TESKA

Community Planning + Site Design + Development Economics + Landscape Architecture

Mr. Thomas D. Hovel
City of Fitchburg
5520 Lacy Road
Fitchburg, WI 53711

Dear Mr. Hovel:

Teska Associates, Inc., in association Montgomery Associates: Resource Solutions, LLC, Natural Resources Consulting, Inc., and Traffic Analysis & Design, Inc., is pleased to provide the services requested in the City of Fitchburg's recent request for proposals for planning and design services for the North McGaw Park Neighborhood.

Developing a plan for the new 525-acre North McGaw Park Neighborhood presents significant opportunities for Fitchburg to chart its own destiny through vibrant public participation, scientific investigation and analysis, and stakeholder input. The Consultant Team's approach to preparing the plan is based on understanding the City's needs, particularly its desires to respect the community character and environmental resources of the area, build community support, and integrate public input into the Plan.

The planning process pulls together facts, trends, and desires of the City to develop a pathway to improve the quality of life and economic opportunities for the residents and businesses, while at the same time preserving the region's valuable natural resources. Through an objective, inclusive process, residents, businesses, elected and appointed officials can work together to form a plan that makes sense for the North McGaw Park Neighborhood and Fitchburg as a whole.

The Consultant Team has the experience of working in many mature suburbs undergoing change, and assisted each City to develop its own, unique vision that fits its particular circumstances. The Team's resources provided to a wide range of clients offer state-of-the-art tools for the City to implement its vision.

Our team provides the combination of local knowledge of the unique habitats and ecosystems in the area with the depth and resources of a team of professionals with national experience and recognition. Thank you and we look forward to answering any questions that you or the City may have.

Sincerely,

Lee Brown, FAICP

President

Teska Associates, Inc.

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PROPOSAL
TO
PROVIDE PROFESSIONAL SERVICES
FOR THE
FITCHBURG NORTH MCGAW PARK NEIGHBORHOOD PLAN

TRAFFIC ANALYSIS & DESIGN, INC.

NRC
Natural Resources Consulting, Inc.

Montgomery Associates
Resource Solutions, LLC

TESKA

Introduction

Teska Associates, Inc., in association Montgomery Associates: *Resource Solutions*, LLC, Natural Resources Consulting, Inc., and Traffic Analysis & Design, Inc., proposes to provide the services requested in the City of Fitchburg's recent request for proposals for planning and design services for the North McGaw Park Neighborhood. Teska and its teaming partners offer the skills, talent, experience, and creativity to produce a Neighborhood Plan that incorporates creative solutions to the City's planning needs while effectively integrating participation to transform the Plan into a dynamic document guiding future action. The strengths of our team's firms and their personnel are:

1. Experience in sustainable planning and design that integrates water and natural resources management.

2. Detailed familiarity with water and natural resources in Fitchburg through multiple projects such as the Goose Lake / Jamestown Basin monitoring study (MARS and NRC) and maintenance of the McGaw Park stormwater treatment facilities. This familiarity is further enhanced by the inclusion of Dr. Susan Swanson, professor of geology at Beloit College and hydrogeologist familiar with the Fitchburg area in our project team.

3. Ability to work on high-profile projects affecting multiple stakeholders such as Elkhorn Planning (Teska) the City of Madison Water Utility Well No. 3 Relocation Study (MARS), and the MG&E Odana Hills Recharge Project (MARS)

4. Ability to use visual tools to build public consensus such as a variety of conservation developments in Waukesha, Ottawa, Grafton, and Kenosha County (Teska).

5. Experience with bringing projects from the conceptual phase through construction, which is paramount for presenting feasible, practical conceptual designs early in the planning process.

6. Experience with WisDOT Traffic Impact Analysis procedures and ability to apply procedures to neighborhood planning and private developments as demonstrated for Mirbeau-Hummel Development in Lake Geneva.

7. Experience with working as a team (Teska, MARS, NRC, & Traffic Analysis and Design) from the Mirbeau-Hummel Development in Lake Geneva, WI.

This proposal presents our understanding of the project, and the specifics of our proposed scope of services, schedule, and fees. Attachments to this proposal provide additional information on the staff qualifications and project experience of Teska, MARS, NRC, and Traffic Analysis & Design.

Project Team and Firm Profiles

Teska Associates, Inc. (Teska), located in Evanston, IL, is a nationally recognized urban planning and design firm founded in 1975 that provides public and private clients with professional services directed toward the development and revitalization of our nation's communities in harmony with natural and human resources. Over 130 governmental units at all levels and dozens of private and institutional clients have been assisted by the firm's interdisciplinary professional staff. Teska has broad and deep experience in both comprehensive planning. The firm works directly with municipalities as well as private clients. As a result, Teska understands the needs of both the public and private sectors to impact positive change for the community. Teska's practice includes community planning, development economics, and landscape architecture. Teska's urban design team is able to provide the tools needed to help a community turn vision statements and goals into visual designs and conceptual plans. Teska's emphasis on implementation provides communities with an action plan, clear responsibilities, and suggestions for sources of funding. The firm was founded on and continues to stress the importance of the following fundamental principles:

- **Consultant – Client Relationship**: seeing each client relationship as an opportunity for joint problem-solving, information sharing, and creative solutions to solve specific objectives. Teska encourages team approaches and often serves as a catalyst to form consensus.
- **Perspective:** Teska's perspective is comprehensive – it considers a broad range of factors which influence the outcome of an issue. Teska considers long-term trends and consequences, even when immediate accomplishments are desired. And, Teska's perspective is interdisciplinary, enriching the traditional knowledge of one profession with that of other professions.
- **Natural Resources and Community Character:** Long before current terms like "conservation development," or "traditional neighborhood design," Teska has been practicing the art of treasuring local resources and working with communities to plan for the future in a manner that respects natural resources, historic and cultural assets, and community character.
- **Professionalism:** The concept of professionalism is a fundamental tenet at Teska. Our staff is committed to understanding each client's needs, objective analysis, informed judgments, cost-effective results, enduring quality and ethical practice.

Montgomery Associates: Resource Solutions, LLC (MARS), located in Madison, WI, was established in 1998 to provide specialty water resource engineering services. We have applied our expertise in integrated surface water and groundwater analysis and design to a wide variety of water resource management issues. Through a multi-disciplinary staff combined with a think-tank atmosphere, MARS provides a flexible, diverse, and experienced approach to difficult water resources issues. We have collaborative working relationships with the local academic and agency research community, and Susan Swanson, Beloit College hydrogeologist and creator of a detailed groundwater model for the Nine Springs area, will serve as a senior advisor to Montgomery Associates for the North McGaw Park Neighborhood Plan project.

Natural Resources Consulting, Inc. (NRC), headquartered in Cottage Grove, WI, was formed in 1998 and has become one of the largest private employers of biological and natural resource professionals in the Upper Midwest. NRC provides private sector, energy sector, and governmental clients with a full range of technical natural resource services, project support, and regulatory consultation to address today's complex environmental and natural resource issues. One of our primary goals is to develop innovative and practical methods for balancing project feasibility and environmental stewardship. Our collaborative technical approach, comprehensive understanding of natural systems and environmental policy experience results in cost-effective, yet invaluable project solutions for our clients.

Traffic Analysis & Design, Inc., located in Cedarburg, WI, began in 2002 and now boasts the largest, local traffic engineering staff in Wisconsin. Traffic Analysis & Design, Inc. offers a full range of traffic engineering related services including data collection, traffic analysis, TIA's, parking studies, intersection design, corridor studies, the planning and design of traffic signals and traffic simulation modeling. Our staff consists of six PTOE's (Professional Traffic Operation Engineers), ten Professional Engineers (P.E.'s) and sixteen traffic technicians.

Project Understanding

Developing a plan for the new 525-acre North McGaw Park Neighborhood presents significant opportunities for Fitchburg to chart its own destiny through vibrant public participation, scientific investigation and analysis, and stakeholder input. The Consultant Team's approach to preparing the plan is based on understanding the City's needs, particularly its desires to respect the community character and environmental resources of the area, build community support, and integrate public input into the Plan. The planning process pulls together facts, trends, and desires of the City to develop a pathway to improve the quality of life and economic opportunities for the residents and businesses, while at the same time preserving the region's valuable natural resources. The process of planning helps communities work through stumbling blocks and overcome age-old perceived barriers. Through an objective, inclusive process, residents, businesses, elected and appointed officials can work together to form a plan that makes sense for the North McGaw Park Neighborhood and Fitchburg as a whole.

The Consultant Team has the experience of working in many mature suburbs undergoing change, and assisted each City to develop its own, unique vision that fits its particular circumstances. The Team's resources provided to a wide range of clients offer state-of-the-art tools for the City to implement its vision in a cost-effective and efficient manner.

Some of the key questions that will be addressed in the planning process will include:

- What is the vision for growth in North McGaw Park? What makes the area unique compared to other neighborhoods in Fitchburg and the South McGaw Park neighborhood?
- What unique planning approaches need to be undertaken considering the location of the study area in the southeastern edge of the urbanized portion of Fitchburg, and adjacent to the significant natural and water resource assets to the east, in the town of Dunn?
- How and where should any new growth be accommodated? What are the costs and benefits of this growth to the City and other local governments based on this population growth?
- How can the public (businesses, residents, non-profit organizations, elected officials, etc.) be engaged and excited to work together to improve the planning process? What are the best ways to reach out to long-term residents and businesses, as well as newer stakeholders? How can technology, outreach sessions, public meetings, newsletters, and other forms of communication best be used to engage all elements of the community?
- What are the particular assets of the neighborhood – environmental, economic, cultural, and transportation?
- What is the condition of the key natural resources in the area? What are the causes of degradation? Will development accelerate the degradation, and/or can measures be implemented to preserve or enhance the resource function? To what degree could land use change in the North McGaw Park Neighborhood impact or benefit the adjacent resources?

The quality of local water resources, including numerous lakes and streams, contributes to making Dane County a desirable place to live and one of the fastest growing areas in the region. However, this growth has resulted in stormwater-driven flooding, impaired water quality, and

diminished flow in springs and rivers caused by reduced groundwater recharge as a result of disturbing the natural hydrologic cycle. Researchers, policy makers, practitioners, environmental advocacy organizations, and the general public have become increasingly aware of these issues, and the need to evaluate the trade-offs between the extent and type of development and resulting natural resource impacts. These issues have been very prominent in planning numerous local developments, including Fitchburg's Northeast Neighborhood and the Fifth Addition and Hornung Woods developments near Madison's Cherokee Park. To this end, the City is being proactive by requesting proposals for the North McGaw Park Neighborhood that develop a plan that preserves or enhances the region's water and natural resources.

The approach used by MARS and NRC to plan for future development near sensitive aquatic resources in the City of Verona, Wisconsin is well suited to the North McGaw Park Neighborhood Plan. This approach developed hydrologic performance standards based on local resource function and condition, through the following process:

1. ***Assessment*** of wetlands and other natural resource features, soils, groundwater conditions, and in-stream habitat and water quality;
2. Development of ***hydrologic goals*** based on maintenance of the existing in-stream habitat; and
3. Analysis of development density and stormwater management approaches, using hydrologic modeling and the habitat-based goals, to develop the stormwater management ***performance standards***.

The study area is at in the headwaters of the Swan Creek watershed, one of the tributaries to Swan Creek, which drains through Waubesa Marsh and into Lake Waubesa. Just to the north is the Nine Springs watershed, including Nine Springs Creek, large wetland areas, and numerous prominent springs. Previous development in these watersheds consists of typical residential and commercial development, which has addressed only peak runoff rate control on a local basis. These traditional developments have not always considered the full range of environmental and ecological impacts on the surrounding community. Understanding the ecological function, current causes of degradation, and opportunities for improvement for Swan Creek and Lake Wabuesa and their adjacent wetland resources will be a key component of developing an appropriate Neighborhood Plan for the North McGaw Park Neighborhood.

Effluent from the Madison Metropolitan Sewerage District has been diverted downstream of the Yahara chain of lakes to limit the impact of phosphorus and associated eutrophication on the lakes. However, population growth in the watershed and the TMDL currently underway may result in even more stringent phosphorus limits for effluent. Tighter regulations may require innovative approaches to wastewater treatment, which may include limited discharge of highly treated effluent to Lake Waubesa.

Local Water Resources

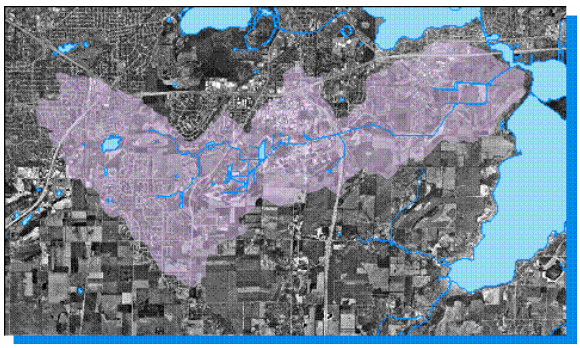
Swan Creek Is classified as a warm water forage fishery (WWFF) by WDNR. The Dane County Water Body Classification Study identifies Swan Creek as a Class II impacted stream appropriate for protection and restoration.

Waubesa Wetlands are located west of Lake Waubesa where Murphy Creek and Swan Creek discharge to the lake. Peat deposits - up to 95' deep in places - underlie a mix of sedge meadow, fen, and shrub-carr communities. The sedge meadow is a complex of different species that vary in abundance and structure in response to the complex hydrological system. Other parts of the site feature quaking sedge mats, calcareous fens, springs and streams with submerged aquatics, and deep spring cones lined with filamentous algae and purple-colored bacteria.

Lake Waubesa has a watershed area of approximately 44 square miles, and is surrounded by nearly 1000 acres of wetlands. The Lake has experienced problems with eutrophication, much of which was once caused by MMSD discharge to the system. Now, phosphorus loading is more likely caused by both agricultural and urban stormwater runoff. Although Lake Waubesa continues to have problems with aquatic plant growth, the Lake supports a warm water fishery of muskie, northern pike, and other panfish.

Nine Springs Creek's springflow and wetland hydrology vulnerability to changes in land use was studied in Sue Swanson's PhD thesis: Hydrogeologic controls on spring flow near Madison, Wisconsin (2001). Her research and modeling concluded that:

- Reduction in springflow is most likely caused by reduction in groundwater recharge.
- Nine Springs capture zones for springs are impacted by land use
- The presence of the Eau Claire shale likely limits impacts of groundwater pumping of the deep aquifer on springflow.



Environmental Planning Issues

The North McGaw Park Neighborhood is not part of a current urban service area (USA) and will be included in a future USA amendment request to the Capital Area Regional Planning Commission (CARPC) and Wisconsin Department of Natural Resources. Review of this request will focus on hydrologic impacts of development, including storm water quality, habitat degradation produced by increased stormwater discharge, and the effects of diminished groundwater recharge. The CARPC review criteria are evolving to include promotion of Low Impact Development (LID) and the use of water management performance standards based on the quality and sensitivity of local water resources. Our team provided detailed comments on the interim policies on USA amendment review recently adopted by CARPC, and we have had numerous technical discussions of them with local officials and CARPC staff.

Key environmental objectives for the Neighborhood Plan will likely include maintaining groundwater recharge, minimizing stormwater runoff quality impacts on wetlands and Swan Creek, minimizing stormwater volume impacts on the stability of the Swan Creek channel, and reducing additional groundwater withdrawals. The success of different LID options to accomplish these objectives will depend on local hydrologic conditions and development details. For example, the relative performance of stormwater infiltration systems for runoff reduction and groundwater recharge is highly dependent on soil type and density of development

The Consultant Team will work with local stakeholders and City staff to develop an innovative plan for the North McGaw neighborhood fully considers environmental impacts including the possibility of meeting the draft guidelines for LEED Neighborhood Development. These guidelines encompass more than green building – they require a neighborhood-scale approach to conserve energy and water use by developing a broad range of sustainable systems that meet the needs of the community. Consultant Team members have been involved in a variety of scales of LEED, and can work with the McGaw Park Neighborhood to design what would be one of the largest scale applications of LEED principles in the nation.

The multi-disciplinary resources of the Team will provide the depth and experience necessary to undertaking a Neighborhood Plan that will be environmentally sound, develop public consensus and stand the test of time. Our Team's deep knowledge of the local area and national resources and perspective will bring the best resources to the table to develop solutions that are uniquely appropriate to Fitchburg and the Neighborhood.

Philosophy

The Consultant Team does not have a one-size fits all strategy for developing neighborhood plans. Yet, we have developed an approach through our experience with a wide range of community types that includes the following:

- Engage the public through a ***vibrant participation process***, tailoring tools (both low-tech and high-tech) to reach out to all segments of the population, and the necessary institutions, businesses, and governments that will be necessary to implement the plan.
- Understand the ***unique natural resources*** in the area that need to be protected and restored.
- Educate the public and stakeholders on ***options***, allowing for a more informed public of the choices they have to chart their future.
- Provide the visual tools people need to ***see*** the choices they have and make educated decisions that inspire the public to work together.
- Provide the ***technical expertise*** on areas from state statutes to transportation infrastructure to market analysis so that the plan is well-grounded in reality and is financially feasible.

The Consultant Team will work very closely with City staff as an extension of the services available to the City for the duration of the project. The broad expertise – from project facilitation to public participation to environmental and transportation and landscape design – means the Team can bring in the perfect match of expertise to any need that comes up during the course of the project.

The Team encourages team approaches and often serves as a catalyst and facilitator for participation and cooperation in decision-making and consensus building. As a result, the Team has enjoyed continuing relationships with loyal clients that span many years and produce cost-effective results.

The Consultant Team works particularly closely with staff to offer assistance so that the plan is implemented. While there may indeed be cases for professional services in the future, our goal is to "turn over" as much knowledge and expertise of the Team as possible (e.g. staging plan and fiscal impact analysis will be turned over in electronic form so that they can be updated over time) to the City so that it is able to implement the recommendations.

While the assignment will certainly take time and commitment on the part of the City, Steering Committee, Plan Commission and Common Council, the Team is able to conduct the entire scope of work listed below, including agendas for meetings, Web site maintenance, notices of meetings, creation and maintenance of a data base for all interested parties, and meeting logistics.

Project Approach

Utilizing our team's project approach philosophy, we have developed a detailed project approach, and outlined consistent with the City's RFP.

II. Neighborhood Plan

A1 and A2. Site Characterization

Developing a neighborhood plan that is appropriate for the City, stakeholders, and the natural environment requires a thorough understanding of the site and regional characteristics. Prior to embarking on field investigation and characterization, reviewing available data is paramount to developing a cost-effective site characterization plan.

The project team members will review the data provided by the City (Task A1) that is related to their respective areas of expertise. Although the data review encompasses a broad range of topics (land use plans to traffic studies to natural / cultural history), the field investigation focuses almost exclusively on the natural environment, illustrating the critical importance of understanding natural systems and how development can impact those resources. The extensive experience of NRC in providing technical input to planners and decision-makers will be invaluable in this phase of the project. Field investigation and documentation (Task A2) will include:

Natural Heritage Inventory Screening
NRC has a long professional history of coordinating with the WDNR – Bureau of Endangered Resources. NRC will conduct a Natural Heritage Inventory (NHI) Review for preliminary threatened and/or endangered species screening. Focused field survey protocols will address the results of the NHI screening through coordination with WDNR (i.e. detailed habitat assessments and/or specific species surveys).

Cultural Resource Screening
A preliminary cultural resource screening will be conducted for the project area and immediately adjacent or contiguous properties utilizing the Wisconsin Historic Preservation Database (WHPD) maintained by the Wisconsin Historic Society. The following categories of WHPD will be searched:

- Archeological Site Inventory (ASI)
- Architectural Historic Inventory (AHI)
- Bibliography of Archeological Reports

A summary of the database search results will be completed including a map depicting the location of any significant or potentially significant cultural resources identified within or contiguous to the subject North McGaw Neighborhood.

Assumptions and Notes
It should be noted that the cultural resource screening conducted by NRC is for planning purposes only and solely identifies documented cultural resources within the WHPD. Unknown and/or undocumented significant cultural resources may be present within the study area. Screening may not fulfill the requirements set forth under Section 106 of the National Historic Preservation Act

which may be necessary in order to comply with Section 404 of the Clean Water Act or other federal programs. Field archeological investigations may be required through these regulatory programs and is not included as part of this scope of services.

Wetland Determination and Delineation

Field wetland determinations and delineations within the project area will be completed following the methods outlined in the *Basic Guide to Wisconsin's Wetlands and their Boundaries* (Wisconsin Department of Administration Coastal Management Program 1995) and U.S. Army Corps of Engineers (USACE) 1987 *Wetland Delineation Manual* and subsequent guidance documents (USACE 1991, 1992 & 1996). In our experience, these manuals provide similar wetland boundary determinations on undisturbed sites and meet the requirements of both the Wisconsin Department of Natural Resources (WDNR) and USACE.

However, before we complete wetland field work beyond initial walkover stage, we suggest conferring with the City on completion of full verified wetland boundary delineations, considering the likely timeframe of project build out in comparison to the five-year time period that wetland boundary delineations are considered valid.

Off-site wetland boundaries within close proximity to the project area will be estimated by reviewing pertinent mapping resources and through completing near site visual assessments where possible. Estimated wetland boundaries will be digitized for incorporation into project planning documents.

The report documenting the wetland delineation methods and results will contain written descriptions of the site and wetlands, surface water features, delineation methods, appropriate figures, completed survey of the wetland boundary, and USACE wetland delineation data sheets.

Assumptions and Notes

The lead field delineator and report author will be completed by an **assured wetland delineator** approved through the *Wisconsin Department of Natural Resources - Wetland Delineation Professional Assurance Program*. Therefore, **concurrence for on-site delineations from the WDNR would not be required** for purposes of waterway and wetland permit applications and/or other state-mandated local wetland programs.

This proposal assumes that a routine level delineation will be sufficient at this site, as is the case with most wetland delineations. If additional and more detailed information gathering, field sampling and/or reporting is required, NRC will contact the City. More detailed investigation would be considered extra services.

NRC will obtain and review available resources to assist in the determination and delineation such as USGS topographic map, Natural Resources Conservation Service (NRCS) soil survey and list of hydric soils, Wisconsin Wetland Inventory (WWI) mapping, and aerial photography.

The uppermost wetland boundary will be located with a hand held Trimble GPS capable of sub-meter accuracy. **Wetland boundaries will not be marked in the field.** NRC will produce a map illustrating the location of the wetland boundary on a recent aerial photograph and provide the

digital mapping files to the project team within a known reference coordinate system for incorporation into other project planning documents.

Wetland Functional Value Assessment

A Wetland Functional Value Assessment of the wetland complexes identified within the project area will be completed using the methods outlined in the WDNR publication "Rapid Assessment Methodology for Evaluating Wetland Functional Values". A plant species inventory and plant community mapping within each wetland complex will be completed with the floristic quality of each plant community qualified using the WI Floristic Quality Assessment methodology.

Waterway Identification and Assessments

NRC will coordinate directly with the WDNR, submit the appropriate mapping information, and request forms to obtain a navigability determination on any potential navigable waterways and/or drainage courses identified within the project area.

Natural Community Identification and Assessments

Assessments will include field surveys to determine the presence and extent of any natural communities or remnant natural communities and habitat assessments within any identified natural communities to characterize the ecological type and quality of:

- Wildlife habitat,
- Plant species diversity, and
- Likelihood of supporting threatened and/or endangered species.

NRC will also complete field surveys for special concern, threatened, and/or endangered plant species where suitable habitat is identified. The location and extent of invasive plant species within the natural communities will be documented. A floristic inventory, plant community map, and floristic quality assessment will be completed for any identified natural communities. NRC will complete documentation of potential and observed wildlife usage within the project area based on the habitat assessments.

Assumptions and Notes

Species specific surveys are not part of this scope of services.

Environmental Corridor Identification and Delineation

The project area will be evaluated for potential environmental corridors and environmental corridor boundaries will be designated as necessary. Environmental corridor designation will be evaluated based the results of the screening, field evaluations, and current practices of CARPC and the City of Fitchburg.

Soil Evaluations

NRC soil scientists will complete screening as outlined within steps A and B of the WDNR "Site Evaluation for Stormwater Infiltration (1002)". This task includes evaluation of available mapping resources and on-site evaluation and profiling of soil test pits. Soil profile documentation sheets will be completed to determine the expected infiltration rate per horizon as per Table 2 of the WDNR "Site Evaluation for Stormwater Infiltration (1002)". This information will be provided the water

resources engineers to complete design planning and to determine suitability of specific infiltration practices. All site soil investigations will be completed in accordance with NR151.

Land Uses

The Consultant Team will provide maps, graphics and tabular data in GIS format for existing land uses, major cultural and natural resource areas, classification of wetlands, jurisdictional boundaries (including municipal, school districts, and special districts), and existing and proposed land uses in adjacent areas. The maps will also include projects that have been proposed in the study area, including transportation, natural resource protection, and new development.

B. Opportunity and Issues Identification and Analysis

The Consultant Team will use a series of strategies, to define opportunities and issues to guide the Neighborhood Plan:

- The Consultant Team will **interview** 15-20 local stakeholders over the course of one to two days on-site. Working with the Steering Committee and staff, the Consultant Team will identify representatives of the neighborhood, nearby residents, landowners, elected officials, business owners, non-profit organizations, Realtors/brokers, and developers. The purpose of these interviews will be to understand the various interest areas, seek input on their views of issues and opportunities, understand environmental resources, undertake an initial assessment of market interest, and understand the interests of community leaders.
- The Consultant Team will conduct a **field assessment** by driving and walking throughout the North McGaw Park Neighborhood and photographing key sites, transportation routes, and natural and cultural resources in order to gain familiarity with existing conditions, including physical and visual character and development trends.
- The Consultant Team will work with the **Steering Committee and other stakeholders to identify issues and opportunities.** These may include: ecological sites of interest, historical sites, rich farmlands, transportation corridors, view corridors, woodlands, and nearby community assets including City Hall, the Community Center, Fitchburg Technology Campus, and other nearby neighborhoods.
- The Team will also lead the Steering Committee through a **"one word game."** In this exercise, each participant will first be asked to provide a one word description of how they would describe the study area now. The only rules are that people need to express their thoughts in just one word, and no one can repeat a word that has already been used. In the second part of the exercise, each person is asked for a one word description of how they would describe the neighborhood in ten years. We have found that this exercise is a very efficient way to get people thinking about the future and have some fun doing it.
- Based on all of the input above, the Consultant Team will draft a ***Neighborhood Profile and Issues and Opportunities***, summarizing all of the background materials and maps gathered by the Team, the input of interviews, and Steering Committee. Based on this input (particularly from the one word game and headline exercise), the Team will present a draft **vision statement** to the Steering Committee.

- At the second Steering Committee meeting, the draft ***Neighborhood Profile and Issues and Opportunities*** will be presented for comment. The vision statement will be revised based on input of the Steering Committee and will frame a discussion on goals, objectives and policies, building on the draft Comprehensive Plan being conducted by the City.
    - Goals are general statements of desired outcomes of the neighborhood, stated specifically enough to determine whether progress is being made
    - Objectives are more specific strategies that are undertaken to meet the goals
    - Policies are actions that the community will take to meet the goals and objectives.

C. Systems Analysis

Water and Natural Resource Systems: NRC and MARS will work collaboratively to assess natural resources systems including water, wetlands, steep slopes, woodlands, and floodplains. Comprehensive analysis will include potential changes in both water quantity and quality and the effect potential changes may have on receiving waters. Of particular concern is the potential impact to Lake Waubesa and its wetlands complex caused by increased sediment and phosphorus loadings. Pollutant loadings for existing conditions will be evaluated using NRCS's program SNAP-Plus and the existing SWAT model used to develop ongoing TMDLs in the Rock River basin. Phosphorus and sediment loads for developed urban conditions will be evaluated using either WinSLAMM or P-8, both of which are recognized by WDNR as acceptable.

Soil Capacities: NRC and MARS will also work collaboratively to evaluate soil capacities to support and sustain urban development. Appropriate infiltration rates for analysis will be determined by NRC's State registered soil scientists. MARS will use these infiltration rates in hydrologic analyses to determine the potential effectiveness of infiltration practices to recharge groundwater and to mitigate increases in runoff caused by additional impervious surfaces.

Public Services: The consultant team will work cooperatively to plan for provision of public services including sanitary sewer, water, transportation, stormwater management, park and open space. MARS will be responsible for the planning of sanitary mains, water service mains, and stormwater management infrastructure. It is our understanding that City wishes to avoid sanitary lift/pump stations and water booster pumps. TAD and Teska will work together to plan transportation routes based on traffic impact analysis and sound land use planning principles. Teska will have primary responsibility for planning parks and open space with input from NRC and MARS regarding natural resources impacts and potential stormwater management infrastructure.

Private utility systems: The Consultant Team will analyze the need for expansion of private utilities, including electrical systems. This will include interviews with the utilities to determine the extent of their current services, capital improvement plans, and need for extensions into the Neighborhood. The Consultant Team will add a GIS layer of private utilities showing the ends of lines as a guide for the most efficient extensions into the area. The Consultant Team will also contact **Internet providers** (primarily telephone and cable) to determine their plans and willingness to extend high-speed Internet access into the neighborhood and whether there are any major barriers to these extensions.

