIS technologies on many of the company's projects. In his position, he has overseen mapping projects in both the municipal and utility sectors. GIS data and techniques are also applied to a growing number of our engineering and environmental projects.

Mr. Giles has extensive experience with the following software and hardware:

Software

ESRI Products: ArcInfo 9.x, ArcEditor 9.x, ArcView 9.x, ArcView 3.x, ArcCAD 14, and ArcExplorer.

AutoDesk Products: AutoCAD 2007, AutoDesk Map 2007, AutoDesk Land Desktop, and Field Survey. AutoCAD experience spans AutoCAD Rel.12 to 2007.

Mapping Software: Leica GeoOffice 3, Leica SkiPro 2.1, Leica GISDataPro, CMM, CEFB, TDS SurveyPro, HP Plotter/Printer Software, Garmin MapSource, Trimble Pathfinder Office and Trimble Terrasync.

Office Software: Microsoft Office, Act, and various office productivity programs.

Hardware (specifically mapping related equipment)

GPS Equipment: Leica System 300, 500, and 1200 Dual Frequency Receivers (survey-grade GPS receivers), Leica GS50 (mapping-grade GPS receivers), Trimble GeoXH, and Garmin GPS72.

Survey Equipment: Lietz, Sokkisha, Nikon, and Topcon total stations; TDS/Husky data collectors; Topcon autolevels and Leica digital levels; optical theodolites.

Photogrammetry Equipment; DSR14 Stereocompiler with Kork KDMS data collection software.

Ben Bolduc, LSIT
GIS Specialist

Sebago Technics
Engineering Expertise You Can Build On

Education:

James Madison University
Harrisburg, VA
- *Bachelor of Science, Geography/Cartography, 1996*

University of Southern Maine,
Masters Level Classes
Portland, ME
- *Citizen Involvement and Dispute Resolution*
- *Land Use Control and Zoning*

Registrations:

Land Surveyor in Training

Memberships:

- *Maine Society of Land Surveyors*
- *National Society of Professional Land Surveyors*

Mr. Bolduc is an experienced Survey Crew Chief with more than 15 years of survey & GIS work experience. He worked his way quickly to Crew Chief responsibilities and given his GIS work experience has played a vital role in the company's GIS service offering. He has worked a variety of GIS projects that are in need of GPS locations to ensure accurate GIS mapping.

Mr. Bolduc has kept current on recent GIS/GPS trends and has focused his continuing education of GIS related topics. Ben is a survey professional with the ability to apply his knowledge of surveying and the tools of the trade to the GIS environment.

While at Sebago Technics, he has worked on a large variety of projects, from small to large, all over the State of Maine. Ben has worked under Jon Giles, GIS Manager for ORION Telcom Services, on a large multi-year project involving mapping communication facilities to ensure compliance with the Maine Public Utilities Commission.

Prior to joining Sebago Technics in 2004, Mr. Bolduc worked for a surveying and engineering firm in Colorado, an international construction company in South Carolina, and an open pit gold mine in Nevada. While working in Colorado, he worked on many large 200 to 400-acre surveys.

Mr. Bolduc has extensive experience with the following software and hardware:

Software

ESRI Products: ArcGIS 9.x.

AutoDesk Products: AutoCAD 2006, AutoDesk Map 2006, AutoDesk Land Desktop, and Field Survey. AutoCAD experience spans AutoCAD Rel.12 to 2006.

Mapping Software: TDS SurveyPro, HP Plotter/Printer Software, Trimble Pathfinder Office and Trimble Terrasync.

Office Software: Microsoft Office, and various office productivity programs.

Hardware (specifically mapping related equipment)

GPS Equipment: Leica and Topcon Dual Frequency Receivers (survey-grade GPS receivers) and Trimble GeoXH.

Survey Equipment: Leica, Timble and Topcon total stations; TDS/Husky data collectors; Topcon autolevels and Leica digital levels; optical theodolites.

Sebago Technics
Engineering Expertise You Can Build On

Introduction to Sebago Technics, Inc.

Since its formation in 1981, Sebago Technics has grown to a multi-service consulting firm of more than 45 design professionals and technical staff. Our multi-disciplinary project teams have played significant roles in the design, survey, engineering and implementation of many major projects throughout New England.

