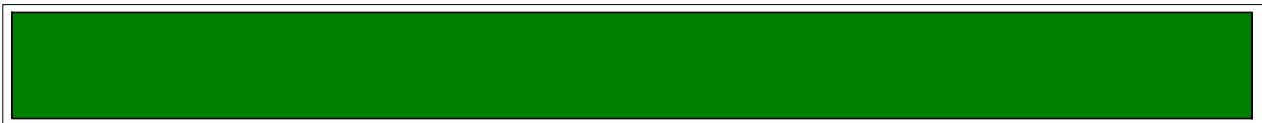


***DESIGN
QUALITY
PLAN***



December, 2008

/s/ Brian O. Rowback

**Brian O. Rowback
Regional Director**

DESIGN QUALITY PLAN

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Region One

DESIGN QUALITY PLAN

QUALITY, QUALITY CONTROL, AND QUALITY ASSURANCE

“A Quality Design is one that is cost effective, constructible, meets the needs of our internal and external customers, solves the identified problem(s) and is sensitive to the public and the environment.”

For purposes of this plan, Quality is defined as the degree of excellence a product possesses; Quality Control (QC) activities are actions taken to obtain a quality product, while Quality Assurance (QA) activities are procedures used to ensure a quality product. In practice, the division between Quality Control and Quality Assurance may not be sharply defined. The distinction is that QC is about what happens during individual steps in a process while QA is about the relationship benefit to quality that comes from relationships between steps of a process.

PLAN APPLICABILITY

This plan applies to all capital projects produced by or for Region One, and to the design units, selected Regional and Main Office groups, design supervisors, Project Managers, designers, unit heads, supervisors and job managers who play an integral part in their production. It further applies to designs and jobs completed on behalf of Region One by regional groups other than Design, outside design consultants, the Department's Main Office, and other regions.

This plan does not list or specify every quality activity performed in each group or unit. There are numerous, tailored internal product quality control and quality assurance activities that regional groups, design and support units, and consultants execute. While critical to quality, they may not be specifically identified or enumerated in this plan.

This plan also does not apply to bridge safety assurance activities performed in support of and as required by 17 NYCRR Part 165, the New York State Uniform Code of Bridge Inspection, although the bridge safety assurance section does assist and support the structures design effort, and is therefore included in this plan.

QUALITY RESPONSIBILITIES

"Quality of our projects and our capital program is essential. We face many challenges given today's economic climate, an increased emphasis on environmental sustainability, greater exposure to public scrutiny and technological advances in construction practices. This plan builds on our past successes such as internal technical reviews, design program meetings, mid-design reviews, PS&E Checklist and public involvement. In order for us to assure quality, we are improving our communication to both internal and external customers, working closely with our environmental and construction partners and evolving our public and agency involvement."

- George Hodges
Design Services Manager
Region One

Preliminary Considerations

Quality is everyone's responsibility. When we act as a team and we communicate, we succeed.

It is essential that all design supervisors, project managers (in-house or consultant design), designers, and job managers understand their roles in achieving quality. **Project Managers have overall responsibility for all aspects of a project from "cradle to grave"**. They are key to project production, project success, and project quality. They ensure that all the assets needed to accomplish the work are identified, that a schedule is set and maintained, that the efforts of all the various providers are appropriately integrated, and that the design product is correct, properly assembled, and delivered on time and on budget. **Job managers normally produce selected functional material for a project. A Job manager is a support unit leader, or a landscape architecture/environmental services (LAES) manager.** In essence, a project is an integrated collection of "jobs." In most instances, Job Managers produce an internal product needed to begin or complete the design, such as survey base mapping needed to begin detail design work. The leaders of the land surveying and mapping unit, design traffic engineering unit, utilities unit, geotechnical engineering unit, hydraulics unit, design services and quality assurance unit and the landscape architecture and environmental services unit are all job managers. Groups external to the Design Group, such as the Regional Real Estate Group, the Regional Construction Group, the Regional Materials Unit, the Regional Traffic Engineering and Safety Group, the Regional Transportation Maintenance Group, and the Regional Program and Project Management Group also have staff that are Job Managers.

Project Managers, Job Managers and support unit leaders are jointly and equally responsible for project tasks and the project schedule. Job managers and support units must provide their products on-time, on-schedule and on-budget.

It is absolutely imperative that job managers and support unit leaders immediately alert the Project Manager in writing, or preferably by e-mail, of any potential cost, scope, schedule or

quality issues that may affect the project. It is just as imperative that the Project Manager notify job managers and support unit leaders of quality changes.

Project Managers, Designers, and Job Managers focus primarily on quality control. Consequently, they perform repetitive technical reviews of the work they produce, checking and refining it. Their continuing and ultimate responsibility is that the work produced is done correctly and thoroughly. This cannot be overemphasized. They are, in essence, the primary and most effective agents for ensuring high quality work. They are literally pivotal to every succeeding activity. It is thus their responsibility to follow the established design processes. This is, in essence, a quality assurance activity. **However, the quality assurance process used by each to affect quality control may be different.** They initiate all mandated reviews with sufficient lead time for the reviewers to perform a proper review, and must resolve all comments and inform reviewers of the resolution. Comment resolution may be formal or informal. Unresolved comments will be elevated through the supervision chain for resolution. Comment resolution is discussed in a regional design instruction (RDI) named "Review of Design Deliverables".

Each regional group and support unit outside of Design establishes their own review process for internal product quality control provided to the Design Group. Each determines whether to involve Main Office divisions or bureaus in reviews, unless that involvement is explicitly mandated. Support groups and support units within Design have specific checklists, developed by the DSQA unit, to aid them in standardizing the review process and producing comprehensive, efficient reviews. In addition, specific items that require checking are the responsibility of the Project Manager.

Design Supervisors and Project Managers have a dual role. They may perform technical reviews as well as overseeing the design within the context of the regional design quality assurance process. They monitor the project schedule, act as a resource for and oversee the work of their squads and units, or their consultant, and monitor reviews performed by squads and regional groups. They resolve or elevate conflicts and eliminate choke points that cannot be resolved at squad level.

It is also essential to this plan to discuss training. Training is an integral part of the Region One Design Quality System. Quality projects begin with quality personnel. All the quality reviews, processes, and systems in the world cannot compensate for inadequately trained, unmotivated employees. Design production systems in use today are complex technical tools. In addition, they are continually evolving. Professional development and competence are shared organizational, design team, and individual responsibilities. Timely identification of training needs and continuous improvement of individual and unit capabilities are fundamental to quality. Employee training needs and competencies are tracked as part of the Office of Design's Workforce Development Program and in conjunction with the Regional Training Coordinator. In addition a separate rotational training program is specifically targeted in Region 1 for the Junior Engineer/Civil Engineer 1 series. Training for design quality is accomplished by providing educational opportunities both for technical skills and for fostering a quality attitude. Design Supervisors, Project Managers, Job Managers, Designers, and technical support staff must have timely and continuous access to the latest and best information and training on all facets of technical design aspects, public involvement, professional stamping and particularly computer based (CADD) systems and protocols.

QUALITY RESPONSIBILITES				
REGION ONE DESIGN QUALITY PLAN	REGIONAL DIRECTOR (RD)	REGIONAL DESIGN ENGINEER (RDE)	DESIGN SUPERVISORS (DS)	DESIGN PROJECT MANAGERS (PM)
General Responsibilities	Ultimately responsible for all Regional quality activities and the quality of all Regional products. The Regional Director assures that quality is an integral part of regional design by articulating the Region's design quality policy. Responsible for public involvement (PI), environmental processing, design approval in accordance with the SAFETEA-LU matrix and plans, specifications, and estimates (PS&E) approval, order-on-contract (OOC) approval, field change approvals, value engineering approvals and adherence to the Department's application of professional stamping.	The Regional Design Engineer implements the Regional Director's policy for Design Quality. The RDE has direct responsibility and accountability for all regional design products. Oversees technical reviews and procedural quality assurance processes. Concurs with scope, budget, schedule, environmental processing and public involvement plan jointly with the RPPM. The RDE participates in design program meetings and approves all changes in scope, cost and schedule with the RPPM. Conducts a general review of select project scoping reports, design reports, plans and PS&Es. Processes design approval in accordance with the SAFETEA-LU matrix. The RDE professionally stamps design reports produced within Region One Design. The RDE oversees implementation of design performance management and professional stamping.	QA/QC responsibilities. Oversees the design process and technical reviews. Participates in project meetings. Monitors the project schedule. Oversees the work of squad/staff and prioritizes workload. Monitors reviews. Resolves or elevates conflicts. Oversees the design and design quality assurance and quality control processes. Ensures internal squad checking of all products. Reviews all squad design products. Assures that the PM prepares and executes a project public involvement plan. Chairs design program meetings. Implements requirements for design performance management and professional stamping. Implements Design Work Force Development directly for supervisory staff and monitors progress of PMs with subordinate staff.	Design leader for project management, leader for public involvement and primary focus on quality control. Produces designs which are correct, thorough and conform to all DOT highway and bridge design policies, standards, processes, the HDM, BM, PDM and DCM. PM ensures that the project reflects sound engineering principles, is constructible, and is a cost effective solution to the existing deficiencies. Identifies the need for external design assistance, as necessary. Where applies, evaluates consultant's performance, oversees design work and works with consultant to resolve all comments. PM coordinates with LAES to assess, process and ensure that SEQR/NEPA determination and any necessary permits are identified. Conducts reviews of meeting minutes, reports and plans. Spot checks computations. Spot checks CADD based design software results. Develops realistic project schedule and assures that project schedule deadlines are met. Professionally stamps DAD, final design plans and construction field change sheets. Team leader of the Project Scoping/Design Public Involvement Team. Develops, executes and updates public involvement plan. Advises DS of potential issues. Partners with construction and traffic to assure constructability of the design. Provides hand off information to EIC at the conclusion of design and assists with field activities during construction. Implements Design Work Force Development for staff. Implements professional stamping policies and practices.
Pre-IPP – Pre-Scoping		Participates in Project Pre-IPP/Pre-Scoping Public Involvement Team for initial outreach effort to local government, to solicit primary stakeholder input on plans/desires for the project area, to discuss initial budget/funding partnerships and to identify other key stakeholders.	Participates in Project Scoping/Design Public Involvement Team meetings for initial outreach to local government, to solicit stakeholders for plans/desires, to discuss initial budget/funding partnerships. Collaborates with Planning on project description, objectives, special issues, schedule and estimate. Involves LAES job manager for early identification of anticipated permits and approvals from agencies.	Requests information from ROFUs necessary to develop scope. Provides preliminary design information to the DS.
Scoping		Attends scoping meeting. Reviews the draft scoping document. Concurs with the scoping document, scope approval estimate (project budget), schedule, staffing plan, planned public involvement plan and environmental processing information.	Attends scoping meeting. Reviews and comments on scoping documents and concurs with project scope, and accuracy of estimate, schedule, staffing plan and planned public involvement. Ensure performance management data is provided by staff to DSQA unit.	Hosts the scoping meeting and presents a PowerPoint presentation. Assures input from all appropriate ROFUs is obtained. Essential for the PM to always manage and guide project scope development. Develops project scoping report, reasonable estimate/budget, staffing plan, schedule, digital data needs and initial public involvement plan. Assures all appropriate alternatives, potential right-of-way, utility involvement, construction, traffic and environmental issues have been initially considered. Assures that scoping meeting input is documented. Responds to all ROFU comments on scoping report. Signs scope approval document and provides Design Deliverables checklist to RDE. Provides performance management data to DSQA.
Preliminary Design (Phases I to IV)		Conducts a general review of select project reports and preliminary plans. Participates in design program meetings. The RDE processes design approval documents in accordance with the SAFETEA-LU matrix. The RDE professionally stamps the FDR for in-house projects. The RDE may attend public meetings and participate in public outreach activities.	Chairs design program meetings. Provides guidance for execution/update of the public involvement plan. Attends public meetings and participates in public outreach activities. Reviews the design approval document and the design criteria. Reviews alternatives, report organization, environmental classification, and the preliminary estimate. Concurs with preferred alternative and design approval estimate. Assures that PDM requirements are followed. Assures that all ROFUs, MOFUs and MOPLs comments are resolved. Endorses design approval to the RDE.	Develops design approval document in proper format in accordance with the PDM and performs review prior to circulating to ROFUs. Assures design criteria are correct and the preferred alternative is technically sound and justified. Prepares PETSRS as necessary. Properly justifies retention of non-standard features. Coordinates with LAES and assures SEQR/NEPA determination is correct and any necessary permits are identified. Prepares project estimate and schedule. Conducts public meetings. Responds to all ROFU comments on reports/preliminary plans. Assures all ROW needs are addressed. PM stamps DAD and provides Design Deliverables checklist to RDE.
Final Design (Phases V and VI)		Participates in design program meetings. May conduct a general review of ADP plans and PS&Es. Resolves PS&E conflicts with the RPPM. Concurs with PS&E Estimate. Recommends PS&E approval to the RD upon satisfactory resolution of all comments and design supervisor endorsement. The RDE may attend public meetings and participate in public outreach activities.	Chairs design program meetings. Attends the mid-design review and constructability meetings. Participates in the taking line review as needed. Provides guidance with the execution/update of the Public Involvement plan. Reviews the advance detail plans. Resolves or elevates conflicts. Determines that the plans are consistent with the design approval document and design recommendation and that they reflect sound engineering practices. Reviews the PS&E package for completeness and determines that resolution of ADP comments has been accomplished in the final plans. Endorses PS&E approval Assures performance management data is provided by staff to DSQA unit.	Chairs mid-design review and then the Taking Line Review (TLR) meeting. Attends design program meetings. Assures project schedule and cost are met or advises of conflicts at program meeting. Prepares the ADP's and estimate, as applicable, in conformance with the approved DAD, design procedures, standards and regulations. Provides all necessary information to LAES so permits may be secured prior to PS&E. Resolves or elevates all comments on ADPs. Performs technical reviews. Spot checks computations and assures that calculations have been thoroughly checked by other internal staff. Oversees preparation of final plans and PS&E package. PM stamps PS&E plan and provides the Design Deliverables checklist to the RDE.
Post Award and Construction		Resolves any elevated construction concerns. Oversees the field change and order on contract processes as needed. The RDE may attend public meetings and participate in public outreach activities. The RDE oversee implementation of design performance management and professional stamping during construction. The RDE oversees the Design Work Force Development strategy.	May attend pre-construction meeting and pre-construction field walk through including environmental staff. Reviews and concurs with the memo to the EIC from the Project Manager. Participates in selected project field visitations. Participates in the field change process, the order on contract process and the implementation of professional stamping requirements as needed. Implements Work Force Development strategy.	Oversees preparation of project information memo to EIC. Prepares Case II analysis as necessary. Attends pre-construction meeting and field walk-through with LAES as needed. Assists the EIC with construction phase public involvement activities. Prepares, signs and stamps field change sheets as necessary. Makes field trips to observe progress and gain design insight. Provides technical support to Construction as necessary. (For bridge projects, prepares and forwards bridge inventory and level 1 load rating forms to BSA).