School district capacity: The Consultant Team will interview administrators of the Madison, Oregon and Verona school districts to determine: existing capacity, planned expansions, "tipping point" for needed capacity, and likely nearby schools that may be affected by increased school-age children in

the Neighborhood that would feed into the three districts. The Consultant Team has experience with financial modeling of school funding across school districts to determine both capital and operational expenses that will need to be locally funded.

Core Features: The Consultant Team will identify core features that area natural, historic, or cultural based on field investigations, literature review, and interaction with City staff and local residents. Our philosophy is to identify these local assets first and then plan any new development to respect, rather than "mitigate" these cultural, historic, and natural features.

Land Cover Types: The Consultant Team will develop a map showing land use patterns, land cover, and ecological habitat type. The Team will use aerials, GIS data, and field reconnaissance, to develop the land cover map.

Public Process

The Consultant Team will **organize the first of four Neighborhood Summits** (see Public Participation Matrix). At the first Summit, there will be an overview of the project and the planning process, and a number of participatory exercises to engage the community. It is the belief of the Consultant Team that highly participatory meetings be utilized to gain maximum public input, rather than traditional public hearings.

Neighborhood planning meeting

- **Identification of issues and opportunities using sticky dots on a neighborhood base map.** During break-out sessions, each group will be asked to gather around base maps and identify additional issues and opportunities, building on the input already gained from the Steering Committee, background research, and interviews. The facilitator will encourage the groups to focus on neighborhood assets rather than barriers. The group will then vote on the top 5-6 issues and opportunities that they see facing the Neighborhood. These results will provide feedback to the draft **Neighborhood Profile**.
- **Headline exercise:** Participants in the break-out sessions will then be asked to think what the headline in the newspaper will be in five years if this plan is successful. This exercise is a way for the public to think about the vision for the plan in a unique way.
- **Goals and policies** that were developed with the Steering Committee will then be presented in the break-out sessions for comment and deliberation.
- The participants will then share top headlines and use sticky dot voting to show support and priorities from the community for the draft goals and policies.

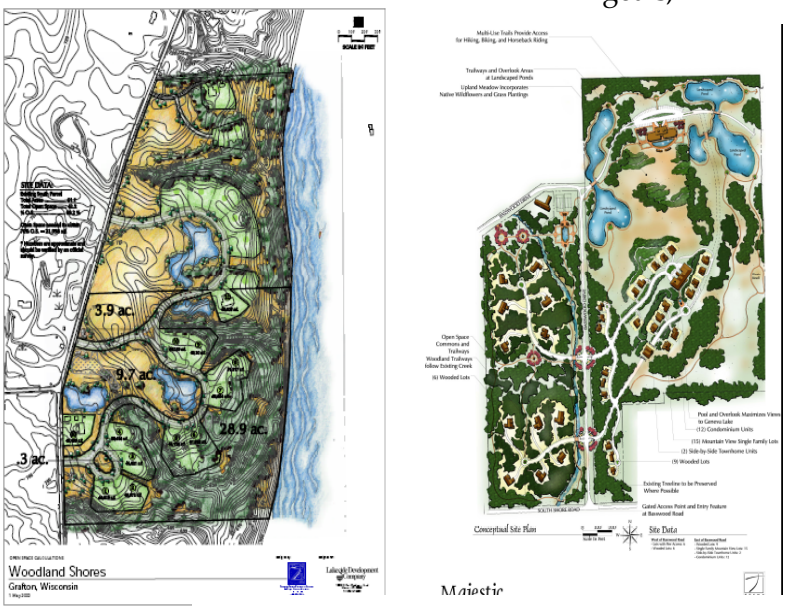
The Consultant Team will set up and maintain a project **Web site** to provide the Steering Committee, City, and the entire community with an on-line forum to download interim reports, e-mail comments and questions, participate in on-line surveys, and check the overall progress of the planning process. For example, Teska's Web site for a new neighborhood plan in Bloomington, Illinois (home of over 25,000 faculty and students from Illinois State University and Illinois Wesleyan University) is an integral part of the planning process, providing a complete set of documents for the community throughout the project, and opportunities for the public to comment, learn the next meeting date, and participate in discussion groups.

The Consultant Team will then revise the Neighborhood Profile and Issues and Opportunities based on feedback and comment from the community.

D. Land Use Plan

Part 1—Preliminary Growth Models

The Consultant Team will review the goals, objectives, and policies and develop up to **ten growth models** based upon them. Growth models will include a full range of alternative growth patterns, and will be responsive to the environmental sensitivities of the land, transportation connectivity, and adjacency to urban services. The models may include design components such as traditional neighborhood design (generally grid plans with pocket parks and varied housing lot sizes), conservation design (generally clustered housing and other land uses combined with large areas of protected open space), low-intensity development (generally estate-size housing with either large private lots of open space or large protected agriculture or open space), rural-style development (hamlets surrounded by continuing agricultural uses), traditional suburban development of modest density, or more intense urban development. The Consultant Team will be able to assess these models based on the guidelines and principles to meet LEED Neighborhood Development certification. Growth models may also share a number of these designs within the overall scale of the neighborhood.



The Land Use Map projects future land uses, particularly to the northeast area that has

The models will be developed in GIS that will provide visual simulation of land use, as well as spreadsheets that will be able to show characteristics including:

- Amount of public and private open space preserved
- Number and type of housing units
- Square footage of retail, office and industry
- Number of miles of new or expanded road capacity
- Number of miles of trails
- Number of acres of farmland that is preserved

Public Process: The growth models will be presented to the Plan Commission for approval and selection or modification to a hybrid scenario. The Steering Committee recommendation of a growth model option will be submitted to Agricultural and Rural Affairs, Plan Commission and Common Council meeting and a Committee of a Whole for approval prior to proceeding to the next phase.

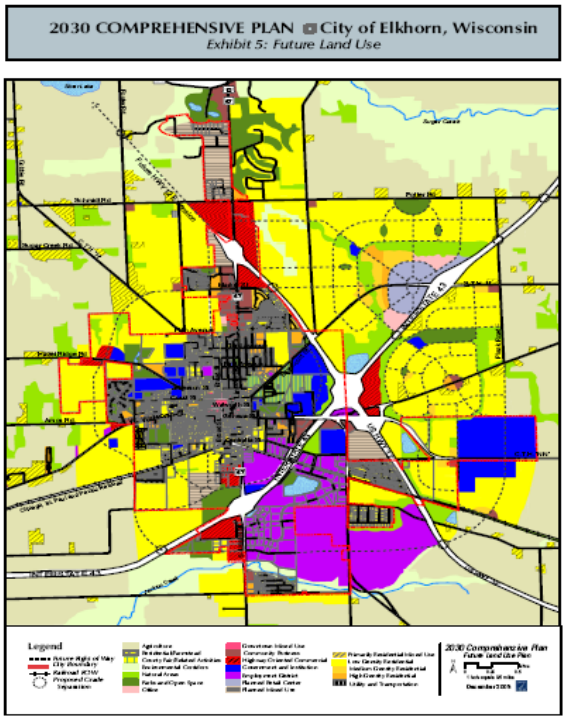
The **Steering Committee will review up to 10 growth models** and **select approximately 3-4 scenarios** that they believe best reflect the goals, objectives and policies of the Plan (each may have several development area concepts within them). The Consultant Team will then develop additional characteristics of the selected growth model options, including more detail on natural resources, floodplains, and fiscal impact in each of the models. A chart showing advantages and disadvantages of each of the growth models and development areas will be prepared by the Consultant Team. The growth models will be informed by the background research, systems analysis and the early stages of the environmental and transportation work. As shown in the timeline, the Consultant Team will work in an interdisciplinary way to inform the development of the Neighborhood Plan, taking the best ideas from each field to work with the Steering Committee, Plan Commission, staff, Common Council and public to create growth models, assess them, and help the public bodies choose the preferred model to guide the Neighborhood Plan.

- The Consultant Team will develop representative **three-dimensional drawings** of land use types that will feed into the growth models. These drawings of proposed land uses (e.g., clustered housing, traditional neighborhood design, single-family estates, mixed-use development, and conservation development), will provide the community with visual representations of the growth models.

- A **Second Neighborhood Summit** will be held to review the growth models. Models will be available on the project Web site prior to the meeting. The Consultant Team will describe each model and how each meets the goals and objectives. In an Open House format, community members will be able to learn more about each scenario and "vote" for the model they believe best meets the goals, objectives, and policies of the Plan. Each model will have a chart that shows the impact and characteristics of the growth model. There will also be maps of the scenarios available where people can "draw their own scenario, "or work with team member to modify one or more of the scenarios.
- Also at the Second Neighborhood Summit, the Consultant Team will conduct a **visual preference survey** to gain input on the ***types*** of land uses, ***form of development***, and visual characteristics people would like to see as the Neighborhood develops. We have found that while some members of the public are well versed with maps, others need specific visual images of types of development to both understand changes and provide meaningful input to the process. For example, people may not like any type of development on a map, but may have a different opinion once they see images of a conservation development that has been built in a way that has restored natural lands. The visual preference surveys will include 3 dimensional drawings of proposed land uses as well as photos of projects in Fitchburg and surrounding areas. The results of the visual preference survey will be shared with the Steering Committee, Plan Commission and Common Council.
- The Steering Committee will then **recommend of a growth model** option and submit it to Agricultural and Rural Affairs, Plan Commission and Common Council for approval.

Part 2—Land Use Map

Once a growth scenario is chosen, the Consultant Team will begin a detailed land use map. The map will use the same categories as Fitchburg's Comprehensive Plan and demonstrate how the map is consistent with the goals, objectives, and policies developed in the Plan. The map and its GIS layers will show at a minimum:



- Current land use
- Future land use
- Productive agriculture soils
- Natural limitation for building site development
- Floodplains
- Wetlands and other environmentally sensitive lands
- Boundaries of Urban Service Area and public utilities
- Boundaries of service areas of community facilities
- Land uses by net densities and types of use

The Land Use Map will be conducted with input from virtually all of the phases of this project, especially the environmental analysis and mapping, service areas, and watershed goals, wetland protection, tree inventory. In many ways, the Land Use Plan will be the culmination of public desires, environmental protection, service delivery and fiscal impact.

Environmental corridors and natural resource protection areas will be shown consistent with R-20-07 and R-89-07 to provide a minimum of 300' wetland buffers and 75' buffer from each stream edge. Larger buffers may be recommended based on the local environmental characteristics and proposed land uses.

Land uses will be integrated with the systems analyses conducted by the Consultant Team.

Charts will be made comparing existing land uses with proposed uses in the Land Use Map. The Plan will also set minimum and maximum square footage to be achieved. Business development areas will show minimum and maximum square footage and opinions on floor area, impervious surface and open space ratios.

E. Infrastructure and Service

Transportation Plan

In conjunction with the TIA, Traffic Analysis & Design, Inc. will provide the Transportation Plan. The TIA will provide recommendations on roadway cross-sections and specific intersection controls. This information will be used for development of the Transportation Plan. The Transportation Plan will expand on the information in the TIA by focusing on multi-modal and deal with pedestrian, bicycle, motor vehicle and mass transportation opportunities. The Transportation Plan will provide text, maps and other graphics to explain the following modes:

- Motor Vehicle: The Consultant Team will provide, by land use type and based on minimum and maximum densities, trip generation for each land use category and an opinion on trip distribution. Required arterials and collector streets will be located and addressed to serve the plan area and the surrounding lands. The roadway cross-sections, intersection controls and other roadway/intersection improvements will be addressed in the TIA.
- Pedestrian: The Consultant Team will provide locations of additional pedestrian routes, beyond those normally provided as sidewalks on public streets. This planning will be consistent with the on-going 2007-2008 Bicycle and Pedestrian System Plan, but may be expanded on the plan if appropriate.
- Bicycle: The Consultant Team will provide locations of bicycle (recreational path) systems to connect to major trails, delineate route and connectivity to other proposed or existing neighborhoods in the community. This type of path may be combined with a pedestrian path/movement(s). The paths will be shown to link public spaces, activity centers, and major living areas. This planning will be consistent with the on-going 2007-2008 Bicycle and Pedestrian System Plan, but may be expanded on the plan if appropriate.

- Mass Transit: The Consultant Team will identify potential mass transit routes and provide guidelines necessary to promote mass transit use. The Consultant team will forward the potential mass transit routes to Madison Metro for review and comment.

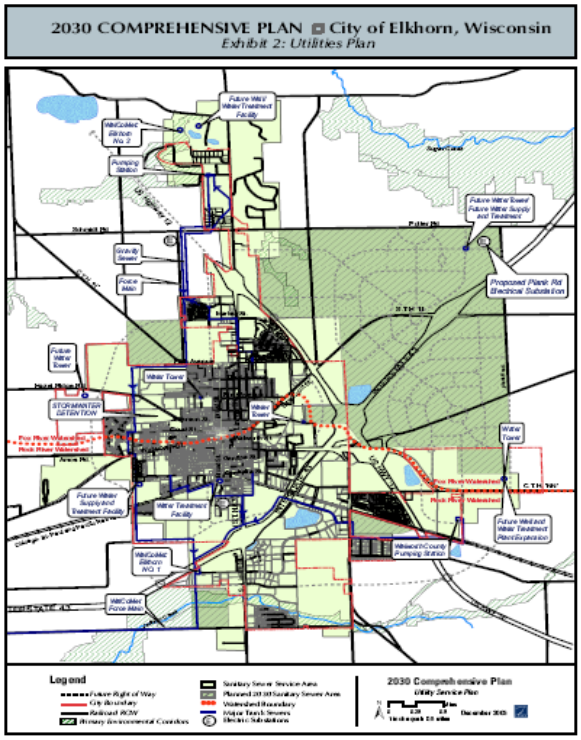
Sanitary, Water, Stormwater, and Other Infrastructure Plans

The Consultant Team will provide system maps, and analysis for sanitary sewer, water, and storm water management plans indicating locations and general areas, including:

A. Sanitary sewer plan for the Neighborhood, including the routing and service territory of the proposed interceptors to serve the lands that will be shown to be developed in the Land Use Map. The Consultant Team will provide an estimate of the interceptor(s) cost and the timing and staging of the system expansion.

B. The Consultant Team will work with the City Public Works Department to provide an analysis of the water systems required to serve the area and map and locate major facilities required, along with major lines and connectivity to the current system.

C. In concert with the storm water study discussed below (section IV), the Consultant Team will map major findings and recommendations and recommend use of natural techniques such as prairie plants and grasses and their benefits for infiltration. (The Consultant Team is well versed in these techniques and designing LEED certified projects).



Fiscally prudent and technically reliable public infrastructure is key to planning for future growth

D. In concert with the system analysis, the Consultant Team will analyze private facilities (electric, gas and Internet) and locate new infrastructure as required by private suppliers. The Consultant Team will also identify telecommunications infrastructure in the Village. Assessment would include:

- Existing DSL and cable/Internet service
- Available fiber service
- High speed wireless networks

Environmental, Open Space and Recreation Plan

NRC will complete a **tree inventory of the woodlands** within the project area in accordance with acceptable forestry standards. The tree inventory will be completed using both sample plot and meander survey methodology. Sample plots will be located with GPS and identified on aerial maps.

Specific locations of sample plots (one per acre) will be determined based on the ecological community mapping completing under other tasks. At least one sample plot will be evaluated for each distinct forest community type. Specified information within the RFP will be recorded for trees with a DBH > 4" located within the sample plots. In addition, all tree species within each forest

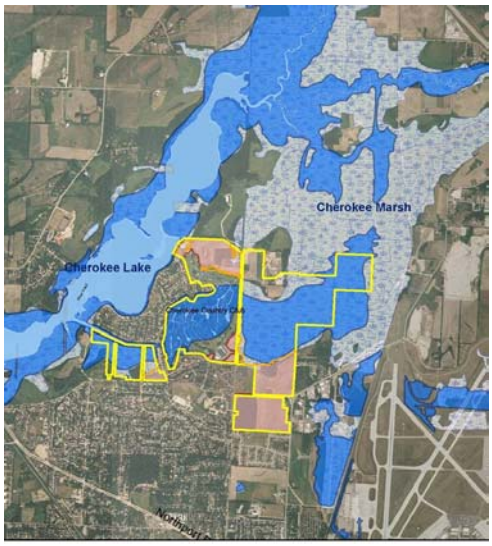
community will be identified based on meander surveys. Heritage and specimen trees will be identified and mapped and protection standards will be developed.

NRC will inventory **herbaceous plants and woody shrubs** using both meander and plot survey methods. Estimated percent cover for each species will be identified within the randomly placed sample plots based on a modified Daubenmire scale.

NRC will complete a **comprehensive natural resource report** for the project area that will include a compilation of the findings of all the above described ecological and natural resource evaluations, including relevant mapping, tables, summaries, and analysis.

Core natural resources features (natural; historic; and/or cultural) will be identified and preservation methods will be detailed. NRC will include any necessary recommendations for preservation, restoration, and/ or enhancement of natural communities including evaluation of:

- Wetland restoration opportunities within drained hydric soils;
- Wetland enhancement opportunities in degraded wetlands;
- Invasive species removal strategies or other enhancement/restoration strategies within degraded woodlands or other natural communities.



Floodplain and Wetlands greatly impact development in sensitive areas

Parks/Recreation

The Consultant Team will identify needed parks and recreation needs. The Plan will identify possible locations for neighborhood and regional parks, both passive and active recreation, based on meeting or exceeding national and regional standards. As a part of the timing and staging plan, the Plan will identify when park space should be acquired and improved to be available in concert with any new development that takes place.

Public Process

The Consultant Team is very familiar with the local community's ties to passive and active recreation and their interest in the surrounding natural area. Public involvement will be critical in determining appropriate locations for and types of open spaces. We are aware that the City of Fitchburg is currently working on their Parks Master Plan, and we will work closely with City staff to preserve environmental corridors**.**

F. Development Strategy and Urban Service Entry

Staging and Timing Plan

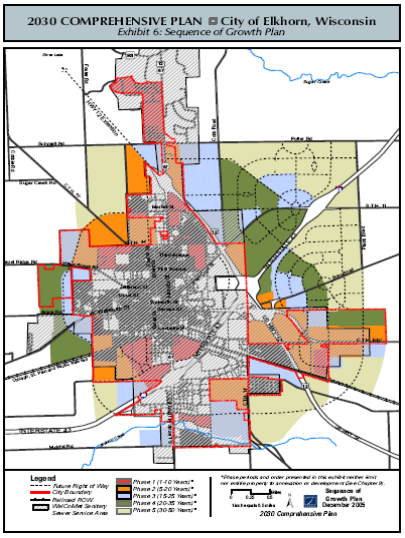
The Consultant Team will recommend a staging strategy for bringing in any lands that are determined suitable for development. The Team will develop a **spreadsheet model** that can be used in tandem with other neighborhoods that may be added to the USA. The model will provide capacity and projections for the North McGaw Park Neighborhood and other neighborhoods

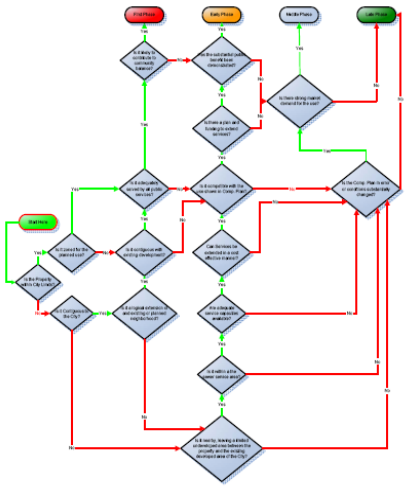
identified in the FUDA. The City will then be able to use the model as projections for staging each of the neighborhoods becomes available.

The Consultant Team will project which areas of the North McGaw Park Neighborhood are most appropriate for early stages of development as part of the USA, and phase additional areas over the next 20 years (as recommended in the Land Use Plan). These areas will be based on the marketability of the areas, serviceability based on utilities and transportation infrastructure, and will be the most appropriate to develop in an environmentally sensitive way.

We believe that an important element of the land-use plan and a development strategy will be to outline a **land-use transition plan**. This plan will recognize that it will likely be a decades-long process to progressively incorporate the planning area fully into the urban service area for the city. In this interim, although new development may be on hold, management of the existing residential areas, the natural resource features, and the agricultural lands will provide an opportunity to move toward environmental performance goals for the area, even before development commences. Examples of transitional land-use plan elements could include agricultural runoff and sedimentation control practices, nutrient application and sediment control practices for both agricultural and residential areas, and early identification of the most valuable areas for connected open space and possible enhancement of open space corridors. Identification of these issues will likely be an advantage in planning for urban service area extension approvals.

The Consultant Team will develop an action plan to implement the recommendations in the Neighborhood Plan based on the timing and staging of the Neighborhood. All of the actions will have specific recommendations for which stakeholder (City, other governments, landowners, and local organizations) will have responsibility.





In addition to developing the Comprehensive Plan for Elkhorn, Teska Associates is currently working with the city and school district to conduct a fiscal impact analysis for the northeast area that will inform decisions to be consistent with the Comprehensive Plan.

All of the recommendations in the Plan will be summarized in the **Implementation Plan**. This extremely important component of the Plan provides the specific action steps, responsibility and estimated cost for each recommendation. The Consultant Team has found that this section provides the guideposts for the community to measure progress in the future. Recommendations should be included that have ownership and buy-in from those responsible to carry out the action step. While all resources to implement the Plan will not necessarily be in place immediately, the Implementation Element also offers guidance to seek additional resources into the future.

As a part of the Implementation Plan, capital improvements recommendations will identify major development and redevelopment projects, responsible agencies or organizations, estimated financial resources, and short- or long-term phasing.

Economic and Fiscal Impact Analysis

The Consultant Team will develop a fiscal impact model for Fitchburg based on the projections of the Growth Model. The model will be in spreadsheet form so that the City will be able to enter in specific proposals in the future to determine the impact on the City, school districts, and utilities. The model will include projected revenues and expenses, and can be adjusted based on increased service needs as a result of new development beyond "straight line" costs. For example, there may be a tipping point in which an additional school or fire station is required as a result of new development in the North McGaw Park Neighborhood. The fiscal impact analysis will determine any impact (positive or negative) that the development will have on the City and school districts. The model will also allow the unit of government to account for any additional capital or operational expenses or incentives (e.g., TID) that may be contemplated in the future.

For example, Teska's work for Mequon showed the fiscal impact of three alternative development patterns:

	Alternative					
	A		B		C	
Density (units per acre)	0.1		0.2		1.0	
Minimum Lot Size (acres)	10		5		1	
Projected Population Increase	2,820		5,623		27,452	
Impact Upon City of Mequon						
New Annual Expenditures	$1,756,561		$2,304,885		$6,559,658	
New Annual Revenues other than Property Taxes	$116,786		$232,866		$1,136,804	
Required Property Tax Levy	$1,639,775		$2,072,019		$5,422,854	
	Using Assessed Value Projection:					
	Low	High	Low	High	Low	High
Required Property Tax Rate ($3.85 per $1000 assessed)	3.76	3.70	3.36	3.27	2.57	2.38
Impact Upon School District						
New Annual Expenditures	$4,273,997		$8,538,442		$44,692,950	
New Annual Revenues other than Property Taxes	$581,370		$1,161,440		$6,079,350	
Required Property Tax Levy	$3,692,627		$7,377,002		$38,613,600	
	Using Assessed Value Projection:					
	Low	High	Low	High	Low	High
Required Property Tax Rate ($11.41 per $1000 assessed)	10.75	10.58	10.34	10.07	**11.61**	10.75

III. Traffic Impact Analysis

TIA Process

As required in the RFP, because of the extensive development expected within the study area, this TIA will be prepared to the *WisDOT Traffic Impact Analysis Guidelines* updated in May of 2007. Based on information in the RFP, the TIA study area includes the following 26 intersections:

1. S. Fish Hatchery Road with E. Cheryl Parkway
2. S. Fish Hatchery Road with Lacy Road
3. S. Fish Hatchery Road with Lacy Interchange (future)
4. S. Fish Hatchery Road with Nobel Drive
5. S. Fish Hatchery Road with Irish Lane
6. Research Park Drive with E. Cheryl Parkway
7. Research Park Drive with Lacy Road
8. Research Park Drive with Nobel Drive
9. Quartz Road with Nobel Drive (future)
10. Granite Road with Nobel Drive (future)
11. Mica Road with Lacy Road
12. Mica Road with Nobel Drive (future)
13. Fahey Glen with E. Cheryl Parkway (future)
14. Fahey Glen with Lacy Road
15. Fahey Glen with Nobel Drive (future)
16. Notre Dame Drive with E. Cheryl Parkway (future)
17. Notre Dame Drive with Lacy Road (future)
18. Notre Dame Drive with Nobel Drive (future)
19. Curly Oaks Lane with Nobel Drive (future)
20. Curly Oaks Lane with Irish Lane (future)
21. East Hill Drive with Irish Lane
22. Syene Road with Lacy Road
23. Syene Road with Nobel Drive (future)
24. Syene Road with Irish Lane
25. Hwy 14 with Lacy Interchange (future)
26. Lacy Interchange with E. Cheryl Parkway (future)

The study will consist of analysis of the initial build Year of 2010, the mid-buildout phase of 2025 and full buildout phase (525 acres) of 2035 without and with improvements, per WisDOT TIA Guidelines. A weekday AM peak hour (one hour between 7 AM to 9 AM) and a weekday PM peak hour (one hour between 4 PM to 6 PM) traffic analysis will be conducted for the three analysis years. Intersection and roadway improvements will be recommended to achieve/maintain a LOS D or better for all traffic movements.

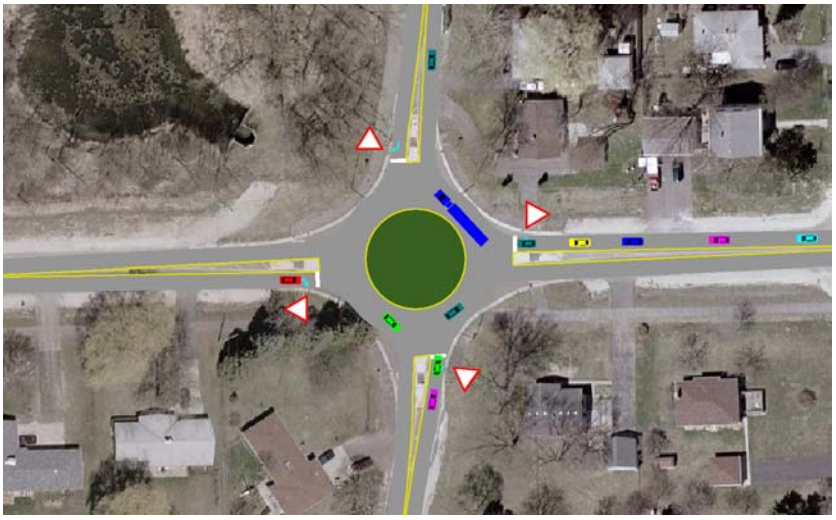
The full TIA submittal will consist of a report with exhibits illustrating the existing traffic counts, future traffic projections, level of service operations, trip generation, trip distribution, site plan, text, analysis procedures, recommendations, conclusions and appendix of all intersection capacity calculations.

We will utilize the WisDOT and City 24-hour traffic tube count data on the study area roadways. We will collect traffic turning movement counts at the 12 existing study area intersections on a typical weekday from 7 AM to 9 AM and from 4 PM to 6 PM. We will utilize the 2006 traffic turning movement counts from the City at the S. Fish Hatchery Road intersections with Lacy Road and E. Cheryl Parkway. The other existing 10 study area intersections to be counted will consist of:

1. S. Fish Hatchery Road with Nobel Drive
2. S. Fish Hatchery Road with Irish Lane
3. Research Park Drive with E. Cheryl Parkway
4. Research Park Drive with Lacy Road
5. Research Park Drive with Nobel Drive
6. Mica Road with Lacy Road
7. Fahey Glen with Lacy Road
8. East Hill Drive with Irish Lane
9. Syene Road with Lacy Road
10. Syene Road with Irish Lane

We will conduct the traffic counts to WisDOT procedures consisting of counting each turning movement separately with cars, trucks, busses, bikes and pedestrians counted separately in 15-minute increments.

Existing intersection plans, signal plans and existing signal timing plans will be obtained from the City. We will obtain (from the City) and review the Northeast Fitchburg (2002) Traffic Study and the Northeast Neighborhood Study (underway) to determine what information could be utilized in this TIA.



We will collect existing intersection geometric data, conduct a photo log of each intersection and compile the traffic count data to obtain a base map of existing peak hour traffic volumes. We will then submit the traffic count data to the MPO for determination of traffic projections for Year 2025 and 2035 analysis years. We will coordinate with the MPO for the traffic projections for Year 2025 and 2035 background conditions.

