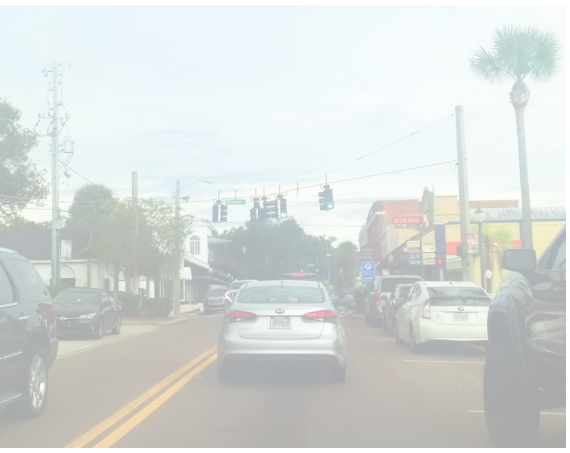
SECTION 3

PROPOSED SOLUTION



SECTION 3

Proposed Solution

The Moffatt & Nichol (M&N) team's successful strategy for delivering quality designs and studies for various task work orders begins with close coordination with the client project manager to clearly identify the goals for a project or study. Based on this information, desktop review of the study area will occur followed by a field visit with design team members and the client project manager, if possible. The field review allows engineers to get a feel for the project site and potentially identify any items of concern that may have been overlooked.

The Moffatt & Nichol team is committed to the success of this contract. We will coordinate closely with the County on each task order and employ a rigorous quality program.

After agreeing on a well-defined scope and schedule, design or investigation can begin. For signal designs, we will use topographic survey data provided by the County to prepare preliminary plans for review. Care will be taken to thoughtfully consider information obtained from our subconsultant team members, including subsurface utility engineering (SUE) and geotechnical information. This information will be critical to refine the design for things such as pole location.

If the task is for a traffic operational study or safety study, a follow-up field visit will be needed to make a qualitative assessment. A preliminary report will be prepared for County review. Following County review, any comments will be incorporated into the design plans or study, as appropriate. A final set of plans or a final study report—signed and sealed—will be submitted to the County for final approval. For engineering designs, CADD files will be provided in a format usable by the County.

For planning studies, the approach may change given the broad range of potential topics that could be included as part of this contract; however, at the core it will be the same process. We will meet with the County's project manager to determine what type of study is needed; come to agreement on scope, schedule, and deliverables; make a field visit if necessary; coordinate with other agencies as needed; prepare a draft report for County review and revise; and deliver a final report.

Traffic Design

Our team has prepared signing and pavement marking, signalization, and roadway lighting plans for projects ranging from minor intersection improvements to multi-lane widening of major arterial/freeway corridors. We are experienced in performing field inventories and analyzing existing conditions to determine what is needed to bring them up to current standards. We have experience in intersection analysis, signing and pavement marking evaluations, and access management analyses. Our team has developed and implemented transportation systems management and operations strategies including diversion routes and detours, transit signal priority systems and timings, Smart Signals, wrong way driving vehicle detection systems, and connected vehicle technologies. We have extensive experience throughout the state designing signal and intelligent transportation systems (ITS). We have significant expertise in the analysis and design of high mast, conventional, navigational, pedestrian-actuated, and aesthetic lighting systems utilizing AGi32 and Visual lighting analysis software. Our lighting design experience includes arterial corridors, isolated intersections, and roadway and pedestrian bridges.

ITS

Signal connectivity to a centralized hub or transportation management center can be vital to effectively moving traffic through the network. Dynamic message signs (DMS) and other intelligent infrastructure can help maximize capacity when roadway widening is not necessarily possible. Our ITS design staff is led by **Ingrid Birenbaum, PE, PTOE,** who has worked for Florida Department of Transportation (FDOT), Florida's Turnpike Enterprise, and as a private consultant. She has been instrumental in the implementation of ITS and traffic operations around the state. The County can rest assured that she will provide her expertise for any ITS element that may be included with this contract. Our team has designed ITS plans, including fiber-optic trunk lines, closed-circuit television cameras, and DMS.

Traffic Safety and Operational Studies

Our team has completed hundreds of traffic safety and operational studies for FDOT Districts 1, 4, 5, and 7. Our traffic studies expertise includes signal warrant analysis, qualitative assessments, intersection analysis, Highway Capacity Manual analysis, microscopic analysis, macroscopic analysis, corridor safety, corridor access management, pedestrian and bicycle safety, school safety, and lighting justification reports. We are also experts in developing, implementing, fine tuning, and evaluating traffic signal timings. Our retiming focus is to provide reasonable and appropriate signal timings that increase mobility by reducing congestion and delays and improving safety. In addition to traffic volume counting, our team has data collection expertise that includes turning movement and pedestrian counts, intersection delay studies, spot speed studies, safe curve speed studies, signalized left turn delay studies, no passing zone studies, and gap studies.

Constructability

It is said that the best-laid plans often go astray. At Moffatt & Nichol, we work hard to keep plans on track. Our team has worked closely with contractors and construction personnel, giving us insight into issues contractors encounter in the field regarding constructability. These issues can be anything from conflicted plan elements to physical limitations of equipment. Our designs will be reviewed thoroughly for constructability to minimize issues in the field during construction and avoid delays.