QUALITY RESPONSIBILITES				
REGION ONE DESIGN QUALITY PLAN	DESIGNERS	REGIONAL LAND SURVEYING AND MAPPING UNIT (ROW)	REGIONAL UTILITIES UNIT (UTIL)	DESIGN TRAFFIC ENGINEERING UNIT (DTE)
General Responsibilities	Primary focus is design production. Produces designs which are correct, thorough and conform to all DOT highway and bridge design policies, standards, processes, the HDM, BM, PDM and CM. Ensures that the project reflects sound engineering principles, is constructible, and is a cost effective solution to the existing deficiencies. Develops design information for LAES for SEQR/NEPA processing and any necessary permits. Prepares meeting minutes, project reports and ADP & PS&E design plans. Performs all calculations and prepares cost estimates. Internally checks computations and quantities of other group members Assures all CADD standards are met. Assists PM with execution of the public involvement plan and PI products. Prepares design plans consistent with mid-design review and constructability discussions. Assists PM with documentation of resolution of comments on plan reviews. Provides support to construction. Advises PM of potential cost, scope, schedule or quality issues.	Provides accurate base mapping as requested from PM. Provides original ground DTM. Executes survey operations. Determines the existing highway boundary. Prepares ARM in conjunction with designer. Reviews proposed right-of-way and the applicability of types of acquisitions. Prepares the abstract request map, the right-of-way plan, and the appropriation maps. Obtains necessary signatures for the appropriation maps and provides the certificate of maps required for a project. Implement professional stamping requirements.	Determines that all gas, electric, television and fiber optic cable, and telephone utility conflicts are adequately addressed and resolved in design. Determines that existing utilities are shown on the project plans. Coordinates SUE contract to better identify underground utilities. Works closely with PM, designer and construction to assure that the project schedule realistically accounts for utility actions. Meets with utility partners and designers in the office and field to discuss relocations and minimize or avoid utility conflicts. Negotiates the utilities relocation schedule and special note time frames prior to the PS&E. Assures all utilities agreements, utility resolutions, and the special note time frames are completed prior to PS&E. Provides "Coordination with Utility Schedule" special note for the contract proposal at the PS&E. Maintains utility relocation time frames database with input from the EICs. Processes reimbursable and betterment payment by utilities	Produces sign, signal, intersection and lighting designs. Manages the annual traffic signals requirements and permanent pavement markings contracts. Analyzes intersections, corridors and roundabouts using traffic simulation and capacity software. Models and optimizes functional operation of signals in coordination with Traffic Operations group. For other projects designed by the unit, performs the same duties as Project Managers and designers. PM stamps traffic engineering plans developed within the unit.
Pre-IPP – Pre-Scoping	Requests information from ROFUs necessary to develop scope.	Determines suitable procedure for survey. Submits photogrammetry request to MO.	After IPP, sends pre-intro notification to utility partners to identify utilities on-site and owners.	Requests information from ROFUs necessary to develop scope. Provides preliminary design information to the DS.
Scoping	Assistant host of the scoping meeting with the PM and contributes to the presentation of the PowerPoint show and meeting materials. Documents input from all appropriate ROFUs in scoping meeting minutes. Develops project scoping document, initial project estimate/budget, schedule and initial public involvement plan. Assures all appropriate alternatives, potential right-of-way, utility involvement, construction, traffic and environmental issues have been considered. Responds to all ROFU comments on scoping document. Prepares design deliverables checklist. Provides performance management data for DSQA.	May participate in the scoping meeting. Reviews the scoping document to ensure ROW needs are accurately identified. Provides input to the PM about the schedule for survey products and right-of-way acquisition process, as applicable.	Attends scoping meeting and provides input on potential utility relocations and time frames. Reviews the scoping document to determine all 1 utilities are accurately identified and utility concerns are addressed. Provides early input into overall project schedule to allow for utility actions.	Attends scoping meeting and provides input about signs, signals, intersection functionality and lighting. For other projects designed by unit performs the same duties as Project Managers and designers.
Preliminary Design (Phases I to IV)	Designer documents design criteria and retention of non-standard features, as necessary. Coordinates with LAES and assures SEQR/NEPA determination is correct and any necessary permits are identified. Prepares DA estimate and discusses the project schedule with the PM. Assists PM with preparation of materials for public meetings and public outreach activities. Documents outcomes of public meetings. Develops responses to all MOFU, MOPL and ROFU comments on reports/preliminary plans. Assures all ROW needs are addressed in the DAD. Prepares Design Approval design deliverables checklist for the PM submission to the RDE.	Reviews the DAD and determines the highway boundary is accurate on preliminary plans. Review proposed acquisition types. Alerts the PM of time necessary to complete appropriation maps.	Reviews the DAD and determines existing utilities are accounted for. Determines utility conflicts created by the proposed alternative are considered and discussed. Assures the project schedule is realistic to provide for utility relocations.	Reviews the DAD and determines that sign, signal, intersection capacity and lighting needs are adequately addressed. For other projects designed by unit performs the same duties as Project Managers and designers.
Final Design (Phases V and VI)	Prepares "Worksheet Disposition of Utilities" for delivery to the utility group early in Phase 5 Design. Participates in the mid-design review, taking line review and constructability meetings. Prepares meeting minutes to document input and follow-up actions. Prepares the ADP's and estimate, as applicable, in conformance with the approved DAD, design procedures, standards and regulations. Prepares all necessary information for LAES so permits may be secured prior to PS&E. Resolves or elevates all comments on ADP's. Advises PM of potential issues with cost or schedule so that they can be discussed at the design program meetings. Prepares final plans and PS&E package. Internally checks computations and quantities of other group members. Provides the Design Deliverables checklist to the PM for submission to the RDE.	Attends the taking line review meeting and provides input to the PM about the schedule for mapping deliverability as it relates to right-of-way processing/letting date. Assures that limits of acquisitions, the types and specific needs of the acquisitions are consistent that all construction work and future maintenance operations are accommodated within the existing highway and proposed ROW boundaries. Prepares the ROW Plan and the Table of ROW acquisitions. Provides appropriation maps and professionally stamps products. Reviews the ADPs to determine highway boundary accuracy, Reviews proposed acquisitions and the inclusion and correct application of ROW and survey markers. Reviews the Maintenance Jurisdiction Table. Provides the certificate of maps. Oversees the review of ROW material prepared by consultants.	Arranges office and field meetings with utilities, design and construction staff after receipt of the "Worksheet Disposition of Utilities". Provides meeting minutes for utility meetings. Works cooperatively with the design, construction, traffic and utility partners to minimize or avoid utility relocations. Provides input to the PM prior to finalizing taking lines related to utility locations/guides. Reviews the ADPs to determine existing utilities are shown and that utility conflicts are either in process or complete. Negotiates the utilities relocation schedule and special note time frames prior to PS&E. Completes "Coordination with Utility Schedule" special note for inclusion in the PS&E package.	Prepares signs, signals, intersection design and lighting portions of ADPs. Assists other designers by analyzing intersections, corridor progressions and roundabouts using traffic simulation/capacity software. PM stamps design plans produced by the unit. For other projects designed by unit performs the same duties as Project Managers and designers
Post Award and Construction	Designer assists PM with preparation of the Memo to EIC and list of public outreach contacts. Assists PM with the Case II bid analysis if needed. Attends pre-construction meeting and field walk-through with LAES as needed. Provides technical support to construction and prepares field change sheets as requested. Makes field trips to observe progress and gain design insight. Identifies "lessons learned" to PM for annual quality review meeting with construction and traffic.	Provides support to Construction as necessary.	Responds quickly and coordinates with the EIC, PM, designer and utility partners to resolve any field construction conflicts or other utility coordination for construction activities (i.e. holding poles during excavation activities). Maintains utility relocation time frame database with input from the EICs. Processes reimbursable and betterment payments by utilities..	Provides expert advice to the EIC when actual field conditions are at variance with those anticipated or expected. Assists with, inspects and provides expert guidance on signal installations, signs, intersection design and lighting as needed. Prepares field change sheets and the PM stamps the unit's products.

