

ENVIRONMENTAL STREAMLINING OF THE NEPA PROCESS

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Abstract: In this paper, we offer an option for streamlining the National Environmental Policy Act (NEPA) of 1969 process for roadway projects. Section 1309 of the Transportation Equity Act for the 21st Century addresses concerns relating to delays in implementing roadway projects and directs federal agencies to streamline the environmental review process. Our objective for each of these projects was to produce a NEPA environmental document and an engineering design in a timely and cost effective manner.

The Georgia Department of Transportation and the City of Roswell, Fulton County, have contracted five of Kisinger Campo & Associates' projects to include both the environmental document and the preliminary engineering/final design under one contract per project. These projects in Georgia include: two state routes (S.R. 53, Hall County and S.R. 140/Holcomb Bridge Road, Fulton County), two city streets (Whittlesey Road, Muscogee County and Old Alabama Road, Fulton County), and one Interstate highway interchange upgrade (I-75/Pate Road, Monroe County). Each of these projects is funded with state and federal monies.

The streamlined process of performing environmental studies and preliminary engineering at the same time at one transportation engineering firm has been beneficial for the clients in terms of time and cost savings through constant communication and coordination. For each of these projects, the right-of-way plans phase was not started until the Federal Highway Administration approved each NEPA document. With engineers, NEPA specialists, and environmental studies analysts under one roof, ongoing communication for these projects resulted in the early detection, avoidance, and minimization of impacts to historic properties, wetlands, longitudinal encroachments of streams, cemeteries, public parks, floodplains, and Section 4(f) properties. In these projects, after environmental specialists located a potential natural or cultural resource in the field, the engineers were immediately notified of them for further coordination and communication. This immediate field understanding of a project's resources saved the engineers time because the plans were changed to accommodate the resources early in the project development. The time savings translated into cost savings, resulting in minimal delays, current plans reflecting the resources, a positive morale for the project team, and appreciation for the NEPA process. In addition, resource agencies and the transportation agencies were notified early about resources along project corridors and attended meetings to discuss alternatives, which facilitated their involvement.

The streamlining process begins with trust and commitment from the transportation agency. Concurrent environmental and preliminary engineering project development also requires good communication among the environmental analysts, NEPA specialists, and design team. The streamlining of the NEPA process results in a successful transportation project that can efficiently utilize resources to meet the public's needs in a timely manner.

Background

In this paper, we relate our experiences in streamlining the National Environmental Policy Act (NEPA) of 1969 process for roadway projects. Based on the mandate under TEA-21, federal transportation agencies and consultants have worked to develop methods that expedite the NEPA environmental process. Section 1309 of the Transportation Equity Act for the 21st Century (TEA-21) addresses concerns relating to delays in implementing roadway projects and directs federal agencies to streamline the environmental review process. Section 1309 of TEA-21 states that "the Secretary shall develop and implement a coordinated environmental review process for highway construction and mass transit projects" which requires the preparation of an Environmental Impact Statement or Environmental Assessment. Section 1309 also states that all environmental reviews made by Federal agencies shall be "conducted concurrently" and in "a cooperatively determined time period." The intent of Section 1309 of TEA-21 is to accomplish environmental streamlining.

Streamlining can occur throughout the pre-construction process – either internally with the government agencies, externally on the consultant design end, or a combination of both. The Georgia Department of Transportation (GDOT) and City of Roswell, Fulton County (Georgia) are two entities that understand this mandate. These entities have worked with Kisinger Campo & Associates Corp. (KCA) to streamline both the environmental and preliminary engineering design processes, which has resulted in a solution that produces financial and time-saving benefits. This method of streamlining consists of contracting one firm to perform the engineering design and the NEPA process for the same project. KCA was one of the first firms to receive this

type of contract from GDOT. The streamlining process begins with trust and commitment between the transportation agency and the engineering consultant. Due to KCA's staff of professional engineers and environmental personnel, and trusted leadership, this firm has proven both the internal capability to do the work and developed solid relationships with these entities to be responsible for designing a transportation project and producing an approved NEPA document concurrently.

Benefits and Criteria for Success

The process of concurrent preliminary design and environmental investigations by a consultant consists of numerous benefits and essential criteria for the accomplishment of a successful project. Among the many benefits of this streamlined approach are the early identification of avoidance alternatives, centralized external and internal communications, time and cost savings, positive morale, and improved public involvement.