2. Traffic Analysis – Year 2010, 2025 and 2035

Trip Generation and Distribution – Year 2025

The proposed selected neighborhood plan will be used to obtain the expected land uses and square footages for the initial buildout of the 525 acre neighborhood plan. We will coordinate with the City and WisDOT to determine expected roadway improvement plans on the study area roadways by Year 2025.

We will determine the traffic generation for the proposed development based on the selected neighborhood plan land uses and square footages applied to the rates in the *ITE Trip Generation Manual, 7th Edition*.

The trip distribution will be based on the existing traffic patterns in the area and based on the types of land uses proposed. The traffic generated will be assigned to the development driveways and study area intersections based on the traffic distribution.

The traffic counts, trip generation, distribution, assignment and total traffic volumes will electronically submitted to the City as an Initial Review, prior to conducting the balance of the traffic analysis. Upon receiving acceptance from the City on the Initial Review submittal and assumptions, we will proceed with the balance of the traffic analysis.

Traffic Operational Analysis – Years 2010 and 2025

We will analyze the study area intersections as previously described for the typical weekday AM and PM peak hours for the following scenarios per the WisDOT TIA Guidelines:

- Year 2010 (Existing) Conditions
- Year 2025 Partial Build Conditions with no intersection improvements
- Year 2025 Partial Build Conditions with intersection improvements as necessary to meet the LOS D or better conditions.

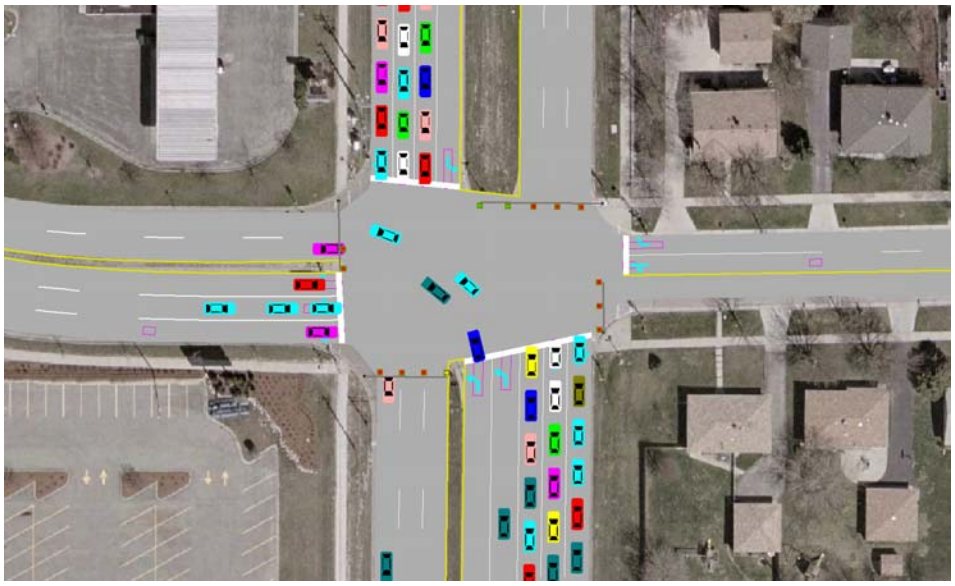
We will utilize the SYNCHRO computer model, which is an accepted computer model per the WisDOT TIA Guidelines. We will make recommendations on intersection geometrics, traffic signal modifications, turn bay length extensions, roadway cross-sections and other improvements required to provide LOS D for all traffic movements at the study area intersections. We will recommend turn bay lengths/extensions based on the reported 95th percentile queues.

We will recommend locations for new traffic signal locations based on the traffic analysis and the peak hour traffic signal warrant. We will recommend potential locations for roundabouts based on the traffic analysis.

Trip Generation and Distribution – Year 2035 – Full Buildout
We will utilize the proposed selected neighborhood plan to obtain the expected land uses and square footages for the full buildout of the 525 acre neighborhood plan. We will coordinate with the City and WisDOT to determine expected roadway improvement plans on the study area roadways by Year 2035.

We will determine the traffic generation for the proposed full buildout development based on the selected neighborhood plan land uses and square footages applied to the rates in the *ITE Trip Generation Manual, 7th Edition*.

Tthe trip distribution from the 2025 traffic analysis will be used. We will assign the total full buildout trip generation to the 26 study area intersections for the weekday AM and PM peak hours based on the City approved trip distribution.



Traffic Operational Analysis – Year 2035
We will utilize the background traffic projections from the MPO for the study area intersections. Based on the traffic projections, We will develop the following traffic volume scenarios for the weekday 2035 AM and PM peak hours and We will also analyze the 26 study area intersections for each of these scenarios:

- Year 2035 Background Conditions (traffic projections only, without the 525 acre neighborhood development traffic)
- Year 2035 Full Build Conditions (background traffic conditions with the 525 acre full buildout of the neighborhood development plan) without intersection improvements above and beyond the 2025 recommended improvements
- Year 2035 Full Build Conditions with intersection and roadway improvements to obtain LOS D or better traffic conditions.

We will utilize the SYNCHRO computer model, which is an accepted computer model per the WisDOT TIA Guidelines. We will make recommendations on intersection geometrics, traffic signal modifications, turn bay length extensions, roadway cross-sections and other improvements required to provide LOS D for all traffic movements at the study area intersections. We will recommend turn bay lengths/extensions based on the reported 95th percentile queues.

Locations for new traffic signal locations will be recommended based on the traffic analysis and peak hour traffic signal warrant. We will recommend potential locations for roundabouts based on the traffic analysis.

We will provide an analysis of impacts to the current and proposed residential neighborhoods of Quarry Hill (Mica Road, Quartz Road, Granite Road and Gallagher Drive), Waterford Glen (Fahey Glen), Tarpleywick (Curly Oaks Lane) and The Crossing (Notre Dame Drive). The analysis will include current and future traffic along with expected traffic impacts and proposed improvements (if any) appropriate to good land use planning and access.

3. Report

A "draft" Traffic Impact Analysis report completed to WisDOT guidelines documenting the findings of the analysis will be prepared by Traffic Analysis & Design and submitted to the City for review and comments. The report will include text, tables and exhibits. The City shall provide comments to the Team so that Traffic Analysis & Design can finalize the report and submit final copies to the City.

IV. Conceptual Stormwater Management Study

Goals, Objectives, and Planning Criteria

Stormwater management and water resource management issues will be identified and considered in a wide range of planning and land use options that are part of the Phase 1 planning process, which is described earlier in this proposal. The bulk of the performance standard identification and water resource and natural resource issue identification and opportunities analysis will be conducted as part of that work. This section describes the specifics of the stormwater management study that will be conducted for the anticipated land-use plan that is produced and Phase 2 of the planning study.

MARS will have the primary responsibility for the development of goals, objectives, and planning criteria for water resources management. It is our experience that water resources management must encompass all facets of the hydrologic cycle including stormwater runoff, infiltration, groundwater recharge, groundwater withdrawal, and the interactions between surface water and groundwater. While the State of Wisconsin, Dane County, and the City of Fitchburg are all very progressive in the area of water resources management, even stringent regulations may not protect area natural resources to the level desired. An assessment of the condition of streams, wetlands, and receiving waters and their sensitivity to hydrologic alteration will be used to establish goals to be maintained after development.

Components of the water resources management plan will address stormwater quantity, quality, and protection of natural resources.

- **Quantity** will be analyzed to determine the risk of localized and downstream flooding and associated damages to property and natural resources.
- Water **quality** will be evaluated in the context of NR216/151 requirements and Dane County and City of Fitchburg Ordinances. New developments are required to meet 80 percent TSS reduction over the "no controls" condition. Site assessment may indicate the need for more stringent requirements. Additionally, a TMDL for sediment and

phosphorus for impaired waterways in the Rock River Basin is currently underway. Proposed wasteload allocations may also affect WPDES permitted discharges for municipalities.

- **Protection of natural resources** will drive water quality and quantity goals. Areas to be considered include area wetlands, Swan Creek and Lake Waubesa. Lake Waubesa has experienced problems with eutrophication. Poorly planned urban development with improper water resources management may introduce additional phosphorus into the system.

Planning data to be gathered includes base mapping, stormwater structure inventory, wetland and soils data, framework plans, and waterway and floodplain data. Of particular use will be the new 1-foot resolution aerial orthophotos for the Madison urban area, which includes this portion of Fitchburg, soils data both from NRCS Soil Survey and site investigation for infiltration, developed land use plans and water resources management goals, and existing regulatory (2003) and draft (2008) floodplain mapping. It is our understanding that the City will provide record drawings for the area, where they exist, and previous stormwater studies. The Consultant Team with gather stormwater management infrastructure information concurrently with other field investigation activities.

Watershed Description

MARS will **develop basemaps** that include the most current aerial orthophotos, land use, stormwater conveyance system, soils, waterways and wetlands. We also expect that base mapping will include the 4-foot contours developed by Dane County in 2000, and that the DEM used to develop the contour mapping will be made available to us. The DEM may be quite useful in better defining floodplain boundaries as the planning process progresses.

Existing watershed boundaries and naming conventions will be provided by the City of Fitchburg. MARS will verify the watershed boundaries based on 4-foot contour information and field investigation as necessary. Results of the land use planning effort may require existing subbasins to be further subdivided to account for all proposed outfalls or to better predict urban pollutant loading. All delineated subbasins for existing and proposed land use conditions will be included in the base mapping. All watershed mapping will be completed using ArcGIS 9.2 in Dane County Coordinate System (feet), and the digital shapefiles will be provided to the City on request.

After basemapping and subbasin delineation is completed, the framework plans and previously established water resources management **goals will be reviewed**. Framework plans and water resources management goals will be modified if necessary to appropriately protect area natural resources.

Future water quality management needs will be established based on potential impacts to natural resources including Lake Waubesa and its associated springs and wetlands and shallow and deep aquifers.

Hydrologic and Hydraulic Analysis

MARS will evaluate existing conditions **peak runoff flows and volumes** using SCS TR55 methodology. The RFP requests the Hydraflow computer model, but we may recommend

using XP-SWMM, which also uses TR55 methodology. We propose XP-SWMM because it can integrate runoff hydrograph generation, design of stormwater management infrastructure, and can evaluate the effect of multiple infiltration devices on peak runoff rates and runoff volumes. XPviewer, a free download from XP Software, can be used to view all simulations, scenarios, and model output in a read-only format. Modeling for the 2, 10, and 100-year recurrence intervals will be evaluated and tabulated.

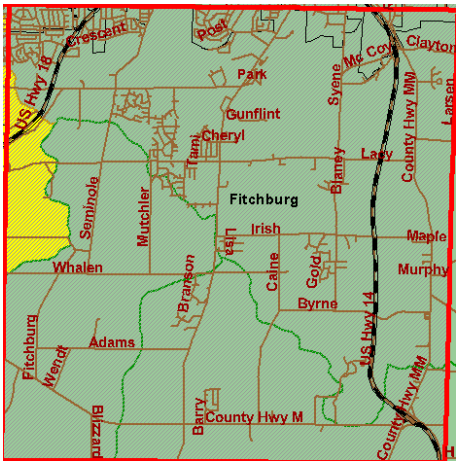
Proposed conditions peak runoff flows and volumes will be compared to existing conditions. Alternatives to be evaluated will include infiltration/biofiltration devices, wet detention basins, conveyance swales, and other best management practices. Tables comparing existing and proposed peak runoff rates and volumes will be provided to the City. Again, XP-SWMM will be used to **evaluate impacts of development** on flow rate and volume. Hydrographs for multiple storms and management scenarios can be displayed concurrently to assist in decision making.

The **effectiveness of infiltration** as a means to protect groundwater and enhance recharge will be evaluated. MARS has the capability to assess infiltration on a hydraulic level as it affects runoff rates and volumes. However, not all water that infiltrates becomes groundwater recharge. Our extensive experience with hydrologic water balance analyses, including use of a variety of modeling techniques including the USGS PRMS model, RECARGA, and regional recharge analyses such as the one we prepared for the Dane County infiltration task committee will help us evaluate the impact of infiltration on recharge. In addition, we can use the Dane County Regional Groundwater Model to determine the impact of recharge on the aquifer. For example, for the recent SuperTarget stormwater design in Fitchburg, we evaluated the potential of infiltration to reduce stormwater volume to the Jamestown Basin, but also used the groundwater model to assess that groundwater recharge would travel northeast along the Tunnel City formation rather than create a mounding effect at Goose Lake.

Water Quality Analysis

MARS will use the most current version of WinSLAMM to **evaluate pollutant loadings** and potential reductions through the use of BMPs for proposed developed conditions. WinSLAMM modeling will be completed for any existing developed areas that expect to be re-developed and the entire planning area under full build-out conditions. Results will be provided to the City for review and in tabular form. WinSLAMM modeling will be completed for both TSS and phosphorus. P8 modeling may also be completed for developed conditions, if necessary, to evaluate the cumulative effectiveness of stormwater BMPs in series to remove pollutants of concern.

BMPs will be evaluated for **pollutant removal efficiency and cost effectiveness**, including construction costs and operation and maintenance costs. It is in the best interest of potential developers and the City to have practices that are implementable, efficient, and are maintainable at an appropriate cost.



Thermal stormwater runoff control measures will be recommended, if appropriate. While the adjacent figure from Dane County Land and Water Resources Department shows the North McGaw Neighborhood to not be located in a thermally sensitive area, site investigation may reveal ecological reasons to provide thermal controls for stormwater discharge.

Our water quality analysis will consider **changes in phosphorus loadings** caused the conversion of agricultural land to urban land uses. The two most likely options for estimating current sediment and phosphorus loads from undeveloped land are USDA's SNAP-Plus model or the results from the ongoing TMDL analysis for the Rock River Basin, which uses Soil and Water Assessment Tool. SNAP-Plus uses RUSLE2 as its soil erosion estimation tool and is based on field-scale analysis. SWAT uses MUSLE as its soil erosion estimation tool and is generally used for larger, ungaged watersheds (2+ sq. mi.). Results from SNAP-Plus or SWAT can be compared to pollutant loadings for urbanized conditions estimated by WinSLAMM or P8.

Wetland Protection Planning

Wisconsin Wetland Inventory (WWI) Maps, NRCS Soil Survey, topographic maps, and Dane County Environmental Corridor mapping will be used to complete a **preliminary identification of wetland and waterway boundaries**. Actual boundaries will be verified through field investigation as described in detail in section A2 of the Neighborhood Plan.

Technical review of the water resources management plan will be completed by NRC to check for potential conflicts with **the protection of wetlands, waterways**, and other significant natural resources. If conflicts are found, water resources management plan will be adjusted to mitigate impacts to these resources. NRC will provide assistance regarding native planting species and native community performance standards for storm water detention, infiltration devices, wetland buffers, and other open spaces. For example, NRC and MARS are currently coordinating inspections of the SuperTarget wet detention basins and infiltration areas as part of on-going maintenance activities. NRC is responsible for the planting and ecology, and MARS is observing the physical performance of the system.

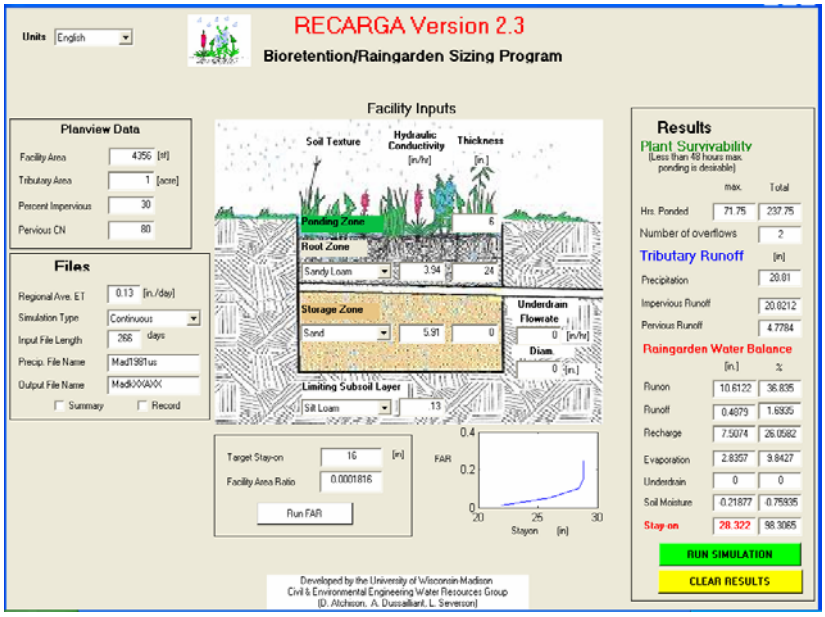
Identify Hydric Soils

NRC will identify areas of hydric soils or hydric inclusions and will provide input for consideration for **potential wetland restoration**. This work will be conducted as part of the input to the phase 1 planning process, and will be further detailed in the face to planning and water resource/Stormwater analyses.

V. Environmental and Ecological Services

The hydrologic goals and specific performance objectives of the conceptual stormwater management plan will be developed based on an assessment of the condition and sensitivity of the water and ecological resources in the Neighborhood Plan area. In addition, we will provide a detailed analysis of expected changes in environmental resources in and near the study area based on the conceptual stormwater management plan and projected water use for the North McGaw Park Neighborhood.

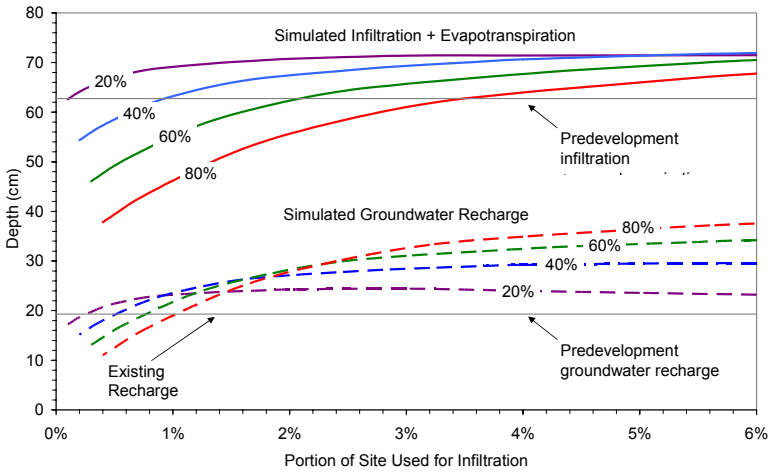
Water Balance and Stream Morphology



We will use several analysis approaches, including careful review of data from Fitchburg in the Town of Dunn, the Dane County regional groundwater model, and surface water budget hydrologic models such as RECARGA to **evaluate infiltration and recharge rates,** including pre-development conditions and post-development with and without engineered infiltration. RECARGA estimates infiltration into the soil, as well as the amount of water that passes through the plant root zone and becomes groundwater recharge. MARS staff engineer Linda Severson is one of the developers of RECARGA, and MARS is actively engaged in applying and refining this model. Our analysis will use continuous (e.g. 1-hour time step) rainfall data to simulate average annual rates.

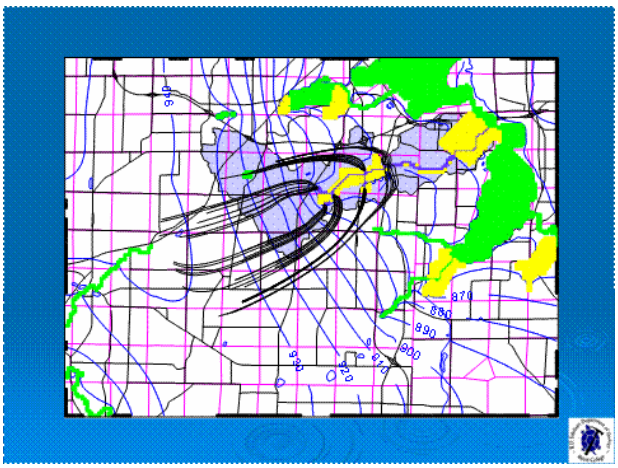
We will work closely with the City public works officials to evaluate current and future **water supply withdrawal,** including well pumping rates, locations, construction and operational schemes that may affect the groundwater flow system. Planning for the new development will include a conceptual analysis of alternatives for water efficiency and reuse (e.g. conservation, use of grey water for irrigation) to develop projected per-capita water consumption rates, as MARS has conducted for Fitchburg's Northeast Neighborhood.

The net **water balance of the aquifer system** will be estimated based on the projected water use as well as RECARGA simulations of the performance of stormwater infiltration measures. For this analysis, the study area will be subdivided into logical areas with similar soils and development density, with RECARGA applied to each subarea. This approach allows the flexibility of evaluating different development densities in different areas, as well as different infiltration device designs (e.g. infiltration device size relative to contributing area). MARS has conducted numerous water balance studies of development near sensitive aquatic resources, including for the Badger Mill – Sugar River study in Verona and the Token Creek Conservancy Estates in Sun Prairie.



Evaluating the future impact of water withdrawal and changes in recharge on baseflow to streams, lakes and wetlands requires **detailed understanding of the aquifer system**. Our team includes Sue Swanson, developer of the MODFLOW model for the Nine Springs area and a recognized expert on springs and the hydrogeology of Fitchburg. MARS will use this groundwater model, with input and review by Sue, to evaluate the sensitivity of the local groundwater system to changes in recharge and pumping from the upper and lower aquifers. Although no existing model is sufficiently detailed to provide precise projections of impacts, the Nine Springs model will provide valuable information on the range of potential impacts, issues to monitor as the area develops, and the additional data that would be necessary to address resource impact questions in more detail in the future. The recharge rates predicted by RECARGA will be used as input to the groundwater model to **evaluate the sensitivity of groundwater supply to local streams, springs and wetlands under different development scenarios**. Specific impacts to Waubesa Wetlands would require a refined groundwater model development and analysis, which are not part of our scope of services for this proposal

Evaluating aquatic ecosystem impacts of hydrologic alteration due to human activities is challenging, and this has been the topic of considerable research over the past decade. Successful assessments of these impacts tend to rely on a combination of data analysis and expert judgment. Variability in streamflow is a key factor in ecosystem health. Depending upon the available resource data and key issues identified, we will use statistical indicators such as a stream stability index, stream flashiness index, and baseflow yield to



characterize flow variability, to evaluate current hydrologic conditions and limiting conditions, and to provide a baseline for future monitoring. Continuous monitoring of stream / wetland stage and temperature, as well as limited streamflow and channel morphologic measurements can provide data needed to apply these indicators.

Similarly, we will analyze potential impacts on wetlands in and near the study area, including changes in spring flow and chemistry on the calcareous fen in the Waubesa Wetlands. The information included in the Wisconsin Wetland Inventory provides insight into the hydrology of mapped wetlands (e.g. relative importance of surface water vs. groundwater supply, duration of inundation, etc.) which will be compared with the post-development hydrologic simulations to infer likely changes.

Our final report will **document the information sources and methods** used to provide opinions and recommendations. The report prepared by MARS and NRC for the City of Verona's Badger Mill – Sugar River study is over 60 pages with an extensive data and literature review. Our recommendations will include options to **offset development-related impacts** on aquatic resources. For example, enhancing physical habitat through riparian vegetation management, streambank stabilization, and restoring flow variability to more closely match predevelopment conditions may make the ecosystem more resilient to development related changes (e.g. water quality changes related to urban stormwater) that are difficult to mitigate directly.

NRC will complete a detailed **tree survey and inventory** in accordance with approved assessment procedures. The results of this work will be presented in this guest is part of the phase 1 planning effort, and also applied to detailed reporting and subsequent stages of the project.

Public Process

The Consultant Team is very familiar with the local community's ties to the surrounding natural area. We expect several local conservation organizations and local residents to be very active in public discussions. The Consultant Team has extensive experience in public outreach and process for environmentally sensitive issues including the Madison Water Utility Well No. 29 Manganese issue, Madison WU Well No. 3 Siting Process, the ongoing Rock river TMDL, and the proposed 5th Addition to Cherokee Park near Cherokee Marsh on Madison's North Side.

VI. Public Participation

One of the key strengths of the Consultant Team is a commitment to innovative public participation techniques. The cornerstones of this process will include:

- **Neighborhood Summits** will be organized by the Consultant Team. Four of the eight planned public information sessions will be expanded into Neighborhood Summits. These sessions, for July 16, August 13, January 21 and February 18, will typically be fast-paced, interactive sessions. Citizens who come to the Summit will not only learn and provide input to the project, but have a true voice in the development of the Plan.

	Month										
Phase	**June 2008**	**July**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan 2009**	**Feb**	**Mar**	**Apr**
I. Background and Issues and Opportunities 6/11, 7/9 Steering Comm 6/18 Public Information 7/16 1st Neighborhood Summit											
II. Neighborhood Plan **Land Use Part 1** 8/6, 8/18, 9/3, 9/24 Steering Comm 8/13 2nd Neighborhood Summit 8/19, 8/27 City Comm											
Land Use Part 2 9/3, 9/24 Steering Comm 9/17 Public Information 10/7 City Comm											
III. Traffic Impact Analysis 1/14 Steering Comm 1/15 City Comm 1/21 3rd Neighborhood Summit											
IV. Storm water Study 1/14 Steering Comm 1/15 City Comm 1/21 3rd Neighborhood Summit											
V. Environmental and Ecological Studies 10/13, 1/14 Steering Comm 1/15 TTC, 1/19 RC, 1/20 PC 1/21 3rd Neighborhood Summit											
VI. Final Plan Preparation and Presentation **Draft Plan Set 1** 2/18 Steering Comm 2/18 4th Neighborhood Summit 2/25 PC, 3/3 COW **Draft Plan Set 2** 3/4 Steering Comm 3/17 Plan Comm 4/21 Plan Comm, Public Hearing 4/28 Council Adoption											

The Summits will take place as follows:

1. **First Summit:** The first Summit will seek input to vision, goals, objectives, and policies of the Plan. It will take place near the beginning of the project, after the Consultant Team works with the Steering Committee to formulate a draft Neighborhood Profile and Issues and Opportunities.
2. **Second Summit:** The second Summit will focus on input into selecting the Growth Model. With input of the Steering Committee, Plan Commission and other stakeholders prior to the Summit, the growth models that most closely fulfill the goals, objectives and policies of the Plan will be presented in Open House settings, where people can see what the growth models will look like, look at representative drawings of land uses, and have an opportunity to draw (or work the Consultant Team to draw) their own growth model. The Consultant Team will document input of the Summit to provide to the Steering Committee, Plan Commission and Common Council in their deliberation to choose the preferred Growth Model (or hybrid option). The Second Summit will also feature:
    - A visual preference survey to assess the public's likes and dislikes for urban form and possible development patterns, including housing, retail, mixed-use, business park, open space, and natural areas.
    - 3 dimensional images of possible land uses in the growth model
3. **Third Summit:** The third Summit will be an opportunity to review Infrastructure Service, Staging, Traffic Impact and Storm water Study. There will be information sessions on each topic, along with roundtable discussions to provide input, based on interest area, to each of the four major topics under discussion at the Summit.
4. **Fourth Summit:** The final Summit will be an opportunity for the public to comment on the draft Neighborhood Plan before it is formally submitted to the Common Council. The Summit will take place in an Open House format, where simultaneous workshops will invite the public to learn more and provide comment to the major sections of the Plan, especially the elements that will have been completed after the growth model was selected, including the Land Use Map, traffic impact analysis, stormwater management, and environmental and ecological studies.

- **Interactive Website:** The Consultant Team will design and host a project Website, which will not have all up-to-date materials for the planning project, but will have a number of interactive elements, including an easy way for people to submit public comments that will then be posted on the site and discussion groups. The Consultant Team will plan at least one live Internet discussion prior to each Summit for people to ask questions and make comments that can then be shared at the public meeting. We have found that the Internet is a great additional tool to reach out to people that may prefer participating in the process electronically.
- **Staff, Steering Committee, Plan Commission, Ag and Rural Affairs, and Common Council:** The Consultant Team will provide all necessary support so that all public bodies are well informed, prepared, and armed with all of the information they need throughout the

neighborhood planning process. The project Web site will feature a private section for use by these public bodies to review draft documents prior to them being made available to the general public. The private portion of the Web site can also have agendas, meeting minutes, contact information and other relevant documents, and will include a feature to ask questions of the Consultant Team and provide comments on an ongoing basis. The Consultant Team will need assistance identifying stakeholders, people to interview, organizations to recruit for involvement, and access to data. The Consultant Team will create a database to notify the appropriate people for upcoming meetings of the Steering Committee, public information sessions, and Neighborhood Summits. The Consultant Team will provide an electronic copy of the database to staff to use once the project is completed.

VII. Administrative

A. Time Frame and Cost

The total, not to exceed cost for all of the tasks listed in this scope of services will be $250,000. This will include all consultant expenses, travel, meeting expenses, and copies for meetings.

The cost break-down per phase are:

Neighborhood Plan	$115,000

The fee for the Neighborhood Plan includes all the services listed under Section II and Section VI of the RFP, which we anticipate will include extensive ecological, water resources and transportation input and discussion, in both Phase 1 and Phase 2 of the planning process.