QUALITY RESPONSIBILITIES			
REGION ONE DESIGN QUALITY PLAN	REGIONAL DESIGN COMMUNITY PARTICIPATION COORDINATOR (DCPC)	DESIGN SERVICE AND QUALITY ASSURANCE UNIT (DSQA)	LANDSCAPE ARCHITECTURE AND ENVIRONMENTAL SERVICES UNIT (LAES)
General Responsibilities	Conducts background research on communities which projects are being designed. Identifies the key local stakeholders and provides PM assistance in developing public involvement plans. Reviews report documents for consistency with issues identified in research and stakeholder outreach. Services PM as a technical resource person for public involvement and applications of analytical and presentation tools (e.g., GIS, PowerPoint, other packages for development of presentation materials). Participates in project and public meetings as necessary. Serves as one of the Regional Web Content Coordinators. Maintains the design performance management database and provides semi-annual reports for assessment by design supervisors and Project Managers for continuous quality improvements.	Primary focus on QA/QC activities/requirements. Coordinates with the Project Manager and designer throughout the design process and reviews project reports to ensure all policies, regulations, procedures, standards, laws, guidelines have been followed. Assures design criteria are appropriate, preferred alternative is properly justified, non-standard features are justified and environmental determinations are correct and properly supported. Reviews plans for consistency with design approval document, presentation in HDM, proper CADD requirements, accurate payment lines and specifications. Provides guidance on unit prices for project estimates as requested. Reviews and coordinates all new special specs with Main Office Design Quality Assurance Bureau. Assures public involvement has been incorporated into the project. Tracks Performance Management indicators and reports to DS/PM's on a semi-annual basis. Coordinates with DQAB as necessary and advises staff of newly released policies, procedures, best practices etc. Reviews draft RDIs, EIs & EBs. Hosts winter "lessons learned" meeting with PMs, DSs, CSs and WZTC staff to discuss previous construction season issues and opportunities for improvements.	Coordinates with the PM/Designer throughout the design process. Participates in project meetings. Performs environmental analyses at various stages of the design process. Review, coordinate and conducts field investigations relating to cultural resources, aesthetics, pedestrian and bicycle facilities, landscape development, wetland and stream issues, hazardous resources, endangered species and various other elements in the environmental arena. Identifies anticipated permits and approvals from all agencies. Coordinates with the PM on SEQR and NEPA determination. Prepares and reviews environmental sections of reports and works with the PM to develop a realistic schedule for permitting purposes. Prepares Erosion & Sediment Control plans. Coordinates with PM to ensure sufficient information is provided to obtain all permits prior to PS&E. Immediately notifies the PM of potential delays. Participates in Public Involvement. Implements professional stamping policies.
Pre-IPP – Pre-Scoping	Participates in the Project Pre-IPP/Pre-Scoping Public Involvement Team for initial outreach efforts to local government, to solicit stakeholders input on plans/desires for the project area, to discuss initial budget/funding partnerships and to identify other key stakeholders. Secures and reviews existing local and regional planning studies to establish context for project.	Reviews draft IPP if requested.	Prepares LAES Project Resource Report or Environmental Checklist and forwards to Planning for an attachment to the IPP. Initiate the Cultural Resource process.
Scoping	Attends scoping meeting. Assures key stakeholders are identified and potential impacts on emergency and school districts are noted. Provides input on the development of the public involvement plan components (e.g., brochures, posters/flyers, event plans). Assists in development of project web sites if requested. Maintains performance indicators provided at scoping by the PM.	Attends scoping meeting. Provides input on appropriate form of scoping document and/or DAD. Advises of SPDES requirements. Assures CADD requirements are discussed. Reviews scoping document and assures all regional policies and requirements are followed and that all attachments are included. Tracks Performance Management Indicators.	Attends the scoping meeting. Identifies anticipated permits, and approvals and from all agencies, potential environmental considerations, including time restriction, impacts, and landscape issues. Conducts field reviews to identify environmental present resources in the field. Provides input on timeframes needed to complete the necessary environmental processing to the PM for inclusion into the project schedule.
Preliminary Design (Phases I to IV)	Provides public involvement plan implementation/ refinement support to PM. Attends and actively participates in public meetings and public hearings, as appropriate, including advisory group/charrette/task force meeting facilitation when necessary. In coordination with Planning, assists local communities in identifying resources for getting desired improvements made in cases where their costs/scope are not compatible with the planned project., or in developing plans or other official bases for progressing pursuit of an improvement. Reviews DAD to assure stake holders identified and adequate public involvement has occurred and/or is planned. Maintains web page as applicable.	Reviews DAD for consistency with the PDM, BM, HDM and Regional policies. Assures the selected design criteria are accurate and correctly referenced. Assures report format is appropriate and reports are organized, well written, and complete. Assures all appropriate alternatives have been considered and discussed and environmental determinations are correct. Assures right-of-way needs are identified. Reviews reasonableness of schedule and cost. Reviews preliminary plans.	Coordinates with the PM on the NEPA and SEQR determination. Prepares and JM reviews environmental chapters of the DAD. Sends coordination letters to all appropriate agencies. Completes the cultural resource process. Prepares EO 11990 as appropriate. Identifies potential need and location for any compensatory wetlands or stream mitigation, waste disposal sites, SPDES practices etc.
Final Design (Phases V and VI)	Conducts general review of reports and plans. May attend public meetings and/or provide technical support to public outreach activities as necessary. Maintains design performance management data.	May participate in mid-design reviews. Reviews ADPs for conformance with DAD, standards, polices, regulations, and good engineering practice. Assures accurate payment lines, specifications, and appropriate application of details. Identifies and coordinates special specs and approval with PM and MO. Assists with SPDES requirements and processing. Reviews PS&E package and Engineers Estimate if requested.	Prepares Erosion and Sediment Control plans, planting plans, stream or wetland mitigation plans and special notes. Reviews ADPs to ensure environmental and landscape related issues have been adequately addressed. Coordinates with the PM to adequately document efforts taken in avoiding and minimizing impacts to environmental resources. Obtains detailed information from the PM and submits applications to involved agencies to assure permits are received prior to PS&E. Provides the PM the ECOPAC for inclusion in the PS&E package. Reviews the PS&E for landscape architecture, environmental and regulatory permit conditions. LAES Manager stamps plans produced by LAES unit.
Post Award and Construction	May attend public meetings and assist with public outreach activities. Maintains Community Involvement Activity log as a tool for tracking design project public involvement activities. Maintains electronic binder of public involvement sample products and customized shells. Develops "lessons learned:/best practices" to aid in future public involvement planning. Maintains performance management tracking database and reports to DS/PMs. Proactively advises on and implements new quality initiatives for public involvement.	Tracks performance management indicators and reports findings semi-annually to RDE and DSs. Reviews any feedback provided to the DSQA unit by the Regional Construction Group, Regional Traffic (WZTC) Group and/or the Regional Maintenance Group for design wide implications. Hosts winter "lessons learned" meeting with PMs, DSs, CSs and WZTC staff to discuss previous construction season issues and opportunities for improvements.	As appropriate, Job Manager schedules an Environmental Services & Landscape Architecture on-site field meeting with the PM and construction staff. Provides support to Construction as necessary.

QUALITY RESPONSIBILITES			
REGION ONE DESIGN QUALITY PLAN	REGIONAL PLANNING & PROGRAM MANAGEMENT (RPPM)	REGIONAL CONSTRUCTION GROUP (CONST, CS, EIC)	REGIONAL TRAFFIC & SAFETY GROUP (TES, WZTC)
General Responsibilities	Coordinates community objectives with design objectives. Determine budget, estimate, and schedule are reasonable and appropriate for the project and capital program needs. Compare projected project cost with programmed cost and schedule deliverability and revise Capital Program accordingly. Determines that the project scope is and remains consistent with project objectives. Participates in the preparation and implementation of the Public Involvement Plan. Recommends approval of scoping/design.	Coordinates with Design throughout the project development process. Reviews project reports, plans, construction sequence and utility relocation scheme. Participates in mid-design review, constructability review meetings and optionally the taking line review meeting. Determines project can be constructed safely and the plans, measurement methods, and pay items are clear and accurate for contract bids. Determines that standard construction practices can be used. Works closely with PM and WZTC staff to develop constructability plan and provisions. Implements PE stamping requirements in construction. Leads public involvement activities in construction.	Reviews project geometry, operations, intersections, access control, ingress and egress, accident locations and mitigation, capacity, traffic control devices, ITS needs, and clear zone. Develops work zone traffic control (WZTC) plans in conjunction with the designer. Identifies special traffic management strategies which may be necessary to minimize traffic impacts. Coordinates WZTC between the Design, Traffic, and Construction Groups. Reviews associated plans and participates in constructability reviews. Incorporates systematic feedback from the regional construction and traffic groups into future design activities. Identifies special traffic or contract management strategies which might be necessary to minimize traffic impacts (e.g., dedicated enforcement, night construction, A+B, lane rental, etc.). Evaluates WZTC needs and concerns during design alternatives evaluation and preferred alternative selection. Participates in project scoping activities to identify WZTC issues in addition to other ITS, safety, and mobility needs. Reviews scoping and design approval documents. Assists the project staff, the regional construction safety coordinator, maintenance, special crews and others with both quality assurance and project specific quality control issues. Work zone traffic control representatives participate in the mid-design review. Participates in the public involvement actions. Implements P.E. stamping requirements for WZTC plans.
Pre-IPP – Pre-Scoping	Leads project pre-IPP/pre-scoping public involvement team for initial outreach to local government, to solicit stakeholder input on plans/desires for project area, identify other key stakeholders and discuss initial budget and potential funding partnerships. Consults the RDE and LAES job manager to obtain design input for development of the IPP for collaboration on problem description, objectives, preliminary environmental classification, special issues, and a preliminary estimate and schedule. Develops IPP.	-----	-----
Scoping	Attends the scoping meeting. Conducts traffic counts and provides projected traffic volumes. Reviews the scope approval document to determine accurate project objectives. Concurs with the Project Scoping Report, scope approval estimate, project schedule, staffing plan and PIP. Signs scope approval document recommending approval by the RD.	Assigns the Construction Supervisor (CS) at scoping. Attends the inter-disciplinary scoping meeting and gives a preliminary assessment of constructability as it relates to the project schedule and duration, construction staging and access, construction impact on utilities, ordering of materials and the potential need for night work or an off-site detour. Recommends CADD products to be provided from design to construction post PS&E. Reviews the scope approval document to determine that known construction issues are raised. CS provides input to the public involvement plan.	Attends the scoping meeting. Provides input on potential WZTC plans and traffic impacts of various options. Identifies traffic and safety needs which need to be addressed. Reviews the scoping approval document and determines that traffic needs have been addressed. WZTC staff provides input to the public involvement plan.
Preliminary Design (Phases I to IV)	Attends design program meetings. Reviews the design report to determine alternative(s) meet the project objectives, have reasonable cost, schedule and planned public involvement. Signs FDR and recommend design approval to RD.	CS reviews the DAD and determines that the preferred alternative is practical and can be constructed safely. Identifies construction access needs and potential right-of-way required. Comments on construction coordination with utilities. Assures the project schedule is compatible with necessary construction timeframes and material deliverability. CS participates in the public involvement actions as needed.	Reviews the DAD and determines that the preferred alternative can be constructed using reasonable and safe work zone practices and is capable of accommodating anticipated traffic. Assures accident analysis is accurate, complete and up to date and proper consideration has been given to WZTC. WZTC staff participates in the public involvement actions as needed.
Final Design (Phases V and VI)	Attends design program meeting to discuss cost and schedule updates. Optionally review ADP plans, estimate, and PS&E package for consistency with project scope, programmed cost, and schedule.	CS participates in the mid-design review and may attend, or otherwise, provide input into Taking Line Review meeting. Participates in additional constructability meetings, as necessary. Reviews the ADPs to determine that there is sufficient detail to clearly describe how construction is to be performed, how quantities will be measured and paid and payment lines are clear. Reviews the construction sequencing. Determines that the project can be constructed safely. Considers jointly with the PM and the WZTC staff MPT stages, unique construction details, incentive/disincentive provisions, night work, special event coordination, special commitments and emergency service provisions. Reviews the ADPs with a designated EIC, as available. Reviews the project schedule to ensure that there is sufficient time for the materials acquisition and the project construction. Determines that appropriate construction inspection items are included in the contract. RCE certifies construction needs have been addressed by signing the PS&E plans cover sheet recommending approval to the Regional Director. CS participates in the public involvement as needed.	Participates in the mid-design review. Participates in additional constructability meetings, as necessary. Reviews or prepares the WZTC plans as appropriate. Reviews ADPs to determine the proposed WZTC plans are safe, operable and complete and any restrictions are adequately addressed. Assures ITS needs are met. Reviews the design of access control, intersections, turning lanes, and geometry to assure that unsafe conditions will not be created. Professionally stamps WZTC plans designed within the TES group. RTSE recommends the PS&E approval to the RD by signing the plan cover sheet. WZTC staff participates in the public involvement actions as needed.
Post Award and Construction	Tracks orders on contract annually and reports results to DSQA at the end of each fiscal year for Performance Management tracking.	CS hosts pre-construction meeting and pre-construction field walk with PM, designer and LAES as necessary. EIC leads public involvement activities in construction. Assures that the contract documents are followed. Provides pertinent design feedback on highway and bridge appurtenance constructability and adequacy. Administers the field change and order on contract processes, taking care to initiate any field changes or orders on contract with the designer and Project Manager. Works closely with PM for major changes and provides revised professional stamped products as necessary. Provides utility progress information to design group (utilities unit) as applicable. The construction supervisors meets jointly with the design supervisors, PM's, DSQA staff and WZTC staff at a winter "lessons learned" meeting to discuss a collaborative review of construction and design issues in the past construction season as a continuous improvement opportunity.	Through the Transportation Management Center (TMC), manages and coordinates work zone lane closures. Works with the EIC to respond to all WZTC issues related to contractor changes, including Value Engineering proposals. Monitors WZTC to ensure that the needs of the public and inherent safety considerations are met. Participates in the Statewide Work Zone Quality Assurance Reviews, which requires a work zone team made up of Main Office and regional personnel to review a sample of on-going projects in each region. Participates in public outreach activities as necessary (i.e. emergency services). Determines "lessons learned" and provides pertinent feedback to Design at a winter joint meeting with construction and DSQA.