Early Notification and Time Savings

The streamlined process provides an opportunity to develop avoidance alternatives early in the process. With engineers, NEPA specialists, and environmental studies specialists under one roof, ongoing communication for these projects has resulted in the early detection, avoidance, and minimization of impacts to historic properties, wetlands, longitudinal encroachments of streams, cemeteries, public parks, floodplains, and Section 4(f) properties. In these projects, after environmental specialists located a potential natural or cultural resource in the field, the engineers were immediately notified of them for further coordination and communication. This immediate field understanding of a project's resources saved the engineers time because the avoidance alternatives were developed early in the preliminary engineering phase and not later when changing final right-of-way plans and final construction plans is more time consuming and costly to change. The concurrent preliminary engineering and environmental streamlined process enables both specialties to obtain information and address potential issues in a timely manner.

In addition, local governments, and resource and transportation agencies are notified early about resources and preliminary design options along the project corridors and hold meetings to discuss alternatives. Once the agencies are aware of issues early in the project and thus can resolve the issues early, delays in both the final engineering and the environmental processes are avoided. The time savings translates into cost savings, which results in minimal delays, and final construction plans reflecting the resources.

Centralized External/Internal Communications

Centralized communications involves utilizing one project manager at the consulting firm to guide the engineering and environmental process, which facilitates communication with the transportation agency and other resource agencies, if necessary. The transportation agency does not have to interact with various consultants and different project managers for engineering and environmental deliverables. The centralized communication enables the transportation agency project manager to dedicate time to other projects without having to juggle as a moderator between more than one environmental and engineering consultant.

Centralized internal communication within the consulting firm includes: expediting questions/answers, decisions, and graphics; complete access to current roadway alignments and up-to-date preliminary design plans; and the coordinated development of avoidance/minimization measures between the engineers and the environmental professionals. The centralized communication at the consultant firm results in improved speed, accuracy, efficiency, and reduced stress. Due to the improved communications where engineers and environmental professional coworkers are just across the hall from one another, quick questions can be answered or discussed at length. When coworkers are involved with the same project, discussions about pitfalls that are encountered early in the process result in problem solving before substantial portions of either the preliminary design or environmental work has been completed. The environmental professionals have immediate access to preliminary plans on the server, and often do not even need to consult the engineers about every change in roadway alignment. This prevents work stoppages due to waiting for responses.

Positive Morale

Because the engineers and environmental professionals work together to solve issues, the project is not disjointed, but rather continues in an efficient manner. The engineers in the office have an enhanced appreciation for the NEPA process and the coordinated effort required to minimize impacts to natural and cultural resources, while the environmental professionals learn about constraints in road design. With

improved engineering knowledge, environmental professionals can answer questions for the engineers in the field to assist in design efforts and to streamline the number of field trips for the project. The information exchange between the environmental and engineering professionals enables the individuals to relate well to each other, to understand the work, and to develop good relationships, which contributes to the team building and positive morale that is apparent to the transportation agency. The positive morale for the project team stems from knowing they have met deadlines together. The team atmosphere engenders confidence in the client.

Improved Public Involvement

When the same firm is responsible for the engineering and environmental processes, the engineers and the environmental professionals are keenly aware of the transportation project and many of these individuals are capable of interacting with ease at the public meetings. This can be useful as support for the transportation agency, especially when there are numerous people that request information about a project at a public meeting.

Criteria for Success

Despite the various benefits that can result from a project with concurrent engineering and environmental processes, for the consultant to complete a successful project a few criteria are necessary. The first element of success is the engineering consultant's commitment to objectivity. In the past, this has been a criticism of contracting the environmental and engineering work to the same firm. Given that the engineers and environmental professionals are both committed to their respective fields and are guided by separate standards, there is no conflict of interest in this type of streamlined project. In our experience, the environmental specialists are concerned with preserving as much of the natural and cultural environment and the engineers know they must design a road. The balance between the environmental specialists' desire for minimal impact and the engineers' desire to move forward with the projects provides for internal objectivity. In KCA's experience, when the environmental professionals bring natural and cultural resources to the attention of the engineers, the engineers work toward accommodating the avoidance of these resources, within the limits of AASHTO design standards, i.e. tightness of curves, extent of cut and fill limits, lane widths and lengths, etc. Concerning these projects in Georgia, design exceptions are possible, but in our experience, these exceptions have not been necessary. By virtue of the specialists' commitment to their respective professions and the fact that for each of these projects the right-of-way plans phase was not started until each NEPA document was approved by FHWA, conflict of interest has not occurred and would not be expected to occur.