Sebago Technics, Inc.
Engineers
Land Surveyors
Landscape Architects
Soil Scientists

Our corporate philosophy is founded in our pride and commitment to provide our clients with creative, cost-effective professional services through an organized and responsive process. Our philosophy is supported by the emphasis placed on the major objectives of our practice: To provide a full range of consulting services; To provide our services in a responsive and timely manner; To maintain our continued involvement in quality projects; To provide our clients with design and engineering excellence.

Sebago Technics' historical interest and experience in public and private sector projects has served to form our reputation for quality technical services performed on time and on budget. Our current management and technical staff share these objectives, which have been so important to our growth and success. We are large enough to assemble the personnel and equipment resources necessary to accomplish large projects, yet small enough that principal managers maintain day-to-day involvement with our clients.

We believe our quality of life in the future will depend on the intelligent management of natural, physical, and human resources. At Sebago Technics, we are committed to the provision of professional services responsive to the needs of the people we serve and the protection of our natural, cultural and economic resources.

One Chabot St – P.O. Box 1339
Westbrook, Maine 04098-1339
Ph: 207 856-0277 Fax: 207 856-2206

250 Goddard Rd – Suite B
Lewiston, Maine 04240
Ph: 207 783-5656 Fax: 207 783-5655

Sebago Technics
Engineering Expertise You Can Build On

Sebago Technics, Inc.
Company Profile

Management of the firm is realized through senior staff members who maintain ultimate responsibility for the technical performance and administrative support of our staff, clients, and projects. These key members achieve results through expertise and experience in their individual specialties.

Walter P. Stinson, P.E.
President

Founder of Sebago Technics, Mr. Stinson has provided the leadership for expansion to more than 50 employees. He has 30 years of professional engineering and project management experience. Areas of special interest and expertise include roadway and utility infrastructure design for residential and industrial subdivisions, site development engineering, drainage and erosion control design, surficial soils evaluation for subsurface sewage disposal fields, and project management and administration.

Mark Adams
Executive Vice President

Mr. Adams has over 20 years of management, human resources and administrative experience. He is responsible for the day-to-day management of the company. His duties include team and project coordination, personnel issues, marketing and information services oversight and strategic planning. He is responsible for the supervision of the company's team leaders including its Auburn operations.

William T. Conway, R.L.A.
Vice President, Landscape Architecture

Mr. Conway has over 20 years experience with multi-disciplinary professional teams, and sound project management experience with municipal agencies, corporate clients, and private developers. He has developed a discipline of master planning, land planning, and landscape architecture at Sebago Technics, providing the firm with a strong design influence.

Stephen S. Sawyer, Jr., P.E.
Vice President, Transportation Services

Mr. Sawyer has over 30 years of broad experience in the transportation field, including route location/planning studies, preparation of contract documents (PS&E), and on-site construction administration. He possesses creative management capabilities and is skilled in making persuasive public presentations that build consensus on difficult issues. In his role of Vice President, Mr. Sawyer is responsible for all aspects of transportation related planning and engineering.

Owens A. McCullough, P.E.
Vice President, Engineering/Project Development

Mr. McCullough has over 20 years of general site and civil engineering experience covering the entire range of the company's project workload. His experience includes a broad range of both public and private sector engineering projects. He possesses exceptional interpersonal skills and has set himself apart as a dedicated project management professional. He is responsible for the overall coordination and management of engineering, quality control, budgeting, planning and providing technical assistance to project managers and technical staff.

Troy McDonald, P.L.S.
Vice President, Surveying

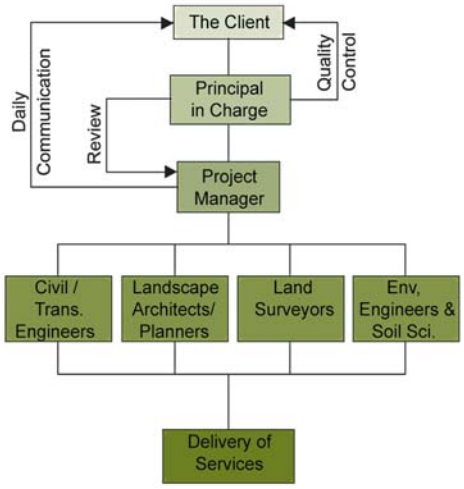
Mr. McDonald has over 25 years experience in boundary and engineering surveying and was one of Sebago Technics' original hires, joining the firm in 1984. He rejoined Sebago Technics as Director of Marketing & Business Development in 2007 after 10 years with Verizon. While at Verizon, he managed the contractual relationships with 40+ power companies in ME, NH and VT and supported Verizon's Regulatory organization before the Public Utilities Commission. In January 2009, Mr. McDonald was promoted to Vice President, Land Surveying and is responsible for all aspects of the company's land surveying operations including marketing, employee management and force/load oversight.