Transportation Impact Analysis (Section III of RFP)	$50,000
Conceptual Storm water Management Plan (Section IV of RPF)	$35,000
Environmental and Ecological Studies (Section V of RFP)	$50,000

The most important assumption regarding the fee estimate is the number and complexity of the meetings that will be required, together with the follow-up analyses , memos, etc. that may be required. We have assumed that the meeting process will be similar to that developed by the City in their RFP. However, we understand that the City is open to discussing scheduling and combining meetings during contract negotiations. If additional meetings are required, the cost for each additional steering committee meeting, public information meeting, and city commission meeting will range from $600 to $1,000 depending on the amount of preparation and/or number of consultants required at the meeting (based on the amount of technical questions that will be addressed at the meeting).

Possible revisions to the RFP Scope of Services are described below. We would be happy to discuss these with the City.

- "Official" wetland delineations are only valid for a period of 5 years. We recognize that the potential build-out timeframe for the North McGaw Park Neighborhood will most likely be long after the period that the wetland delineation is valid. Therefore, we recommend that approximate wetland boundaries be completed based on aerial photography and available soils information, with some confirming fieldwork in particularly difficult or critical areas.
- The RFP describes an in-depth analysis / discussion of the potential for North McGaw Park Neighborhood to impact water resources. Because of the high profile nature of this Neighborhood Plan due to its proximity to the Town of Dunn, we recommend that monitoring the water resources is important aspect to the success of the project and buy-in from stakeholders. Monitoring could include installation of continuously-recording water level gages (similar to the study MARS completed for the City at Jamestown Basin), measuring stream / spring flow, temperature, etc.
- We could discuss the developed of a refined groundwater model as part of the planning project.

B. Work Products

The following work products will be completed by the Consultant Team. (Additional items that are not required in the RFP are shown in italics.)

Neighborhood Profile (Background material review)

Issues and Opportunities findings and analysis

Interactive Web site

Results and findings of the systems analysis

Growth Models (up to 10)

Visual Preference Survey

3 dimensional drawings of possible land uses

Land Use Plan

Traffic impact analysis

Conceptual Storm water study

Environmental and Ecological Studies

C. General RFP Requirements

1. Legal name of the firm:

Lee Brown, FAICP, President
Teska Associates, Inc.
627 Grove Street
Evanston, IL 60201
e-mail: lbrown@teskaassociates.com
phone: (847) 869-2015 x 201
fax: (847) 869-2059

2. References (Teska)

Village of Elkhorn, WI

Services: Comprehensive Plan, Continuing Planning Services, and Fiscal Analysis
Service Period: 2000 – Present
Contact: Samuel Tapson
9 S. Broad Street
Elkhorn, WI 53121
(262) 741-5111

Village of Bartlett, IL
Services: Comprehensive Plan, Corridor Plan, and Continuing Planning Services
Service Period: 1995 – Present
Contact: Jim Plonczynski
Director of Community Development
228 Main Street
Bartlett, IL 60103
(630) 837-0800

Village of Mequon
Services: Fiscal Analysis of Impact of New Development and Mequon/Thiensville Town Center Plan
Service Period: 1999-2003
Contact: Kim Tollefson
Director of Community Development
11333 N Cedarburg Rd,
Mequon, IL 53092
(262) 236-2903
ktollefson@ci.mequon.wi.us

City of Marengo, IL
Services: Comprehensive Plan (Received APA Award)
Service Period: Plan undertaken 2003-2004, Continuing Services to Present
Contact: Scott Hartman
Administrator
City of Marengo
132 E. Prairie
Marengo, IL 60152
(815) 568-7112

3. Team Members

- **Lee Brown, FAICP, President, Teska Associates,** will serve as principal-in-charge of this assignment. He has over 30 years of experience in community planning and development economics. In addition to his diverse background in comprehensive community planning, urban design, development regulations, and real estate economics, Mr. Brown is also adept at consensus building and public involvement. He is the principal planner for Elkhorn and Glencoe among many municipal clients. He was formerly the Community Development Director for the City of Monona, Wisconsin and on the planning staff of the cities of Brooklyn Park, Minnesota and Highland Park, Illinois.
- **Scott Goldstein, AICP, Principal, Teska Associates,** will serve as project manager for this assignment. He brings over 15 years of experience in community planning and development. He brings an expertise in public participation and neighborhood planning. He is currently leading two neighborhood planning projects in Chicago and Bloomington, Illinois and serves as the municipal planner for Highwood, Illinois, a mature suburb. He has also led a countywide fiscal analysis for 53 units of government in Peoria County and has

assisted Mr. Brown with fiscal analysis in Elkhorn, Wisconsin.

- **Nicholas Patera, Senior Vice President, Teska Associates,** will provide input into the growth models and drawings for the project based on his career as a landscape architect and land planner of over 1,000 projects across the country, including a specialty in conservation-based developments throughout southern Wisconsin. His responsibilities range from concept planning through all phases of design, construction specifications, development approval and project implementation.
- **Steve Gaffield, PhD, PE, Senior Water Resources Engineer and Hydrogeologist, Montgomery Associates,** will serve as the lead for Montgomery Associates on water resource impact issues, drawing on his in-depth knowledge of both surface water and groundwater issues. Steve has conducted hydrologic research stream fisheries and impacts of human activities on them throughout Wisconsin, and served as project manager for the City of Verona's Badger Mill – Sugar River study which evaluated future development options and impacts on these sensitive aquatic resources.
- **Rob Montgomery, PE, Principal, Montgomery Associates,** will serve as advisor to the project team based on his over 25 years of experience in a broad range of water resources issues relating to urban development. Rob has provided leadership to several complex local projects, including the Omega Hills landfill project in Germantown, WI and development of the groundwater recharge project at Odana Hills for the State of Wisconsin and MG&E.
- **Jon Lefers, PE, Montgomery Associates**, will serve as the lead on developing the conceptual stormwater management plan based on his extensive experience of developing stormwater management plans for large projects and carrying these designs from conceptual phase through to construction.
- **Linda Severson, Water Resources Engineer and Fisheries Specialist, Montgomery Associates,** will provide input to the project team on water resource impact issues to fisheries and development of the conceptual stormwater management plan particularly related to infiltration / groundwater recharge practices. Linda's combined fisheries and engineering background gives her a unique perspective on designing management systems to protect natural resources.
- **Scott Storlid, P.W.S., Natural Resources Consulting,** will serve as the technical lead on wetland and natural resources issues and as the lead in the public process. Scott is a professional wetland scientist with over 18 years of experience in wetland investigations and permitting, wetland mitigation design; biological surveys; Endangered Species Act studies and consultation; and environmental policy.
- **Jeffrey Kraemer, W.P.I.T., Natural Resources Consulting,** will serve as the lead wetland delineator for the project and has obtained the Assured Wetland Delineator certification from the Wisconsin DNR. This designation allows wetland delineations completed by individuals with this certification to be approved by the WDNR without concurrence.
- **Susan Swanson, PhD, Subconsultant Hydrogeologist to Montgomery Associates,** will serve as a quality assurance advisor on groundwater issues. Sue will assist in planning data collection and analysis, review groundwater modeling and other analyses, and help develop conclusions on groundwater impacts and management recommendations. She is an Associate Professor of Geology at Beloit College where she teaches courses in

Environmental Geology, Hydrogeology, and Geomorphology. Her research interests include wetlands hydrogeology, spring flow, and the effects of urbanization on surface water and groundwater resources. She has studied the springs in the Nine Springs watershed and developed a groundwater flow model to simulate the spring flow. Sue, along with colleagues at the Wisconsin Geological and Natural History Survey, also recently completed a survey of spring resources in Iowa and Waukesha Counties.

- **John Bieberitz, PE, PTOE, Traffic Analysis & Design,** will serve as the lead on the transportation plan and traffic impact analysis. John has conducted over 400 traffic impact studies throughout Wisconsin. John has managed some of the largest TIA's in Wisconsin ranging from Pabst Farms (1,500 acres), Shodeen TIA (2,000 acres) and regional malls consisting of Mayfair Mall, the Brookfield Square Mall expansion and Pabst Farms. John has managed the majority of the TIA's for municipalities throughout the state of Wisconsin. John as made countless presentations to plan commissions, common councils and public information meetings for TIA's ranging from small neighborhood developments to large regional developments. John spends many hours per week meeting and coordinating with WisDOT staff on various complex TIA's within the Wisconsin Region. John will be the Project Manager/Principal Engineer in charge of the TIA task for the project.

4. Methodology of scope of work

The methodology is described above and is based on the experiences of the Consultant Team and a number of resources including the Land Use Resource Guide of the Center for Land Use Education, University of Wisconsin-Stevens Point/Extension, the Growing Smart Legislative Guidebook, and Wisconsin Planning Legislation §66.1001(2)(h) and the Conservation Design Resource Manual. The team will use quantitative analysis to provide information on the characteristics of each model, informing the development of the growth models, systems analysis and eventual land use plan and environmental analysis. With solid and complete information, the public and elected and appointed officials will be able to make more informed decisions regarding future development patterns of the McGaw Park Neighborhood.

5. Methodology for development strategies and timing issues

The Consultant Team will analyze data collected for this study to develop development strategies and address timing issues. The Team envisions an iterative process (shown by the feedback loop in the timeline) in which issues of finance, utilities, environmental resources, and traffic impact provide information that will steer the selection of the Growth Model, and development of the Land Use Map, Service Area, and timing strategies. The Implementation Plan will prioritize actions and identify responsibility and possible resources to meet the goals, objectives and policies in the Neighborhood Plan. The Consultant Team will coordinate with the Northeast Neighborhood and other potential neighborhood plans to ensure that the recommendations in this plan are consistent with Fitchburg's Comprehensive Plan and other neighborhood planning efforts.

6. Public participation plan

See Section VI.

7. Subconsultants

Montgomery Associates: Resource Solutions, LLC (MARS)

City of Verona

Services: Natural Resource Based Planning for Urban Service Area Extension Requests
Service Period: 2007-2008

Contact: Bruce Sylvester
Director of Planning & Development
111 Lincoln Street
Verona, WI 53593-1520
(608) 848 9941

Dane County Land Conservation

Contact: Jeremy Balousek
Engineer
1 Fen Oak Court, Room 208
Madison, WI 53718
(608) 224-3747

Natural Resources Consulting, Inc. (NRC)

The American Transmission Company

Services: Wetland delineation; biological surveys; development of mitigation measures for rare species, wetlands, and invasive species; state and federal permitting for wetlands, waterways, and rare species; and environmental monitoring.
Service Period: 2002 to present

Contact: Jon Keener
Environmental Project Manager
PO Box 6113, DePere, Wisconsin 54115
920-338-6551
jkeener@atcllc.com

Client Name: Wisconsin Department of Transportation

Services: Wetland delineation; biological surveys; and development and evaluation of mitigation measures for rare species and wetlands.
Service Period: 2003-2006, and 2008-2009

Contact: Gary Birch
Biologist
Wisconsin Dept. of Transportation
4802 Sheboygan Ave, Room 451
Madison, Wisconsin 52707-7965
608-266-1017
gary.birch@dot.state.wi.us

Traffic Analysis & Design, Inc.

Village of Bellevue
Services: Traffic Impact Analysis
Service Period: 2007 – 2008
Contact: Al Schultz
Village Planner / Zoning Administrator
2828 Allouez Avenue
Green Bay, WI 54311
(920) 468-5225

Pabst Farms Development
Services: Traffic Impact Analysis
Service Period: 2007
Contact: Dan Warren
1749 Eastlake Drive
Oconomowoc, WI 53066
(262) 200-2013

8. Conflict of Interest Disclosure

The project manager, Teska Associates, Inc. has had no business relationships with any of the land owners in the planning area or any potential conflicts of interest.

Montgomery Associates is currently working for Sveum Enterprises on the Northeast Neighborhood. On the North McGaw Park Neighborhood Plan, MARS will only be providing technical input and information to policy decision makers and stakeholders, and based on a discussion with Tom Hovel, if MARS is only providing technical input and not making policy decisions, there would not be a conflict of interest. MARS has been objectively involved in several projects where a conflict of interest could be perceived but in reality did not exist, most recently demonstrated in MARS' work for the City of Fitchburg related to Goose Lake, while at the same time working for Ryan Companies in design of the stormwater management system for the Super Target, which drains to Goose Lake.

NRC routinely completes natural resource assessments, wetland delineations, and environmental permitting services for landowners, government agencies, developers, and utility companies throughout the Midwest and extensively throughout the Dane County area. Specifically, NRC has completed wetland delineations for Sveum Enterprise and T. Wall as well as the City of Fitchburg. During the pre-submission meeting held at the City of Fitchburg City Hall, Mr. Tom Hovel indicated that the natural resource services provided by NRC would not result in a conflict of interest for the North McGaw Park Neighborhood plan based on the scientific and technical nature of these services.

Traffic Analysis & Design, Inc. has had no business relationships with any of the land owners in the planning area or any potential conflicts of interest.

LEE M. BROWN, FAICP

Principal

Experience

As President and Principal of Teska Associates, Inc., Mr. Brown acts as project manager on a wide variety of planning and problem-solving assignments with primary roles in master planning, revitalization, and facilitating public/private partnerships. He has directed comprehensive planning and growth management projects for jurisdictions in Illinois, Wisconsin, Minnesota and Indiana. He has continued to act on behalf of municipalities in the review process of private sector development. As consulting Planner to the Villages of Glencoe IL, Bartlett IL, Bloomingdale IL, Barrington Hills IL, and Mettawa IL, he is called upon to provide professional counsel in the evaluation of current planning applications and municipal project plans. Recent projects under Mr. Brown's direction include the comprehensive plans of Barrington Hills IL, strategic plans for neighborhood revitalization in Aurora, IL, and Greensboro, NC, design guidelines for Elkhorn WI, and revitalization plans for business districts in Crystal Lake and Rockford, IL.

Having written and administered development regulations, growth management ordinances, sign ordinances and appearance codes as a public official, Mr. Brown is able to offer special expertise in code enforcement. He is skilled in real estate feasibility analysis, tax increment financing, fiscal impact analysis, market studies, capital improvement programming, and municipal budgeting. Mr. Brown is a regular lecturer on urban design, urban infill, growth management, fiscal impact analysis, community revitalization and other topics at national and regional planning forums.

Prior to his joining Teska Associates, Inc., he served as Community Development Director for the City of Monona WI., and on the planning staff of the cities of Brooklyn Park MN, and Highland Park, IL.

Education

B.U.P.	Urban Planning University of Illinois (Urbana)
M.S.	Urban Planning University of Wisconsin (Madison)

Professional Affiliations/Awards

College of Fellows of the American Institute of Certified Planners
American Planning Association
Past President of the Illinois Chapter of the American Planning Association
National Trust for Historic Preservation
Lamda Alpha International, Honorary Land Economics Society
Co-recipient of the 1999 Distinguished Contribution Award of the American Planning Association
Co-recipient of the 2003 Outstanding Planning Award for Implementation of the American Planning Association
Distinguished Service Recognition from the Illinois Chapter of the American Planning Association

LEE M. BROWN, AICP

Representative Projects

Comprehensive Plans. Algonquin, Barrington Hills, Bartlett, Cicero, Mettawa, Park Ridge, Pontiac, Richton Park, River Forest, Wheaton, Will County, DeKalb County IL., and Elkhorn WI; City of Brooklyn Park MN; City of Chesapeake VA. Comprehensive Park and Recreation plans in Monona WI and Batavia IL.

Strategic Plans and Master Plans. Elgin City Center, City of Jacksonville Urban Enterprise Zone, Highland Park Hospital, City of West Chicago, and Downtown Waukegan IL; Madison IN; DeForest WI; South Bend, IN.

Zoning and Land Use Testimony. Arlington Heights, Bloomingdale, Bensenville, Evanston, Glendale, Highland Park, Hoffman Estates, Joliet, Lake Forest, Lincolnshire, Niles, Oak Brook Terrace, Park Ridge, Riverwoods, Rockford, Roselle and Schaumburg IL.

Market and Fiscal Impact Analysis. Two-million square feet of office for Homart Development Company; 3.7 million square foot corporate office center for Ameritech Services, Inc.; village-wide fiscal impact models for Bartlett and Hoffman Estates IL, and Elkhorn and Mequon WI.; 6 square mile mixed use development area for the Village of Lake Bluff IL; 900 acre mixed use development near Aurora IL; the Township of Liberty, Delaware County, Ohio; Hotel and conference center feasibilities for Brookfield Zoo, Brookfield IL; public and private development projects throughout metropolitan Chicago.

Tax Increment Finance District Development. Arlington Heights, Aurora, Bartlett, Bedford Park, Bensenville, Bridgeview, Chicago, Crystal Lake, Flossmoor, Galena, Hoffman Estates, La Grange, Lake Forest, Lansing, Libertyville, North Aurora, River Forest, Rockford, Waukegan, Wheaton and Wheeling IL; Monona WI.

Residential Development Design. 900 acre Waterfront Development in Portage IN; 140 acre Villa Olivia golf course/residential PUD.

Site Planning. Melvin Simon and Associates; Pathway Financial Corporation; McDonald's Corporation; North Shore Gas Company; The Goldman Companies; The Taubman Company; Illinois Department of Transportation.

Computer Modeling. Financial/Econometric Tax Increment Finance models; shared parking optimization; real estate and project feasibility studies; capital improvement scheduling; life cycle costing; debt and fiscal impact forecasting; FAR and density models, 3D interactive business district models; and geographic data base systems.

Development Regulation. Traditional Neighborhood Design District Regulations and Pedestrian Overlay District Regulations in Greensboro, NC, City of Kenosha WI, Unified Appearance and Design Ordinance; City of Monona WI Performance Zoning Ordinance; City of DeForest, WI, Zoning and Subdivision Codes; City of Braidwood IL Zoning Ordinance; City of Chesapeake VA Zoning Ordinance; Loudoun County VA Zoning Ordinance; City of Elkhorn, WI Zoning Update; City of Evanston IL Signs and Graphic Control Ordinance; City of Brooklyn Park MN Building Maintenance Code; River Forest IL Zoning and Subdivision Ordinances; Park Ridge IL Urban Design Guidelines; Bartlett IL Landscape Standards and Tree Preservation Ordinance; Traverse City MI, Master Planned Unit Development Ordinance.

Continuing and Current Planning. Review of private development projects including annexations, site plans, subdivisions, rezonings, variations, special use permits, fiscal impacts, and signs for the municipalities of Algonquin, Bloomingdale, Barrington, Bartlett, Barrington Hills, Bensenville, Galena, Gilberts, Glencoe, Highland Park, Kenilworth, Mettawa, Park Ridge, River Forest, Riverwoods, and Winfield IL.

Neighborhood and Community Planning. Strategic plans for neighborhood revitalization in South Bend, IN, Greensboro, NC, Aurora, IL, and Rockford, IL.

SCOTT L. GOLDSTEIN, AICP
Principal

Experience

Mr. Goldstein brings over fifteen years of experience in planning, neighborhood redevelopment, fiscal analysis, zoning, and site review. With Teska, he leads a number of assignments at the local and county levels - from quality-of-life planning at the neighborhood scale to fiscal analysis at the county level. Mr. Goldstein brings a commitment to utilizing planning and development tools to foster economic and community development.

Prior to joining Teska Associates, Inc., Mr. Goldstein was vice president of policy and planning at the Metropolitan Planning Council (MPC), where he oversaw policy development and technical assistance for the organization since 1995. He designed MPC's community building initiative, which provided assistance to over two dozen communities throughout the greater Chicago region.

He has chaired Urban Land Institute (ULI) Chicago's Public Policy Committee since 1999. Through ULI, he has led over twenty technical assistance panels which have received national recognition awards and recognition, including articles in *Urban Land Magazine* and the subject of a Harvard University case study which profiled a ground-breaking neighborhood redevelopment project in south suburban Riverdale.

He led the passage of state legislation, including the Local Planning Technical Assistance Act in 2002, the Stormwater Management Act of 2005 and an executive order calling for regional water supply planning in Illinois. He organized and oversaw policy for several coalitions including A+ Illinois and the Campaign for Sensible Growth. He is a frequent spokesperson at conferences and in the media.

Mr. Goldstein also was the Director of Development at the Banana Kelly Community Improvement Association, a leading community development corporation in New York City. He designed and instituted a neighborhood planning process with extensive community outreach as a part of the Comprehensive Community Revitalization Program, a national model for quality of life planning and community participation.

Education

B.A. History of Art and Architecture
Political Science
Tufts University (Massachusetts)

M.S.U.P. Urban Planning
Columbia University (New York)

Professional Affiliations/Awards

Chicago Metropolitan Agency for Planning, Regional Water Supply Planning Group, 2007 - Present
City of Chicago's Mayor's Council of Technology Advisors, 2001 - Present
Illinois Association for Floodplain and Stormwater Management, Stormwater Management Award, 2006
Urban Land Institute Chicago, Public Policy Chair, 1999 – Present
Urban Land Institute Community Outreach Award, 2003
Village of Wilmette Plan Commission, Appointed by Village Board, 2007

SCOTT GOLDSTEIN

Representative Projects

Neighborhood and Comprehensive Planning. Designed quality-of-life planning processes to revitalize neighborhoods in Bloomington, Joliet, and Washington Park (Chicago). Led the effort to revitalize the Pacesetter neighborhood of Riverdale, including recruiting a mixed-income developer and assisting raising public and private funds for the $39 million project. Spearheaded the passage of the *Local Planning Technical Assistance Act* that defined the elements of a comprehensive plan in Illinois.

Development Economics. Created a county-wide fiscal impact analysis and model for all 52 units of local government in Peoria County. The model allows public officials to determine how to plan for growth, and simulates the impact on taxpayers over the next 40 years. Managed a database that simulated the impact of changes in school funding and property taxes for each district in Illinois. Determined the TIF eligibility for a charter school in Chicago. Designed a market-based affordable housing incentive for the City of Chicago.

Economic Development. Organized technical assistance efforts to determine market viability and policy recommendations for transit oriented and downtown redevelopment in Blue Island, Highwood, Pilsen, Bridgeport, Andersonville, Joliet, Chicago Heights, Midlothian, Hanover Park and Park Forest. Assisted the City of Chicago, Peterson Pulaski Business and Industrial Council, and several local organizations in designing tools to use technology as a tool for neighborhood-based economic development and over-coming the digital divide.

Sustainable Development. Led two watershed plans for multiple units of government in the Marengo/Union area of McHenry County and the Beecher/Grant Park area of Will and Kankakee Counties. Organized planning efforts to anchor sustainable development around natural resources in Elburn and Richmond. Co-authored LEED Neighborhood Development legislation, the Stormwater Management Act of 2005, and Executive Order #1 – 2006 that created a regional water supply planning program in Illinois.

Publications. Managed and edited:

Planning 123: A step-by-step workbook to writing and comprehensive plan in Illinois, 2006;

Retail 123: A workbook for Local Officials and Community Leaders with the International Council of Shopping Centers and Metropolitan Mayors Caucus, 2007;

Sensible Tools for Local Communities: A decision-making workbook for local officials, developers and community leaders, 2004.

Author of:

10 Ways to Make Your Community Competitive, Urban Land Institute Chicago, 2006;

From Broad Shoulders to Broadband, Multi-Media Presentation and Report, 2004;

Growing Sensibly: A guidebook of Best Development Practices, 2001;

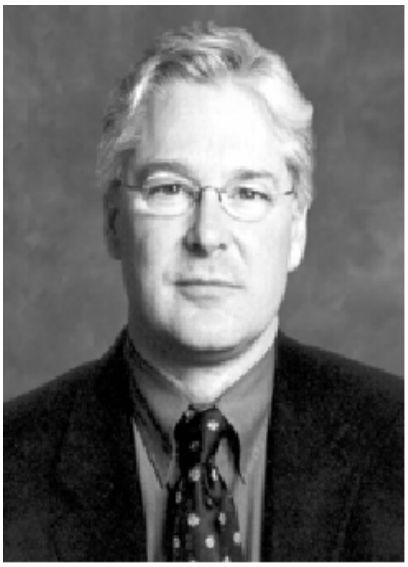
"The Next Frontier," Urban Land Magazine, 2001;

Technology and Sensible Growth, 2002.

Resume of

NICHOLAS R. PATERA

Senior Vice President



Experience

Mr. Patera's professional career as a landscape architect and land planner covers over 1,000 projects across the country and overseas, specializing in land and site planning, urban design, streetscape plaza design, park and recreation planning, and residential and commercial development. His projects have received many awards, and acknowledgements.

Mr. Patera's professional responsibilities range from concept planning through all phases of design, construction specifications, development approval and project implementation. His reputation for excellent client service is well established.

As Vice President in charge of site planning landscape architecture for Teska Associates, Inc. Mr. Patera is responsible for a wide range of diverse site planning and design projects. A creative and innovative approach is stressed to distinguish each assignment.

Scope of experience ranges from land planning for a new planned community town of 35,000 residents to downtown and streetscape design, site planning and testimony for traditional neighborhood developments and a wide range of residential, commercial, regional shopping centers, resort and industrial land planning and landscape architectural designs.

Education

B.L.A. Bachelor of Fine and Applied Arts
School of Landscape Architecture
University of Illinois (Urbana)

Attended by invitation:
The Center for Architecture and Urban Studies
San Francisco, California

NICHOLAS R. PATERA

Representative Projects

Residential Developments

Hawksnest, Delafield, WI:
Master Site Plan and Landscape Plans for a 180 acre residential open space community of 71 homes. Over 75 acres of open space owned in common by residents. A segment of the 1000 mile Ice Age Trail winds through the Open Space. Private trails lead through common area wild-flower meadows and recreation areas.

The Preserve, Dousman, WI:
Conceptual Landscape Plan, Master Site Plan for 270 acre Siepmann Realty development of 41 homes on Hunters Lake near Kettle Moraine State Forest. Planning maintained natural character of the mature hardwood forest, open lake frontage, natural springs and steep hillsides.

Stillmeadow, Delafield, WI:
Master Site Plan for Siepmann Realty residential community of 85 homes with over 80 acres of commonly owned open space. Homes all natural materials with access to lakes, parks, nature trails.

River Run, South Boise ID:
Master planning for rezoning 250 acres into seven neighborhoods along the Boise River. Included public rights-of-way, greenbelts, bikeways, water courses, wetlands, and parks. Densities ranged from one lot per acre Estate Lots through 20 dwelling units per acre "attached residential."

Pabst Farms, Summit & Oconomowoc WI:
Master planning for residential development and parks open space master plan for the 1,500 acre Pabst Farms property.

Optima Woods, Optima Views, Optima Horizons, Skokie and Evanston IL:
Preparation of green roof deck and grade level landscape plans for multi-story residential towers.

Public Projects

Waukegan Waterfront Redevelopment TIF, Waukegan IL:

Site planning for 80 acres of mixed-use development consisting of urban plazas, streetscapes, office, residential, and retail uses along the Lake Michigan shoreline in downtown Waukegan.

Downtown Lemont, Lemont IL:
Development of a master plan for a historic downtown located on the Illinois and Michigan Canal and Des Plaines River. Prepared specific urban design guidelines, details and implementation plans for construction of a 15 block core area.

Downtown Plan, Quincy IL:
Preparation of design guidelines for urban streetscape for historic downtown consisting of distinct districts providing complementary treatments for four separate districts; Mississippi Riverfront, Village Square Commercial Shopping Districts, and Residential Districts.

Downtown Plan, Muscatine IA:
Development of Downtown Revitalization plans for commercial areas, Mississippi Riverfront and entry/approach gateways. Plans included specific recommendations for new structures, street furniture, and riverfront image.

Evmark, Evanston IL:
Preparation of design guidelines analysis of existing conditions, budget and construction documents for a 36 block downtown core area revitalizing the 18 year old streetscape. An approach was taken to emphasize the personality of various districts based on the prevailing land use scale and building facade appearance.

Orrington Plaza, Church Street Plaza, Sherman Plaza, Evanston IL:
Preparation of urban design and streetscape plans for key anchor blocks within downtown Evanston's mixed-use revitalization.

NICHOLAS R. PATERA

Burlington Riverfront, Burlington IA:
Preparation of an urban riverfront plaza plan which incorporated an outdoor music concourse, pedestrian promenade, auto plaza and boat docking for the Mississippi River boats.

Tiburon Shoreline Park and Boulevard, Tiburon CA:
Schematic design through construction supervision for revitalizing the San Francisco Bay waterfront and three main blocks in town in conjunction with the adjacent Point Tiburon project.

Office and Commercial Developments

Community Shopping Centers, Midwest Region:
Development of site/landscape plans and working drawings for approximately 45 community shopping centers in the Chicago and Midwest area including continuing projects for Builders Square, Target, Wal-Mart, Sears Home Depot, etc.

160 Spear Street, San Francisco CA: Design development through construction supervision for a linear entry plaza featuring a fountain, sculpture and seating for a 14-story office building downtown.