The second criterion for the success of an engineering and environmental project is good communication among the environmental analysts, NEPA specialists, and the engineering design team. Although communication has been identified as a benefit that results in time and cost savings, it is also a potential problem in these streamlined projects. As the project proceeds, communication must be explicit about the schedule of completing certain portions of the environmental and engineering work so that coordinating efforts can occur. In KCA's experience, the leadership of a dedicated, open and available project manager, regular internal meetings, open door policies, and the environmental professional's ability to use Microstation have been essential elements of communication that have contributed to the success of these streamlined projects. When a transportation agency has prior experience with the consulting firm, the decision makers would know before signing a contract that the consulting team possesses solid internal communication and can be trusted with the project.

Case Studies

The GDOT and the City of Roswell, Fulton County, have contracted five of KCA's projects to include both the environmental document and the preliminary engineering/final design under one contract per project. These projects in Georgia include: two state routes (S.R. 53, Hall County and S.R. 140/Holcomb Bridge Road, Fulton County), two city streets (Whittlesey Road, Muscogee County and Old Alabama Road, Fulton County), and one Interstate highway interchange upgrade (I-75/Pate Road, Monroe County). The FHWA and GDOT are funding each of these projects. The objective for each project was to produce an approved NEPA environmental document and a final engineering design in a timely and cost-effective manner.

S.R. 53 NEPA Document and Design of Widening/Reconstruction, Hall County, GA

This project consists of the widening of existing S.R. 53 from 2 lanes to 4- and 6-lane sections with a 20-foot raised and depressed median with curb and gutter and sidewalks on each side of the roadway for a distance of 4.2 miles. Presently, the engineering design is in the final construction plans phase. The Environmental Assessment and Finding of No Significant Impact were signed by FHWA shortly before the preliminary engineering phase was completed.

The streamlined process resulted in the early detection and avoidance of four eligible historic register resources, two cemeteries, and a longitudinal encroachment of a headwater stream. The public involvement on this project was extensive due to 59 displacements. The environmental specialists attended the public information meeting and the public hearing not only to answer NEPA questions but also to assist in the explanation of the preliminary engineering design, especially as questions pertained to avoidance of resources. Due to the number of displacements, the public was highly interested in understanding why the alignment would shift to the east and west, avoiding certain homes and impacting others. All engineering and environmental personnel involved with this project were assets at the public involvement meetings because 286 people attended these meetings.

The streamlined process saved money and time because many changes occurred in alignments throughout the preliminary engineering phase of project development. As changes would occur to the preliminary design, the environmental specialists were notified immediately and made applicable changes to the NEPA documentation. The environmental studies specialists resurveyed the project corridor in a timely manner as needed based on the changes. Both GDOT and KCA benefited by the concurrent preliminary design and environmental process.

I-75/Pate Road Interchange, Monroe County, GA

This project would provide for upgrading the existing half-diamond interchange at Pate Road and I-75 to a full diamond as well as improving Pate Road between U.S. 41/S.R. 19 and Old Pope's Ferry Road including associated frontage roads. The concurrent preliminary engineering and design was a critical element of this project. This project was stopped early in the process due to public opinion. However, the ability of KCA to produce preliminary engineering plans and know the exact impacts of the natural and cultural resources contributed to GDOT's ability to assess all the details of the project and determine how to proceed with the public. For example, a number of streams and wetlands and a historic resource were identified early and field checked against preliminary engineering plans to determine the potential impacts. The engineers changed the preliminary design to avoid longitudinal encroachments and minimize wetland impacts. The streamlined process saved GDOT money and time by finding resources early and taking the preliminary engineering plans to the public early. This resulted in early coordination with local elected officials and the public to stop the project before extensive time and money went into the final design and environmental documentation.

Whittlesey Road, Columbus, GA

This project consists of the NEPA document (Environmental Assessment) and engineering design for the widening and reconstruction of Whittlesey Road from Whitesville Road to Veterans Parkway for a distance of 1.3 miles. The proposed concept for the project features a 4-lane raised median typical section with curb and gutter and sidewalks. Environmental analysis and preliminary engineering resulted in the avoidance of two eligible historic register resources. As these resources were detected, the proposed alternative alignments in the conceptual layout phase were evaluated early for cultural resource impacts and Section 4(f) issues. The early detection of the historic resources has resulted in ongoing dialog with the local government and mitigation has been proposed early in the project. In addition, the engineers determined that eliminating a proposed turn lane, due to low traffic counts, could reduce the impact of a perpendicular crossing of Roaring Branch Creek and its floodplain.