QUALITY RESPONSIBILITIES					
REGION ONE DESIGN QUALITY PLAN	REGIONAL TRANSPORTATION MAINTENANCE GROUP & RESIDENT ENGINEERS (TMG,RE)	REGIONAL GEOTECHNICAL UNIT (GEO)	REGIONAL MATERIALS ENGINEER/GROUP (RME)	REGIONAL REAL ESTATE OFFICE (REAL)	BRIDGE SAFETY ASSURANCE, REGIONAL HYDRAULICS UNIT AND THE CULVERT SQUAD (BSA, HYD)
General Responsibilities	Reviews and concurs with the project scope and subsequent design. Determines the project design adequately addresses high problem areas given budget constraints. Reviews project plans to confirm maintainability of proposed design elements. Participates in Public Involvement. Implements P.E. stamping requirements.	Performs timely soil investigations and provides soil boring logs to PM. Determines foundations and retaining walls are correctly designed and foundation drainage is adequate. Assures problem soils are addressed and correct geotextiles and backfill materials are specified. Determines the design life can be achieved. Designs special geotech walls required for WZTC. Assures edge drains, underdrain, slope and channel protection is properly designed and detailed.	Identifies appropriate materials/items to be utilized on construction projects and determines materials can be installed using standard industry practices. Reviews reports and plans to identify material requirements and that materials specified will correct identified deficiencies. Reviews materials section of special specifications proposed for project use.	Determine s conformance with Section 30 of the Highway Law and with the Eminent Domain Procedure Law (EDPL). Requests title data. Determines proper coordination with the Attorney General’s office is timely and complete. Participate in taking line review meeting. Reviews reports and determines that the schedule is realistic for ROW takings. Processes and vests maps and owner agreements. Negotiates with land owners. Prepares Right of Way Clearance Certificate for inclusion in PS&E package. Participates in public involvement actions related to Real Estate needs.	Determines all bridge safety assurance vulnerabilities are addressed. Reviews all bridge, large culverts and highway reconstruction projects within flood prone areas or with other significant hydraulic problems. Determines proper consideration has been given to hydrology, hydraulics and scour protection. Prepares hydraulic analysis as needed. For project designed by the hydraulic unit or the culvert squad, performs the same duties as structures project managers and designer.
Pre-IPP – Pre-Scoping	-----	-----	Performs pavement cores.	-----	For project designed by the hydraulic unit or the culvert squad, performs the same duties as structures project managers and designers.
Scoping	May attend the scoping meeting. Identifies problematic safety maintenance issues for consideration into design. Reviews scoping document. Provides input in the Public Involvement Plan.	Conducts soil borings. Attends the scoping meeting. Identifies any problematic soil conditions. Reviews the scoping document and assures soil and foundation needs are adequately addressed.	Attends the scoping meeting. Recommends preliminary pavement treatment. Reviews scope closure document to determine that known material issues are identified.	Attend the scoping meeting and advises on lead time required to obtain ROW. Reviews the scoping report and project schedule and assures ROW needs have been accurately considered.	Attends the scoping meeting for projects involving, bridges, culverts, waterways or within flood prone areas. Reviews the scope approval document for such projects and assures bridge adequate consideration has been given to bridge vulnerabilities, including hydrology and hydraulic issues.
Preliminary Design (Phases I to IV)	Reviews DAD for maintainability of the various alternatives and determines that the summary of existing maintenance concerns is complete. Determines that critical conditions are addressed. Reviews DAD and preferred alternative and concurs that it will correct the deficiencies raised at scoping. Participates in the public involvement actions as needed.	Conducts soil borings and tests and processes soil logs. Reviews the DAD and assures geotechnical issues are identified and further investigated. Determines the alternative adequately addresses soil conditions.	Prepares Pavement Evaluation Report. Reviews DAD and design recommendation to determine specified suitability and/or availability of material related components.	Reviews DAD and preliminary plans for correct highway law section 30, EDPL determination and reasonable ROW acquisitions are proposed... Advises PM on need for and EDPL public hearing. If no hearing is justified, document why. Determine acquisition and relocation lead time are sufficient. Establishes the fair market values for takings. Participates in public involvement actions related to Real Estate needs.	Prepares or reviews the DAD for adequate identification and reconciliation of bridge safety assurance vulnerabilities including hydrology and hydraulics for projects involving structures over water or in flood prone areas. For project designed by the hydraulic unit or the culvert squad, performs the same duties as structures project managers and designer
Final Design (Phases V and VI)	Reviews ADPs to determine maintenance concerns are reflected in the plans. Reviews the accuracy and appropriateness of the maintenance jurisdiction plans. Certifies maintenance needs have been addressed by signing the PS&E plans cover sheet indicating ok for approval by RD. Participates in the public involvement actions as needed.	Provides PM with design for earth retaining structure. Reviews ADPs to ensure that soil and geotextile considerations and problems have been addressed. Assures proper detailing and application of subsurface treatments.	Reviews the ADPs to determine that proposed typical sections are adequate for anticipated loads. Reviews design details to determine proper materials applications. Reviews the materials section of special specifications and special notes. Determines that the PG Binder note is accurate. Reviews those projects with sensitive materials issues, or those specifying new or experimental materials, materials placement methods, or materials applications.	Attends the taking line review. Reviews the ADP’s. Determines the plans reflect the acquisition being made and additional acquisitions will not alter a de-minimus situation. Negotiates with landowners and assures concerns raised during negotiations are addressed in the plans as appropriate. Prepares appraisals and coordinates with affected property owners. Forwards acquisition maps to the Attorney General for signature. Processes and vests maps and landowner agreements. Prepares Right of Way Clearance Certificate for inclusion in PS&E package. Participates in public involvement activities related to Real Estate.	Reviews ADP’s for special details incorporated into the design to address safety assurance vulnerabilities. For project designed by the hydraulic unit or the culvert squad, performs the same duties as structures project managers and designers.
Post Award and Construction	Optionally, visits the project and provides feedback to design on the adequacy of the design and maintainability. Participates in the public involvement actions as needed.	Participates on the field change and OOC processes as needed. Provides expert advice during construction when actual field conditions are at variance with those anticipated in design. Monitors identified projects with sensitive soil conditions for potential long term embankment settlement, slope failures or rock slope deficiencies.	Provides technical support and advice to Design and Construction, with primary focus on material quality and quality control during construction. Conducts field reviews and advises Design of any notable design improvements and/or poor performance of materials. Works with MO Materials to improve specs where deficiencies are found.	Coordinates with EIC during construction for any additional right-of-way needed for construction. Participates in public involvement activities as needed.	Performs pre –acceptance inspections of bridge projects.

QUALITY RESPONSIBILITIES				
REGION ONE DESIGN QUALITY PLAN	PUBLIC INVOLVEMENT OFFICER/REGIONAL PUBLIC INVOLVEMENT COORDINATOR (PIO/RPIC)	MAIN OFFICE STRUCTURES AND OTHER MAIN OFFICE FUNCTIONAL UNITS (MOFU)	MAIN OFFICE DESIGN QUALITY ASSURANCE BUREAU (DQAB)	
General Responsibilities	In support of Design activities, the PIO/RPIC provides guidance to the development and execution of project public involvement plans, manages dissemination of press releases and other public communication material, works with Project Managers to assure timely and accurate responses to media inquiries regarding NYSDOT projects, participates in project meetings and public informational meetings as appropriate, and assures that NYSDOT resources such as the Web External Project Information (WEPI) system are appropriately utilized in project public involvement efforts.	The Main Office Structures Office is required to review certain Regional structures design projects. The Department's Bridge Manual ¹ describes which projects and at which phases Structures Office reviews must be done in addition to quality control requirements. The Office of the Environment, Office of Traffic Safety and Mobility, Office of Structures and other MOFUs act in the Design Quality Assurance Bureau's capacity when they are designated as FHWA liaison in accordance of the Project Development Manual, except for review of PS&Es. MOFUs will also review policy and procedures in accordance with the Project Development Manual.	For projects identified in the current "Design-Related Approval Matrix" (e.g. SAFETEA-LU) for approval by the Deputy Chief Engineer of Design, DQAB, and other MOFUs will perform a completeness review of the Design Approval Documents for all submittals to the Federal Highway Administration (FHWA). An additional completeness review is done for PS&E submittals by DQAB's PS&E section. The roles of the DQAB and other MOFUs policies and procedures are contained in the Project Development Manual.	
Pre-IPP – Pre-Scoping	Member of Project Pre-IPP/Pre-Scoping Public Involvement Team for initial outreach to local government. Participates as a resource person for identifying community contacts who may be of help in clarifying local project context, and provides information on local issues which may impact the project.			
Scoping	Member of the Project Scoping PI Team. May attend the scoping meeting. Provides the input on the development of public involvement plan and preparation of plan components (e.g. brochures, posters/flyers, event plans). Reviews and approves project-related WEPI content as appropriate. Responds to project questions raised by media.			
Preliminary Design (Phases I to IV)	Serves as a subject matter expert on public outreach, acting as a resource for all involved regional staff. Coaches members of project specific outreach teams on presentation skills, stakeholder identification, question and answer sessions and general community interaction. Attends dry-runs of project presentations and provides quality assurance/quality control PowerPoint presentations, project distribution materials, website content, presentation techniques, planning and execution of public meetings, etc. Attends public meetings and provides first-hand, post-meeting feedback to project team. Reviews and approves project related WEPI content updates as appropriate. Responds to project questions raised by media.			
Final Design (Phases V and VI)	Member of the Project Design PI Team. May attend public meetings and/or provide technical support to public outreach team. Reviews and approves project-related WEPI content updates as appropriate. Responds to project questions raised by media.			
Post Award and Construction	Member of the Project Construction PI Team. Reviews and approves project related WEPI content updates as appropriate. Monitors construction phase project site operations and responds to media inquires on construction. Monitors local dynamics, stakeholder activity and local issues across the Region. Participates in statewide Public Involvement Community of Practice, including facilitating work sharing opportunities and developing training modules for Regional and Main Office staff. Coordinates public involvement efforts across Regional functional areas.			