Resorts

Warner Springs Ranch, Warner Springs, San Diego County CA:
Design development and construction supervision for a redevelopment of a historic hot spring, resort community, clubhouse, recreation facilities, cottages, and golf course on 2,000+ acres south of Palm Springs CA.

Westward Look Resort, Tucson AZ: Design development and construction drawings for restoring a traditional western resort, spa facilities, tennis, pool therapy, and entry drive north of Tucson AZ.

Vintage Swim and Tennis Club, Palm Desert CA:
Design development and construction drawings for an exclusive club facility and residential/golf community. Received Builder Magazine's Grand Award, October 1986.

Sofitel Marara Hotel, Island of Bora Bora, South Pacific:
Landscape construction drawings and planting plans for Hillside Bungalows, over-water cabanas and main lounge/dining area for a new destination resort facility.

Errol Flynn Estate, Port Antonio, Jamaica:
Site analysis and land planning for a 2,000 acre proposed resort located on 3 miles of Jamaica's Caribbean coast. Prepared market analysis, inventory of environmental systems and development plans relative to the owner's desire to phase up to five resort communities together with her residence, ranch and coconut palm plantation.

Round Hill Estate, Montego Bay Jamaica:
Site planning and reconnaissance for a 350 acre plantation to become a resort/golf course residential community.

STEPHEN J. GAFFIELD, PH.D., P.E.
SENIOR HYDROLOGIST

Montgomery Associates
Resource Solutions, LLC

EXPERIENCE SUMMARY

Steve has fifteen years of experience in both hydrogeology and water resources engineering, giving him a broad perspective on water issues. Steve's expertise includes hydrologic and hydrogeologic field methods, surface water and groundwater modeling, and engineering design. At the U.S. Environmental Protection Agency, he developed public health policy related to land use and water resources. Steve has given over 20 research and design presentations across the country and abroad and interpreted Grand Canyon natural history to visitors as a park volunteer.

EXPERTISE

Groundwater Analysis & Modeling
Water Supply & Watershed Planning
Thermal Impact Assessment
Recharge Analysis & Design
Stream Analysis & Design

REGISTRATION

Professional Engineer
WI 39140

EDUCATION

BA-Geology & BA-Physics, 1988
Albion College
Albion, MI

PhD-Geological Engineering, 2000
MS-Geology, 1991
University of Wisconsin-Madison
Madison, WI

PROFESSIONAL HISTORY

Montgomery Associates: Resource Solutions, LLC
Senior Hydrologist, 2004 – Present

Wisconsin Geological & Natural History Survey
Hydrogeologist & GIS Specialist, 2000 – 2004

U.S. E.P.A. Office of Children's Health Protection, American Association for the Advancement of Science Fellow, 2001-2003

BT², Inc.: Hydrogeologist, 1991-1996

SELECTED PROJECT EXPERIENCE

Urban Service Area Extension Impact Assessment, City of Verona, WI (MARS Project Manager)

- Assessing surface water and groundwater hydrology & ecological resources for Badger Mill Cr. and Upper Sugar R. southwest of Verona
- Modeling impacts of development on ecological resources, including trout fishery & wetlands
- Recommending future development location, type & management practices to maintain key ecological functions

Replacement Siting Study for Unit Well 3, Madison Water Utility, (MARS Project Manager)

- Leading multidisciplinary team in hydrogeologic, land use, and infrastructure analysis of potential well sites on Madison's east isthmus
- Coordinating extensive public involvement including public meetings & community working group

Groundwater Recharge System Design, Madison Gas & Electric (MARS Project Manager)

- Designed 80 MGY stormwater infiltration system at the Odana Hills Golf Course
- Conducted soil & groundwater field investigation
- Modeled surface water source hydraulics (XP-SWMM), soil infiltration & groundwater flow with 3-dimensional flow model (MODFLOW)
- Coordinated extensive public input & regulatory review

Groundwater and Trout Stream Temperature Research (UW-Madison & WGNHS)

- Monitored & modeled stream temperature and groundwater flow to assess & predict water temperature controls
- Simulated land use impacts on stream baseflow & temperature with geographic information system (GIS) & groundwater models (GFLOW & MODFLOW)

STEPHEN J. GAFFIELD, PH.D., P.E.

SENIOR HYDROLOGIST

Montgomery Associates
Resource Solutions, LLC

SELECTED PUBLICATIONS & PRESENTATIONS

Larson, A and S Gaffield, 2007. *Siting a New Well in an Urban Setting: The Story of Replacing Well 3 in Madison, WI*. Presentation at Wisc. Water Assoc. annual meeting.

Gotkowitz, MB and SJ Gaffield, 2006. *Water-Table and Aquifer-Susceptibility Maps of Calumet County, Wisconsin*. Wisc. Geol. & Nat. History Survey Miscellaneous Map 56.

Montgomery, RJ, SJ Gaffield and NR Zolidis, 2005. *Infiltration of Stormwater Runoff for Groundwater Recharge, Dane County, Wisconsin*. Paper for 10th Internatl. Conf. on Urban Drainage, Copenhagen, Denmark.

Gaffield, SJ, KW Potter and L Wang, 2005. *Predicting the Summer Temperature of Small Streams in Southwestern Wisconsin*. Jour. Amer. Water Res. Assoc. 41(1): 25-36.

Coauthor of *Ch. 7: Water Quantity and Quality*, in H Frumkin, L Frank and R Jackson, 2004, Urban Sprawl and Public Health. Island Press.

Gaffield, SJ, RL Goo, LA Richards and RJ Jackson, 2003. *Public Health Effects of Inadequately Managed Stormwater Runoff*. Amer. Jour. of Public Health 93(9): 1527-1533.

Potter, KW and SJ Gaffield, 2001. *Watershed Assessment with Synoptic Base-Flow Surveys*. Amer. Geophys. Union, Water Sci. & Application 4: 19-25.

Gaffield, SJ, KR Bradbury and MB Gotkowitz, 2001. *Analysis of Uncertainty in Analytic Element Groundwater Models by the Monte Carlo Method*. Presentation at Geol. Soc. Amer. annual meeting.

Gaffield, SJ and DM Mickelson, 1995. *Driving Stress, Hydraulic Head and Landform Genesis at the Southeastern Burroughs Glacier*. Proc. of Third Glacier Bay Sci. Symp, 1993.

TECHNICAL COMMITTEES

Dane County Infiltration Task Force, 2006

Stormwater & Public Health Research & Policy Development (AAAS Fellow at USEPA)

- Developed community design, water resources & public health policy.
- Advised US Centers for Disease Control & Prevention and the US Geological Survey on public health & water resource issues
- Published assessment of stormwater impacts on public health

Proposed Subdivision Water Supply Options Analysis, Middleton, WI (MARS Project Engineer)

- Evaluated hydrogeologic & water quality data for Superfund landfill
- Modeled groundwater capture by proposed residential drinking water wells using existing 3-dimensional model (MODFLOW & MODPATH) to assess risk & evaluate alternatives

Dam Safety Analysis and Repair Plan, LaFayette, WI (MARS Project Manager)

- Conducted dam breach analysis using watershed model (XP-SWMM) and hydraulic model (HEC-RAS)
- Prepared drawings and specifications for repairs
- Observed site grading, erosion control & armor placement

San Diego Creek Channel Repair Design, Irvine, CA (MARS Project Engineer)

- Assisted repair design for articulated concrete block (ACB) channel lining, including drop structure design
- Modeled sediment transport with HEC-RAS to assess sediment thickness and channel bedforms & roughness

Round Lake Water Level Analysis, Sawyer County, WI (MARS Project Engineer)

- Provided hydraulic assistance in legal dispute over lake level
- Conducted extensive historical lake level data and management review
- Reviewed hydraulic models of opposing experts (HEC-1 & HEC-RAS) & conducted additional hydraulic modeling of potential lake outlet structure modifications

Aquifer Susceptibility Mapping, Calumet County, WI (WGNHS)

- Identified key risk factors for two groundwater aquifers
- Use GIS analysis of geology & groundwater hydrology to map susceptibility to contamination by human activities

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ROBERT J. MONTGOMERY, P.E.

PRINCIPAL

Montgomery Associates
Resource Solutions, LLC

EXPERIENCE SUMMARY

Rob has more than 25 years consulting experience applying hydrology and hydraulic engineering to a wide variety of water resources, environmental and civil engineering projects. Expertise includes the hydrology and hydraulics of rivers, streams and wetlands, stormwater quantity and quality management, management of contaminated lands, especially those adjacent to watercourses, and shoreline protection design.

EXPERTISE

Stormwater Management Analysis & Design
Water Supply Planning & Design
Recharge Analysis & Design
Stream Analysis & Design
Shoreline Stabilization
Environmental Engineering
Landfill Design

REGISTRATION

Professional Engineer
Wisconsin 21276

EDUCATION

BS – Civil Engineering (High Honors), 1976
U. of Illinois – Champaign-Urbana

MS – Civil Engineering, 1980
Colorado State University

PROFESSIONAL HISTORY

Montgomery Associates: Resource Solutions, LLC: Principal, 1998 - Present

Woodward-Clyde Consultants, Middleton, WI: Consultant, 1995 - 1998

Johnson Johnson & Roy, Madison, WI: Principal, 1992 - 1995

Warzyn Engineering, Madison, WI: Project and Tech. Manager, 1980 - 1992

W H Radford & Son, Nottingham, UK: Staff Engineer, 1976 to 1978

SELECTED PROJECT EXPERIENCE

Odana Hills Groundwater Recharge System Design, Madison, WI, (MARS Project Manager).

- Directed detailed soil and groundwater investigation program to determine site suitability for a large-scale subsurface groundwater recharge system
- Directed and developed approach for hydrologic and hydraulic analysis of system performance and impacts to water levels and water suplly wells
- Navigated complex and involved public process

Kohler Company, Whistling Straits Golf Course project, Sheboygan, WI, (MARS Principal)

- Developed a comprehensive analysis of vegetation, surface and groundwater hydrology and civil engineering issues to analyze options for wetland impact minimization
- Developed a detailed impact mitigation plan, including compensatory wetland construction, which resulted in approval by Wisconsin DNR and the Corps of Engineers
- Implemented a wetland impact and mitigation monitoring program for the project

San Diego Creek Channel Repair Design, Irvine, CA, (MARS Project Manager)

- Led investigation of failure mechanisms and preparation of repair design alternatives for approximately 1-mile of channel lined with articulated concrete block.
- Managed geotechnical investigation, detailed hydraulic modeling, analysis of block stability, and hydraulic flume testing
- Coordinated extensive meetings with large client group and municipal personnel

Cherokee Park Low Impact Stormwater Management Plan, Madison, WI, (MARS Project Manager).

- Evaluated stormwater infiltration feasibility to minimize hydrologic impacts to adjacent natural resources
- Provided input on integrating de-centralized stormwater management practices into neo-traditional block layouts.

ROBERT J. MONTGOMERY, P.E.

PRINCIPAL

Montgomery Associates
Resource Solutions, LLC

PUBLICATIONS & PRESENTATIONS

Lecturer, UW-Madison Engineering Professional Development on Water Quality and Stormwater Infiltration

Lecturer, WI DNR Web Seminar on Stormwater Infiltration

Gaffield, S.J., Zolidis, N.R., Montgomery, R.J., and J.M. Hruby. 2007. *West Campus Cogeneration Facility Compensatory Recharge System: Initial Operation Results*. Poster presented at American Water Resources Association-Wisconsin Section 31st Annual Meeting held 1-2 March, Wisconsin Dells, Wisconsin.

Montgomery, R.J., Gaffield, S.J., and N.R. Zolidis. 2005. *Infiltration of Stormwater Runoff for Groundwater Recharge, Dane County, Wisconsin*. Paper presented at the 10th International Conference on Urban Drainage, Copenhagen, Denmark, 21-26 August.

Zolidis, N.R., Lefers, J., and R. J. Montgomery. 2005. *West Campus Cogeneration Facility Compensatory Recharge Design I: Integrated Modeling Approach*. Paper presented at American Water Resources Association-Wisconsin Section 29th Annual Meeting held 3-4 March, Delavan, Wisconsin.

Lefers, JD, RJ Montgomery, JM Hruby, KW Potter, 2005. *Stormwater Management Criteria and Design to Address Downstream Flooding Concerns on Lake Mendota, Dane County, Wisconsin*, Paper and Presentation at ASCE Watershed Management Conference.

TECHNICAL COMMITTEES

Chair, ASCE Wisconsin Section Report Card on Infrastructure - Rivers & Dams

Member of Dane County Advisory Committee on Revised Stormwater Infiltration Ordinance

Member of Wisconsin DNR Standard Oversight Committee for Proprietary Stormwater Treatment Devices

Lake Mendota Surface Water Intake Design to Control Zebra Mussels, Dane County, WI (MARS Project Manager)

- Analyzed options for protecting a high capacity pumping system from zebra mussel infestation drawing water from Lake Mendota for irrigation supply.
- Performance, schematic design and costing analyses were prepared to develop a recommended control system.

Design and Impact Analysis of High Capacity Well, Deerfield, WI, (MARS Principal)

- Developed design for irrigation pond and well location considering site geology and hydrogeology, regulatory requirements and site landscape design objectives.
- Scoped and directed groundwater modeling analysis of the performance of the well for the intended purpose, as well as the potential for the well to adversely affect municipal water supply wells in the area.

Water Resource Impact Analysis, Fond du Lac, WI, (MARS Principal)

- Evaluated the water balance of Lake Winnebago considering municipal withdrawals for potable use, industrial use, and the inflow and outflow of the Fox River and other streams.
- Evaluated impacts of proposed additional water supply withdrawals.
- Projected influent and discharge temperature differential and likely impacts on aquatic resources.

Orchard Pointe Stormwater Management Design, Orchard Pointe development, Fitchburg WI, (MARS Project Manager)

- Directed field investigation, analysis, and design for a stormwater management system that included substantial stormwater runoff volume infiltration.
- Provided extensive public and regulatory agency interaction and coordination

Milwaukee County Zoo Stormwater Management Plan, Wauwatosa, WI (MARS Project Manager)

- Conducted stormwater drainage and water quality study
- Conducted field investigations, hydrologic and water quality modeling
- Developed a plan to improve runoff quality, addressing unique issues associated with the animal displays, in collaboration with Zoo, DNR, MMSD and Milwaukee County personnel

ROBERT J. MONTGOMERY, P.E.
PRINCIPAL

Montgomery Associates
Resource Solutions, LLC

Compensatory Recharge Site Selection, Dane County, WI, (MARS Project Manager).

- Directed site selection evaluation of multiple potential sites within Dane County for feasibility of providing groundwater recharge from existing stormwater discharge for 80 million gallons per year of recharge
- Developed site selection criteria and evaluation strategy for comparing and ranking the alternative site locations

Shore Protection and Environmental Management, former Lakeside Generation Station, St. Francis, WI (MARS Project Manager)

- Conducted site investigation of groundwater and soil contamination and the physical remains of the structures along and in Lake Michigan
- Developed remedial action strategy
- Evaluated shore protection options and redevelopment strategies

Menomonee River Drop Structure Removal, Milwaukee, WI (MARS Project Manager)

- Directed complex hydrologic and hydraulic analyses, natural channel restoration design, and floodplain and contamination permitting
- Established Phase II investigation scope, prepared permit and environmental assessment submittals, & reviewed construction documents
- Coordinated with other MMSD consultants & attended public meetings

Robinson/Herrling Dam Restoration, Greenbush, WI, (MARS Principal)

- Prepared extensive hydrologic, structural and environmental impact analysis for permitting of restoration of a 1850s dam, millpond, and sawmill, and subsequent design of the hydraulic and civil engineering aspects of the project.
- Developed multiple multiple alternatives to avoid impact to environmental resources of the Mallet River, especially two state-threatened mussel species.
- Coordinated closely with WDNR, the Corps of Engineers, and the Client, The State of Wisconsin Historical Society.
- The project is now completed and has received several awards.

JONATHAN D. LEFERS, P.E.

PROJECT WATER RESOURCES ENGINEER

Montgomery Associates
Resource Solutions, LLC

EXPERIENCE SUMMARY

Jon has more than 7 years of consulting experience applying hydrology and hydraulic engineering to a wide variety of water resources and civil engineering projects. Areas of specialized expertise include the hydrology and hydraulics of rivers and streams, and stormwater quantity and quality management. Jon has particular interest in analyzing and designing infiltration systems and developing new methods for evaluating infiltration practice performance in this emerging field.

EXPERTISE

Stormwater Management Analysis & Design
Floodplains
Erosion and Restoration
Recharge Analysis & Design
Stream Analysis & Design
Watershed Planning

REGISTRATION

Professional Engineer
Wisconsin 37793
Indiana 10606785
Illinois 062.059388

EDUCATION

BS – Civil Engineering, 1999
Calvin College
Grand Rapids, MI

MS – Civil Engineering, 2001
University of Wisconsin-Madison

PROFESSIONAL HISTORY

Montgomery Associates: Resource Solutions, LLC: Project Engineer, 2001 - Present

SELECTED PROJECT EXPERIENCE

Deerfield School District Stormwater Management Plan, Deerfield, WI, (MARS Project Manager/ Engineer).

- Completing hydrologic and hydraulic analysis and design of the stormwater management plan performance
- Developing innovative methodology to analyze infiltration practices within XP-SWMM
- Obtaining Village approval for the analysis and design which consisted of several public meetings to address stakeholder concerns
- Providing construction time oversight and direction to adjust design to field conditions

Compensatory Recharge Analysis and Design for Token Creek Conservancy Estates, Sun Prairie, WI (MARS Project Manager/Engineer).

- Directed soil investigation and characterization to evaluate site suitability for distributed infiltration (recharge) practices
- Developed a soil moisture model based on the USGS PRMS model to estimate annual groundwater recharge under existing and various site development alternatives
- Prepared preliminary design drawings and stormwater management plan to meet City, County, and State requirements
- Assisted in City approval process for General Development and Preliminary and Final Plats
- Preparing (in process) construction drawings for Phase 1 and 2 of the development

Jamestown Basin and Goose Lake Monitoring, Fitchburg, WI, (MARS Project Manager/ Engineer).

- Installed and maintained water level and rainfall monitoring equipment for a period of approximately one year.
- Conducted public hearing to obtain stakeholder input on concerns related to water quality and quantity in Goose Lake.
- Prepared memorandum documenting the data collected and conclusions made from the data.

JONATHAN D. LEFERS, P.E.

PROJECT WATER RESOURCES ENGINEER

Montgomery Associates
Resource Solutions, LLC

PUBLICATIONS & PRESENTATIONS

Lefers, JD, RJ Montgomery, JM Hruby, KW Potter, 2005. *Stormwater Management Criteria and Design to Address Downstream Flooding Concerns on Lake Mendota, Dane County, Wisconsin*, Paper and Presentation at ASCE Watershed Management Conference.

Lefers, JD, JM Hruby, 2004. *Stormwater Management Design in a Watershed Context*, Presentation at ASCE Wisconsin Annual Meeting and at UW-Platteville Engineering Seminar.

Lefers, JD, 2004. *Evaluating Stormwtaer Ordinances in a Watershed Context*, Presentation at UW-Madison Civil Engineering Seminar.

Lefers, JD, RJ Montgomery, 2004. *Using Raingardens on a Large Scale and for Groundwater Recharge*, Presentation.

Lefers, J, N Miller, D Rupke and M Walhout, 2002. *Direct Measurement of the Metastable $^3P_2$ Decay Rate of Krypton.* Physics Review A, Vol. 66.

Stormwater Management Ordinance Development and Training, Sheboygan County, WI, (MARS Project Manager/Engineer)

- Developed a stormwater management and erosion control ordinance tailored to the County's needs and requirements
- Prepared a training and guidance manual for use by County staff and the private sector
- Trained County staff, stakeholders, and consultants in the use of the manual and in the requirements of the ordinance

Fitchburg Center East Cheryl Parkway Extension Conservation Design Roadway, Fitchburg, WI, (MARS Project Engineer).

- Coordinated with landscape architects, civil engineers, and city staff in designing a conservation design roadway.
- Completed infiltration testing using various methods and compared the results of the various test methods.
- Designed several raingardens in the median of the expansive boulevard.

Stricker and Tiedeman Ponds Stormwater Management Plan, Middleton, WI (UW-Madison Graduate Student).

- Developed a continuous hydrologic budget model for the two kettle hole ponds
- Evaluated impacts of urban development on water level fluctuations within the ponds
- Compared performance of diversion management strategies and watershed-wide infiltration practices
- Presented findings at Water Resources Commission meetings

Nor-X-Way Channel Regional Detention Analysis, Germantown, WI, (MARS Project Engineer)

- Assembled a regional XP-SWMM hydrologic and hydraulic model for the Nor-X-Way Channel
- Evaluated and analyzed various strategies for regional detention in the watershed to meet MMSD detention requirements

Rock River and Unnamed Tributary Floodplain Delineation, Dodge and Jefferson Counties, WI, (MARS Project Manager/Engineer)

- Assembled hydraulic model using HEC-GeoRAS and ArcGIS.
- Completed 100-year flow estimates on the Unnamed Tributary and Rock River.
- Prepared report documenting analysis and conclusions.

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JONATHAN D. LEFERS, P.E.
PROJECT WATER RESOURCES ENGINEER

Montgomery Associates
Resource Solutions, LLC

Grey Hawk Meadows Stormwater Management Plan, Mukwonago, WI, (MARS Project Manager/Engineer).

- Developed criteria for stormwater management plan performance to address stakeholder concerns regarding potential impacts to Jericho Creek and the Mukwonago River.
- Completed analysis and design of the stormwater management features that accounted for a large off-site watershed draining through stormwater management features.
- Presented at public and stakeholder meeting and obtained approval of the innovative stormwater management approach.

UW-Madison Arboretum Johannsen Pond Outfall Improvements, Madison, WI, (MARS Project Manager/Engineer)

- Prepared and obtained approval for a Non-Point Source DNR Grant Application.
- Completed hydraulic modeling of semi-offline stormwater management retro-fit for a 42-inch storm sewer outfall
- Designed prairie/wetland basin that provides water quality improvement and approved by the Wisconsin DNR.
- Prepared construction plans and specifications for the wetland basin

Indianford Dam and Lake Koshkonong, Rock, Dane, and Jefferson Counties, WI, (MARS Project Engineer).

- Prepared unsteady-state, calibrated HEC-RAS model of Indianford Dam, Rock River, and Lake Koshkonong
- Evaluated various dam management alternatives as compared to historical records and current operation scenarios
- Monitored real-time dam flow in coordination with USGS

Lake Summerset Water Quality Improvement Basin, Lake Summerset, IL, (MARS Project Engineer).

- Directed wetland delineation and site survey of the proposed project area.
- Completed hydrologic and hydraulic analysis and preliminary design of proposed semi-offline water quality basin upstream of Lake Summerset

Arrowhead to Weston 345-kV Transmission Line Erosion Control Plans, Northern Wisconsin, (MARS Project Manager/Engineer)

- Developed technically-based approach for field implementing erosion control measures on 200-mile transmission line.
- Prepared and obtained NOI approvals from Wisconsin DNR with minimal comments for each of the nine segments of the t-line.

Cedar Ridge Substation, Fond du Lac County, WI, (MARS Project Manager/Engineer).

- Completed floodplain delineation for unnamed tributary that was located near the proposed substation site that included a split-flow analysis due to the complicated geometry of the tributary and floodplain overbanks.
- Prepared erosion control, stormwater management, and grading plans for substation.
- Coordinated with project team and client on inclusion of the erosion control, stormwater management, and grading plans into the substation construction documents.

Allis Chalmers Reorganization Trust Water Quality Stormwater Basin, West Allis, WI, (MARS Project Engineer).

- Completed detailed XP-SWMM model of storm sewer network and water quality basin performance
- Submitted and obtained approval from WDNR and MMSD for the analyzed performance of the basin for water quality and peak attenuation
- Prepared construction drawings and specifications for construction of the water quality basin
- Provided construction-time input during site visits and weekly construction meetings

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LINDA SEVERSON
WATER RESOURCES ENGINEER

Montgomery Associates
Resource Solutions, LLC

EXPERIENCE SUMMARY

Linda Severson is a water resources engineer with a diverse background in biological and physical sciences. For the past five years she has worked as both a consulting engineer and environmental scientist integrating her education, research, and work experience. Areas of specialized expertise include stormwater management, infiltration, limnology, and biology. In particular, Linda has research experience focused on modeling and designing infiltration practices.

EXPERTISE

Stormwater Management Analysis & Design
Floodplains
Erosion Control and Restoration
Recharge Analysis & Design
Shoreline Stabilization
Fisheries Management

EDUCATION

MS-Civil Engineering, 2005
University of Wisconsin-Madison
Madison, Wisconsin

BS-Fisheries & Limnology/ Biology, 2001
University of Wisconsin-Stevens Point
Stevens Point, Wisconsin

PROFESSIONAL HISTORY

Montgomery Associates: Resource Solutions, LLC
Water Resources Engineer, 2005 – Present

Earth Tech
Environmental Scientist, 2002-2005

SELECTED PROJECT EXPERIENCE

Verona Urban Service Area Extension Impact Assessment, City of Verona, WI (MARS Staff Engineer)

- Analyzed existing fishery data
- Performed stream habitat assessment
- Performed watershed-wide analysis on existing and future runoff volumes
- Modeled development scenarios and the effects in groundwater recharge and surface runoff using current regulations
- Recommended future development requirements to minimize impacts on the Sugar River and Badger Mill Creek

Stormwater Management Plan (MS4 Phase II Permit), Rock County Towns Consortium, (Staff Engineer)

- Performed site inspections for the study area to detect Illicit Discharge at any outfalls
- Developed the approach and performed site-wide water quality analysis using Win SLAMM to determine current TSS reductions within the system

RECARGA Model Development, University of Wisconsin-Madison, (UW Graduate Student)

- Provided updates to the RECARGA infiltration model code
- Maintained and monitored an experimental raingarden, collecting data including: rainfall, runoff, and infiltration at an experimental raingarden
- Compared monitoring data to RECARGA model runs
- Coauthored a paper on raingarden design which was published by UW extension

Cold-water Stream Priority Watershed Project, WI (DNR Field Technician)

- Performed fish habitat assessment using the methodology outlined in "Guidelines for Evaluating Fish Habitat in Wisconsin Streams" published by the USDA
- Performed stream shocking to sample fish
- Collected and fish data to be used to quantify the effects of dam removal on watersheds

LINDA SEVERSON
WATER RESOURCES ENGINEER

Montgomery Associates
Resource Solutions, LLC

PUBLICATIONS & PRESENTATIONS

Severson, LM, 2007. *Modeling Bioretention Devices.* Presentation at WisLine Web Workshop: Post-Construction Stormwater Management.

Severson, LM, 2005-2007. *Designing Raingardens: Introduction / Demonstration of the RECARGA Model.* Presentation at UW-Madison, Engineering Professional Development: Designing Bio / Infiltration Practices for Stormwater Quality Improvement.

Severson, LM, D Atchison, K Potter, 2006. *Design Guidelines for Stormwater Biorention Facilities.* University of Wisconsin Water Resources Institute Publication.

Severson, LM, 2006. *Designing Raingardens: Introduction / Demonstration of the RECARGA Model.* Presentation at Minnesota 4th Annual Stormwater Management and Erosion Control Conference.

Severson, LM, RJ Montgomery, NR Zolidis 2006. *Design of Infiltration Practices.* Presentation at NACECA-Wisconsin 3rd Annual Conference.

Severson, LM, 2005. *Design and Use of Small-Scale Infiltration Practices.* Presentation at American Water Resource Association-Wisconsin Section: 29th Annual Meeting.

TECHNICAL COMMITTEES

Dane County Infiltration Task Force, 2006

Abby Floodplain Study, Village of Fontana, WI (MARS Staff Engineer)

- Analyzed watershed land use for existing and future conditions
- Performed hydrologic and hydraulic modeling using XP-SWMM and HEC-RAS to determine the 100-year floodplain elevation
- Assembled the Wisconsin Department of Natural Resources and FEMA submittal package

Sagamore Development Stormwater Management Plan, Porter County, Indiana, (MARS Staff Engineer)

- Prepared a Low- Impact stormwater management plan for a proposed residential subdivision
- Delineated watersheds and analyzed existing and future landuse
- Developed XP-SWMM model for existing and proposed conditions
- Designed stormwater features to maintain existing runoff volumes

Stormwater Utility, Various Communities, WI, (Earth Tech Environmental Scientist)

- Evaluated financial needs for municipalities
- Performing impervious land use calculations in GIS and AutoCAD
- Determined utility rate fees for stormwater runoff
- Performing billing system integration in Microsoft Access
- Coordinated with clients.