Sidewalks on Holcomb Bridge Road and Old Alabama Road City of Roswell, GA

These two congestion mitigation air quality projects consist of the design of sidewalk improvements on Holcomb Bridge Road from Big Creek to Old Alabama Road and on Old Alabama Road from Market Place Boulevard to the Chattahoochee River. New pedestrian bridges will be placed along each side of Holcomb Bridge Road over Big Creek. The project consists of concept plans, preliminary and final construction plans, completion of the NEPA documents (Categorical Exclusions), and public involvement. The streamlined

engineering and environmental process has resulted in the early coordination with resource agencies regarding the possible options for the pedestrian bridges over Big Creek. KCA expects the permitting to proceed in a timely manner due to this early coordination. Also, the streamlined process resulted in the avoidance of a publicly owned public park, a Section 4(f) resource. The Categorical Exclusions for each project have been approved by FHWA and final construction plans are in the process of being completed.

Conclusion

One appeal of the streamlined engineering and environmental process is the efficiency of using resources, such as people and money. The process of performing the environmental and engineering work concurrently can be likened to value engineering or the design build process, where multiple disciplines working on the same project results in the cost savings of catching issues early. In KCA's experience, the concurrent engineering design and environmental process has enabled the firm to understand the full scope of each project, which can assist in providing the transportation agency with valuable information required for making decisions. The streamlining of the NEPA and engineering design processes results in a successful transportation project that can efficiently utilize resources to meet the public's needs in a timely manner.

Biographical Sketches: Lori G. Kennedy has over 17 years of experience in planning, environmental, design, construction inspection and funding oversight for Federal-aid transportation projects. While at FHWA, she coordinated regularly with federal, state, and local review, and resource agencies in the review/approval of design and environmental projects. While in the GA Division office of FHWA she oversaw and approved the majority of Interchange and Interstate reconstruction work in the Atlanta metropolitan area including design approval and construction oversight well into the hundreds of millions of dollars. Lori's past experience and involvement with individual projects, from the environmental documentation stage, through the preliminary and final engineering design phases, as well as construction, demonstrates her comprehensive knowledge of the requirements for completing a project. Lori has been the chair of the TRB Subcommittee on Environmental Justice for the past six years. For the past six years she has been the project manager for AASHTO's annual contract to write the Community Impacts/Environmental Justice/Public Involvement ETAP (Environmental Technical Assistance Program) Alerts and to serve as a technical point of contact for AASHTO on environmental justice. Lori is contracted to continue with this AASHTO project as project manager through 2004. Lori published a paper, *Environmental Justice and Where It Should Be Addressed in the 21st Century Concerning the Transportation Industry Historical Perspective and Summary*, through TRB and has presented it at TRB and AASHTO conferences. She has moderated at least one conference session on environmental justice annually for the past six years at TRB's Annual meetings. Lori has also given numerous presentations across the country on environmental justice in the transportation community.

Laura Dawood has over eight years of experience in the environmental field. Laura received her MS in Conservation Biology and Sustainable Development in 2001 from the University of Georgia and has a BS from McGill University. Laura is experienced in ecological fieldwork and environmental documentation. Laura has done NEPA documentation for the following GDOT projects: GRIP EDS-441(47)(48)(49)(46)(41) and BRF-023-1(12) [two Environmental Assessments]; Whittlesey Road, STP-8060(2), Muscogee County Environmental Assessment; EDS-441(40), Putnam County Environmental Assessment; I-75/Pate Road NH-75-2(210), Monroe County Environmental Assessment; CM-00S(4) and CM-00BK(4), Old Alabama Road and Holcomb Bridge Road, City of Roswell, Fulton County Categorical Exclusions; STP-00MS(7), NHSTP-75(203), Gordon County, Gordon County Environmental Assessment; BRZLB-285(21), Troup County Categorical Exclusion; and BRZLB-2889(1), Elbert County Categorical Exclusion. Laura has also worked with the NPDES requirements for storm water, having developed comprehensive monitoring programs for GDOT projects. Laura has been involved with numerous ecology assessments, which have included wetlands delineation, Eastern Indigo Snake Surveys, stream assessments, threatened/endangered species habitat assessments, land use/cover, determining stream/wetland mitigation credits, migratory bird habitat, GPS/GIS mapping, and invasive species assessments. Laura is involved with permitting under Section 404 of the Clean Water Act.