



SYRACUSE DIVISION BUNDLED BRIDGES

TAS 17-37B, Contract D800001

CONTRACT DOCUMENTS PART 2

DB SECTION 100 GENERAL PROVISIONS

Final, October 12, 2017

Note to Proposers: All references to the “Authority”, “NYSDOT”, the “Department of Transportation ” in this document and the appendices associated with this document are to be changed to the “Authority”.

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**DB SECTION 101
ABBREVIATIONS, SYMBOLS, AND TERMS AND DEFINITIONS**

Wherever the following terms, abbreviations, or symbols are used in the Contract Documents, the intent and meaning shall be interpreted as follows in this DB §101.

DB 101-1 ABBREVIATIONS

Wherever the following abbreviations are used in the Contract Documents, they are to be construed the same as the respective expressions represented. Some of these abbreviations may be acronyms and may appear without periods.

AAN	American Association of Nurserymen
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Materials
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AGC	Associated General Contractors of America
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ALA	American Society of Landscape Architects
AME	American Society of Mechanical Engineers
ANSI	American National Standards Institute, Inc.
AOAC	Association of Official Agricultural Chemists
ARA	American Railway Association
AREMA	American Railway Engineering and Maintenance-of-Way Association
ARTBA	American Road and Transportation Builders Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASIS	American Society of Industrial Security
ASTM	American Society for Testing and Materials
ATC	Alternative Technical Concept
AWPA	American Wood-Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
BAFO	Best and Final Offer
BDM	Bridge Design Manual
BIM	Building Information Modeling
BMP	Best Management Practices
C/A	Corrective Action
CADD	Computer Aided Design and Drafting
CCE	Construction Compliance Engineer
CCM	Construction Compliance Monitor
CCS	Code Compliance Specialist
CCTV	Closed Circuit Television
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act

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CFR	Code of Federal Regulations
CIM	Civil Integrated Management
CPM	Critical Path Method
CQAE	Construction Quality Assurance Engineer
CQCE	Construction Quality Control Engineer
CRT	Commuter Rail Transit
CRU	Contract Review Unit
cSEL	Cumulative Sound Exposure Level
CSL	Contract Submittal List
CWI	Certification of Welding Inspector
DB	Design-Build
dBA	Decibels, A-scale
MWBE	Disadvantaged Business Enterprise
DFS	Driver Feedback Sign
DONSI	Determination of No Significant Impact
DOT	Department of Transportation
DQAE	Design Quality Assurance Engineer
DQCE	Design Quality Control Engineer
DRB	Disputes Review Board
DTM	Digital Terrain Model
EBO	Equitable Business Opportunity Solution
EEI	Electrical Engineering Institute
EEO	Equal Employment Opportunity
EIS	Environmental Impact Statement
EMT	Emergency Medical Technician
EPA	United States Environmental Protection Agency (also USEPA)
EPC	Environmental Performance Commitment
ESA	Environmental Site Assessment
ESDC	Empire State Development Corporation
FAR	Federal Acquisition Regulations
FCC	Federal Communications Commission
FHWA	Federal Highway Administration
FONSI	Finding Of No Significant Impact
FSS	Federal Specifications and Standards, General Services Administration
GDM	Geotechnical Design Manual
HDM	Highway Design Manual
HMA	Hot Mix Asphalt
HSPPD	Handling/Storage/Packaging/Preservation/Delivery
IA	Independent Assurance
IAS	International Accounting Standards
IEEE	Institute of Electrical and Electronics Engineers
ISO	International Standards Organization
ITP	Instructions to Proposers
ITS	Intelligent Transportation System
LEED	Leadership in Energy and Environmental Design
LLC	Limited Liability Company
LOI	Letter of Intent
LRFD	Load and resistance factor design
MAP	Manual of Administrative Practices
MBE	Minority-Owned Business Enterprise
MM	Materials Method