Sebago Technics, Inc.
Company Profile (con't.)

Ellen Stinson ***Senior Associate, Finance***	Mrs. Stinson has over 20 years of financial and administrative experience at Sebago Technics. She is responsible for the overall financial management of the company including billing, payroll, accounts payable/receivable and benefits. In addition, she administers the company's personnel compliance, policies and benefits programs.
Charles L. Brown, P.L.S. ***Senior Associate***	Mr. Brown has over 35 years experience in boundary and engineering surveying. His duties cover a wide range of work, including client relations, coordination of field and office staff, and overall supervision of a large survey staff. He serves as project manager and coordinates general field activities.
Daniel Riley, P.E. ***Senior Project Manager/Team Leader***	Mr. Riley is a Senior Project Manager with 16 years of experience in the civil engineering field on projects for the private sector, as well as federal and municipal clients. He has a diverse background in civil engineering, site design, residential and commercial development and permitting. He has specialized experienced with stormwater management and analysis, hydrologic studies, floodplain delineations and GIS applications.

Sebago Technics, Inc.
Project Organization

Our diversified professional experience provides each client with the specialized knowledge and abilities required for each project. In accordance with our corporate philosophy, the firm offers integrated professional services in the fields of civil, environmental and transportation engineering, soil science, land surveying, planning and landscape architecture.



Project teams are selected based on our understanding of client objectives, the special technical requirements of the project, and the management skills necessary to coordinate the comprehensive review and approval process. Specific team members are selected for their individual abilities and demonstrated performance on similar projects.

While the firm emphasizes its ability to provide coordinated multi-disciplinary services, each section within the firm practices independently for those clients who may require only certain aspects of our professional service. In some cases, our services may be limited at the outset of a project and more comprehensive as the project progresses. In either case, our multi-disciplinary strength provides a check and balance to each discipline performing services as an independent section of the firm.

A senior member of the firm is assigned responsibility for each client, and fills the position of Principal-in-Charge. A Project Manager is assigned to each project to maintain client communication, and coordinate the diverse technical and administrative aspects of the project. The Project Manager is available daily to meet client needs. With the Principal-in-Charge, the Project Manager selects and assigns technical staff as required by the nature and schedule of the project.

