

I-95 HOV/HOT Lanes Project

Exhibit C

Technical Requirements

Attachment 1.3

Project Development Plans

Project Development Plans

General

- a) The general requirements for Project Development Plans (PDPs) are noted in Section 1.3 of the Technical Requirements.
- b) The PDPs shall be consistent with ISO principles (ISO 9001:2000 Quality Management Systems- Requirements; ISO 9004:2000 Quality Management Systems- Guidelines for Performance Improvement; ISO 9000:2000 Quality Management Systems- Fundamentals and Vocabulary; ISO:19011:2004 Guidelines for Quality and/or Environmental Management Systems Auditing; ISO 14001:2004 Environmental Management Systems-Specifications with Guidance for Use).
- c) The PDPs shall comply with the requirements of the Agreement including the Technical Requirements, and shall ensure that when implemented, the Work covered by the Plans will comply with such requirements.

1.1 Concessionaire Management Plan

- a) The purpose of the Concessionaire Management Plan is to provide the Department with a clear view of Project management approach undertaken by the Concessionaire for all aspects and tiers of the Project. It shall clearly identify responsibilities and procedures for each Project management activity and demonstrate a thorough understanding of the Agreement and Project requirements.
- b) The Concessionaire Management Plan shall reference and consider all other PDPs and link their relevance to each other and to the management approach.
- c) The Concessionaire Management Plan is an umbrella document that describes the Concessionaire's managerial approach, strategy, and quality procedures to design, build, operate and maintain the Project and achieve all requirements of the Agreement. The Concessionaire Management Plan shall include an organization chart outlining the basic structure of the Concessionaire's Project organization including well defined roles for the design, construction, operations and maintenance; sub-organizations (such as consulting, subcontractors, suppliers) and a description of the roles; relationship with the Department the Lender's Independent Engineer, and third parties; organizational chart with responsibilities, professional qualifications, and Work to be accomplished by each member of the management team and each sub-organization, including identified subcontractors and suppliers.
- d) The Concessionaire Management Plan shall describe how all PDPs fit within the overall quality management system, responsibilities for developing and maintaining the plans and the schedule for implementation.

- e) The Concessionaire Management Plan shall address the Concessionaire's schedule and procedures for preparation of amendments and submission of amendments to any part of the PDP.
- f) The Concession Management Plan shall be linked to the QMSP.

1.2 Document Management Plan

- a) The Document Management Plan will define the document management approach for all Project documentation and will address:
 - i. the document management system;
 - ii. document management procedures;
 - iii. requirements for records retention;
 - iv. electronic and hardcopy data transmission, storage and sharing;
 - v. a logical, auditable and Project-compatible tracking system of all Project correspondence and documents for all phases of the Project.
- b) The Document Management Plan shall clearly define document management applicable to all aspects of the Project-management structure, tracking, updates, originator/recipient, document approvals tracking, searchable database, links amongst various documents, hard-copy and electronic filing.
- c) The Document Management Plan shall be appropriately structured to consider roles and participation by the Department, the Lender's Independent Engineer, Concessionaire, and third parties participating and having input regarding the Project.
- d) The Plan shall also provide for electronic data management and storage, and electronic access to project documents remotely, with the required electronic security procedures.
- e) The Document Management Plan shall be linked to the QMSP.

1.3 Quality Management System Plan

- a) The Quality Management System Plan (QMSP) will define the quality management systems during the design, construction and operations and maintenance. The Concessionaire shall or shall cause to be completed all quality assurance and quality control activities required to manage its own processes as well as those of its Contractors, and suppliers of any tier. The QMSP shall:
 - i. be fully compliant with the Department's *Minimum Requirements for Quality Assurance & Quality Control on*

Design-Build & Public-Private Transportation Act Projects – August 2007 (revised July 2008);