Gollon Bait and Fish Farm Aquaculture Pond Design, Iowa County, WI (MARS Staff Engineer)

- Designed nine aquaculture ponds to support the chapter 30 permit application
- Developed a site grading plan, performed hydrologic and hydraulic analysis in XP-SWMM and HEC-RAS
- Prepared stormwater management and erosion control plans meeting state requirements

Sea Lamprey Eradication Research, Michigan State University, MI (University Research Technician)

- Worked with Michigan State University as a fish research technician to install 15 stream structures for sea lamprey containment.
- Stocked differing sex ratios to estimate optimal levels of sterile male and female introduction by genetic analysis of offspring

LINDA SEVERSON
WATER RESOURCES ENGINEER

Montgomery Associates
Resource Solutions, LLC

Genetic Analysis of P450 Gene in Atlantic salmon, Michigan State University, MI (Research technician)

- Studied ways the P450 gene expressed itself at varying levels of toxicity in atlantic salmon
- Tended to a stock of yearling atlantic salmon
- Performed specimen injection of pollutants
- Sacrificed and dissected research specimens
- Performed RNA extractions from fish tissue samples

Warm Water Small Stream Survey, WI (DNR Field Technician)

- Characterized fish communities and habitat in 100 degraded small warm water streams throughout Wisconsin
- Performed backpack shocking to sample fish
- Collected fish data including, length, weight, and species identification
- Performed habitat assessment
- Recorded data to be used in development of an effective index of biotic integrity

Little Plover River Survey, Plover, WI (American Fisheries Society)

- Led the annual stream survey
- Performed intensive electro-shocking in designated transects to estimate total brook trout population
- Collected data including fish length, weight, and scale samples
- Quantified fish condition and growth between consecutive years

Lake Neshonoc Survey/ Lake Mercer Survey, WI (American Fisheries Society)

- Worked with the WDNR to perform annual lake surveys
- Performed boom-shocking and fyke netting to acquire fish
- Collected fish data including species, weight, length, and scale samples
- Calculated growth and condition parameters from species captured

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Scott A. Storlid, P.W.S.

President and Senior Principal Scientist

Education

M.S. – Natural Resources, UWSP, 1995
B.S. – Wildlife Management, UWSP, 1987

Employment Experience

Senior Principal Scientist - NRC, Inc.
1998 to present

Senior Scientist, NETI, Inc.
1997 to 1998,

Senior Scientist, JJR, Inc.
1994 to 1997

Staff Ecologist, PRC Environmental Management, Inc. 1992 to 1994

Staff Ecologist, Wildlife International
1991

Graduate Research Assistant, UWSP
1989 to 1991

Wildlife Tech / Conservation Warden, WDNR, 1987 to 1989

Professional Achievement

Professional Wetland Scientist -
Society of Wetland Scientists

Professional Development

- Wetland Soils and Hydrology, Wetland Training Institute (WTI)
- Creating Wetlands for Habitat Enhancement and Mitigation, UW-Madison Engineering Professional Development
- Wetland Delineation Training, PRC Environmental Training Center
- Wetland Planting: Planning and Practice, WTI
- Creating and Using Wetlands for Wastewater and Stormwater Treatment and Water Quality Improvement, UW-Madison Engineering Professional Development
- Project Development and Environmental Documentation for Highway Projects, WisDOT
- OSHA 40-Hour Health and Safety Training for Hazardous Waste Site Workers

Experience

Mr. Storlid is a professional wetland scientist and ecologist who assists clients with early identification of environmental issues; development of alternatives to minimize environmental impact; coordination with regulatory agency personnel; preparation and submittal of permit applications; and development of environmental mitigation measures.

His experience includes:

- Wetland investigations and permitting;
- Wetland mitigation design;
- Biological surveys, with an emphasis on avian surveys;
- Endangered Species Act studies and consultation; and
- Environmental policy.

Project Experience

- Dane County Regional Airport wildlife hazard assessment, Madison, WI. Wildlife surveys, with a focus on avian surveys, and development of a wildlife hazard assessment and mitigation plan.
- Fort Sheridan, IL, METRA Station Environmental Assessment. Wetland delineation and rare species surveys.
- Commonwealth Edison utility corridor environmental study, Harvard to Marengo, IL. Wetland delineation, rare species surveys, wetland permitting and Section 7 Endangered Species Act consultation for prairie bush clover.
- American Transmission Company utility corridor environmental studies and permitting projects: Forest Junction, Brown County, WI; Rhinelander Reliability Project, WI; Kegonsa – Femrite, Dane County, WI; Femrite – Royster, Dane County, WI; Darien to Delevan, Walworth County, WI; and Arrowhead to Weston, WI
- Geneva National Golf Club, Gary Player Course Expansion, Lake Geneva, WI, wetland evaluation and permitting.
- Hardwood Air-to-Ground Gunnery Range, WI, Range Expansion Environmental Impact Statement and Integrated Land Use Management Plan development.
- Point Magu Naval Air Weapons Station, CA, Ecological Risk Assessment.
- Silver Bay, MN, Harbor of Refuge, Wetland delineation, biological assessments for timber wolf, bald eagle, and peregrine falcon, and Environmental Assessment preparation.
- Bender Park, Milwaukee County, WI. Wetland delineation and permitting, Environmental Assessment preparation, biological assessment for peregrine falcon, native species restoration and management plan development, and rare species surveys.
- Samuelson Fen Restoration, Portage, Indiana. Natural area inventory and management plan development and implementation.
- U.S. Silica mine expansion Ottawa, IL. Wetland delineation and permitting and development of wetland mitigation plan.

Scott A. Storlid
President and Senior Principal Scientist

Project Experience (Continued)

- Commonwealth Edison proposed coal storage site, Will County, IL. Rare species surveys for the Hine's emerald dragonfly and leafy prairie clover.
- Commonwealth Edison railroad upgrade, Will County, IL. Rare species survey for Hine's emerald dragonfly. Evaluation of railroad construction and operational impacts on rare species.
- State Highway 113, Wisconsin River Bridge Crossing Environmental Impact Statement. Characterized fisheries, water quality, aesthetics, 4(f) and 6(f) properties, and recreation within the project boundary; assessed impacts of the alternatives on these resources; and prepared reports for inclusion in the EIS.
- U.S. Highway 12, Middleton to Sauk City, WI, Environmental Impact Statement. Delineated wetlands and identified suitable wetland mitigation sites; completed wetland, water quality, wildlife habitat, and threatened and endangered species impact assessments; and prepared reports for inclusion in the EIS.
- State Highway 16, LaCrosse, WI. Wetland delineation, wetland functional assessment, threatened and endangered species review and surveys for inclusion in the EA.
- Gerald R. Ford International Airport, Grand Rapids, MI. Wildlife surveys and wildlife hazard assessment.
- Detroit, MI, Metropolitan Airport wetland mitigation monitoring.
- State Highway 36 expansion study, WI. Wetland delineations, Section 404 Clean Water Act permitting, and wetland mitigation design.
- STH 106 wetland study, Jefferson County, WI. Wetland delineation.
- Wisconsin Public Service Corporation Hydroelectric Dam relicensing, Stiles, WI. Rare species habitat surveys and assessment.
- Wingra Creek Streambank Stabilization, Madison, Wisconsin. Streambank stabilization design and state and federal permitting for stream dredging and grading on the bank of a navigable waterway.
- Pheasant Branch Creek water quality improvement project, Middleton, WI. Design, permitting, and environmental assessment preparation for a regional flood and stormwater management basin.
- Sprecher neighborhood regional detention and channel improvement project, Madison, WI. Wetland delineations, state and federal permitting, and environmental assessment preparation.
- Fond du Lac High School, Fond du Lac, WI. Wetland delineation, state and federal permitting, stormwater planning, and natural resource restoration for the school's "outdoor laboratory."
- Dodgeland K-12 Development, Juneau, WI. Wetland delineation, state and federal permitting, stormwater planning, and natural resource restoration for the school's "outdoor laboratory."

Publications/Presentations

Byers, S.M., S.A. Storlid, and G.V. Burger, "Heron nesting effort, productivity, and response to artificial nesting structures at the Baker's Lake heron colony", Illinois Department of Conservation, Springfield, Illinois. 1986.

Storlid, S.A., "Understanding NEPA in the transportation facility design process", Marquette University, 1993.

Montgomery, R.J. and S.A. Storlid, "Issues on the Waterfront, Project Design and Implementation: The Consultant's Role", State Bar of Wisconsin CLE Seminar, March 2006.

Guest lecturer on wetland-related topics and wetland delineation methods. Mr. Storlid has appeared as a guest lecturer at the University of Wisconsin – Stevens Point and several Southern WI public schools.

Professional and Environmental Memberships

- Society of Wetland Scientists
- Lake Koshkonong Wetland Association
- Natural Heritage Land Trust

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Jeffrey D. Kraemer, W.P.I.T

Associate Principal Scientist

Education

M.S. – Biological Sciences, Emphasis in Wetland Ecology, UW – Milwaukee 2003

B.S. – Biological Science, Emphasis in Aquatic Biology UW – La Crosse 1999

Employment Experience

Principal Scientist – NRC, Inc. 2003 to present

Project Assistant – UW – Milwaukee, Biological Research Field Station 1999 to 2003

Wetland Ecologist – Wetland Ecology and Restoration Consulting 2002 to 2003

U.S. Army Corps of Engineers – St. Paul District Regulatory Branch 2002

Professional Achievement

Assured Wetland Professional – WDNR Wetland Delineation Professional Assurance Initiative

Wetland Professional in Training - Society of Wetland Scientists

Professional Development

- Environmental Corridor Delineation Workshop, Southeastern Wisconsin Regional Planning Commission (SEWRPC).
- Wetland Delineation Training Workshop, UW-La Crosse (Continuing Education and Extension).
- Identification of Sedges Workshop, UW-Milwaukee.
- Vegetation of Wisconsin Workshop, UW-Milwaukee.
- Wetland Soils and Hydrology, Wetland Training Institute.
- Karner Blue Butterfly Effectiveness Monitoring Certification Course.

Professional Memberships

- Wisconsin Wetlands Association
- Society of Wetland Scientist
- Blue Mounds Area Project
- Lake Koshkonong Wetlands Association

Experience

Mr. Kraemer is an environmental scientist with a strong background in environmental regulations, specializing in wetland ecology and botany. Mr. Kraemer is an assured wetland professional through the WDNR Wetland Delineation Professional Assurance Initiative and has 7 years of professional experience working with the local, state, and federal regulatory agencies and has extensive environmental consulting experience as a field scientist and project manager. Mr. Kraemer has a thorough understanding of the technical and regulatory aspects of environmental projects. His experience includes:

- Project critical issues analysis/permitting feasibly assessments;
- Wetland investigations, mitigation planning, and permitting;
- Vegetation surveys and mapping;
- Natural resource and habitat restoration planning;
- Endangered Species Act studies and consultation; and
- National Environmental Policy Act documentation (EA/EIS).

Project Experience

- Ameren Corporation Transmission Line Projects: LaSalle-Ottawa, LaSalle County, IL; Wood River Refinery, Madison County, IL; Rockwood-Big River, Jefferson County, MO; Saddle Creek 73, Franklin County, MO. Managed support for environmental and GIS services to gain regulatory approvals for new transmission lines. Provided project support for: transmission line siting; critical issues analysis; route matrices; GIS data acquisition and mapping services, coordination of regulatory agency meetings, completion of field wetland delineations; threatened and endangered species; biological assessment and Section 404 permitting, community advisory and public workshop support, and expert witness testimony.
- Ashley Furniture Industries Expansion Project, Arcadia, WI. Developed and gained WDNR/USACE approval for 35-acre wetland mitigation plan in support of wetland fill application for expansion of the facility; continue to monitor and coordinate implementation of mitigation plan.
- Wis-DOT Threatened Plant Species Consultation, Port Wing, WI. Completed comprehensive study of a threatened plant species population in support of STH 13 Reconstruction project including preparation of relocation and monitoring plan, physical relocation of plants, and follow-up annual monitoring.
- Wis-DOT, Neptune Wetland Mitigation Monitoring, Richland County WI. Completed annual comprehensive vegetation surveys, mapping, performance evaluations, and reporting of a 50-acre wetland mitigation site.
- Berlon Industries Expansion Project, Hustisford, WI. Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation planning in support of the expansion of the industrial facility.
- Country View Estates Development Project, DeForest, WI. Completed wetland delineation/evaluation, wetland permitting, and mitigation planning in support of a 400-acre mixed residential/commercial/recreational development project.
- Badger Prairie Health Care Center Expansion Project, Verona, WI. Completed wetland delineation/evaluations and wetland permitting in support of the expansion of the healthcare facility.

Project Experience (Continued)

- Enbridge, Inc. Southern Access Expansion Project, Wisconsin – Crude Petroleum Pipeline Project. Completed wetland delineations and habitat assessments along a 343 mile proposed crude petroleum pipeline corridor through Wisconsin as part of Enbridge Energy's Southern Access Expansion Program.
- American Transmission Company Arrowhead to Weston, Wisconsin – 345 kV Transmission Line Project. Completed wetland delineations, threatened and endangered plant surveys, and habitat assessments along a 208 mile proposed new transmission line.
- Wisconsin Public Service Corporation New Gas Pipeline Project, Wausau, WI. Completed environmental surveys along proposed gas pipeline corridor including environmental assessments, threatened and endangered plant species survey, and identification of wetland and upland community types.
- Midwest Generation Waukegan Power Generation Facility Expansion Project, Lake County, IL. Completed field evaluations of wetlands and threatened and endangered species in coordination with Section 404 permitting requirements for expansion of the facility.
- Midwest Generation Waukegan Power Station, Waukegan, IL. Provided threatened and endangered species consultation and surveying along Lake Michigan shorelines for permitting a dredging activity.
- Alliant Energy Nelson Dewey Power Generation Facility Expansion Project, Caseville, WI. Completed field evaluations of wetlands in preparation of NEPA documentation for expansion of the facility.
- Alliant Energy, Prairie Du Sac, WI. Conducted a purple loosestrife surveys on Lake Wisconsin shorelines and wetlands in order to develop a purple loosestrife management plan in support of the hydroelectric facility FERC licensing.
- American Transmission Company, WI. Conducted Karner Blue butterfly surveys (federally endangered) along transmission line right-of-ways.
- Fitchburg Northeast Neighborhood Plan, Fitchburg, WI. Developed wetland protection standards for the City of Fitchburg's NE Neighborhood Plan.
- Windsor Properties II Commercial Development, Windsor, WI. Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation planning in support of the commercial development project.
- Conway Central Express Expansion Wetland Permitting, Franklin, WI. Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation design for expansion of the trucking facility.
- Wesenberg Development, New Glarus, WI. Conducted threatened and endangered plant species surveys, wetland delineations, and floristic quality assessment in support of the residential development.
- Westwynde Development, Sun Prairie, WI. Completed wetland delineation/evaluations, wetland permitting, wetland mitigation planning, and upland prairie restoration planning in support of the residential development.
- Westshore Development Restoration Design, Oconomowoc, WI. Designed a 30-acre upland habitat enhancement and wetland restoration plan in support of gaining regulatory approvals for residential development.
- Lake Koshkonong Water Level and Wetland Studies, Lake Koshkonong, WI. Developed and conducted wetland studies for development of a water level management plan: E. prairie fringed orchid hydrology study; Floodplain forest/hydrology study; Floristic quality assessment/vegetation mapping within 4000 acres of wetlands.
- Fitchburg Technology Campus, Fitchburg WI. Completed woodland assessment, tree survey, and woodland restoration and management plan in support of retail and commercial development project.
- Wis-DOT, Wildcat Mountain Wetland Mitigation Monitoring, Vernon County, WI. Competed comprehensive vegetation surveys, mapping, performance evaluations, and reporting of 38-acre mitigation site.
- Wis-DOT, Jug Creek Wetland Mitigation Monitoring, Vernon County, WI. Competed comprehensive vegetation surveys, mapping, performance evaluations, and reporting of 10-acre mitigation site.
- Morrison Creek Cranberry Company, Wetland Mitigation Bank Monitoring and Remediation, Oakdale, WI. Completed annual mitigation site monitoring, vegetation surveys, and performance evaluations of 60-acre mitigation bank site. Completed mitigation remediation management plan for compliance with USACE performance standards.
- Samuelson Fen Restoration, Portage, IN. Developed restoration plan to restore a degraded 30-acre fen, conducted vegetation surveys, floristic quality assessments and hydrology monitoring.
- Cedarburg Bog State Natural Area Management Planning, Saukville, WI. Developed and implemented management plans for invasive species control.

Jeffrey D. Kraemer, W.P.I.T
Associate Principal Scientist

Publications/Presentations

Management of the Eastern Prairie Fringed Orchid in the Lake Koshkonong Wetlands. Lake Koshkonong Wetland Association. Rock County, Wisconsin, 2006.

Lake Koshkonong Wetlands: Diversity, Floristic Quality, and Community Mapping. Lake Koshkonong Wetland Association

Jefferson, Rock, and Dane Counties, Wisconsin, 2006.

Lake Koshkonong Water Levels and Growth Rate of Trees in Bordering Floodplain Forests. Lake Koshkonong Wetland Association. Jefferson County, Wisconsin. 2005.

Lake Koshkonong Water Level Controversy: A Balance between Recreation and Wetland Protection, WWA Annual Science Forum, Presentation, 2005.

Floodplain forest hydrology and management implications: Lake Koshkonong as a case study. Wisconsin Wetlands Association, Annual Science Forum, Presentation 2004.

Using wetland plants as indicators of fine scale variation in hydrology: the plant community-environment relationship in sedge meadows, Master's Thesis defense, 2003.

Effects of invasive plant species on natural communities, UW-Milwaukee, Biology Dept., Presentation, 2001.

Susan Karin Swanson

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EDUCATION

University of Wisconsin; Madison, WI

Ph.D., Hydrogeology, August 2001. Dissertation title: Hydrogeologic controls on spring flow near Madison, Wisconsin. Minor in Civil and Environmental Engineering**.** Advisors: Jean Bahr and Kenneth Bradbury.

M.S., Water Resources Management, August 1996. Practicum subject: The Nine Springs Watershed and Environmental Corridor: A Water Resources Management Study.

M.S., Quaternary Geology and Hydrogeology, May 1996. Thesis title: A Comparison of Two Methods Used to Estimate Groundwater Recharge, Dane County, Wisconsin. Advisors: David Mickelson and Kenneth Bradbury.

Gustavus Adolphus College; St. Peter, MN

B.A., Geology, May 1989.

POSITIONS HELD

2007-present	**Associate Professor,** Department of Geology, Beloit College, Beloit, WI.
Fall 2007	**Program Director,** Associated Colleges of the Midwest, Studies in Human Evolution and Ecology study abroad program, University of Dar es Salaam, Tanzania.
Fall 2007	**Lecturer,** Department of History (Archaeology Unit), University of Dar es Salaam, Tanzania.
2001-07	**Assistant Professor,** Department of Geology, Beloit College, Beloit, WI.
1997-2001	**Research and Teaching Assistant**, University of Wisconsin-Madison.
1996-97, 1999-2000	**Hydrogeologist,** RMT, Inc., Madison, WI.
1993-96	**Project Assistant**, Wisconsin Geological & Natural History Survey, Madison, WI.
1992-93	**Geologist**, Conestoga-Rovers & Associates, Consulting Engineers, St. Paul, MN.
Spring 1992	**Instructor**, Geology Department, Gustavus Adolphus College, St. Peter, MN.
1989-91	**Teacher, U.S. Peace Corps Volunteer**, Lesotho, southern Africa.

AWARDS AND APPOINTMENTS

2007	Appointed to the Geology, Hydrogeology, Hydrology, and Public Health, Science and Technology Workgroup, which provides scientific and technical expertise to Wisconsin's Groundwater Advisory Committee.
2004	Designated a WGNHS Research Associate by the Wisconsin Geological and Natural History Survey.
2003	Appointed Martha Peterson Junior Professor of the Sciences, Beloit College.
2001	Distinguished Graduate Student Award, University of Wisconsin-Madison, Department of Geology and Geophysics.
2001	Best Student Paper Award, American Water Resources Association – Wisconsin Section.
2000	Vilas Grant recipient. Awarded by the University of Wisconsin-Madison Graduate Student Council to dissertators for travel to professional meetings.
1999	Midwest Society of Environmental Toxicology and Chemistry Student Travel Award recipient.
1995	Wasatch-Uinta Field Camp Scholarship recipient, University of Wisconsin-Madison, Department of Geology and Geophysics.

EXTERNAL GRANTS

Assessing the Ecological Status and Vulnerability of Springs in Wisconsin ($65,100), Project duration: July 1, 2005 – June 30, 2007; Funded by the University of Wisconsin Water Resources Institute and the Wisconsin Department of Natural Resources; Co-PIs: Kenneth Bradbury (WGNHS) and David Hart (WGNHS).

Stratigraphy of the Tunnel City Group and implications for preferential groundwater flow ($14,462), Project duration: July 1, 2003 – December 31, 2005; Funded by the University of Waterloo Solvents in Groundwater Research Program and the Hydrite Chemical Company.

Water resources management and irrigation practices in the Kilimanjaro region of Tanzania ($3,000), Funded by the Global Partners Project in East Africa, Associated Colleges of the Midwest [Award declined].

PROFESSIONAL SOCIETY MEMBERSHIPS AND PANELS

Geological Society of America

National Ground Water Association

American Water Resources Association - WI Section (Past-President *2007*, President *2006*; President-Elect *2005;* Local Arrangements Chair *2004;* Secretary, *2001-2003*)

National Association of Geoscience Teachers

National Science Foundation Graduate Research Fellowship Program, Geosciences Panel (*2005*, *2006*, *2008*)

FORMAL COMMITTEE SERVICE, BELOIT COLLEGE

Strategic Planning Committee (*2005-06*, *2006-07*)

Program and Professional Development Committee (*2003-04*; Chair *2004-05*, *2005-06*, & *2006-07*)

Admissions and Financial Aid Committee (*2002-03*)

PUBLICATIONS

Swanson, S.K., Bradbury, K.R., and Hart, D.J., 2007. Assessing the Ecological Status and Vulnerability of Springs in Wisconsin. Wisconsin Geological and Natural History Survey Open File Report 2007-04, 15p. plus appendices.

Swanson, S.K., 2007. Lithostratigraphic controls on bedding plane fractures and the potential for discrete groundwater flow through a siliciclastic sandstone aquifer, southern Wisconsin, *Sedimentary Geology* 197: 65-78.

Swanson, S.K., Bahr, J.M., and Wilcox, J.D., 2006. A solid waste landfill siting exercise for an introductory environmental geology course, *Journal of Geoscience Education* 54, no. 4: 458-463.

Swanson, S.K., Bahr, J.M., Bradbury, K.R., and Anderson, K.M., 2006. Evidence for preferential flow through sandstone aquifers in southern Wisconsin, *Sedimentary Geology* 184: 331-342.

Swanson, S.K., Bahr, J.M., and Potter, K.W., 2006. A local meteoric water line for Madison, Wisconsin: Wisconsin Geological and Natural History Survey Open File Report 2006-01, 4p.

Swanson, S.K., and Bahr, J.M., 2004. Analytical and numerical models to explain steady rates of spring flow, *Ground Water* 42, no. 5: 747-759.

Swanson, S.K., Bahr, J.M., Schwar, M.T., and Potter, K.W., 2001. Two-way cluster analysis of geochemical data to constrain spring source waters, *Chemical Geology* 179(1-4): 73-91.

Krohelski, J.T., Bradbury, K.R., Hunt, R.J., and **Swanson, S.K.**, 2000. Numerical Simulation of Groundwater Flow in Dane County, Wisconsin: Wisconsin Geological and Natural History Survey Bulletin 98, 31p.

Bradbury, K.R., **Swanson, S.K.**, Krohelski, J.T., and Fritz, A.K., 1999. Hydrogeology of Dane County: Wisconsin Geological and Natural History Survey Open File Report 1999-04, 66 p. + 2 color plates.

JOHN A. BIEBERITZ, P.E., PTOE

Education

MS, Transportation Engineering, University of Wisconsin-Milwaukee, 1994

BSCE, University of Wisconsin-Milwaukee, 1989

Professional Registration

Engineer - Wisconsin, Florida

Professional Traffic Operations Engineer

Professional Affiliation

Institute of Transportation Engineers

Member of the following committees:

- Traffic Engineering Workshop - Chairman

- Contact Member for the University of Wisconsin-Milwaukee

Tau Beta Pi National Engineering Honors Society

Years of total experience: 19

Time of Employment with Traffic Analysis & Design, Inc.: May 2002 to present

Time of Employment with HNTB: May 1989 to May 2002

Time of Employment with the City of New Berlin Engineering Department: May 1987 to May 1989

Experience

Mr. Bieberitz is the President of Traffic Analysis & Design Inc., which was formed in Spring of 2002 with three traffic engineering professionals and is now comprised of twenty-four (24) traffic engineering professionals who have been involved in traffic analysis, intersection design, TIA's, corridor studies, the planning and design of traffic signals, ITS design, phasing and timing of signals, roundabout analysis and traffic simulation modeling. Traffic Analysis & Design, Inc. has successfully completed over 600 traffic engineering projects for the WisDOT, counties, municipalities and private developers in the last four years.

In addition to managing the staff at Traffic Analysis & Design, Inc., Mr. Bieberitz also is a Senior Traffic Engineer/Project Manager responsible for traffic engineering tasks including: Traffic Impact Analyses (TIA's), roundabout analyses, simulation modeling, preparation of signal design and interconnection plans, signalized intersection capacity analyses, development of optimal signal timing plans for isolated intersections and coordinated systems, corridor studies and traffic safety studies. Mr. Bieberitz has also

presented and published papers on traffic engineering for both the Institute of Transportation Engineers and the American Society of Civil Engineers.

CORRIDOR STUDIES AND TRANSPORTATION IMPROVEMENT PLANS

Calhoun Road, Brookfield, WI

Mr. Bieberitz served as the senior traffic engineer for the Calhoun Road reconstruction project from Gebhardt Road to Bluemound Road in Brookfield. The study consisted of intersection analysis, recommendations and traffic signal design and timing.

CTH T Corridor, Marinette, WI

Mr. Bieberitz served as project manager for the CTH T Corridor traffic study from Cleveland Avenue to Gallager Road in Marinette, Wisconsin. This study consisted of developing various traffic signal location scenarios and driveway closures to improve the safety and traffic operations of this congested corridor. Analyses were completed for several development alternatives for the years 2002 and 2020. This study involved working closely with the Wisconsin Department of Transportation, Marinette County and the City of Marinette.

STH 36/Howard Avenue/35th Street Alternative Analysis, Greenfield, WI

Mr. Bieberitz served as project manager for a triangle intersection/corridor analysis of three closely spaced intersections forming a triangle due to the northeast/southwest direction of STH 36 for WisDOT D2. This study included analyzing five alternatives to these intersections ranging from a roundabout, geometric channelization, prohibition of turning movements, alignment modifications and signalization of all three intersections in coordination. Traffic engineering computer models were utilized to determine system-wide MOE's for comparison of the alternatives.

Atlantis Resort Traffic Operations Study, Paradise Island, Bahamas

Mr. Bieberitz served as lead project engineer in studying the traffic impact and roadway improvements for the expansion of the Atlantis Report on Paradise Island in the Bahamas. This study included analysis of various traffic routes from the Airport to the resort along with an O-D study. Traffic signal and roundabout analyses were conducted for several locations. Recommendations included upgrading existing roundabouts, conversion of some two-way streets to one-way, signalization and a new bridge and roundabout to Paradise Island from Nassau.

Nassau Transportation Improvement Plan, Nassau, Bahamas

Mr. Bieberitz served as lead project engineer in developing intersection improvement plans, toll collection facilities, roundabout improvement plans and traffic signal improvement plans for the island of Nassau which included Downtown Nassau and Cable Beach. The study included a comparison analysis of traffic signals versus roundabouts for several locations on the island. The study also included analysis and recommendations for roundabout modifications and upgrades to improve capacity.

Traffic Improvement Plan, Sanibel Island, Florida

Mr. Bieberitz served as lead project engineer in a traffic study for Sanibel Island, Florida. This island does not allow traffic signals, therefore alternatives to traffic signals such as roundabouts were analyzed for several intersections on the island.

STH 26 and USH 14 Development and Access Design, Janesville, WI

Mr. Bieberitz served as project manager for this corridor study in Janesville, Wisconsin. This study included determining access points for new developments and optimum traffic signal placement along USH 14 and STH 26. This study included an O-D study conducted with determining zones of travel. Mr. Bieberitz has been "on-call" with the City of Janesville for improvements and access recommendations for new developments along the corridors.

General Motors Truck Route Corridor Study, Janesville, WI

Served as project manager for the General Motors Truck Route Corridor Study in Janesville. The project involved the analysis of nine corridor alternatives for a direct truck route between the General Motors plant and local GM suppliers of parts and sub-assemblies. The study included the following objectives: minimizing residential impacts, providing a grade separated RR crossing, minimize traffic conflicts to reduce delays for trucking operations, and providing a cost effective design which meets a fast track schedule. Mr. Bieberitz provided traffic analysis and impacts, conceptual plans and exhibits, and cost estimates. A license plate study was conducted to determine the amount of through traffic on Beloit Avenue. Mr. Bieberitz is also the Project Manager for the next phase which includes the Design Study Report and preliminary plans for the preferred alternative.