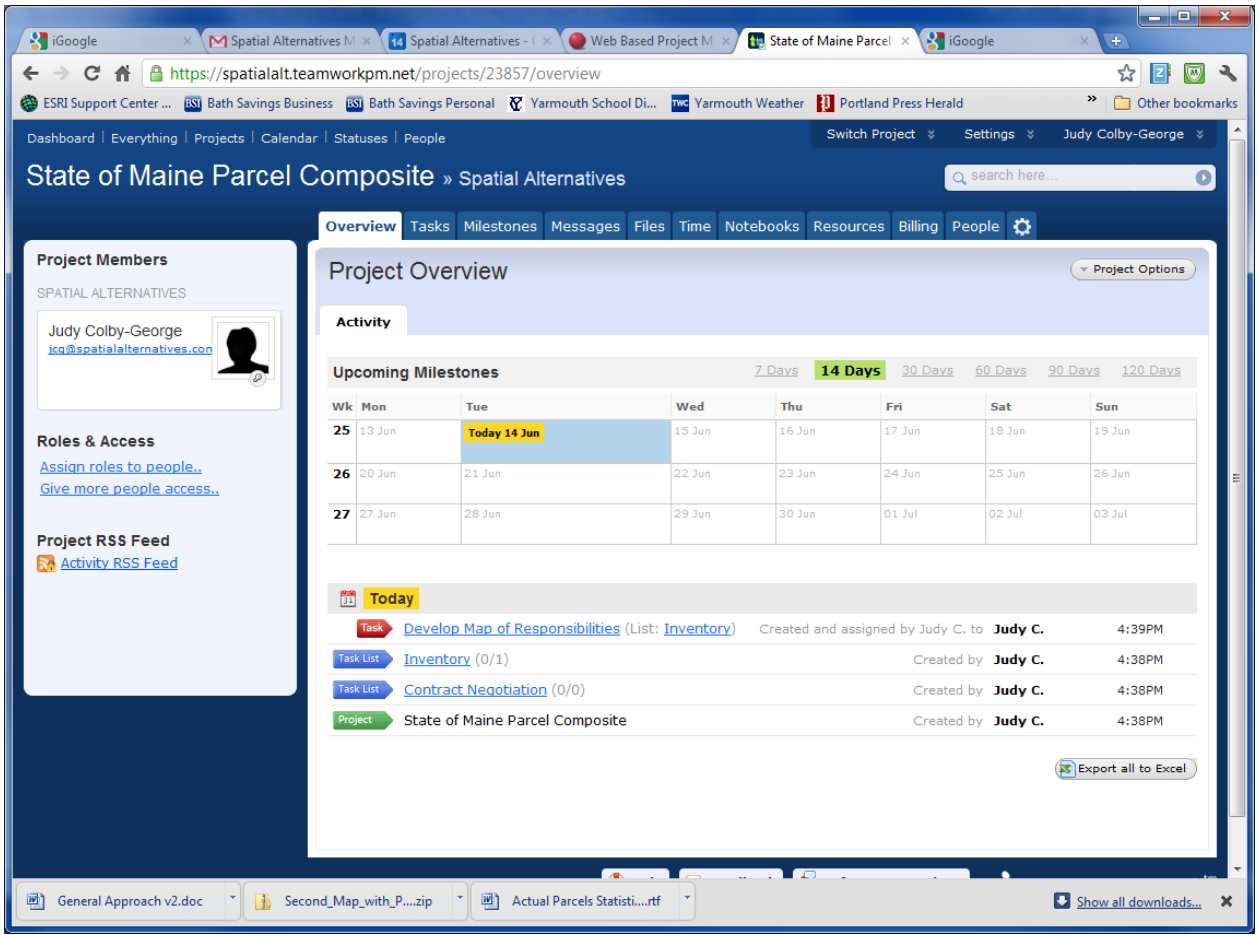
The chart illustrates our corporate structure and details our approach to project organization and management. The professional staff is supported by qualified technicians with the latest in computer technology. Technical software includes AutoCAD 2000i, Land Development Desktop and HydroCAD. The ACCI accounting package maintains up to date project costs and detailed reports of time charges and expenses by specific task.

Appendix B

Project Management Samples

Appendix B
Project Management Samples

This image is taken from a sample of online project management with the Project Team will use to collaborate between offices and with the Maine Office of GIS and Maine Geolibrary.



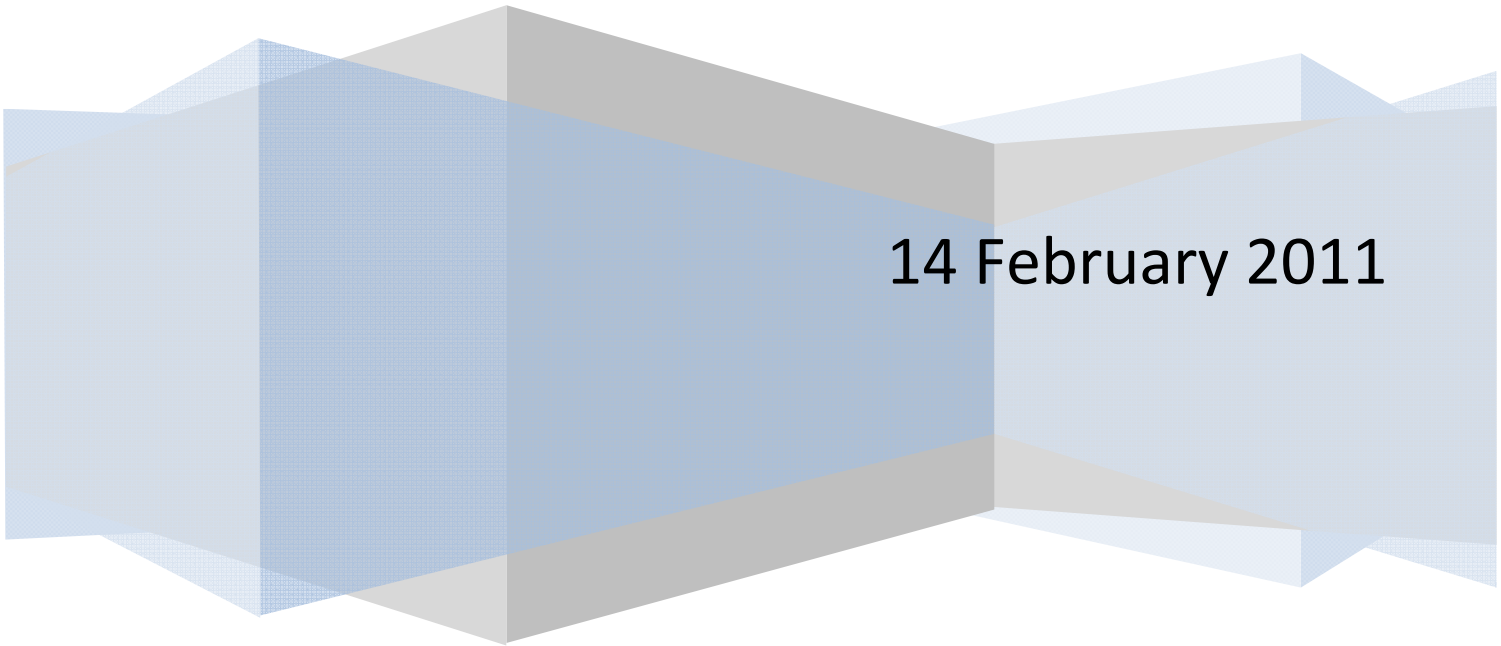
The next pages hold a sample reporting style we would propose to use for monthly reports. We would add to this format a map and spreadsheet showing progress to date.