- ii. be developed consistent with ISO 9001 principles and clearly demonstrate how it will lead to continuing improvement;
- iii. define the Quality Management System roles and auditing responsibilities and procedures (internal and external);
- iv. establish quality objectives that are measurable and quantifiable;
- v. provide an organizational chart with roles, responsibilities and professional qualifications applicable to all stages of the project;
- vi. describe how the relevant requirements of the contract will be met;
- vii. integrate the services of the Lender’s Independent Engineer for selected portions of the Work;
- viii. require any Contractor, or supplier employed by the Concessionaire for design, construction, maintenance or operation activities to develop, implement and maintain a quality management system compatible with the requirements of the Agreement;
- ix. be able to provide reports on quality with a tracking system, which at a minimum, includes:
 - 1. searchable data
 - 2. summary of inspection and quality control activities
 - 3. internal and external quality audits performed
 - 4. non-conformances and their status, such as quality item description; date opened; date closed; status (open, closed, pending, follow-up required); disposition (repair, reject, rework); status; corrective actions
 - 5. how the non-conformity has been accepted by the Department, if applicable
 - 6. updates to the QMSP
- x. provide a means and procedure for “escalating” quality concerns of the Department or the Concessionaire;
- xi. provide a linkage amongst relevant Project Development Plans and address all quality-related items in those plans;
- xii. provide a document management system;

- xiii. be updated regularly and produce a track-able record and reports of quality control, assurance and audits;
- xiv. explain the corrective action process for workmanship related quality issues in order to minimize the recurrence of such errors and quality problems.

1.4 Design Quality Management Plan

- a) The Design Quality Management Plan (DQMP) shall provide the organization, relationship and procedures that define clear lines of responsibility and well defined approach for meeting Project requirements and innovation in design approach.
- b) The Design Quality Management Plan shall be linked to the QMSP.
- c) The Design Quality Management Plan shall define the design approach, flow charts and activities for the design of the Project and will address:
 - i. the design organization, responsibilities and professional certification;
 - ii. a drawing tier indicating organization and hierarchy of the Concessionaire's drawings;
 - iii. the design basis (e.g. design criteria, design standards and specifications);
 - iv. design validation, ensuring that the intended design meets its intended use;
 - v. stages where design reviews are conducted and design work is certified by appropriate design professionals, including Professional Engineers registered in the State;
 - vi. work zone and worker safety review during design;
 - vii. quality assurance and control;
 - viii. the breakdown of the Project design into design packages;
 - ix. the process the engineering consultants and subconsultants will use to design and seal each design package;
 - x. the system engineering process for the design of the systems components;
 - xi. the proposed strategy for integrating the facilities and systems component into the design process; design deliverables;
 - xii. design control-design input reviews, output reviews and verifications (design checks and professional review and seals) to ensure requirements have been;
 - xiii. design changes;
 - xiv. internal and external audits;

- xv. document management;
- xvi. provide regularly updated quality records and a tracking record of all quality control, quality assurance and audit records and a log of items and how they have been addressed, such as conformance, non-conformance, corrective actions and preventative actions;
- xvii. the process by which the Concessionaire's team, the Lender's Independent Engineer, and the Department will be involved in the design review process;
- xviii. reporting and documentation mechanism;
- xix. linkage to other relevant PDPs and the QMSP.

1.5 Construction Quality Management Plan

- a) The Construction Quality Management Plan will define the construction approach and activities for the construction of the Project and will address:
 - i. the construction organization and responsibilities – including the contractors and subcontractors;
 - ii. roles and professional qualifications of persons responsible for various aspects of the project;
 - iii. outline of procedures and schedules;
 - iv. sequence of construction activities;
 - v. Project permitting and coordination with the Department and external agencies;
 - vi. safety during construction;
 - vii. site security and access;
 - viii. environmental management;
 - ix. quality as outlined in the QMSP, specific to the construction phase;
 - x. the breakdown of the Project construction into construction areas/segments;
 - xi. the general construction sequence;
 - xii. site temporary facilities and storage areas;
 - xiii. field equipment and materials management;
 - xiv. coordination with other projects, stakeholders, and impact of permitting;
 - xv. compliance with the Agreement;
 - xvi. reporting and documenting changes;
 - xvii. industrial relation;

- xviii. as-built documents;
- xix. reporting and documentation mechanism;
- xx. the process for conducting all activities related to achieving Substantial Completion including the representative inspection and documentation verification steps of all parties;
- xxi. linkage to other relevant PDPs and the QMSP.