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MP	Materials Procedures
MPO	Metropolitan Planning Organization
MSDS	Material Safety Data Sheet
MURK	Manual for Uniform Record Keeping on Construction Contracts
MUTCD	National Manual of Uniform Traffic Control Devices and New York State Supplement
N/A	Not Applicable
NCR	Non-Conformance Report
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NETTCP	North East Transportation Technician Certification Program
NHPA	National Historic Preservation Act
NHS	National Highway System
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NTCIP	National Transportation for ITS Protocol
NTP	Notice to Proceed
NYCRR	Official Compilation of Codes, Rules and Regulations of the State of New York
NYOGS	New York Office of General Services
NYPA	Power Authority of the State of New York, doing business as the New York Power Authority
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOL	New York State Department of Labor
NYSDOS	New York State Department of State
NYSDOS/DCEA	New York State Department of State/Division of Code Enforcement and Administration
NYSDOT	New York State Department of Transportation
NYSOSC	New York State Office of the State Comptroller
NYSP	New York State Police
NYSTA	New York State Thruway Authority
NYSUCP	New York State Unified Certification Program
NYSUFP&BC	New York State Uniform Fire Prevention & Building Code
OCR	Office of Civil Rights
OEM	Original Equipment Manufacturer
OOC	Order on Contract
OPRHP	New York State Office of Parks, Recreation and Historic Preservation
OQA	Owner's Quality Assurance
OSHA	Occupational Safety and Health Administration, United States Department of Labor
P/A	Preventive Action
PCC	Portland Cement Concrete
PCCM	New York State Prestressed Concrete Construction Manual
PCCP	Painting Contractor Certification Program
PCI	Precast/Prestressed Concrete Institute
PE	Preliminary Engineering or Professional Engineer
PEL	Permissible Exposure Level
PIP	Public Information Plan
PMI	Project Management Institute

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PR	Project Requirement
PS	Performance Specification
QA	Quality Assurance
QC	Quality Control
QCP	Quality Check Points
QCP	Quality Control Plan
QM	Quality Manager
RFP	Request for Proposals
RFQ	Request for Qualifications
ROD	Record of Decision
ROW	Right of Way
SAE	Society of Automotive Engineers
SBA	Small Business Administration
SCM	New York State Steel Construction Manual
SEQR	New York State Environmental Quality Review Act
SHPO	State Historic Preservation Office
SHSM	Standard Highway Signs and Markings
SI	International System of Units
SOQ	Statement of Qualifications
SP	Special Provision
SPDES	State Pollutant Discharge Elimination System
SSPC	Steel Structures Painting Council
STAA	Surface Transportation Assistance Act of 1982
STURAA	Surface Transportation and Uniform Relocation Assistance Act of 1987
SUP	Shared Use Path
TBD	To Be Determined
TCO/TCC	Temporary Approval for Occupancy
TRANSCOM	Transportation Operations Coordinating Committee
TWIC	Transportation Workers Identification Card
UL	Underwriters' Laboratories
US	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDOL	United States Department of Labor
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency (also EPA)
USFWS	United States Fish and Wildlife Service
US GAAP	Generally Accepted Accounting Principles (U.S.)
UST	Underground Storage Tank
VDC	Virtual Design and Construction
VE	Value Engineering
VECP	Value Engineering Change Proposal
WBE	Women-Owned Business Enterprise
WBS	Work Breakdown Structure
WIM	Weigh-in-Motion
WZTC	Work Zone Traffic Control

DB 101-2 [RESERVED]

DB 101-3 CAPITALIZED TERMS

The following capitalized terms shall have the following meanings:

Accept/Acceptance - The confirmation provided by the Authority that informs the Design-Builder that a submittal, deliverable, work product, or test result, is in conformance with the Contract requirements or NYSDOT standards.

Acceptance Program – All factors that comprise the Authority’s determination that the products of the Work are compliant with the Contract Documents. These factors include Quality System and Authority’s Oversight of the Design-Builder’s activities.

Acceptance Testing – Testing, conducted to measure the degree of compliance with the Contract Documents.

Addenda – Supplemental additions, deletions, and modifications to the provisions of the Request for Proposals (RFPs) and the Standard Specifications, after the Advertisement date of the RFP.

Administrative Plans – Those plans that contain general Project or plan information such as cover sheets, index sheets, and similar non-technical information.

Agreement – The agreement executed and delivered by the Authority and the Design-Builder for the Project.