TRAFFIC SIGNAL SYSTEM DESIGNS

CTH Q/Home Depot Signal Design, WI

Served as the project manager for the installation of two signals along CTH Q and the interconnection of those signals to STH 175 and the existing signal system east of STH 175. The interconnection was conducted utilizing radio. Traffic signal timing and coordination plans were also provided. Video detection was utilized for both intersections.

WisDOT District 6 USH 53 Signal Design, WI

Served as the project manager for the WisDOT District 6 signal designs for the USH 53 inner bypass. This included providing signal plans, phasing and coordination timings for 10 intersections along the ramps and cross-street intersections. The signal design included signalization of a single point diamond interchange which utilized video detection.

Closed Loop System for USH 45 and STH 70 in Eagle River, WI

Served as Project Manager responsible for the design of a Closed Loop System for USH 45 and STH 70 in Eagle River. This project involved the design of temporary and permanent traffic signals and a closed loop system along the relocated USH 45 route. Mr. Bieberitz also provided a Two-Day Training Course to District 7 in Rhinelander on traffic signal timing design and closed loop systems. Mr. Bieberitz also developed peak summer timing plans and fine-tuning the plans in the field.

City of Waukesha Emergency Vehicle Pre-emption (EVP)

Served as the project manager for the City of Waukesha Emergency Vehicle Pre-emption (EVP) project. This project involved the analysis, design, plans, specifications and estimate for installing EVP equipment at 80 signalized intersections in the City of Waukesha.

USH 45 Local Mitigation Project in Milwaukee and Waukesha County, WI

Served as project engineer for the USH 45 Local Mitigation Project in Milwaukee and Waukesha County, Wisconsin. This project involved providing 12 temporary and permanent traffic signal designs in Wauwatosa, Brookfield and Elm Grove as well as retiming over 20 signalized intersections in Wauwatosa for the reconstuction of USH 45 in 2000 and 2001. Also included in this project was the incorporation of EVP detectors and equipment for 21 intersections located along STH 100 in West Allis, Wauwatosa and the City of Milwaukee.

STH 26 AND USH 14, Janesville, WI

Mr. Bieberitz developed progressive signal timing plans for thirteen intersections on STH 26 and USH 14. All intersections were designed as fully actuated during the evening hours and to operate in progression during the peak hours. SIGNAL94, PASSERII90 and TRANSYT-7F were used to design the timing plans and develop the intersection coordination plans.

Traffic Signal Closed Loop Systems, WI

Mr. Bieberitz has been responsible for the design of numerous closed loops traffic signal systems including traffic signal closed loop systems for the City of Waukesha consisting of a total of 24 signalized intersections; traffic signal closed loop systems for the City of Janesville consisting of 13 signalized intersections; and traffic signal closed loop system for the City of Whitewater consisting of 7 signalized intersections.

TEACHING AND TRAINING

Traffic Signal Software and Operations Training, Wisconsin Department of Transportation, Wisconsin Communities and HNTB Offices

Mr. Bieberitz has instructed the HNTB offices of Indianapolis, Raleigh and Louisville on the use of traffic engineering software as well as the Wisconsin communities of Racine and New Berlin. Mr. Bieberitz has also held a training course for the Wisconsin Department of Transportation on the advanced procedures of traffic engineering software.

Traffic Impacts of Land Development, Brookfield, Madison, Minneapolis, Orlando and Las Vegas

Mr. Bieberitz co-teaches the TIA training course through the University of Wisconsin-Madison. This three day course is held every two years and attracts approximately 80 attendees per session around the United States.

Site Design Training, Madison, Milwaukee, and Las Vegas

Mr. Bieberitz co-teaches the Site Design Training Course with course topics of Traffic Impact Analysis, and Parking Lot Circulation. This three day course is held every two years and attracts approximately 70 attendees per session around the United States.

Traffic Signal Software Training, Madison, Wisconsin; Bellevue, Washington; Irvine, California; Las Vegas, Nevada; Lansing, Michigan, Allentown, Pennsylvania; Brooklyn, New York; Minneapolis, Minnesota

Mr. Bieberitz is currently in a partnership with STRONG CONCEPTS and UW-Madison for two traffic engineering courses "Timing Traffic Signals Using TEAPAC, PASSER, TRANSYT, and NETSIM" and "Advanced TEAPAC Application Techniques". These three- and two-day courses have taken place annually in Madison and due to their enormous success have also been conducted throughout the United States.

Traffic Signal Design Training, Milwaukee, Wisconsin

Mr. Bieberitz co-teaches the "Traffic Signal Design" course with UW-Madison. This three day course is held every two years and attracts approximately 70 attendees per session from around the United States.

TRAFFIC SIGNAL DESIGNS

Various Traffic Signal Design Plans, WI

Mr. Bieberitz served as project manager and has designed and prepared signalization construction plans, timing and interconnection in the following communities:

- City of Racine
- City of Glendale
- City of Janesville
- City of Brookfield
- City of Cedarburg
- City of Manitowoc
- Village of Whitefish Bay
- City of Whitewater
- City of Madison
- Village of Germantown
- Village of Pewaukee
- City of Delafield
- City of Waukesha
- City of Monona
- City of West Bend
- City of Franklin
- City of Kenosha
- City of Rhinelander
- City of Sheboygan
- Village of Kohler
- Town of Bellevue
- City of Onalaska
- City of Beloit
- Milwaukee County
- City of West Allis
- City of Wauwatosa
- City of Sturgeon Bay
- City of Lake Geneva
- Village of Ashwaubenon
- City of Plymouth
- City of Wausau
- Village of Shorewood
- Village of Grafton

TRAFFIC IMPACT ANALYSES

Various Traffic Impact Studies, Wisconsin

Mr. Bieberitz served as project manager of the traffic impact studies for the following developments:

- Sam's Wholesale Club, Milwaukee, Wisconsin;
- Omega Restaurant, Milwaukee, Wisconsin;
- Lake Park Subdivision, Pewaukee, Wisconsin;
- Mega Foods, Waukesha, Wisconsin;
- Elmbrook Hospital, Brookfield, Wisconsin.
- Pick'n Save, Bay View and Franklin, Wisconsin;
- Roadway Express, Inc., Oak Creek, Wisconsin;
- Perkins Restaurant and Auto Care Center, Delafield, Wisconsin;
- Marcus Theaters, Delafield, Grand Chute, Mequon, Milwaukee and New Berlin, Wisconsin;
- Applebees Restaurant, Mequon, Wisconsin;
- McDonald's Restaurant, New Berlin and Wausau, Wisconsin;
- Sentry Super Saver, Grafton, Wisconsin;
- Pewaukee Plaza Shopping Center, Pewaukee, Wisconsin;
- Piggly Wiggly Supermarket, Richfield, Wisconsin;
- Elmwood Marketplace, Onalaska, Wisconsin;
- Riverside School and Community Center, Menomonee Falls, Wisconsin;
- LaCrosse Retail Center, LaCrosse, Wisconsin;
- Urban Land Interests, Madison, Wisconsin;
- Broadlands Subdivision, North Prairie, Wisconsin;
- The Tannery Office Park, Milwaukee, Wisconsin;
- Atlantis Resort, Paradise Island, Bahamas;
- Home Depot, Waukesha, Wisconsin
- Home Depot, Wauwatosa, Wisconsin
- Home Depot and Target, Grafton, Wisconsin
- Home Depot, Menomonee Falls, Wisconsin
- Home Depot, Lake Delton, Wisconsin
- Home Depot, Rhinelander, Wisconsin
- Home Depot, Green Bay, Wisconsin
- Home Depot, Bellevue, Wisconsin
- Home Depot, Kohler, Wisconsin
- Home Depot, Milwaukee, Wisconsin
- Home Depot, Mukwonago, Wisconsin
- Home Depot, Rib Mountain, Wisconsin
- Home Depot, Lake Geneva, Wisconsin
- Home Depot, Germantown, Wisconsin
- Home Depot, Fond du Lac, Wisconsin
- Home Depot, Wausau, Wisconsin
- Home Depot, Stevens Point, Wisconsin
- Home Depot, West Bend, Wisconsin
- Home Depot, Beaver Dam, Wisconsin
- Home Depot, Wisconsin Rapids, Wisconsin
- Hillside Market, Delafield, Wisconsin
- Hilton Garden Inn, Delafield, Wisconsin
- Lake Country Crossing, Delafield, Wisconsin
- Omega Restaurant, Franklin, Wisconsin
- Pabst Farms, Oconomowoc, Wisconsin
- Burke Properites, Franklin, Wisconsin
- Victory Creek Estates, Franklin, Wisconsin
- River Hills Estates, Waukesha, Wisconsin
- STH 60 Developments, Grafton, Wisconsin
- Concordia University, Mequon , Wisconsin
- Ozaukee Bank, Grafton, Wisconsin
- Colder's Furniture Store, Delafield, Wisconsin
- Storms Property, USH 18, Brookfield, Wisconsin
- Target, Delafield, Wisconsin;
- Target, New Berlin, Wisconsin
- Target, Sturgeon Bay, Wisconsin
- Target, Oak Creek, Wisconsin
- Target, Green Bay, Wisconsin
- Target, Bellevue, Wisconsin
- Target, Franklin, Wisconsin
- Target, West Milwaukee, Wisconsin
- Target, Lake Geneva, Wisconsin
- Osco Drug, Glendale, Wisconsin
- McDonald's Restaurant, Milwaukee, Wisconsin
- McDonald's Restaurant, Waukesha, Wisconsin
- McDonald's Restaurant, West Allis, Wisconsin
- McDonald's Restaurant, Layton Avenue, Milwaukee, Wisconsin
- McDonalds's Restaurant, Moorland Road, Brookfield, Wisconsin

- Pewaukee Hotel and Conference Center, Pewaukee, Wisconsin
- Indian Community School, Franklin, Wisconsin
- Heartland Development, Kenosha, Wisconsin
- Poplar Creek Development on USH 18, Waukesha, Wisconsin
- Aurora Medical Development, Green Bay, Wisconsin
- Aurora Medical Development, Marinette, Wisconsin
- Aurora Medical Development, Oconomowoc, Wisconsin
- Culver's Restaurant, Shorewood, Wisconsin
- Jewish Community Center, Whitefish Bay, Wisconsin
- Walgreen's, Glendale, Wisconsin
- Walgreen's, Beaver Dam, Wisconsin
- Walgreen's, West Allis, Wisconsin
- Harmony Homes, Waukesha, Wisconsin
- Opus North Development, Oak Creek, Wisconsin
- Northern Computers, Oak Creek, Wisconsin
- Northwestern Mutual Life Development, Franklin, Wisconsin
- Krispy Kreme, Brookfield, Wisconsin
- Aurora Medical Development, Marinette, Wisconsin
- Aurora Medical Development, Oconomowoc, Wisconsin
- Wal-Mart, Lake Geneva, Wisconsin
- Wal-Mart, Plymouth, Wisconsin
- Wal-Mart, Burlington, Wisconsin
- Wal-Mart, Manitowoc, Wisconsin
- Wal-Mart, Jefferson, Wisconsin
- Wal-Mart, Fond du Lac, Wisconsin
- Wal-Mart, Onalaska, Wisconsin
- Wal-Mart, Janesville, Wisconsin
- Wal-Mart, Medford, Wisconsin
- Wal-Mart, Lake Delton, Wisconsin
- Wal-Mart, Hartford, Wisconsin
- Wal-Mart, Sheboygan, Wisconsin
- Wal-Mart, Pewaukee, Wisconsin
- Wal-Mart, Germantown, Wisconsin
- Wal-Mart, Rice Lake, Wisconsin
- Wal-Mart, New Richmond, Wisconsin
- Wal-Mart, Monona, Wisconsin
- Wal-Mart, Stoughton, Wisconsin
- Wal-Mart, Monroe, Wisconsin
- Wal-Mart, Dodgeville, Wisconsin
- Wal-Mart, Hudson, Wisconsin
- Wal-Mart, River Falls, Wisconsin
- Wal-Mart, Medford, Wisconsin
- Wal-Mart, Little Chute, Wisconsin
- Wal-Mart, Sturgeon Bay, Wisconsin
- Wal-Mart, Spooner, Wisconsin
- Wal-Mart, Marinette, Wisconsin
- Maple Grove Development, Union Grove, Wisconsin
- Chateau Condominiums, Oak Creek, Wisconsin
- Village Square of Delafield, Delafield, Wisconsin
- Dental Associates, Franklin, Wisconsin
- Monticello Gardens, Franklin, Wisconsin
- Waukesha Memorial Hospital, Mukwonago, Wisconsin
- West Allis Crestwood Commons, West Allis, Wisconsin
- AmCore Bank, Wauwatosa, Wisconsin
- Best Buy, Wauwatosa, Wisconsin
- Best Buy, Greenfield, Wisconsin
- Best Buy, Fox Point, Wisconsin
- Best Buy, Menomonee Falls, Wisconsin
- Ronald Reagan School, New Berlin, Wisconsin
- Lowe's Brown Deer, Wisconsin
- Lowe's, Franklin, Wisconsin
- Lowe's Delavan, Wisconsin
- Lowe's Kenosha, Wisconsin
- Lowe's Wauwatosa, Wisconsin
- Brookfield Square Mall Expansion TIA, Brookfield, Wisconsin
- Costco, Grafton, Wisconsin
- Shodeen Jackson Creek TIA, Delavan, Wisconsin
- Cabela's, Richfield, Wisconsin
- Menard's Beaver Dam, Wisconsin
- Menard's Wausau, Wisconsin
- Menard's Monroe, Wisconsin
- Menard's, Eau Claire, Wisconsin
- Menard's, Waukesha, Wisconsin
- Pabst Farms Town Center, Oconomowoc, Wisconsin

Selected Publications and Awards

- “Guidelines for the Use of Traffic Signal Timing Software,” Compendium of Papers, Institute of Transportation Engineers, 1997.
- “Roundabouts versus Traffic Signals - Which has More Capacity?,” Institute of Transportation Engineers, District IV, 1997.
- “Public Involvement in Traffic Engineering, Changing the Way we do Business”, Compendium of Papers, Institute of Transportation Engineers, 1996.
- “Travel Behavior Modifications Resulting from Ramp Metering, A Quantification”, Compendium of Papers, Institutes of Transportation Engineers, 1996.
- “Neighborhood Traffic Control - Do You Really Want a Traffic Signal,” Compendium of Papers, Institute of Transportation Engineers, 1995.
- "Freeway Optimization Utilizing Ramp Metering," Compendium of Papers, Institute of Transportation Engineers, 1994 and Compendium of Papers, International Road Federation, 1994.
- "Freeway Optimization Utilizing Ramp Metering," Compendium of Papers, Institute of Transportation Engineers, 1994 and Compendium of Papers, International Road Federation, 1994.
- "The Effect of HOV Lanes in Reducing Emissions," Compendium of Papers, ASCE Emerging Concepts in Urban Transportation Facility Design, 1993 and Compendium of Papers, Institute of Transportation Engineers, 1993.
- "An Application and Comparison of Traffic Engineering Computer Models," Compendium of Papers, ASCE 4th Annual International Conference on Micro Computers in Transportation, 1992.
- Wisconsin Institute of Transportation Engineers - Martin Bruening Award, 1992 and 1996.

DON J. LEE, P.E.

Education

BSCE, University of Wisconsin-Milwaukee, 1993

BBA, University of Wisconsin-Milwaukee, 1988

Professional Registration

Engineer - Wisconsin

Professional Affiliation

Institute of Transportation Engineers

Tau Beta Pi National Engineering Honors Society

Years of total experience: 14

Time of Employment with Traffic Analysis & Design, Inc.: January 2005 to present

Time of Employment with HNTB: May 1993 to December 2004

Experience

Mr. Lee is a Senior Traffic Engineer/Project Manager responsible for traffic engineering tasks including: preparation of signal design and interconnection plans, intersection design plans, simulation modeling, signalized intersection capacity analyses, conduction of traffic impact analyses, corridor studies, pedestrian studies and traffic safety studies. Don's project experience includes:

CORRIDOR STUDIES AND TRANSPORTATION IMPROVEMENT PLANS

Calhoun Road, New Berlin, WI

Mr. Lee served as the senior traffic engineer for the Calhoun Road reconstruction project from Greenfield Avenue to Cleveland Avenue in New Berlin. The study consisted of intersection analysis, frontage road access alternatives, recommendations and traffic signal design and timing.

Terrace Street Relocation, Janesville, WI

Mr. Lee served as the senior traffic engineer for the Terrace Street vacation study between River Street and Mineral Point Drive in the City of Janesville. The street vacation was proposed by Mercy Hospital to allow the hospital to expand their site and improve internal site circulation. This study consisted of developing various access alternative scenarios and driveway/street closures to improve the vehicular and pedestrian safety and traffic operations of the study area. Analyses were completed for several development alternatives. This study involved working closely with the City of Janesville, Mercy Hospital and Dean Medical Center.

East Broadway and East Avenue, Waukesha, WI

Mr. Lee served as the senior traffic engineer for the East Avenue and East Broadway corridor reconstruction projects in the City of Waukesha. The study consisted of intersection analyses, development of alternative intersection geometric improvements, traffic signal analysis, crash analysis, pedestrian crossing improvements and recommendations. The next phase of the project will involve developing intersection improvement and signalization plans.

Watertown Plank Road with Innovation Drive, Wauwatosa, WI

Mr. Lee served as the senior traffic engineer for the Innovation Drive intersection with Watertown Plank Road improvement study. This study consisted of determining intersection improvements due to the addition of the GE Medical building in the Milwaukee Research Park. The study consisted of intersection analyses, development of alternative intersection geometric improvements, traffic signal analysis, warrant analysis, intersection and signalization design.

TRAFFIC IMPACT ANALYSES

Wal-Mart Supercenter, Monroe, WI

Mr. Lee served as the senior traffic engineer for the Wal-Mart Supercenter TIA in Monroe, Wisconsin. This study consisted of a regional traffic study which involved the City, County and WisDOT. This study included traffic generation, assignment, analysis and development of several improvement alternatives for the initial buildout and future buildout scenarios.

Wal-Mart Supercenter, Monona, WI

Mr. Lee served as the senior traffic engineer for the Wal-Mart Supercenter TIA in Monona, Wisconsin. This study consisted of a regional traffic study adjacent to USH 12/18 which involved the City and WisDOT . This study included traffic generation, assignment, analysis and development of several improvement alternatives including signalization of closely spaced intersections and roundabouts for the initial buildout and future buildout scenarios. The study also included determining the location of a new connection from the development to an existing multi-use trail.

Wal-Mart Supercenter, Stoughton, WI

Mr. Lee served as the senior traffic engineer for the Wal-Mart Supercenter TIA in Stoughton, Wisconsin. This study consisted of a regional traffic study including the buildout of a neighborhood plan which involved the City, County and WisDOT. This study included traffic generation, assignment, analysis and development of several improvement alternatives for the initial buildout and future buildout scenarios.

Lowes Development, Wauwatosa, WI

Mr. Lee is currently serving as the senior traffic engineer for the Lowe's TIA in Wauwatosa, Wisconsin, which involves the redevelopment of a portion of the Briggs and Stratton plant. This study includes traffic analysis for existing and future conditions working with both the City of Wauwatosa and Brookfield to obtain consensus on the recommended intersection improvements.

Brookfield Square Mall, Brookfield, WI

Mr. Lee is currently serving as the senior traffic engineer for the Brookfield Square Mall proposed expansion, which involves the redesign of the internal circulation of the mall and revised access controls along Moorland Road. This study includes traffic analysis for the current and future expansion of the mall along with other potential developments surrounding the mall. Mr. Lee is working with both the

City of Brookfield and Waukesha County to obtain consensus on the recommended intersection improvements along Moorland Road.

ROADWAY FACILITIES

Canal Street, Milwaukee, WI

Mr. Lee served as the project manager for this fast-track project, located in Milwaukee's Menomonee Valley. The project included preliminary engineering, environmental documentation and final design for the reconstruction of 1.3 miles of existing roadway and 1.5 miles of new road including the design of a new multi-use trail along the entire corridor. An integral component of the reconstruction was the removal and relocation of railroad tracks that ran down the center of the roadway. The project included environmental documentation, public involvement, subsurface investigation, traffic analysis, urban roadway and bridge design, roundabout design, retaining walls, plats, survey, storm sewer, railroad design, stormwater management, floodplain control, and real estate acquisition activities.

Park East Reconstruction, Milwaukee, WI

Mr. Lee served as the project manager for the Park East Redevelopment project. This project included preliminary design, environmental documentation and final design services for the demolition of an elevated freeway and the reconstruction of an at grade roadway located on the north side of the CBD in downtown Milwaukee Wisconsin. The final design phase included preparing demolition plans for a 1 mile elevated freeway spur and construction of a new at grade roadway and vertical lift bridge spanning the Milwaukee River. In addition to roadway and bridge design elements, other design components include retaining walls, real estate plat and acquisition, Hazmat, streetscape, lighting, traffic analysis, signalization and traffic control.

Pennsylvania Avenue Connector, Milwaukee, WI

Mr. Lee served as the project manager for the preliminary and final design services and preparation of contract documents for a one-mile extension of the Lake Parkway. This project, which finalized the original 3.2-mile, award-winning Lake Parkway project, involved construction of the final leg of the Parkway to tie into the local street system and alleviate an already congested intersection at Layton Avenue. The design included construction of an urban arterial over a capped landfill, construction of a new bridge over a channel that runs through the landfill, construction of a box culvert extension, construction of an overhead sign bridge, construction of a retaining wall, ITS facilities, traffic analysis, plat, survey, storm sewer, signing, signals, and lighting. In addition, many of the aesthetic features from the Lake Parkway are also incorporated into the design, including the use of a field stone form liner, stained fieldstone barrier and bridge abutments with form liners to replicate existing limestone block railroad bridges.

Jobs Corridor Projects, Milwaukee and Menomonee Falls, WI

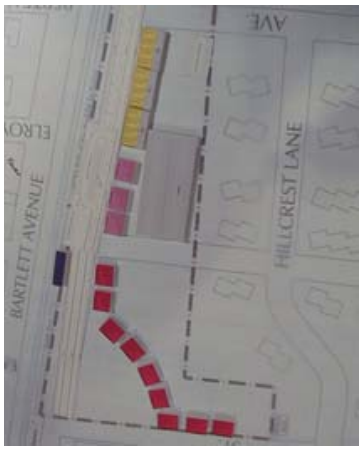
Mr. Lee was the project engineer for preliminary and final design services and preparation of contract documents for three separate highway projects, which, collectively, were referred to as the Jobs Corridor Projects. These projects were a result of a milestone agreement between the City of Milwaukee and the Village of Menomonee Falls for the creation of new employment centers. One project included the conversion of a two-lane road (Good Hope Road) to a four lane urban arterial, including construction of a bridge pair over the Menomonee River and a planned regional bike trail. Another project included conversion of a two-lane highway (STH 145) to a four-lane urban arterial, including construction of new bridges and access ramps to a regional freeway (USH 41 and 45). The third project included construction of a four-lane urban arterial on new location, including construction of a concrete box culvert and new wetlands. Final plan documents were completed within a two-year period.

Lake Parkway, Milwaukee, WI

Mr. Lee was the project engineer for preliminary and final design documents for construction of this award-winning, three-mile-long urban arterial in Milwaukee, Wisc onsin. The project was built through 20 separate construction contracts. Major components to this project consisted of public and neighborhood meetings, environmental documentation, traffic analysis, extensive utility coordination and relocation, local community coordination, real estate plat preparation, and aesthetic features. Aesthetic treatments, used for the first time by the Wisconsin Department of Transportation, consisted of stone form liner for abutments and crash barrier. Additionally, approximately 5,000 feet of tied back retaining walls, the first use of this wall type, were constructed.

COMMUNITY PLANNING

Comprehensive Plans

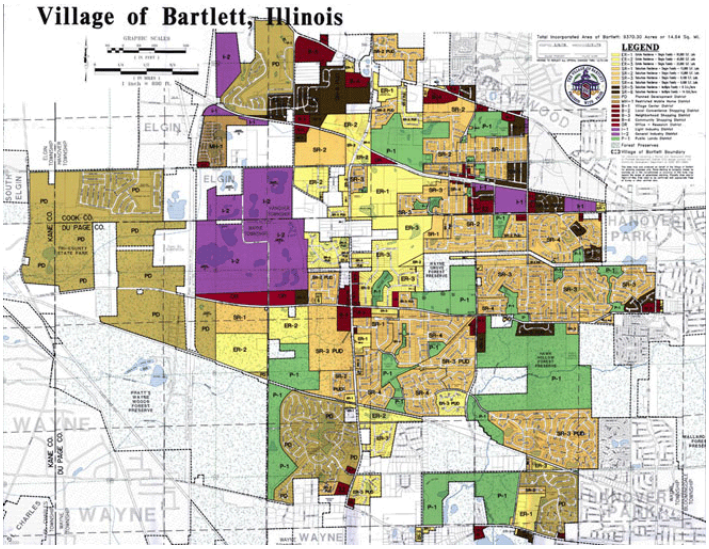


BARTLETT COMPREHENSIVE PLAN AND CONTINUING SERVICES
Bartlett, Illinois

TAI has provided the Village of Bartlett, a suburban community on a development front line, with planning and development review services for over twenty years. In that time TAI has witnessed rapid population growth, from approximately 13,000 in 1980 to over 35,000 today.

The Comprehensive Plan prepared and updated by TAI provides a rational control for growth. The preparation of growth management tools, including a sophisticated developer impact fee system, were directly related to the preparation of the Comprehensive Plan. In addition, TAI worked with various committees and commissions to formalize goals and objectives for each of twenty individual Planning Districts.

TAI has also developed numerous implementation tools for Bartlett, including innovative sign and landscape regulations.



Community Planning
Development Economics
Site Design
Landscape Architecture

TESKA

LANDSCAPE ARCHITECTURE

Urban / Streetscape Design

City of Elkhorn Corridor Design Plan

Elkhorn, Wisconsin

The City of Elkhorn is one of the most liveable small towns in America. Its location between the Chicago, Milwaukee, Madison and Rockford metropolitan areas provides extraordinary accessibility to world class markets, jobs, labor and cultural opportunities. Still, being a county seat surrounded by a prosperous agricultural hinterland, Elkhorn exhibits those traditional qualities and values inherent to America's heartland and family-oriented lifestyles. Its motto is, "Living in Harmony".

The City Council is preparing for the challenges of growth and change in the 21st century. In November, 1999, it retained Teska Associates, Inc. to prepare a Community Development and Corridor Design Plan, assisted by an appointed Steering Committee. Corridor design plans were created to address key corridors within Elkhorn, such as County Highway NN/ East Geneva Street, Highway 67/South Lincoln Street; Highway 11/ Walworth Street, and Highway 67/ North Wisconsin Street. Corridor design elements such as gateways, signage, parkway plantings, and buffer plantings were integrated to welcome visitors, orient drivers to major destinations, provide controlled access to abutting land uses and project an attractive image of the community.

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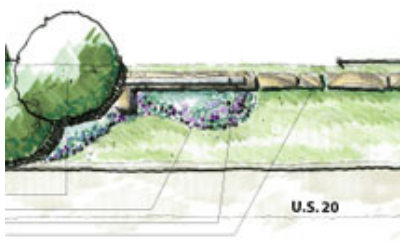
COMMUNITY PLANNING

Comprehensive Plans

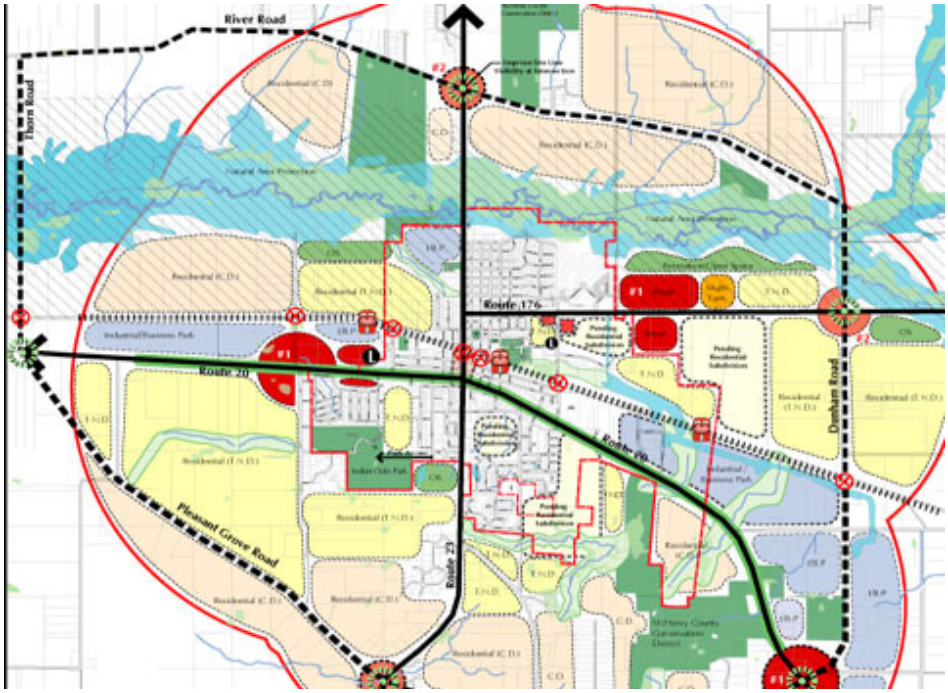


MARENGO COMPREHENSIVE PLAN
Marengo, Illinois

The Comprehensive Plan process embodied the commitment of the City to ensure that it reflects the concerns and vision of its residents. The importance of public input was stressed from the beginning, which included a "visioning workshop" where community leaders worked together in a hands-on consensus building process to identify growth objectives and design standards.