Spatial Alternatives

Bangor Area Stormwater Group Development Patterns Modelling

Status Update Through January 2011

Judy Colby-George



14 February 2011

Status Report

1. Purpose

To report the status of work over the period from September 2010 through January 2011. The project started in this time period and initial data collection and contacts were made as well as research on best modelling techniques.

2. This reporting period (September, 2010 through January, 2011)

2.1 Tasks Worked On

Data Collection	Contacts to Owners	Received Data
All relevant State Level data and BWH data		Collected and input to Geodatabase
TPL Green printing Data	Yes	Received and input to Geodatabase
Bangor Data	Yes, resistant to handing over data	No
Brewer Data	Yes, no response	No, they apparently only have CAD files, USM is going to be converting them to GIS in the next several months
Hampden Data	Yes	Yes
Milford Data	Yes	Scanned copies of tax and zoning maps were received and converted to GIS, assessing data linked, all in geodatabase
Old Town Data	Yes	No GIS data has been received, data is apparently in development by Sewall. Receipt of tax assessing data.
Orono Data	Yes	No data has been delivered
Veazie Data	Yes	Yes

2.2 Completed Products and Plans

Completed Products
Developed Web Site for project management and data sharing
Developed GIS data structures for collecting data
Developed Build Out Model structure

2.3 Meetings

Meeting Type	**Attendees**	**Date**
Administrative	LaMarr, Judy, Chris Manderson (Spatial Alternatives)	8/2/2010
BASWG Meeting	LaMarr, Judy, BASWG	
Municipal Gov't Mtg	LaMarr, Judy, Chris, Bangor City Planner, Stormwater, GIS	10/13/2010
Administrative	LaMarr, Judy	1/3/2011
Administrative Phone/Email	LaMarr and Judy in contact on at least a biweekly basis	

2.4 Lessons/Obstacles

Lesson Type	**Lesson Detail**	**Logged By**
Data capturing more difficult than we originally thought, towns somewhat hesitant	Reassigned the process from doing all of the towns at once, to working with one town which is particularly interested as a pilot study. Hopefully this will help us improve the model and garner interest in the other communities.	JCG

3. Next reporting period (February – April)

Tasks	Description	Dates
Data collection	Continue to work with municipalities to collect necessary data	Feb-April
Develop Build Out Data for Milford, Veazie, and Hampden	Use Build Out framework to input data and produce build out data for the municipalities that have provided data	February
Meet with Milford, Veazie, and Hampden to review build out	Meet with the communities to review the build and make sure that it reflects the story of their community	March
Meet with BASWG	Update on the progress so far	March
Meet with communities	Show Build Out model and develop values variables for each community focussing on water quality	April/May

4. Supporting Information

See attached document for flow chart created for project.

Logic Model BASWG GIS Modelling.doc

Website developed for project found at:
https://projects.zoho.com/portal/spatialalt#dashboard/307499000000011021