Alternative Technical Concept – A concept that deviates from requirements set forth in the Request for Proposals and that has been included in the Proposal with the Authority’s prior written approval in accordance with the Instructions to Proposers, based on a determination by the Authority that the proposed end product based on the deviation is equal to or better than the end product absent the deviation and approval of any deviations from the Project Environmental Approvals.

Amendment – A formal alteration by addition, deletion, or modification of the terms of the executed Contract.

Approved List – The list of materials, equipment, manufacturers, fabricators, or material suppliers approved by the Materials Bureau under a particular specification. The Approved Lists are published periodically and are available from the Materials Bureau or the Authority’s website.

Architecture – The organizational structure of a system, identifying its components, their interfaces, and a concept of execution among them.

Artificial Activity – An activity that is not encompassed within the meaning of the definition of Work.

As-Built Plans – Final drawings and specifications furnished by the Design-Builder, documenting the details and dimensions of the completed Work.

Baseline Progress Schedule – The schedule submitted by the Design-Builder pursuant to DB §108-1.2.2B, as updated from time to time in accordance with the Contract.

Basic Project Configuration – The salient characteristics of the Project as defined in Part 3, Project Requirements.

Basis of Payment – The terms under which the Design-Builder is paid for Work.

Betterment – Any upgrading of a utility facility that is not attributable to the construction of the Project, and is made solely for the benefit of and at the election of the utility owner or other third party; provided, however, that the following are not considered Betterments:

- A) Any upgrade necessary for safe and effective construction or other accommodation of the Project;
- B) Replacement devices or materials that meet equivalent standards although they are not identical;
- C) Replacement of devices or materials no longer regularly manufactured with the next highest grade or size, where replacement devices or materials that meet equivalent standards are not available;
- D) Any upgrading specified in the Contract Documents, and any upgrading required by applicable Governmental Rules in effect as of the Proposal Date;
- E) Replacement devices or materials which are used for reasons of economy (e.g. non-stocked items may be uneconomical to purchase);
- F) Any upgrading required by Utility Standards in effect as of the Proposal Date; and
- G) Any discretionary decision by a utility owner contemplated within a particular Utility Standard described in clause (F) above.

If a DB Utility Work Agreement includes a definition of “betterment” or similar concept, that definition shall control over the foregoing with respect to the utilities subject to such agreement.

Change in Law – The enactment, adoption, modification, repeal, or other change in any Governmental Rule, including any change in the judicial or administrative interpretation of any Governmental Rule, or adoption of any new Governmental Rule, that is materially inconsistent with the Governmental Rules in effect (or deemed in effect) 30 days before the Proposal Date, and which (i) requires a material modification in the Project design or in a Relocation design, (ii) results in imposition of additional mitigation requirements on the Project respecting impacts on Environmental Resources or Cultural Resources, (iii) prevents renewal of any Governmental Approval, (iv) changes the sales and use tax exemption described in DB §102-10, or (v) results in an increase in the Design-Builder’s costs directly attributable to a change in Governmental Rule of at least \$100,000. A Governmental Rule shall be deemed in effect as of 30 days prior to the Proposal Date if it was passed or adopted, even though not yet effective, as of 30 days before the Proposal Date. In addition, the Design-Builder is charged with knowledge of

proposed rules and regulations, and modifications thereto, that have been published in draft form by the promulgating authority as of 30 days before the Proposal Date, and no Change in Law shall be deemed to have occurred except to the extent that the rule or regulation as adopted differs materially from the draft rule or regulation and differs materially from Governmental Rules in effect as of 30 days before the Proposal Date.

Chief Engineer – The Chief Engineer of the New York State Thruway Authority.

City – A subdivision of the State of New York that may be used to designate or identify the location of the proposed Work.

Commissioner – The Commissioner of the New York State Department of Transportation.

Components – Pieces of design and/ or actual entities (subsystems, hardware units, software units) of the system/subsystem.

Comptroller – The head of the New York State Office of the State Comptroller.