1.6 Environmental Management Plan

- a) The Concessionaire shall develop and implement a thorough approach to environmental management. The Concessionaire shall or shall cause to be maintained and updated an Environmental Management Plan that shall include:
 - i. procedures and a contingency plan (emergency response plan) for reporting, immediate actions, and Remedial Actions to be taken in the event of a potential environmental permit violation, dump, discharge, or spill of Hazardous Substances, including, as required by Law, the development and implementation of a Spill Prevention, Control and Countermeasures (SPCC) plan(s);
 - ii. plans for investigation, handling, monitoring, discharge, release, storage, removal, remediation transportation, tracking, reporting, and other disposition of any Hazardous Substance encountered or used on the Project, whether or not the presence of such Hazardous Substances constitutes a Hazardous Environmental Condition;
 - iii. plans for initiating Remedial Actions in respect of any Hazardous Substances encountered on or used on the Project that constitute or could reasonably be expected to constitute a Hazardous Environmental Condition;
 - iv. procedures for coordination with the Department and other emergency response-related agencies and organizations; and
 - v. procedures for submission of “incident” reports for releases of Hazardous Substances.
- b) The Environmental Management Plan shall include the procedure and the party responsible for obtaining the required Governmental Approvals, interface with Governmental Authorities, and identifying and controlling the permit conditions to assure environmental compliance.
- c) The Environmental Management Plan shall define the environmental activities required during the design and construction of the Project and shall address:
 - i. compliance (monitoring, control, follow-up and audits) with the environmental requirements and regulations;

- ii. erosion and sediment control plans, including monitoring and approach to erosion and sediment control,
- iii. stormwater management plans;
- iv. stormwater pollution prevention;
- v. environmental impact avoidance, minimalization, and mitigation measures;
- vi. identify environmental monitoring and recording requirements;
- vii. on-going monitoring and compliance records tracking system;
- viii. compatible with ISO 19011:2004 Guidelines for Quality and/or Environmental Management Systems Auditing; and ISO 14001:2004 Environmental Management Systems- Specifications with Guidance for Use; and
- ix. linkage to other relevant PDPs, including the QMSP.

1.7 ROW Acquisition and Relocation Plan

- a) The ROW Acquisition and Relocation Plan will define the approach to acquisition of the Project ROW and will address:
 - i. the roles and responsibilities of the Concessionaire and the Department for ROW acquisition;
 - ii. the ROW acquisition process and procedures;
 - iii. applicable guidelines and Laws;
 - iv. the ROW acquisition services;
 - v. coordination with the Department and property owners;
 - vi. ROW acquisition costs management;
 - vii. the use of RUMS;
 - viii. the utility acquisition and relocation schedule;
 - ix. environmental concerns;
 - x. document management; and
 - xi. linkage with other relevant PDPs and the QMSP.

1.8 Utilities Plan

- a) The Utilities Plan will define the utility coordination, adjustment, and relocation activities during the design and construction of the Project and will address:
 - i. the roles and responsibilities of the Concessionaire, the Department, and Utility companies/owners;

- ii. Utility agency coordination plans and process;
- iii. the Utility Relocation and adjustment process;
- iv. applicable guidelines, laws and regulation;
- v. the application of prior rights and cost allocations;
- vi. the utility easement acquisition process
- vii. utility agreements including the Department Master Utility Agreement (“MUA”) and/or the development of Project specific utility relocation agreements;
- viii. Relocations and adjustments of utility facilities included in the Concessionaire’s Contract;
- ix. Relocations and adjustments of utility facilities performed by the utility company or their contractor;
- x. the coordination with the Concessionaire, the Department, Utilities, Utilities’ designers, and contractors;
- xi. the identification and resolution of utility conflicts and interdisciplinary coordination;
- xii. the development and maintenance of a Utility tracking report;
- xiii. the process for revising utility plan and estimates;
- xiv. the process of payment of utility company progress and final billings.
- xv. the process for close out of utility relocations and processing as-built land use permit applications
- xvi. identify monitoring and recording requirements;
- xvii. on-going monitoring and compliance records tracking system;
- xviii. the roles and responsibilities related to Concessionaire provided MOT services for utilities and/or their contractors.
- xix. regularly updated impact on project schedule;
- xx. reporting and documentation mechanism;
- xxi. linkage to other relevant PDPs and the QMSP.