¹ New York State Department of Transportation Bridge Manual, Fourth Edition, April 2006.

Appendix One *Region One Organization and Mission*

REGION ONE TODAY

The New York State Department of Transportation is organized geographically into eleven Regional offices with the Main Office headquartered in Colonie, New York. The Regional Director in Schenectady is responsible for Departmental activities in an eight county area.² Regional staff are assigned to nine functional groups under an Executive Group headed by the Regional Director. They are:

- The Administrative Group,
- The Human Resources Group,
- The Equipment Management Group,
- The Transportation Maintenance Group,
- The Planning and Program Management Group,
- The Construction Group,
- The Design Group,
- The Real Estate Group, and
- The Traffic Engineering and Safety Group

Departmental Projects are developed through a four stage process: initiation, scoping, design, and construction. Project initiation is a collaborative effort between the Planning and Program Management Group and the Design Group. Scoping is a Design Group responsibility in Region One. The Design Group designs projects and the Construction Group oversees their construction.

Design is divided into Preliminary and Final design, with Phases I through IV comprising Preliminary Design and Phases V and VI comprising Final.

The Regional Design Group produces designs under the direction of the Regional Design Engineer. From a functional standpoint, the various units within Design can be classified as Design "Squads" that produce designs, or Support Units (such as the Land Surveying and Mapping Unit) that provide specific information or services necessary to enable the Design Squads to prepare a design. External consultants also produce designs under contract to the Department. These contracts are administered within the Region by Project Managers. Functionally, a consultant is, in effect, an external design squad.

It should be noted that selected Support Units do not necessarily exist solely to support the Design effort. For example, the Regional Bridge Safety Assurance Section fulfills a mandated requirement with the information developed also used as a starting point to effect bridge improvements.³

² Albany, Essex, Greene, Rensselaer, Saratoga, Schenectady, Warren and Washington Counties

³ Bridge safety assurance information is critical to effective scoping for bridge replacements and to bridge maintenance and repair activities.

The Regional Design Group produces internal and external design products. Internal products are intermediate products incorporated into a final design package which includes plans, specifications, and estimates (PS&Es) of the anticipated construction activity. The plans, specifications, and estimates package is an external product ready to be incorporated into a Contract package to be bid, award, and executed. Support Units in the Main Office, the Region, and the Regional Design Group produce products that the Regional Design Group use to complete a design. For example, the Regional Land Surveying and Mapping Unit produces topographic mappings used as a basis for further design, a so-called internal product.

Internal products from Support and Regional Groups form a Quality chain or fabric that results in the integrated, inter-dependent external product supplied to the Regional Design Group's immediate Departmental customer, the Regional Construction Group. In the final analysis, the customers for Regional designs are those who live, work, and travel in the eight county Regional area.

THE REGION ONE DESIGN MISSION CASCADE

“It is the Mission of the New York State Department of Transportation to ensure our customers --those who live, work and travel in New York State--have a safe, efficient, balanced and environmentally sound transportation system.”

It is the Mission of Region One of the New York State Department of Transportation to ensure our customers -- those who live, work and travel in the eight county Regional Area -- have a safe, efficient, balanced and environmentally sound transportation system.

It is the Mission of the Region One Design Group of the New York State Department of Transportation to continuously produce complete, correct, constructible and maintainable designs to ensure safe, environmentally sound Highways and Bridges in the eight county Regional Area.

Appendix Two *Design Quality in Region One Today (2008)*

Evolution

In 1992, the Department decentralized Quality functions to the lowest appropriate level, resulting in a decision that each Region was directly responsible for design quality.

Today, approaching two decades after the decentralization decision was made, the Design Group has vastly evolved with the engineering climate. An entire body of specifications, manuals, guidelines, policy documents, initiatives, procedures, and instructions, both Regional⁴ and Departmental, along with complex computer based production tools, protocols, and software systems (CADD) are used in the Design effort. Furthermore, these design related documents and systems, of necessity, change from time to time, sponsoring a requirement for continuous organizational and professional improvement and the current effort to update and finalize the Design Quality Plan.⁵

Focus

The Region One Design Quality Plan is focused on two quality definitions/concepts:

Quality is the outcome of the sum of all of the features and characteristics of a program, process, or service that impact their ability to meet or surpass the needs and requirements of a customer.

Quality is a measure of excellence; quality defines desirable characteristics of a product, a process, or a service.

Quality trilogy: A three-pronged approach to managing for quality. The three legs are quality planning (developing the products and processes required to meet customer needs), quality control (meeting product and process goals) and quality improvement (achieving unprecedented levels of performance).

The Quality trilogy illustrates a key aspect of Region One's approach to design quality: the incorporation of quality consciousness throughout the sequence of activities related to a project's genesis, prioritization, design and construction. This work is framed around seven fundamental ideas:

- Customer-Based - Working closely with Internal and External Customers through internal partnerships/pro-active communications and external public involvement as depicted in the Region 1 RPIC Process.

⁴ Region One establishes and disseminates design related information using Regional Design Instructions (RDI's). RDI's remain in effect for five years unless re-issued, revised, or superseded during that time.

⁵ Pertinent RDI's and excerpted documents are included in the Design Quality Plan References. They form an integral part of the Regional Design Quality System.

- Process-Based - Improving the internal regional processes thru Regional Design Instructions.
- Streamlined - Streamlining Design guidance from numerous Department Manuals into manageable process charts with reference Regional Design Instructions.
- Planning First - Placing more emphasis on Planning before Design and proper project scope concurrence/affordability.
- Schedule-Driven - Placing an emphasis on meeting the credible delivery of our projects.
- Continuous Improvement – Improving design quality and process efficiency through performance management and pro-active quality initiatives.
- Education-Focused – Training new staff in an efficient manner.

Quality as the Application of the Seven Fundamentals to the Region’s Core Processes

The Region One Design Quality Plan is grounded in the understanding that ensuring Quality requires not only reviews of interim and final products but also a proper understanding of the processes through which these products are developed. Furthermore, as with the “Customer Based” and “Education Focused” fundamentals above, it reflects the recognition that Quality goes beyond the technique or process to the persons involved in each task – their requirements, skills, understandings of NYSDOT procedures and the ways in which they exercise their professional discretion in the courses of their work.

Accordingly, the Design Quality Plan capitalizes both on the breadth of capabilities of Region One staff and on the flexibility afforded the Region in proceeding from NYSDOT’s standard tools to individual Region projects. Several aspects of the document reflect this ideal:

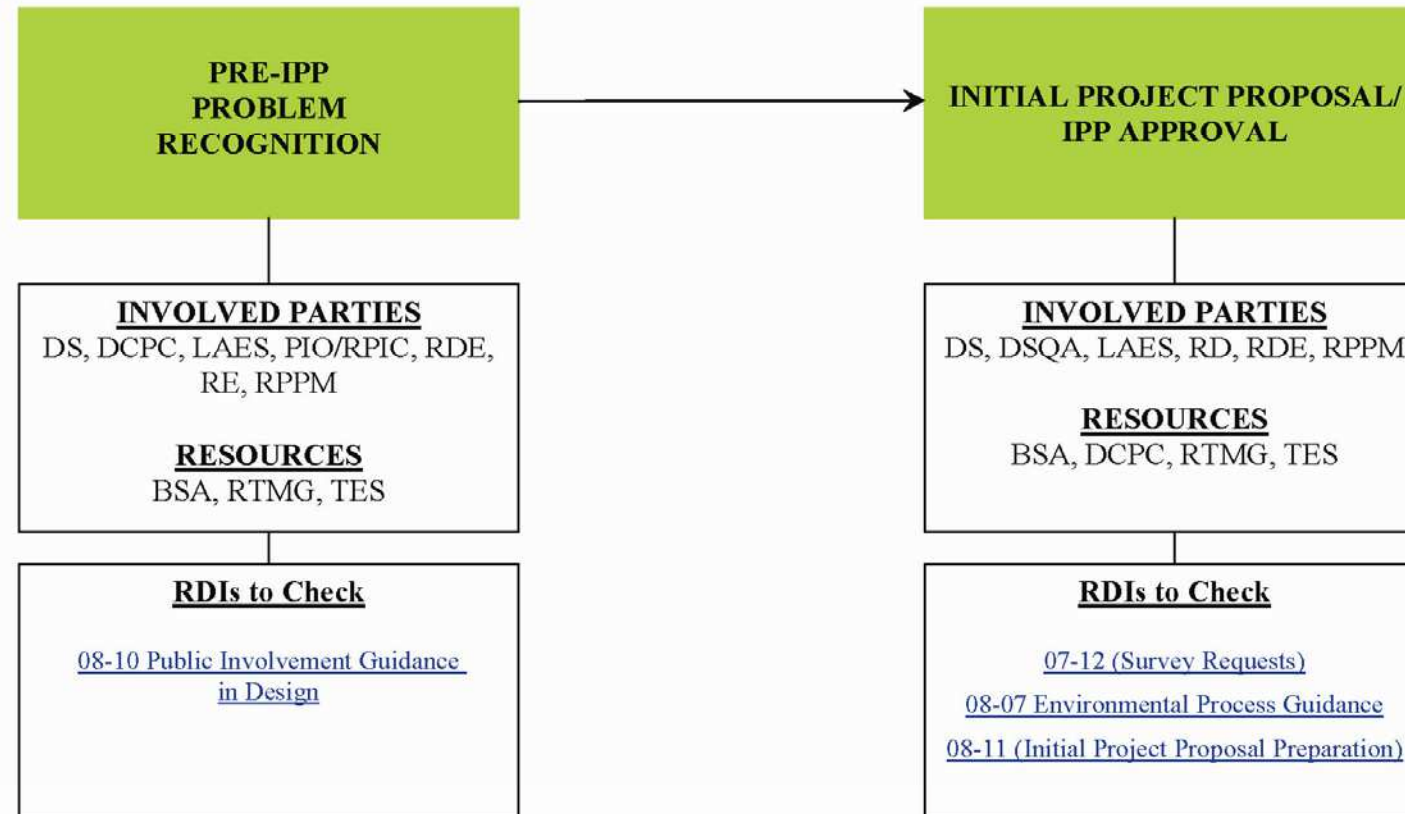
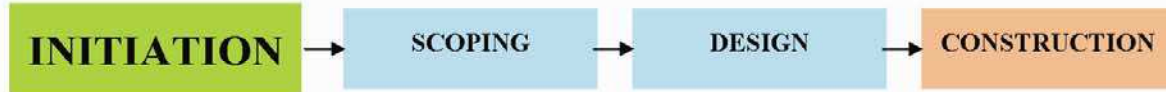
- The Plan places great emphasis on taking recourse to Regional Design Instructions (RDIs) as bases for refining the guidance provided in NYSDOT references such as the Project Development Manual to the conditions under which a project is being developed in the Region. The Region One RDIs provide what could be considered “more localized roadmaps” for project development, pointing not only to methods and procedures but to other Regional staff who can lend expertise and perspective to their colleagues’ work.
- The Plan’s discussion of contributions of individual positions and groups within the Region during the various stages of project development highlights the continuous nature of Quality consciousness in Regional efforts.
- The Plan’s discussions of the functions of the Public Information Officer/Regional Public Involvement Coordinator (PIO/RPIC) and the Design Community Participation Coordinator (DCPC) highlight the importance of communication between project staff and internal and external customers. An important and often overlooked aspect of this communication is that should be *two-way* in nature: while

- customers provide project staff with important information regarding their needs and the contexts in which projects sit, project staff should take advantage of the opportunity to educate the customers on the technical requirements, fiscal constraints and other practical parameters under which they perform their work. This aids the attainment of Quality not only in leading to better products for the project at hand but also in improving relationships between project staff and customers as groundwork for future projects (that is, establishing good working relationships to undergird future efforts).
- The Quality Responsibilities Matrix (Pages 6-11) discusses the roles of various Regional functions and groups at different stages of project development. It provides Regional staff with a basic reference on the project development process, highlighting their roles throughout the process. In addition, it provides Project Managers and other project staff with an overview of the Regional resources available to them and a structure for coordinating activities based on the stages of project development.
 - The series of NYSDOT Region 1 Project Development Process Charts (Appendix Three) builds on the Quality Responsibilities Matrix by providing visual representations of the involvement of Regional staff at the various stages and phases of project development. In addition, it provides guidance on active RDIs which apply to each stage or phase.
 - The Regional Public Involvement Committee (RPIC) Process Chart (Appendix Four) presents a roadmap for intergroup collaboration on public involvement – related activities at the various stages of project development.