Utility Coordination

Utility coordination is at times an under-appreciated element of the design process. We understand the purpose of the utility coordination process is to identify and resolve potential conflicts between the proposed improvements and existing and/or proposed utility facilities during design. At the same time, open communication must be maintained between the utility agency owners (UAO) and the County throughout design and construction. To accomplish this, we will request any future improvements to UAO systems within the project limits, track subordination requests, review proposed relocation efforts during construction against temporary traffic control phasing and schedule, and coordinate utility work by highway contractor early in the process. We will perform an independent audit of all utility documentation including utility information sheets, marked plans, utility work schedules, and agreements. Our coordinators will provide a written review document that will be submitted to the utility project manager, construction utility coordinator, and the engineer-of-record with each utility deliverable for their review. We will compile all reviewer comments and provide to the respective UAO in one submittal. The final deliverable will be the utility certification, which ensures coordination with all utilities within the project limits and verifies that utilities are not impacted or that necessary relocation arrangements have been made.

PROPOSED STAFFING

Proposed project manager, Kevin Abel, PE, is a Lake County resident and regular user of the transportation network. He has a personal interest in the success of this contract.

Moffatt & Nichol is an international firm providing engineering excellence in 44 offices around the world, including seven in Florida. Services for this contract will be provided from our Lake Mary office. We offer a diverse list of transportation services. Given the expected nature and scope of the work to be performed, the team will be led by project manager, senior traffic engineer, and Lake County resident **Kevin Abel, PE**. Kevin is a Sorrento native and traverses the County on a regular basis. As a user of the Lake County transportation network of roads, he is familiar with traffic patterns and areas of congestion. He is eager to help the County improve the network either through design or identification and justification of possible improvements. He will be the primary point of contact for the County. Kevin will discuss task work orders with the County's project manager and will assign the proper team resources to address the task. Kevin has 24 years of engineering experience, which includes the design of numerous new traffic signals in Florida and elsewhere and completion of a number of traffic and planning studies. Currently, he supports FDOT District 3 traffic operations with signal plans and traffic study reviews as part of Moffatt & Nichol's general engineering consultant contract with the district. This role helps keep him informed of the latest methods being incorporated to improve safety for all roadway users and the efficacy of the improvements. Kevin takes the goals of Vision Zero seriously and is committed to helping the County push towards the goal of zero fatalities or serious injuries on its roadways.

Kevin will be supported by **Constanza Suarez, PE**. Constanza has 14 years of experience in traffic engineering that has included signal design, signing and pavement marking design, lighting design, and work on various traffic studies. Kevin and Constanza are currently completing designs for two signals in Orange County for FDOT as part of a continuing services contract. Both signals will be connected to the district's smart signal network and will employ automatic traffic signal performance measures. Close coordination with District 5, Orange County, and the City of Orlando has facilitated the design. The Moffatt & Nichol team also features experienced and talented subconsultant partners, including **Faller Davis and**

Associates led by Nick Spatola, PE, PTOE; **EXP** led by Heather Whitmore, AICP, PTP, CFM; **Geotechnical and Environmental Consultants, Inc.** led by Craig Ballock, PE; **Colliers Engineering** led by Daniel Checchia; and **National Data & Surveying Services** led by Kevin Deal.

The Moffatt & Nichol team has the design and study experience needed for this contract to be a complete success! This experience includes signal, signing and pavement marking, and lighting design, as well as completion of safety studies, signal warrants, corridor studies, road diet analyses, roundabout analyses, intersection control evaluations, and other planning studies that may be needed during the contract.

AVAILABILITY

The Moffatt & Nichol team has the availability to serve the County promptly and effectively for this contract. This begins with open communication lines from the Lake County project manager to Kevin Abel. Kevin will provide his personal contact information to make sure the Lake County representative can promptly reach him when needed. Kevin will then assign resources with the availability and adequate skills to best serve the County. The team is built with not only an exceptional staff from Moffatt & Nichol, but outstanding subconsultant partners also who can be relied on and trusted to help carry out the work in a timely manner as needed.

QUALITY ASSURANCE/QUALITY CONTROL

Moffatt & Nichol fully understands the importance of quality in every activity. We support development of quality control procedures for each project task and enforce those procedures internally and among our subconsultants. Quality will be monitored on a regular basis by quality assurance/quality control manager, Rebecca Davis, PE, and project principal-in-charge, Darrell Nance, PE. Understanding your project objectives is paramount to developing practical, constructable, and cost-effective solutions. Our quality goal is to deliver services and work products in a manner that exceeds Lake County expectations including conformance with contract requirements, prevailing industry standards, applicable laws, and licensing requirements.

Our standard five-step procedure includes a method of checking design plans and calculations that will provide clear documentation of inconsistencies or errors identified prior to submittal to Lake County. It also outlines a method of back-checking final corrections. The process involves recording comments, questions, and recommended changes (additions, deletions, and corrections) for the design team. We will draw upon our team's knowledge to provide constructability reviews of the traffic, roadway, and structures elements for value engineering early in the design process to allow time to identify issues and incorporate solutions.

Our team includes carefully chosen subconsultants to meet project demands. Subconsultants will follow Moffatt & Nichol's quality control procedures. Our team's approach is a testament to the emphasis on quality we give to each project, and we will successfully accomplish that goal for you for each task assigned under this contract.

Our commitment to quality is underscored by our certification to an international quality standard ISO 9001. ISO 9001 sets out the criteria for a quality management system. This standard is based on a number of quality management principles including a strong customer focus, the motivation and implication of top management, the process approach and continual improvement. Moffatt & Nichol has completed the quality management systems and regularly is audited for compliance with ISO 9001.