1.9 Maintenance of Traffic (MOT) Plan

- a) The Concessionaire shall develop a MOT Plan pursuant to Section 1.9 of the Technical Requirements. The MOT Plan will consider the impact of construction activities on the access and egress of traffic to the I-95/395 Corridor within the immediate construction

zone and provide for a proactive approach to address the impact of such activities on the traveling public and transit providers.

- b) The MOT Plan shall be consistent with, and included as part of, the TMP for the Construction Period.
- c) The MOT Plan shall include:
 - i. construction phasing plans (including diagrams and narratives);
 - ii. detours and timeline schedules;
 - iii. emergency access plans for first responders and facilities such as hospitals, police stations, and fire stations;
 - iv. incident management coordination with the Department;
 - v. a description of the Concessionaire’s proposed approach for the development of detailed traffic control plans;
 - vi. coordination with the Communications, Consultation, Public Outreach, and Community Engagement Plan for the dissemination of construction-related communications;
 - vii. a description of the process to be used for ongoing reviews of active work zones;
 - viii. a description of the process to ensure all persons responsible for design, implementation, and inspection of work zone traffic controls are trained adequately; and
 - ix. coordination with other relevant PDP.

1.10 Communications, Consultation, Public Outreach, and Community Engagement Plan

- a) The Concessionaire is expected to develop and maintain an effective Communications, Consultation, Public Outreach, and Community Engagement Plan throughout the Project, including during the Operating Period. The Concessionaire will deliver an integrated Communications, Consultation, Public Outreach, and Community Engagement Plan that at a minimum does the following:
 - i. provides an effective framework for communication between the Concessionaire and stakeholders;
 - ii. effectively engages the community in the design, construction and operation of the Project to minimize negative impacts, and maximize positive outcomes;
 - iii. builds a strong and enduring relationship with stakeholders and the community within the I-95 Corridor over the life of the Project;

- iv. identifies and manages risks associated with the Project;
 - v. develops a strong and enduring brand relationship among the communities, I-95 Corridor drivers and the owners and operators of the Project;
 - vi. maximizes public awareness of features and benefits of the HOT Lanes;
 - vii. ensures the public understands how best to use the HOT Lanes, and the requirements for travel on the system;
 - viii. will be consistent with the goals for the Project;
 - ix. provides a detailed outline of communication tools and strategies to be employed during each phase of the Project development, delivery and operation, including:
 - 1. Project branding
 - 2. Market research and analysis
 - 3. Media outreach
 - 4. Stakeholder outreach and information
 - 5. Department interface and liaison
 - 6. Project communication team
 - 7. Designbuild phase– public information and involvement
 - 8. Pre-operations phase - public education and awareness
 - x. develop a Crisis Communications Plan and Procedures, addressing coordination with the Department and responsiveness to the media
 - xi. reporting and documentation mechanisms;
 - xii. linkage to other PDPs and the QMSP.
- b) The Concessionaire shall or shall cause to be developed a Public Information Plan (PIP) for the Work period as part of its overall Communication Plan.
- c) The PIP will fit within the context of the broader Communication, Consultation, Public Outreach, and Community Engagement Plan and will address:
- i. The identification of stakeholders and the outreach tactics that will be used to engage them
 - ii. Training of relevant Project personnel in crisis communications, media relations and community outreach techniques
 - iii. Development of a Community Engagement Program, outlining the approach to consulting with the community about design and construction matters, including:

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1. Mechanism to engage and communicate applicable design and construction activities to the community
 2. Communicate mitigation measures to directly impacted properties (dust, noise, access constraints, utility impacts, etc.)
 3. Hosting community information meetings to provide updated Project information as required
 4. Education and awareness related to public safety surrounding the work zone
- iv. The approach to communication with the public about construction activities, including:
1. Notification of forthcoming construction activity to surrounding homes and businesses
 2. Commitment of key Project staff to participate in community outreach activities such as public meetings and media interviews
 3. Commit to provide information to assist VDOT in responding to inquiries received through VDOT's various hotlines
 4. Facilitation and maintenance of Project signage, including information to pedestrians and cyclists, and Project branding and information
 5. Planning for and communicating project activities impacting the public, such as changes to traffic patterns
- v. Provision of information to motorists and stakeholders to facilitate the Maintenance of Traffic (MOT) during construction. This will include:
1. Packaging of all MOT information, such as anticipated delays and lane closures, for provision to the Project Communication Team on a regular basis, to facilitate communication to the media, stakeholders and the broader community
 2. Communication with direct impact area property owners
 3. Communication with elected officials and other key stakeholders
 4. Coordination with local agencies
 5. Notification program to inform motorists and the broader community about expected traffic changes/delays (such as on-road signage, SMS and email alerts)

6. Information to stakeholders about events in the area that may be affected by construction activities
- vi. Coordination of construction-related information for inclusion on all Project communication material as developed under the Communication, Marketing and Public Outreach Plan (including web, bulletins, etc.)
- vii. Management of construction site tours, including stakeholder events
- viii. Recording of Project progress through photography
- ix. Packaging and timely delivery to the Department of information on expected, major traffic changes for inclusion in the Department public advertising, online communications and media outreach programs. The Department will manage and execute all advertising related specifically to construction-related lane closures and anticipated delays
- x. Reporting and documentation mechanism
- xi. Linkage to other relevant PDPs and the QMSP.

1.11 DBE/SWaM Plan

- a) The DBE/SWaM Plan will define the approach to meet the DBE/SWaM participation goal and will address:
 - i. the proposed method to achieve the DBE/SWaM participation goal or demonstrate a good faith effort to meet the goal;
 - ii. a proactive DBE/SWaM outreach program for DBE/SWaM participation;
 - iii. the reporting requirements to the Department regarding DBE/SWaM participation;
 - iv. regular updates on the progress in meeting DBE/SWaM requirements;
 - v. on-going tracking of efforts and corrective actions required and how they have been met;
 - vi. reporting and documentation mechanism; and
 - vii. linkage to the other PDPs and the QMSP.

1.12 Health, Safety and Security Plan

- a) The Health, Safety and Security Plan will define the health, safety and security activities required during the design and construction of the Project and will address:
 - i. the health and safety policy for the Project;
 - ii. the health and safety goals for the Project;

- iii. the organization and responsibilities of the various positions related to health, safety and security;
- iv. construction occupational health and safety;
- v. the Project health and safety rules and regulations;
- vi. site security;
- vii. documented procedures on meeting the health and safety requirements for the Concessionaire and its Contractors and suppliers;
- viii. on-going tracking of efforts and corrective actions required and how they have been met;
- ix. reporting and documentation mechanism;
- x. linkage to other relevant PDPs and the QMSP.

1.13 Operations and Maintenance Plan

- a) The Operations and Maintenance Plan will identify the methods, systems and procedures whereby the Concessionaire will comply with the operation and maintenance requirements of the Agreement.
- b) It is intended to address routine and seasonal operation and maintenance planning and activities.
- c) The Operations and Maintenance Plan shall be consistent with or include as its components, and address the following areas, consistent with the approach noted earlier for the PDPs during the design and construction phase:
 - i. Concessionaire Management Plan
 - ii. Document Management Plan
 - iii. Quality Management System Plan
 - iv. Life Cycle Maintenance Plan
 - v. Communication, Consultation, Public Outreach, and Community Engagement Plan (which includes Public Information Plan)
 - vi. Environmental Management Plan
 - vii. Transportation Management Plan
 - viii. DBE/SWaM Plan
 - ix. Health, Safety and Security Plan
 - x. Tolling operations and maintenance shall be addressed as a separate component of the Operations and Maintenance Plan
- d) The Operations and Maintenance Plan shall address the following:

- i. organization structure including key operations and maintenance personnel and their responsibilities and level of authority;
- ii. key suppliers and subcontractors;
- iii. service delivery and operating procedures;
- iv. incident management;
- v. inspection methods and inspection schedule;
- vi. identification and scheduling of routine maintenance;
- vii. stakeholder communication program;
- viii. environmental compliance;
- ix. site safety;
- x. emergency response;
- xi. tolling operations and maintenance plan;
- xii. documentation and reporting procedures;
- xiii. an internal audit program and recording of findings, conformances, non-conformances, corrective actions and preventative actions;
- xiv. making available documentation for external audits;
- xv. submission of quarterly reports indicating all activities and requirements as noted in Section 1.10-B of the Technical Requirements;
- xvi. submission of annual operations and maintenance report addressing the requirements in Section 1.10 B of the Technical Requirements.
- xvii. reporting and documentation mechanism;
- xviii. coordination with other projects, including the Route 495 HOT Lanes in Virginia Project; and
- xix. linkage to other relevant PDPs and the QMSP.

1.14 Life Cycle Maintenance Plan (operations phase)

- a) The Life Cycle Maintenance Plan shall address the following:
 - i. The Life Cycle Maintenance Plan will be developed in accordance with Section 9.04 of the Agreement.
 - ii. The Life Cycle Maintenance Plan shall provide the procedures in place for successful management of maintenance, operation and handover of the assets to the Department
 - iii. The Life Cycle Maintenance Plan is intended to focus on non-routine maintenance, such as annual or seasonal maintenance, and provide a status of the assets under the control of the Concessionaire.

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- b) The Life Cycle Maintenance Plan shall be updated annually and submitted to the Department for review and approval.
- c) The Life Cycle Maintenance Plan shall clearly identify the life cycle maintenance activities planned, organization, implementation, and quality management measures.

Submission Timetable

2 Submission Timetable

Project Development Plans are to be developed to implementation status and updated in accordance with the following table, or earlier if required by the Project Agreements.

Project Development Plan	PDP submission date for review by VDOT	Updates *	VDOT Review Input
Concessionaire Management Plan	90 Days following the Financial Close Date	Annually (during the Term)	Review and approve
Document Management Plan	60 Days following Limited Notice to Proceed (LNTP) for Early Work	Quarterly, if required (during the Construction Period)	Review and approve
Quality Management System Plan	30 days following execution of Amendment No. 2 to the Interim Agreement (IA)	Monthly reporting & quarterly updates, if required (during the Construction Period)	Review and approve
Design Quality Management Plan	Prior to Limited Notice to Proceed (LNTP) for Early Work	Quarterly, if required (during the Construction Period)	Review and approve
Construction Quality Management Plan	60 Days prior to anticipated commencement of physical construction	Quarterly, if required (during the Construction Period)	Review and approve
Environmental Management Plan	60 Days prior to anticipated commencement of physical construction	Quarterly, if required (during the Construction Project); Annually, if required (during the remainder of the Term)	Review and approve
ROW Acquisition and Relocation Plan	60 Days following Limited Notice to Proceed (LNTP) for Early Work	Quarterly, if required (during the Construction Project)	Review and approve
Utilities Plan	60 Days following Limited Notice to Proceed (LNTP) for Early Work	Quarterly, if required (during the Construction	Review and approve

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		Project)	
Maintenance of Traffic Plan	60 Days following Limited Notice to Proceed (LNTP) for Early Work	Quarterly, if required (during the Construction Project)	Review and approve
Communications, Consultation, Public Outreach and Community Education Plan	60 Days following the Financial Close Date	Annually, if required (during the Term)	Review and approve
DBE/SWaM Plan	60 Days following the Financial Close Date	Quarterly, if required (during the Term)	Review and approve
Health, Safety and Security Plan	60 Days prior to anticipated commencement of physical construction	Quarterly, if required (during the Construction Period); Annually, if required (during the remainder of the Term)	Review and approve
Operations and Maintenance Plan	90 Days prior to anticipated Substantial Completion	Quarterly: Operations and Maintenance status and update reports. Annually: Operations and Maintenance Plan update and report on previous year activities	Review and approve
Life Cycle Maintenance Plan (operations phase)	No later than 90 days before the beginning of each calendar year after the Service Commencement Date.	Annually	Review and approve

* Plans, records and logs shall be available for review by the Department on an ongoing basis in accordance with the Agreement. Changes as required will be in accordance with these Technical Requirements. The term “updates” in this column means updates to the already-approved PDPs.