The aim of the Plan is thus to present Quality as the product of a series of syntheses of the human and technical resources available in the Region throughout and across processes, and not as a subject for determination through post-checks and end-product corrections. The Plan is a built-in system designed to monitor and ensure product quality, continuously improving it while fostering the professional development of the regional personnel that produce it. The RDE consistently stresses the fundamental importance of day to day interactions between planning, real estate, and particularly design, construction, traffic, and maintenance professionals as the single most important factor in achieving quality designs. Thus, the document is a reference for understanding not only the relationship between Quality and Regional processes but also the relationships between individual staff and group functions and these processes.

Appendix Three
NYSDOT Region One
Project Development Process Charts

**NYS DOT PROJECT DEVELOPMENT PROCESS
INITIATION STAGE**



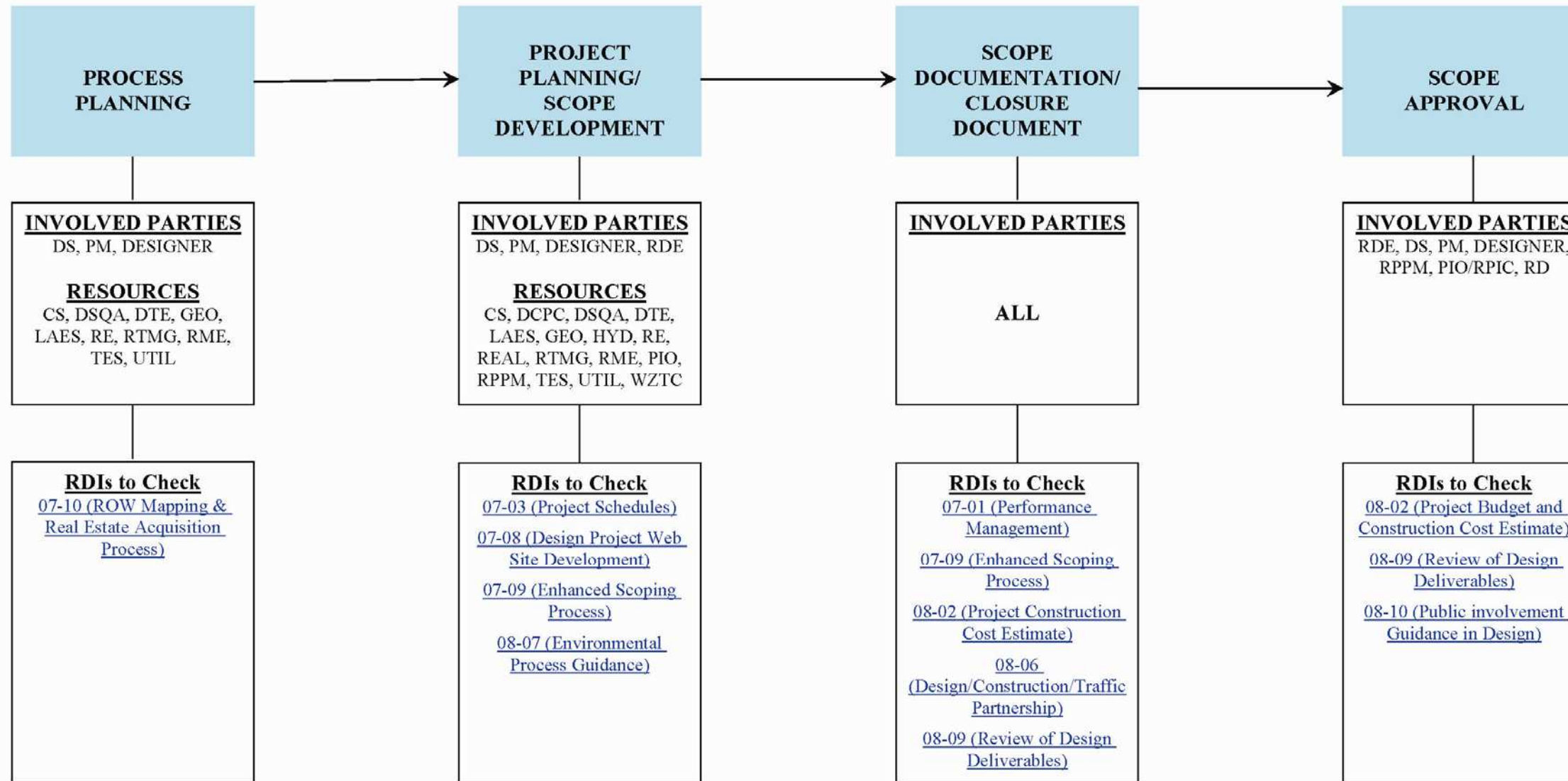
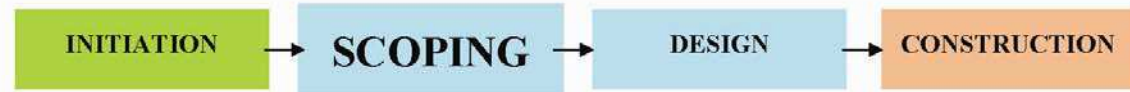
BSA = Bridge Safety Assurance
 CONST = Regional Construction Group
 CS = Construction Supervisor
 DCPC = Design Community Participation Coordinator
 DESIGNER = Project Designer
 DQAB = Main Office Design Quality Assurance Bureau
 DS = Design Supervisor

DSQA = Design Services/Quality Assurance Unit
 DTE = Design Traffic Engineering Unit
 EIC = Engineer-in-Charge
 GEO = Regional Geotechnical Engineering Unit
 HYD = Regional Hydraulics Unit
 LAES = Landscape Arch./Environmental Svcs. Unit
 PIO/RPIC = Public Information Officer/Coordinator

PM = Project Manager
 RD = Regional Director
 RDE = Regional Design Engineer
 RE = Resident Engineer
 REAL = Regional Real Estate Group
 RME = Regional Materials Engineer
 RPPM = Regional Planning/Program Mgmt. Group

ROW = Regional Land Surveying and Mapping Unit
 RTMG = Regional Transportation Maintenance Group
 TES = Regional Traffic Engineering/Safety Group
 TMC = Transportation Management Center
 UTIL = Regional Utilities Unit
 WZTC = Work Zone Traffic Control Unit

**NYS DOT PROJECT DEVELOPMENT PROCESS
SCOPING STAGE**



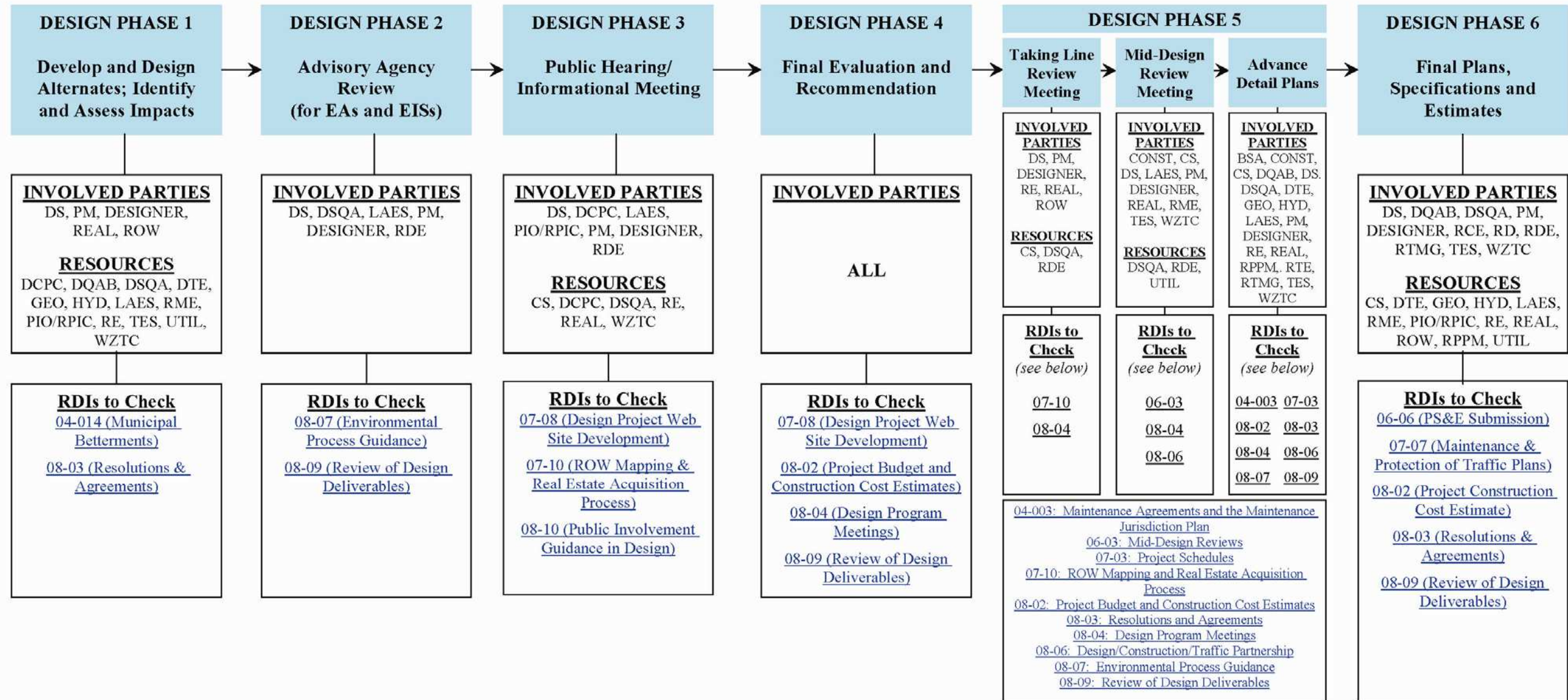
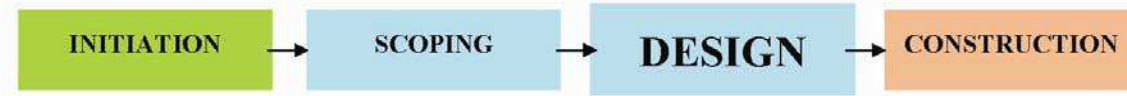
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**NYS DOT PROJECT DEVELOPMENT PROCESS
DESIGN STAGE**