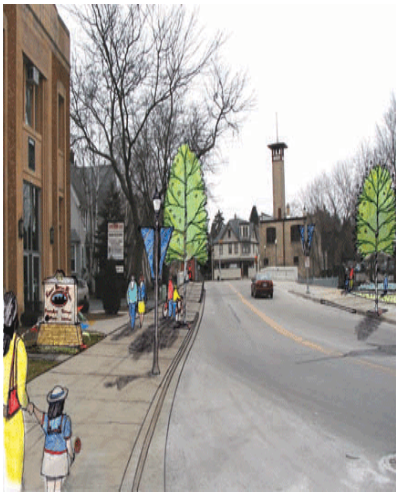
The Comprehensive Plan is built around planning principles expressed in the Framework Plan. The principles of Conservation Design were incorporated to create appropriate transitions to the rural countryside and preserve open space. Traditional Neighborhood Development concepts are included to require that new development mimic the form and character of the Marengo's historic neighborhoods. The Framework Plan protects the Kiswaukee River corridor, one of the highest quality rivers in Illinois, by advocating the establishment of a conservation corridor in conjunction with the McHenry County Conservation District.

Several areas within Marengo required more detailed planning resulting in specific recommendations for its Downtown, Route 20 (Historic Grant Highway) corridor, and a potential future commuter rail station.



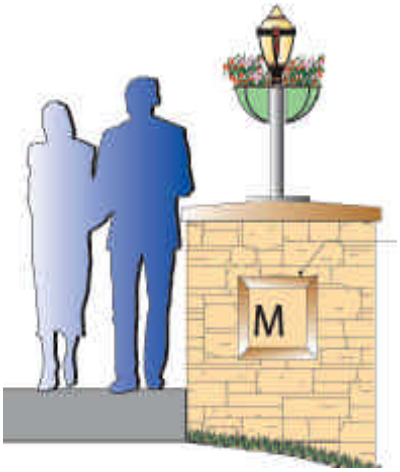
Community Planning
Development Economics
Site Design
Landscape Architecture

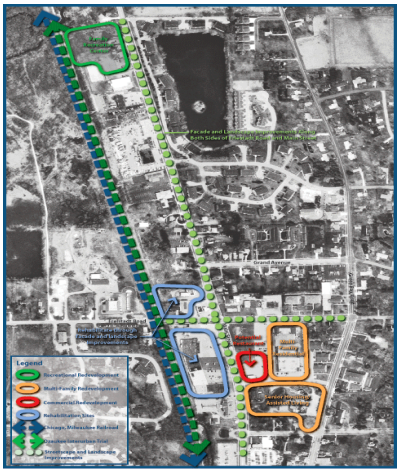
TESKA



COMMUNITY PLANNING

Downtown and Corridor Redevelopment





MEQUON AND THIENSVILLE TOWN CENTER PLAN

Mequon and Thiensville, Wisconsin

The relationship between the City of Mequon and the Village of Thiensville is unusual. While Thiensville is surrounded by Mequon, it has a unique identity and character. While Mequon is a much larger community, its core is really the civic campus and adjacent business district.

Building on their inter-relationship, Mequon and Thiensville teamed to develop a Town Center Plan which unifies the vision of both communities.

The Concept Plan is a visionary picture of redevelopment by outlining public and private sector physical improvements as well as appropriate redevelopment strategies for key parcels within the study area.

TESKA

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Mequon City Hall

Mequon Library

MEQUON FISCAL IMPACT ANALYSIS
Mequon, Wisconsin

To preserve existing community character, the City of Mequon, WI is contemplating a purchase of development rights program for nearly 12,000 undeveloped acres. The City retained TAI to prepare a Marginal Cost Fiscal Impact Analysis to calculate the possible fiscal impact of varying densities of residential and industrial development. These impacts can be compared with the long term cost/benefit of development rights. TAI presented the City with a spreadsheet model of the analysis which City Staff can use to evaluate other scenarios and update assumptions in the future.

Park Space per Person		0.0105		*park standard divided by 1000 persons*
Acres of Park per Residential Lot		0.0305		*number of persons per lot times park space per 1000 persons*
Gross Developable Land (acres)	13,769			
Net Developable Land (acres)	11,926			*Net of environmentally protected areas*
Industrial Land (acres)	450			*Acreage devoted to industrial development*
Residential Land (acres)	11,476			*Remainder of land available for residential development*
Allowance for Roadways	1,721			*15% of subdivisions generally go toward streets (Brad Steinke*
Acres Available for Residential Use		9,755		
	DENSITY ALTERNATIVE:			
Residential Land Use	**A**	**B**	**C**	
Units per Acre	**0.1**	**0.2**	**1.0**	
Minimum Lot Size (acres)	10	5	1	
Allowance for Parks	0.0305	0.0305	0.0305	*Acres of Park per Residential Lot*
Acres Required per Residential Lot	10.0305	5.0305	1.0305	
Potential New Households	972	1,939	9,466	*Acres Available for Residential Use divided by Acres Required*
Projected Population Increase	**2,820**	**5,623**	**27,452**	*Median Household Size multiplied by Potential New Households*
Schoolchildren	574	1,144	5,585	*Pupils per Household multiplied by Potential New Households*
Growth over 1997 Population	13.3%	26.6%	129.7%	
Industrial Land Use				
Available Gross Acreage			450	*Industrial Land (acres)*
Allowance for Roadways			67	*15% of subdivisions generally go toward streets (Brad Steinke*
Available Net Acreage			383	*assuming 85% efficeincy*

Community Planning
Development Economics
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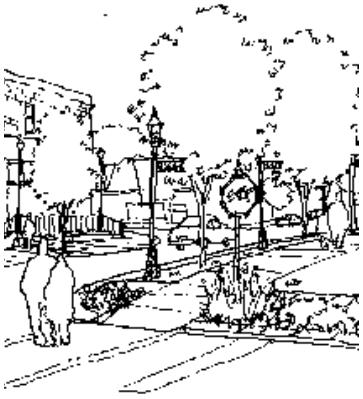
COMMUNITY PLANNING

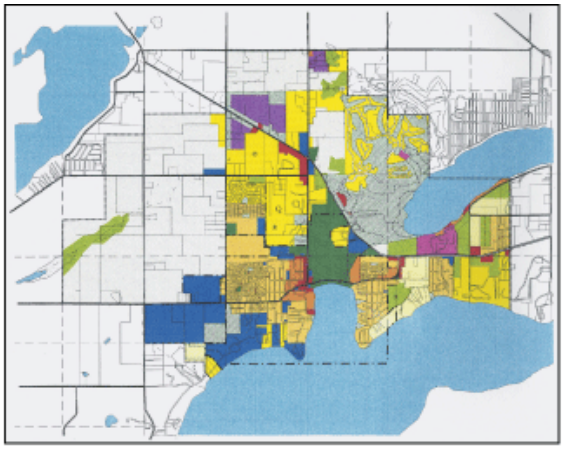
Comprehensive Plans



VILLAGE OF WILLIAMS BAY COMPREHENSIVE PLAN
Williams Bay, Wisconsin

Preparation of the Comprehensive Plan for the Village of Williams Bay was guided by residents' comments from a community survey and the planning efforts of a Growth Management Committee. The exceptional cooperation of residents, local organizations and interest groups, and governmental agencies helped make the planning process successful.

To plan for the future of Williams Bay, the Growth Management Committee formulated a community vision to help guide the future planning and development of the Village. A set of goals and objectives supports this community vision and establishes a solid foundation for more specific recommendations relating to land use, transportation, community facilities and utilities, design guidelines, and the central business district.



Community Planning
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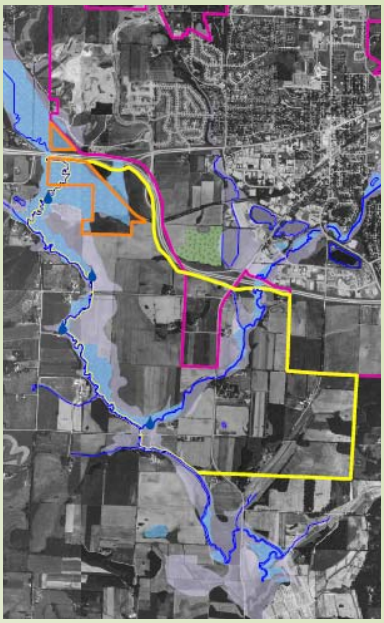
Landscape Architecture

TEŠKA

Ecosystem/Natural Resource Based Planning

Sugar River and Badger Mill Creek Verona, WI

Rivers & Streams



Study Area (in yellow)

Montgomery Associates is performing a hydrologic and ecologic assessment of the impacts of future urban development southwest of the City of Verona. The assessment is part of a proposed urban service area extension; a land use planning process based on section 208 of the Clean Water Act.

The continued development of the watersheds of Badger Mill Creek and the Upper Sugar River could have adverse impact on the ecology and biodiversity of these valued water resources unless careful planning is implemented. This ecosystem-based planning is a unique approach where the natural resources are put at the forefront of the planning process.

Our team is evaluating the character of the aquatic, wetland and upland ecosystems and the tolerance of the biological systems to changing water supply and quality. Based on that evaluation, development recommendations will be proposed to maintain the hydrologic and water quality conditions necessary to sustain the integrity of the ecosystem.

Badger Mill Creek

Client

City of Verona
111 Lincoln Street
Verona, WI 53593-1520
Contact: Bruce Sylvester
Director of Planning & Development
(608) 848 9941

Project Managers

Steve Gaffield, PhD

Key Staff

Rob Montgomery, P.E.
Linda Severson
Sigurdur Sigmarsson

Collaborators

Natural Resources Consulting, Inc.

Project Schedule

Jan 2007 - present

Token Creek Conservancy Estates

Sun Prairie, WI

Portion of development site

Token Creek Conservancy Estates is a 200-acre proposed conservation development in Sun Prairie, WI. Montgomery Associates was originally hired to provide an estimate of the proposed project's impact on groundwater recharge due to the potable water supply withdrawal combined with the change in land use from row crop agriculture to suburban residential. The project objective was to minimize the overall net change in groundwater recharge that would provide baseflow to Token Creek, a Class III trout stream. As approvals from agencies were obtained, the scope expanded to provide more detailed design of road plan and profiles, swale and storm sewer layouts, stormwater wetland basins, and regional infiltration / recharge areas. The project has been submitted to the City for General Development Plan and Preliminary Plat approvals. Final plat submittal and approval occurred in summer 2006. Construction on the first phase of the project is expected to begin in 2007-2008.

Soil investigation

Client

Windsor-Bristol Development
4607 Oak Springs Circle
DeForest, WI 53532
Contact:
Bill Paulson 608.234.1922

Project Managers

Rob Montgomery, P.E.

Key Staff

Jon Lefers, P.E.
Jeff Hruby, P.E.
Ben Nelson

Collaborators

Mayo Corporation (Madison, WI)
Paulson & Associates (DeForest, WI)
Natural Resources Consulting (Cottage Grove, WI)
Applied Ecological Services (Brodhead, WI)

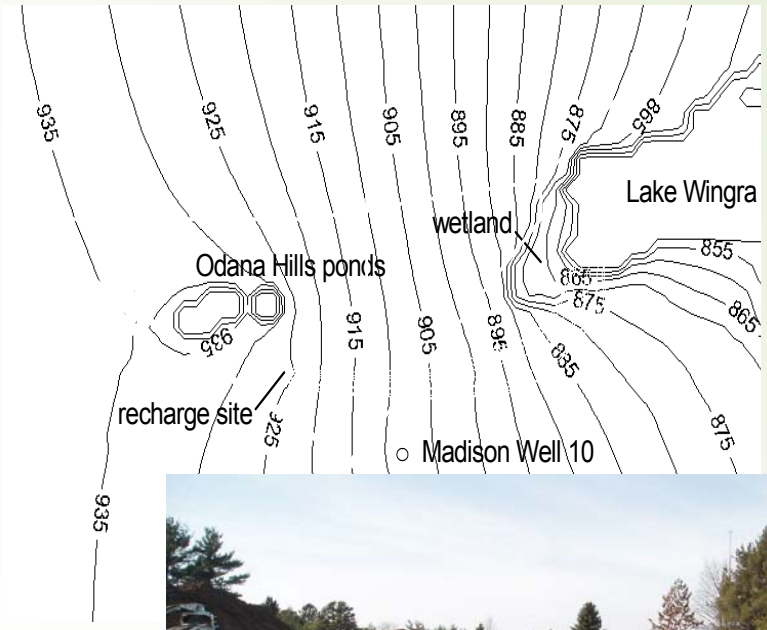
Project Schedule

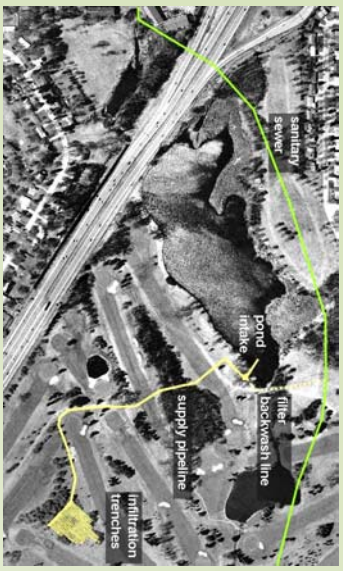
February 2002 – Present

GROUND WATER RECHARGE SYSTEM DESIGN

ODANA HILLS GOLF COURSE, MADISON, WI

Montgomery Associates designed a stormwater filtration system to augment groundwater flowing to Madison- area lakes by up to 80 million gallons per year to offset potential impacts of lake water withdrawal by the new West Campus Cogeneration Facility on the University of Wisconsin – Madison campus. MARS performed a detailed feasibility analysis including evaluation of approximately 20 potential locations for the system. The Odana Hills Golf Course was chosen for its hydrogeologic conditions and the opportunity to alleviate stormwater discharges to local lakes. The system will draw water from an existing pond that receives significant stormwater inflow, filter it and pump it to a subsurface infiltration bed. System design required extensive modeling of watershed runoff, pond hydraulics, infiltration processes and groundwater flow. We coordinated lengthy permit processes with the Wisconsin Department of Natural Resources and City of Madison, prepared construction plans and specifications and, provided construction-time support services





Client

Madison Gas & Electric Company
PO Box 1231
Madison, WI 53701-1231
Contact:
Donald Peterson
Executive Director - Energy Products & Services
(608) 252-7926

Project Managers

Rob Montgomery, P.E.
Steve Gaffield, PhD

Key Staff

Nancy Zolidis, PhD
Jeff Hruby, P.E.
Jon Lefers, P.E

Collaborators

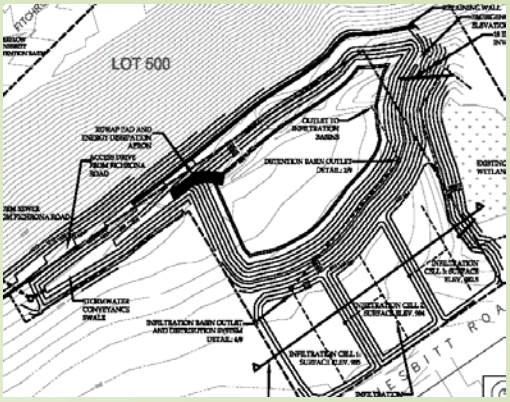
Spatial Data Surveys
Mayo Corporation
Ken Saiki Design, Inc
Natural Resources Consulting, Inc
Tyler & Associates, Inc
Phillip Barak, PhD.

Project Schedule

2004 – 2006

SUPERTARGET STORMWATER MANAGEMENT

FITCHBURG, WI



Proposed Regional Detention/Infiltration

A SuperTarget store and associated commercial development are planned along CTH PD in the City of Fitchburg. The proposed site is an abandoned quarry which does not generate significant stormwater runoff in its current state. Because the proposed site drains to Goose Lake which experiences frequent flooding, the City of Fitchburg added more stringent stormwater infiltration requirements to reduce potential downstream impacts to Jamestown Basin and Goose Lake.

Montgomery Associates designed innovative stormwater management facilities to meet the City's requirements including an infiltration basin to serve rooftops and a regional detention basin/infiltration cells to treat and infiltrate the runoff from the 10-year design storm. The analysis also included groundwater modeling using the Dane County regional groundwater flow model to evaluate the mounding effect of the infiltration facilities on groundwater levels and potential impacts to Goose Lake water surface levels. Construction began fall 2006.

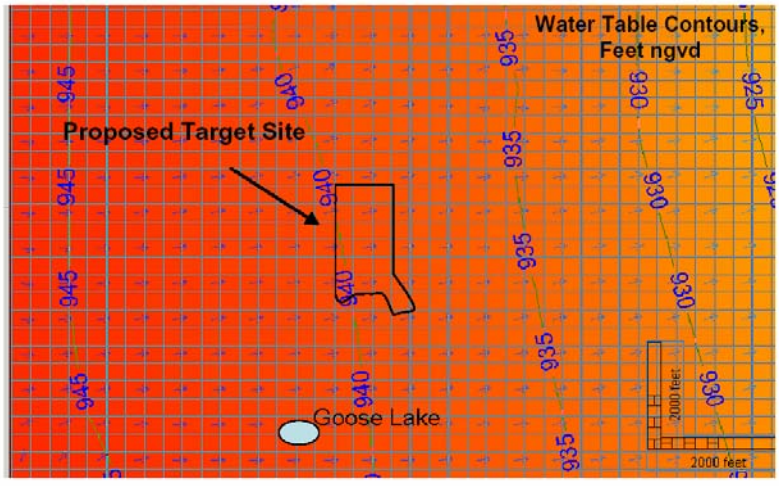


Figure D2. Scenario 1 - Model Results of Existing Water Table Conditions without Infiltration (Swanson, 2001).

Groundwater Analysis

Client

Mayo Corporation
600 Grand Canyon Drive
Madison. WI 53719
Contact: Debbie Hatfield, P.E.
608.833.0628

Project Managers

Ann-Marie Kirsch, P.E.

Key Staff

Nancy Zolidis, PhD
Linda Severson

Collaborators

Natural Resource Consulting, Inc.

Project Schedule

February 2006-August 2006

Natural Resources Management Plan

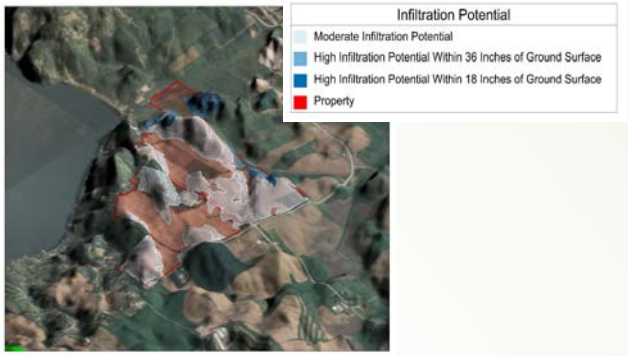
Mirbeau – Hummel Development
Lake Geneva, WI

This Natural Resources Management Plan was prepared as part of the General Development Plan submittal for the proposed 710 acre Mirbeau – Hummel Development in Lake Geneva, Wisconsin. The site has significant natural resource value, and substantial potential for natural resource enhancement. Further, the majority of the site is in the watershed of Geneva Lake, a tremendously valuable resource to the City of Lake Geneva, Walworth County, and the region. Locally, the development site is adjacent to the Big Foot Beach State Park, located on the shore of Geneva Lake.

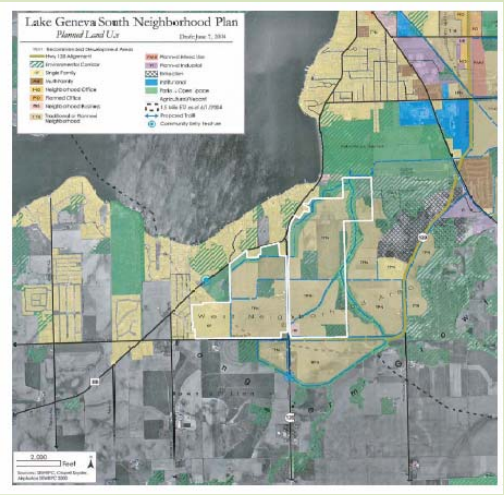
The site specific water management goals that will apply to the project are the result of evaluation of critical factors with respect to on-site and off-site resources, principally the maintenance of the hydrologic regime and the improvement of the water quality of Geneva Lake, wetlands, and the Buttons Bay and Nippersink Creeks. The Natural Resources Management Plan is unique in that it is "a plan for a plan" which includes specific goals for the following:

- Improvement of stormwater management from existing agricultural conditions with the goals of reducing sediment and nutrient loadings;
- Improvement of water quality management from existing agricultural conditions with the goals of reducing TSS, maintaining groundwater recharge and managing potential pollutants;
- Preservation and enhancement of existing natural features such as wetlands, oak savannas and woodlands that form and link wetlands, environmental corridors and isolated natural areas along the property boundaries and near the center of the property.

Preliminary Analysis of Infiltration Potential



Water Resources Management



(Study Area in White)

Client

Mirbeau – Hummel Development Group, LTD
Contact: John Terrell
Mirbeau of Lake Geneva, LLC
1259 West Old Mill Rd.
Lake Forest, IL 60045
(312) 961-1524

Project Managers

Rob Montgomery, P.E.
Nancy Zolidis, PhD

Key Staff

Rob Montgomery, P.E.
Jon Lefers, P.E.

Collaborators

Natural Resources Consulting, Inc.

Project Schedule

July 2007 - present

NRC
Natural Resources Consulting, Inc.
119 South Main Street | PO Box 128 | Cottage Grove, Wisconsin 53527-0128
Ph: 608.839.1998 | Fax: 608.839.1995
www.nrc-inc.net

RECENT PROJECT EXPERIENCE

City of Verona - Badger Mill Creek/Little Sugar River Watershed Assessment

The City of Verona, Wisconsin was considering an extension of its Urban Service Area into the Badger Mill Creek/Little Sugar River Watershed. This area was known to have significant hydrologic and ecological features so the City of Verona contracted the team of NRC and Montgomery Associates Resource Solutions to conduct a natural resource assessment for the watershed to provide recommendations of prime developable areas.

The first portion of this study included creating a geodatabase of existing GIS data including orthophotography, wetlands, hydrology, floodplains, conservation areas, soils, and hydrography.

NRC completed a natural and cultural resource screening through consultation with WDNR – Bureau of Endangered Species and Wisconsin Historic Society. NRC subsequently completed detailed field surveys and habitat assessments of wetlands, waterways, and natural communities including:

- Stream characterization;
- Wetland delineation off-site with field review of wetland boundaries;
- Wetland functional value assessments;
- Inventory of upland natural areas;
- Inventory of wetland natural areas;
- Soils and Geology;
- Determine soil infiltration potential / limiting conditions;
- Field evaluation of soils and geology;
- Identification of ecologically sensitive areas

City of Madison - Sprecher Road Neighborhood Regional Water Quality Plan

The proposed Sprecher Road Neighborhood lies in the Door Creek Watershed in east central Dane County. The proposed Sprecher Road neighborhood encompasses more than 1200 acres. The project team included planners, engineers, and scientists whose goals were to develop a comprehensive land use and water quality plan that incorporated aesthetics, native plant community restoration, open space preservation, and recreational values.

NRC was responsible for wetland delineations, Section 404 Clean Water Act permitting, Chapter 30 Wisconsin State Statutes permitting, consultation with regulatory agencies, and preparation of an Environmental Assessment (Type II environmental document) for stream channel realignment, streambank stabilization, and regional stormwater detention pond construction.

As a focus of this plan, an unnamed tributary to Door Creek, flows through the City of Madison parkland and a County designated Natural Resource Protection Area (the Blooming Grove Drumlin Complex), aesthetic and aquatic habitat goals were significant. NRC worked closely with City of Madison staff to establish a native prairie and wetland planting plan for the stream corridor and to develop design details for the channel improvements that maintained and enhanced in-stream habitat.

NRC
Natural Resources Consulting, Inc.
119 South Main Street | PO Box 128 | Cottage Grove, Wisconsin 53527-0128
Ph: 608.839.1998 | Fax: 608.839.1995
www.nrc-inc.net

City of Fitchburg – NE Neighborhood Plan

NRC completed environmental services in conjunction with the City of Fitchburg's Northeast Neighborhood Plan to support the NE Neighborhood plan completed by Ruekert * Mielke. Specific services included:

Refinement of Wetland/Waterway Boundaries

1. Compiled existing baseline environmental data;
2. Completed wetland delineations and field reviews to very wetland extents, community types, and sensitive areas;
3. Identified other high quality natural resources (e.g. undisturbed woodlands);
4. Develop GIS mapping layer of environmental features and sensitive areas compatible with City/Engineering plans

Woodland and Natural Resource Inventories

NRC is currently in the process of completing natural resources inventories, analysis and summary reports including:

- Tree inventories
- Herbaceous and wood shrub inventories
- Threatened and endangered species analysis
- Wildlife habitat assessments

Technical Review

1. Developed standard native planting specs and native community establishment performance standards for stormwater detention, infiltration devices, wetland buffer areas, and other open space areas;
2. Provided technical review of the City's Neighborhood Plan for potential conflicts with protection of wetlands, waterways, and other significant natural resources such as:
    - Addressing concerns of hydrologic impacts to wetlands;
    - Address concerns of wetland degradation (i.e. introduction and/or distribution of invasive species);
    - Review plans such that wetland filling and/or dredging is not unintentionally proposed ; and
    - Recommended extent of wetland buffers based on wetland quality, type, extent of adjacent slopes, surrounding landuse, etc.

Bellevue CTH GV Neighborhood Plan Development TIA, Bellevue, WI
Service Dates: July 2007 – January 2008
Client: Village of Bellevue
Total TIA Cost: 62,220.00

This TIA was conducted for two neighborhood plans consisting of 138 acres east of CTH GV and 568 acres west of CTH GV. The study area included 18 intersections with an interchange on I-43. The TIA included analysis of the initial build Year of 2013 (138 acres of retail/commercial development) and the horizon year of 2028 total traffic (five years after expected full development conditions of 2023 with 568 acres) with and without improvements, per WisDOT TIA Guidelines. The TIA has been accepted by the Village and the recommended improvements are currently being designed and funding mechanisms are currently being devised for the recommended improvements.

TADI Staff and roles: John Bieberitz, Project Manager; Don Lee, Project Engineer; Tammi Czewski, Engineer (roundabout analysis); Kathleen Fitzpatrick (exhibits);

References:

Al Schultz
Village Planner/Zoning Administrator
Village of Bellevue
2828 Allouez Avenue
Green Bay, WI 54311
Ph: 920-468-5225

David Nielson
TIA Reviews
WisDOT NE Region
944 Vanderperren Way
Green Bay, WI 54324
Ph: 920-492-0148

TRAFFIC ANALYSIS & DESIGN, INC.

Pabst Farms Town Center TIA – 1,500 acres. Oconomowoc, WI
Service Dates: Spring and Summer 2007
Client: Pabst Farms Development
Total TIA Cost: $110,000.00

This TIA has been completed for this 1,500 acre development along I-94 between CTY P and STH 67 in Oconomowoc and the Town of Summit. This TIA includes over 30 intersections, two significant I-94 interchanges and several analysis years due to the long-term buildout of Pabst Farms. The significant component of this TIA is Pabst Farms Town Center, a proposed new high-end regional mall. Pabst Farms land uses on the 1,500 acres are expected to generate just over 100,000 daily trips. This TIA included developing several interchange alternatives, intersection designs, internal roadway designs/modifications, traffic signals, roundabouts and developing a time-line of recommended improvements. This TIA was submitted to WisDOT in July, 2007 and was accepted by WisDOT in fall of 2007.

TADI Staff and roles: John Bieberitz, Project Manager; Michael May, Project Engineer; John Campbell, Engineer (assisted with analysis); Tammi Czewski, Engineer (roundabout analysis); Kathleen Fitzpatrick (exhibits); Jeff Fait (signal design – ongoing).

Dan Warren
Pabst Farms Development
1749 Eastlake Drive
Oconomowoc, WI 53066
Ph: 262-200-2013

Art Baumann
TIA Reviews
WisDOT SE Region
141 NW Barstow Street
Waukesha, WI 53187-0798
Ph: 262-548-5626

TRAFFIC ANALYSIS & DESIGN, INC.