Construction Inspection (CI) – The act of inspecting all construction operations and enforcing all safety measures (for employees and the traveling public), performed by the Design-Builder to ensure conformance with the contract documents. This includes performing daily inspection and testing activities in accordance with all the requirements set forth in Authority policies, manuals, engineering bulletins, and engineering instructions; preparation of applicable MURK forms; preparation of monthly estimates; monitoring compliance to safety procedures, including fall protection and Work Zone Traffic Control (WZTC) requirements; monitoring compliance to environmental requirements. Construction Inspection also includes Contract Administration functions including, but not limited to keeping required records, monitoring the Design-Builder's progress, monitoring certified payroll compliance and processing of payments, monitoring adherence to Equal Opportunity and Labor requirements contained in the contract, taking measurements as required for payment, and maintaining a contemporaneous project diary documenting conformance with the contract documents.

Construction Inspection Professional Engineering Firm – An Engineering firm, licensed in New York State to perform Engineering Services and having experience in Construction Inspection as defined herein.

Construction Manager – The Design-Builder's designated representative who leads construction activities of the Design-Build Contract, including overall construction oversight, assignment of the construction workforces, coordination of the construction workforces, etc.

Construction Quality Assurance Engineer (CQAE) – The Authority's representative with primary responsibility for monitoring and/or auditing the Design-Builder's construction and environmental field activities for compliance with the Contract's requirements and the Design-Builder's Quality Control Plan.

Construction Quality Control Inspectors – Construction Quality Control Inspectors are responsible for performing Construction Inspection of all construction operations and enforcing all safety measures (for employees and the traveling public) performed by the Design-Builder to ensure conformance with the contract documents and the Design-Builder's Quality Control Plan.

Construction Quality Control Engineer – The Design-Builder’s designated representative who leads the Construction QC activities. The Construction QC Engineer, or his/her designees, shall be delegated the authority to actively monitor the quality of materials and workmanship and to make necessary improvements to the quality of Work, including the suspension of the Work if required.

Construction Subcontractor – A Subcontractor (or Affiliate) retained by the Design-Builder that is involved in the actual construction of the Project.

Constructor - A Principal Participant or subcontractor retained by the Design-Builder, who is involved in the actual construction of the Project.

Contract – The written agreement between the Authority and the Design-Builder setting forth the obligations of the parties with respect to the Project, including, but not limited to, the performance of the Work, the furnishing of labor and materials, and the basis of payment, and including all provisions required by law to be inserted in the Contract whether actually inserted or not. The Contract will include the Contract Documents and any amendments, supplemental agreements, and Change Orders that are required to complete the design and construction of the Work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.

Contract Documents – The documents identified as such in the *Agreement, Article 5 – Documents Forming the Contract*, including any and all provisions required by law to be inserted in the Contract whether actually inserted or not.

Contract Price – The total amount paid for the Work to be performed under the Contract, as it may be adjusted from time to time to account for Orders on Contract.

Contract Time – The time specified in the Contract Documents for completion of the Work. This time may be defined as a specified fixed date, a given number of work days, a given number of days, or a combination of the above. The Contract Time may be amended by mutual written agreement to include authorized extensions of time, as the performance of the Contract requires.

Cost – All expenditures, including design costs, wholly and necessarily incurred, whether on or off the Site, with respect to the Work and overhead, finance, and other charges properly allocable thereto. Cost does not include any allowance for profit.

Critical Path – The sequence of activities yielding the longest path in a CPM schedule. In the context of delays for which a time extension may be allowed, a delay to the Critical Path is deemed to occur only to the extent that the delay adversely impacts the Design-Builder’s ability to complete the Work required to be performed by a Contract Deadline.

Cultural Resource – Any prehistoric or historic period artifact, site, building, structure, material remain, or traditional use area resulting from, or associated with, human cultural activity. Historically important cultural resources are those eligible for inclusion on the National Register of Historic Places.

MWBE/Civil Rights Compliance Manager - the Design-Builder’s designated person who working under the direction of the Project Manager shall be responsible for monitoring all Civil Rights Compliance requirements and achieving the MWBE goals and EEO goals described in the Contract documents.

DB Utility Work Agreements – The agreements between the Authority, the Design-Builder and utility owners as required by the Contract.

Definitive Design – The stage of design development where design concepts and parameters are established that will be followed through to completion of the Project.

Definitive Design Review – Review of Definitive Design conducted by the Authority's Design Quality Assurance Engineer, with participation by the Authority and Stakeholders, as described in DB §111-9.1.