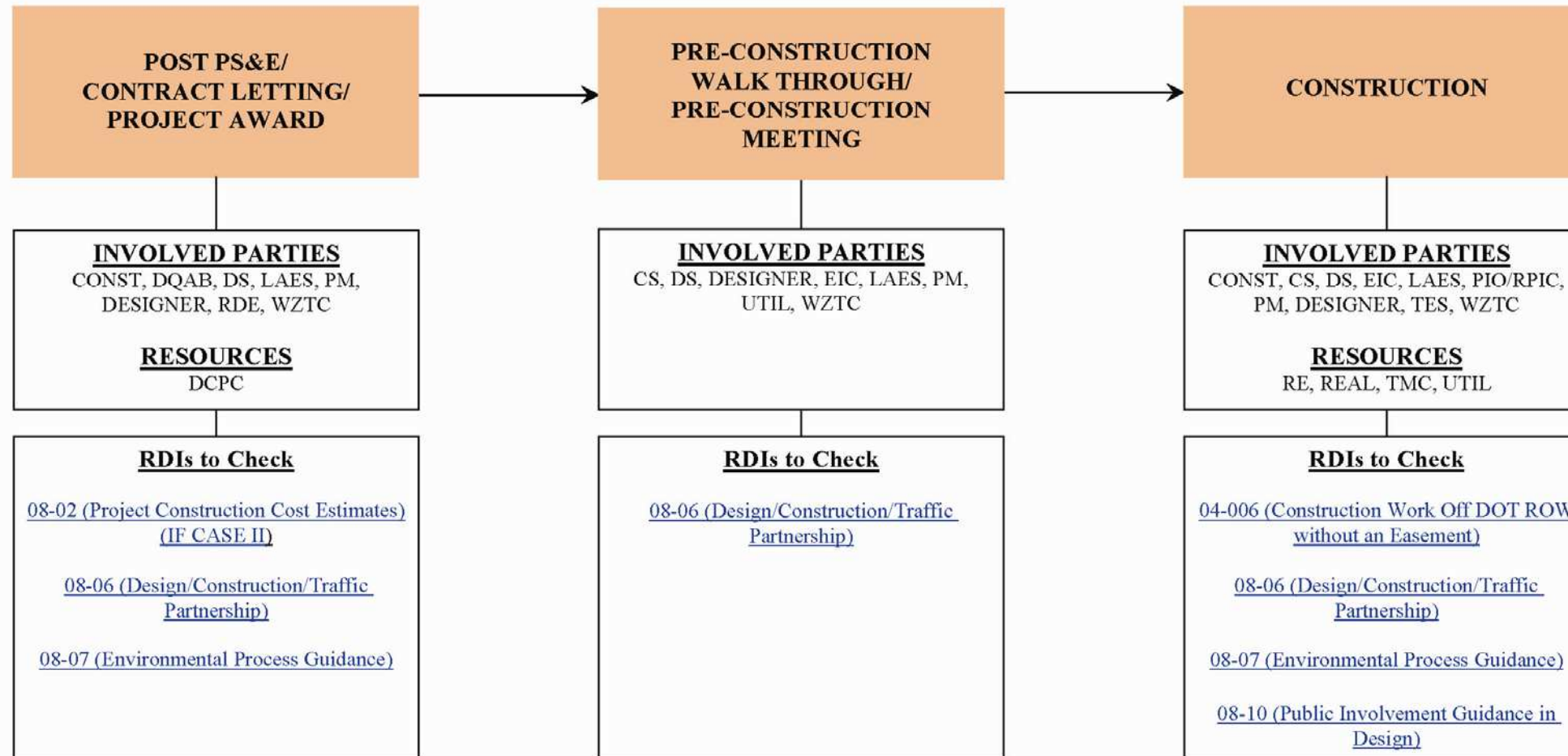
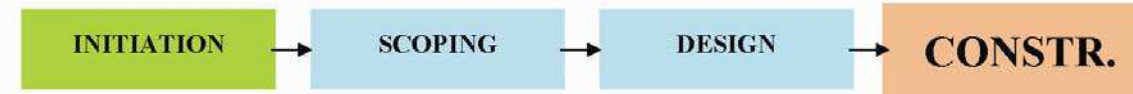
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 WZTC = Work Zone Traffic Control Unit

**NYS DOT PROJECT DEVELOPMENT PROCESS
CONSTRUCTION STAGE**



BSA = Bridge Safety Assurance
 CONST = Regional Construction Group
 CS = Construction Supervisor
 DCPC = Design Community Participation Coordinator
 DESIGNER = Project Designer
 DQAB = Main Office Design Quality Assurance Bureau
 DS = Design Supervisor

DSQA = Design Services/Quality Assurance Unit
 DTE = Design Traffic Engineering Unit
 EIC = Engineer-in-Charge
 GEO = Regional Geotechnical Engineering Unit
 HYD = Regional Hydraulics Unit
 LAES = Landscape Arch./Environmental Svcs. Unit
 PIO/RPIC = Public Information Officer/Coordinator

PM = Project Manager
 RD = Regional Director
 RDE = Regional Design Engineer
 RE = Resident Engineer
 REAL = Regional Real Estate Group
 RME = Regional Materials Engineer
 RPPM = Regional Planning/Program Mgmt. Group

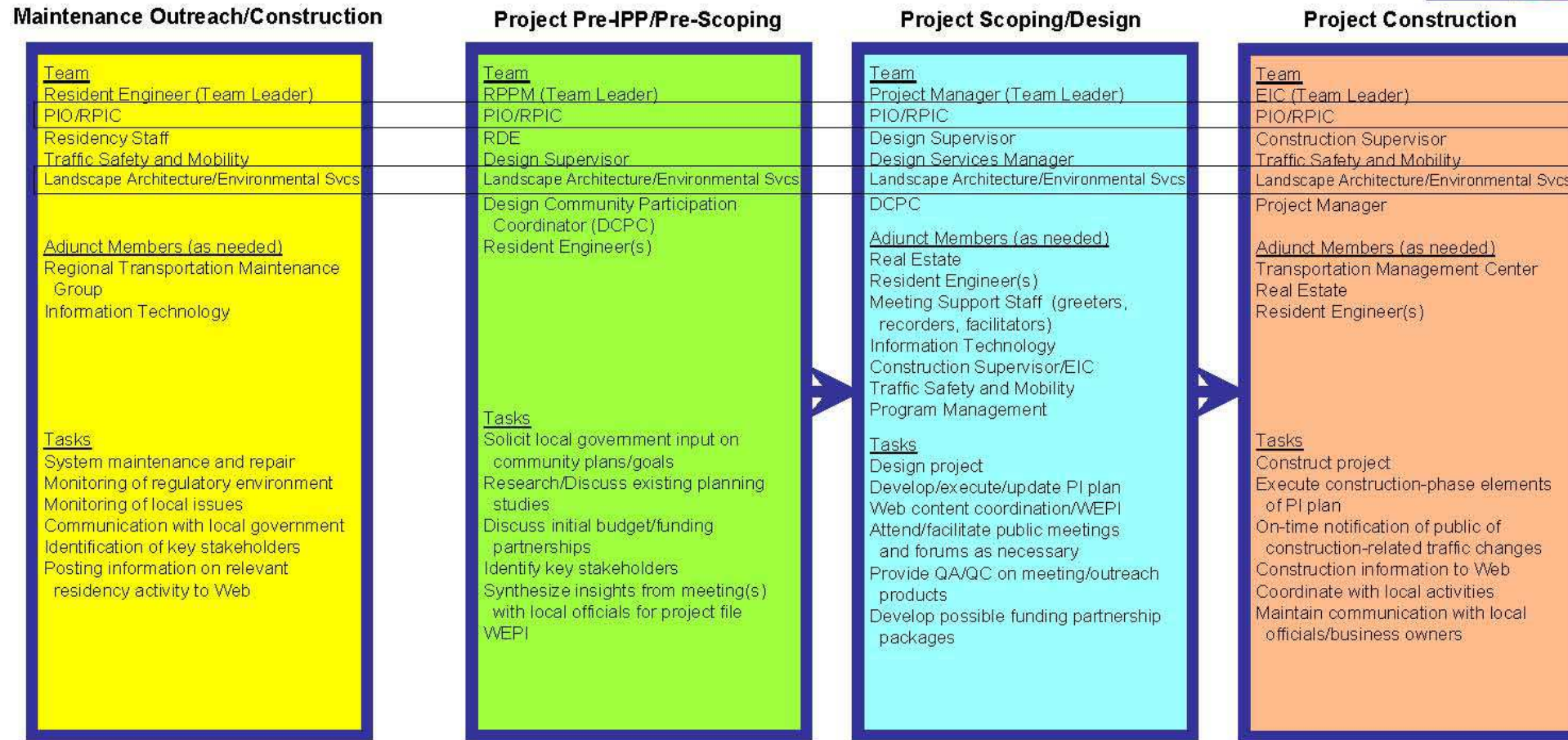
ROW = Regional Land Surveying and Mapping Unit
 RTMG = Regional Transportation Maintenance Group
 TES = Regional Traffic Engineering/Safety Group
 TMC = Transportation Management Center
 UTIL = Regional Utilities Unit
 WZTC = Work Zone Traffic Control Unit

Appendix Four

Regional Public Involvement Coordination Process Chart



Region 1 RPI *Committee* Process



The Committee is responsible for all aspects of the Public Involvement process in Regional activities, from routine maintenance to design and construction.

In addition to maintenance, design and construction work, the Committee will assist Public Involvement efforts related to other Region functions such as corridor studies, special initiatives, and special presentations as assigned by the Regional Director.

Advantages

- Shares workload
- Uses existing relationships and roles
- Flexible for different PI requirements
 - PIO/RPIC involved throughout
 - Emphasizes environmental ethics
- Improves sensitivity to customer needs
- PI strategy evolves as design progresses

Glossary, Abbreviations and Acronyms

ADP	Advance Detail Plans - Project plans, profiles and typical cross-sections that are approximately 90% complete. ADP's are developed from preliminary plans, which are approximately 30% complete, and become part of the PS&E package when 100% complete. See PS&E.
BDM or BM	Bridge Manual - NYSDOT's text book on designing a Bridge. The BDM assures that NYSDOT bridge projects are designed with uniform standards and procedures..
CE	Categorical Exclusion - A NEPA term for a category of actions that do not individually or cumulatively have a significant impact on the human environment. Therefore, neither an environmental assessment nor an environmental impact statement is required for compliance with NEPA. (Also referred to as a Cat. Ex.)
CFR	Code of Federal Regulations - A series of manuals containing federal regulations. The regulations stem from enacted laws that require a federal agency to develop "rules." Federal Highway Administration's regulations are contained in Title 23 of the CFR.
CM	Consultant Manual – NYSDOT's manual provides basic information on the consultant management process for both Project Managers and for consultants.
DAD	Design Approval Document - A report prepared to document the condition, needs, objectives and feasible alternatives of a proposed project. The DAD is used to obtain upper level management approval of a project and may also be used to obtain comments from other government agencies and the local community.
DCPC	Design Community Participation Coordinator – Design dedicated resource person for public involvement and public outreach assistance.
DEC	New York State Department of Environmental Conservation
DEIS	Draft Environmental Impact Statement - A draft Environmental Impact Statement prepared for public and outside agency review and comments. See EIS.
DONSE	Determination of No Significant Effect - A State Environmental Quality Review Act (SEQR) term for the decision document that states that no significant impacts were found as a result of the studies performed to prepare the Environmental Assessment. Therefore, an Environmental Impact Statement is not required. The DONSE concludes the SEQR environmental process. (Similar to a Negative Declaration in 6 NYCRR Part 617.) See SEQR.

DQAB	Design Quality Assurance Bureau - A NYSDOT Main Office Bureau under the Office of Design in Albany that is responsible for issuing and maintaining the PDM.
DR	Design Report - A Design Approval Document that functions as an in-depth engineering report for projects that do not need an Environmental Impact Statement or a federal Environmental Assessment. The design report also documents the environmental determination to comply with the National Environmental Policy Act (NEPA) or the State Environmental Quality Review Act (SEQR) or both.
DR/EA	Design Report/Environmental Assessment - A combination of the Design Report and the Environmental Assessment to efficiently address both the engineering and social, economical and environmental issues. This document is prepared for projects when the environmental impacts are unknown yet they do not clearly require the preparation of an Environmental Impact Statement.
DR/DEIS	Design Report/Draft Environmental Impact Statement - A combination of the Design Report and the Draft Environmental Impact Statement to efficiently address both the engineering and social, economical and environmental issues.
DS	Design Supervisor (NYSDOT)
DSL or SL	Design Squad Leader (NYSDOT) or, alternatively, Squad Leader
EA	Environmental Assessment - An environmental study used to determine whether an Environmental Impact Statement is required (i.e. whether or not the project will have "significant" impacts). An EA may be required by the National Environmental Policy Act (NEPA) and/or the State Environmental Quality Review Act (SEQR). See DR/EA and FDR/EA.
EB	Engineering Bulletin (NYSDOT) - An official issuance from the NYSDOT Office of Engineering.
ECOPAC	Environmental Commitments and Obligations Package (NYSDOT) - A checklist prepared during design for the Engineer in Charge that lists the environmental commitments and permits needed for construction.
EDPL	NYS Eminent Domain Procedure Law - A New York State law that regulates the acquisition of property by the State. Article 2 of the EDPL requires the State to hold public hearings for all projects requiring property acquisition unless the project meets specified exemptions.
EI	Engineering Instruction (NYSDOT) - An official issuance from the NYSDOT Office of Engineering.
EIC	Engineer In Charge - An engineer from the NYSDOT Construction Division in charge of a construction project.
EIS	Environmental Impact Statement - A project-specific document, required by the National Environmental Policy Act (NEPA) and the State Environmental

	<p>Quality Review Act (SEQR), that examines the social, environmental, and economic effects of a major proposal that may create "significant" impacts. The responsible agencies are required to identify the impacts, possible mitigation, and examine alternatives to the proposed project. See DR/EIS and FDR/FEIS.</p>
Element Specific	<p>A type of minor highway or bridge work that is of the same scale or complexity as routine maintenance work. The work generally involves a single feature at one or more locations. Section 8.5 of DPM, Appendix B provides guidance and instructions regarding element-specific projects.</p>
EPM	<p>Environmental Procedures Manual - A four volume NYSDOT manual prepared by the Environmental Analysis Bureau (EAB).</p>
FDR	<p>Final Design Report - A finalized version of the Design Report that reflects the comments obtained from the public and other agencies. The FDR includes a discussion of the preferred alternative and is used to obtain upper level management approval of the project prior to beginning detailed design work.</p>
FDR/EA	<p>Final Design Report/Environmental Assessment - A finalized version of the Design Report/Environmental Assessment that reflects the comments obtained from the public and other agencies. The FDR/EA includes substantive comments from the public and other agencies along with a response.</p>
FDR/FEIS	<p>Final Design Report/Final Environmental Impact Statement - A finalized version of the Design Report/Draft Environmental Impact Statement. The FDR/FEIS includes substantive comments from the public and other agencies along with a response.</p>
FEIS	<p>Final Environmental Impact Statement - A finalized Environmental Impact Statement that reflects the comments obtained from the public and other agencies. See EIS, DR/EIS and FDR/FEIS.</p>
FHWA	<p>Federal Highway Administration - An office within the U.S. Department of Transportation responsible for administering federally-aided, highway transportation projects. FHWA is divided into Division Offices for each State, Resource Centers for various regions of the country and the Headquarters in Washington D.C. FHWA is a sister agency to the Federal Transit Administration (FTA).</p>
FONSI	<p>Finding of No Significant Impact - A NEPA term for the decision document that states that no significant impacts were found as a result of the studies performed to prepare the Environmental Assessment. Therefore, an Environmental Impact Statement is not required. The FONSI concludes the NEPA environmental process.</p>
HDM	<p>Highway Design Manual - NYSDOT's text book on how to design a highway project. The HDM assures that NYSDOT highway projects are designed with uniform standards.</p>
IPP	<p>Initial Project Proposal - A brief report documenting the concept for a project and concluding the project initiation stage. The IPP is used by NYSDOT to</p>

obtain upper level management's approval of a project before beginning project scoping.

JM	Job Manager (NYSDOT) - Job Managers have overall responsibility for a functional portion of a project. In essence, a project is an integrated collection of "jobs." Job Manager is a catch-all term that refers to an individual who is responsible for producing information, such as a survey, or a service, such as obtaining environmental permits. The information or service is an integral part of the design project, which cannot be successfully concluded without it. Job Managers are usually Support Unit Leaders or the Environmental or Landscape contact.
LAES	Regional Landscape Architecture and Environmental Services
MOFU	Main Office Functional Units (NYSDOT) - A general term for the Main Office groups, bureaus, divisions and offices within NYSDOT.
MOPL	Main Office Project Liaison (NYSDOT) - Main Office DQAB representative assigned for federal funded project review and coordination with FHWA.
MPO	Metropolitan Planning Organization - A federally required transportation planning body required in urban areas with a population over 50,000. NYSDOT is a member of each MPO in New York State. Each MPO is responsible for the Regional Traffic Plan (RTP), Unified Planning Work Program (UPWP), Long Range Plan (LRP) and the Transportation Improvement Program (TIP) in it's metropolitan area. There are 12 MPOs in New York State.
NEPA	National Environmental Policy Act (1969 et seq) - Federal legislation passed by Congress in 1969 that calls for the examination and consideration of the proposed action on sensitive resources for all federally-funded actions. NEPA sets national environmental policy, established a basis for Environmental Impact Statements (EIS), and created the Council on Environmental Quality (CEQ).
NHS	National Highway System - A federal highway classification created by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and modified by TEA-21. ISTEA established a 155,000 mile network (increased to 163,000 miles by TEA-21) of rural and urban roads serving major population centers, international border crossings, intermodal transportation facilities, and major travel destinations including connections to terminals designated by this act. The NHS must also meet national defense requirements and serve interstate and interregional travel.
Non-NHS	Highways not on the 1991 "National Highway System"
NYCRR	New York Code of Rules and Regulations - New York State regulations that mandate and regulate various actions within the State of New York.
NYSDEC	New York State Department of Environmental Conservation

NYSDOT	New York State Department of Transportation - A State agency responsible for providing a safe and efficient State transportation system. This includes the development and administration of State and federally-funded transportation projects and the maintenance of the State highway system
OOO	Order on Contract – Process in construction that adjusts costs in capital contracts for design errors and omissions in the contract items.
PDM	Project Development Manual - NYSDOT's text book on how to process a highway project, including how to hold a public hearing or meeting, and what the format and content should be for a Design Approval Document. The DPM assures that NYSDOT projects are processed according to the appropriate policies, procedures and regulations.
PI	Public Involvement – Process by which the NYSDOT engages stakeholders to better identify needs, effectively use limited resources and share knowledge in coordination with transportation partners – other government agencies, municipalities, community residents, special interest organizations and facility users.
PIP	Public Involvement Plan – A tool to identify appropriate ways to conduct public outreach. It serves both to plan and document public outreach activities. The plan is developed at scoping and updated during design and construction.
PM	Project Manager (NYSDOT) - Project Managers have overall cost, schedule, scope, and quality responsibility for all aspects of a project for in-house, main office design and consultant design projects.
PPM	Program and Project Management - A NYSDOT process to administer the state and federally-funded transportation projects on a project-by-project basis and at a Regional and State-wide level.
PS&E	Plans, Specifications and Estimates - A package that contains most of the information needed to let a contract for competitive bidding. This includes a set of completed plans, profiles and typical sections, the special specifications and notes not included in the NYSDOT Standard Specification Book, and the Engineer's Estimate of the Contractor's bid price for each item in the contract.
RCE	Regional Construction Engineer (NYSDOT)
RD	Regional Director - The highest NYSDOT position within each of the 11 State Regional Offices of the NYSDOT. The Regional Director is responsible for all of their Region's products and activities. The Regional Director reports directly to the Commissioner and First Deputy Commissioner of the Department of Transportation.
RE	Resident Engineer (NYSDOT)
RDE	Regional Design Engineer (NYSDOT)
RDI	Regional Design Instruction - An official issuance of the Region One Design Group establishing Design policy or procedures or both. Region One also

establishes and disseminates design related information using Regional Design Instructions. RDI's remain in effect for five years unless re-issued, revised, or superceded during that time.

RGE	Regional Geotechnical Engineer (NYSDOT)
RLS	Regional Land Surveyor (NYSDOT)
RME	Regional Materials Engineer (NYSDOT)
ROD	Record of Decision - A NEPA or SEQR document which summarizes the benefits and detriments of the various project alternatives and the basis for the selection of the chosen alternative. It also identifies any mitigation measures to be included in the project. The ROD is prepared based on the results of the Final Environmental Impact Statement. The ROD concludes the environmental process. (Similar to a Finding Statement in 6 NYCRR Part 617.)
ROW	Right of Way - Land or property owned by the State or local government. A right-of-way taking is the purchase of land or property.
RPIC	Regional Public Involvement Committee - Region 1's inter-disciplinary team structure for coordinating all aspects of the PI process in Regional activities, from routine maintenance to design and construction. In addition the Committee assists PI efforts related to other Region functions such as corridor studies, special initiatives, and special presentations as assigned by the Regional Director.
RPPM	Regional Program and Project Manager (NYSDOT)
RQAE	Regional Quality Assurance Engineer (NYSDOT)
RSE	Regional Structures Engineer (NYSDOT)
RTE	Regional Traffic Engineer (NYSDOT)
RTME	Regional Transportation Maintenance Engineer (NYSDOT)
RUE	Regional Utilities Engineer (NYSDOT)
SDB	Structures Design Bureau (NYSDOT) – A NYSDOT Main Office Bureau under the Office of Structures responsible for designing structures in the capital construction program.
SEQR or SEQRA	State Environmental Quality Review Act (1988 et seq) - In 1975, SEQR became a New York State Law with the fundamental purpose "to declare a State policy which will encourage productive and enjoyable harmony between man and his environment." SEQR requires the preparation of environmental studies to document the effect a proposed action will have on the environment. The New York State Department of Transportation has issued regulations to comply with SEQR in Title 17 of the New York Compilation of Rules and Regulations (NYCRR) Part 15. Projects not administered by NYSDOT follow the Department of Environmental Conservation's (DEC) regulations in 6 NYCRR

Part 617 or they may follow local regulations developed in accordance with SEQR. For example, New York City has issued its own regulations to comply with SEQR.

STAR

Short Term Accident Reduction - A Region One initiative established by RDI to simplify and streamline the design and design approval process for intersections with identified safety concerns. The objective is to compress the time from project initiation to construction completion in comparison to the normal time required to produce and construct a project. Strict criteria apply to selecting candidates for STAR treatment

TIP

Transportation Improvement Program - A staged multi-year program of transportation projects for a metropolitan planning area, excluding planning and research activities. The TIP is a spending program for the federal funds that will be available from all sources for transportation projects of all types. By federal, the program shall be updated at least once every two years and shall be approved by the Metropolitan Planning Organization (MPO) and the Governor with the cooperation of the local governments, transit operators, and NYSDOT. The TIP is subject to federally mandated public involvement. The TIP officially covers a three year period - a commitment beyond three years may be noted. Within the urbanized area, federally funded projects cannot be advanced unless they come from an approved TIP.