Demolition Permit – A written document issued by the Governing Agency authorizing the demolition and removal of buildings, equipment and materials after a determination that the demolition as proposed will comply with applicable provisions of Governmental Rules.

Authority – The New York State Thruway Authority, including staff and managers who have been delegated certain contractual and technical authority by the Executive Director. The Authority maintains a website at <http://www.thruway.ny.gov>.

Authority-Caused Delays – Unavoidable delays, to the extent that they affect the schedule's Critical Path, arising from the following matters and no others:

- A) A suspension order pursuant to DB §109-15.2(B);
- B) Authority-Directed Changes to the base Contract;
- C) Failure or inability of the Authority to provide the Design-Builder with access to the Site by the applicable date specified on the ROW Acquisition Schedule;
- D) Delays in Design Reviews by the Authority beyond time periods specified in, or established in accordance with, the Contract Documents;
- E) To the extent provided in DB §105-9.2, Authority direction to uncover, remove, and restore Work, only if the Authority had the opportunity to inspect the Work before it was uncovered, orders the Work uncovered after the fact, and the Work exposed proves acceptable;
- F) Failure of the Authority to pay undisputed amounts owing to the Design-Builder, to the extent that such nonpayment results in a suspension of Work by the Design-Builder as permitted under the DB §109-15.2, *Periodic Payments*.

Authority-Directed Changes – Any Work not included in the original scope (including changes in the Work due to the Authority's direction to implement modified Standards in performance of the Work) that the Authority has directed the Design-Builder to perform in accordance with DB §104-3.1.

Authority Geotechnical Engineer – The Geotechnical Engineer or his/her authorized representative, or a Geotechnical Engineer of the Geotechnical Engineering Bureau acting at the request of the Geotechnical Engineer.

Authority Engineering Geologist – An engineering geologist of the Authority Engineering Department authorized by the Director of Geotechnical Engineering Bureau to perform the duties required under these specifications.

Authority's Project Manager – The designated person, representing the Authority and having direct supervision of the administration and execution of the Contract.

Design Acceptance – Written confirmation by the Authority after submittal and review of the As-Built Plans that the design conforms to the Contract requirements and reflects the As-Built conditions. This is required as part of Final Acceptance.

Design-Builder – The Team selected pursuant to the RFP which enters into the Contract with the Authority to design and construct the Project (also referred to as the “Design-Build Team”).

Design Documents – Maps, Design Plans, Project Specifications, reports, calculations, records, submittals, and other specified documents prepared by the Design-Builder and/or Designer in the course of performing Project engineering and design Work.

Design Manager – The Design-Builder's designated person who shall have primary responsibility for coordination and oversight of the all the Project Designs including design plans, calculations, and specifications. He/She shall be a registered Professional Engineer in the State of New York.

Design Plan – Plans prepared by the Design-Builder showing the location, character, dimensions and other design-related details of the Work to be done.

Design Quality Assurance Engineer – The Authority's representative with primary responsibility for monitoring and/or auditing the Design-Builder's design and engineering activities for compliance with the Contract requirements and the Design-Builder's Quality Control Plan.

Design Quality Assurance Engineering Firm – The independent engineering consultant(s) retained by the Authority responsible to oversee, manage, certify and perform design QA activities. The Design QA Engineering Firm shall be responsible for management and scheduling of all Design QA activities for all items of Work for this Contract.

Design Quality Control Engineer – The person appointed by Design-Builder who reports directly to the Design-Builder's Quality Manager and is responsible for the QC of all Work conducted by the Designer. The Design QC Engineer shall be a New York-licensed professional engineer with similar experience as the Design Manager. The Design QC Engineer shall ensure that checkers are assigned for each design discipline and for each Design Unit and that they are properly scheduled.

Design Requirements – Those specifications contained in the Contract that specify the minimum acceptable technical standards and define the limits within which the design of the Project shall be developed and conducted.

Design Review – A comprehensive and systematic examination of the design as specified in the Contract to verify that it is in conformance with the requirements of the Contract, as performed by the Design-Builder for all stages of the design except As-Built Plans, which is performed by the Authority. During all stages of the design, except As-Built Plans, the Authority will contribute to the review through Oversight including participation, auditing and spot-checking.

Design Unit – A distinct portion of the Project of which the design is performed as a contiguous, integrated unit.

Designer – A Principal Participant, specialized Subcontractor, or in-house designer that leads the team furnishing or performing the design of the Project.

Digital Terrain Model (DTM) – A three-dimensional representation of a terrain's surface. A DTM is a major constituent of geographical information processing.

Directive Plans – Plans contained in *Part 6- RFP Plans* designated as Directive Plans. Directive Plans depict required elements and components of the Project within specifically defined parameters. The Design-Builder has limited or no latitude to adjust components or details shown on Directive Plans. Examples of Directive Plans may include the following:

- A) Standard Plans;
- B) Right-of-way plans; and
- C) Any other plans included in the RFP that depict the Basic Project Configuration, but only to the extent that such plans depict the Basic Project Configuration.

Disadvantaged Business Enterprise – A for-profit, small business concern as defined pursuant to Section 3 of the federal Small Business Act (Public Law 85-536, as amended) and Small Business Administration regulations implementing it (13 CFR Part 121) that is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals and whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it, which meets the definitions set forth in 49 Code of Federal Regulations (CFR) 26.

Dispute – A matter of Contract performance or Contract compensation, including granting of extensions of time, in which there is or may be disagreement between the Design-Builder and the Authority and which may involve adjustment of Contract Items or the addition of new items to the Contract, extension of time for performance, and/or adjustments in compensation necessitated by the resolution of such disagreement.

Engineer-in-Charge (EIC) - The Authority's Project Manager or designated representative when used in the NYSDOT standard specifications. When used in the Archaeological Work Plan (AWP), the Construction Protection Plan (CPP), and the Stormwater Pollution Prevention Plan (SWPPP) Engineer-in-Charge (EIC) means the Design-Builder's Resident Engineer.

Environmental Approvals – Those Governmental Approvals arising from or required by any Environmental Law in connection with development of the Project, including the DEIS, the FEIS, the Record of Decision (ROD) and SEQRA findings.

Environmental Documentation – Documents supporting the Environmental Approvals.

Environmental Laws – All Governmental Rules now or hereafter in effect regulating, relating to, or imposing liability or standards of conduct concerning the environment or to emissions, discharges, releases, or threatened releases of hazardous, toxic, or dangerous waste, pollutant, contaminant, substance, or material into the environment including into the air, surface water, or

ground water or onto land, or relating to the manufacture, processing, distribution, use, re-use, treatment, storage, disposal, transport, or handling of hazardous, toxic, or dangerous waste, pollutant, contaminant, substance, or material, or otherwise relating to the protection of public health, public welfare, public safety or the environment (including protection of nonhuman forms of life, land, surface water, groundwater, and air).

Environmental Performance Commitments – Any commitments, obligations or liabilities as defined in the Contract Documents.

Environmental Requirements – The requirements listed in *Part 3, Section 3 – Environmental Compliance*.

Environmental Resource – The physical and biological components, including paleontological components, of the human and natural environment.

Equitable Business Opportunity Solution (EBO) – An internet-based management control system that provides government agencies with the tools to develop, implement and monitor a Disadvantaged Business Enterprise program in accordance with 49 CFR Part 26, including all the tools necessary to set Authority and contract goals, monitor non-discriminatory procurement and award processes, develop and execute availability, utilization and disparity studies, set and monitor labor goals and provide statistical evidence to remedy discrimination as identified, and to monitor and report on participating contracts. For purposes of the Contract, Version 1.4 of EBO shall apply, except that the Authority, with notice to the Design-Builder, may choose to use a different version of EBO at its discretion.

Erosion and Sediment Control – Any action taken or item used as part of the Project, or as a separate action, to minimize the destructive effects of wind and water on surface soil.

Extra Work - Work not provided for in the Contract as awarded but found essential to the satisfactory completion of the Contract within its intended scope.

Federal-Aid – Joint cooperative construction or reconstruction of State highways and bridges or grade crossing elimination work or other work performed with monies contributed to the State by the federal government under Title 23 of the United States Code, Highways, and amendments thereto.

Federal-Aid Project – An identification applied to federally aided work for the purpose of the records of the FHWA.

Final Acceptance – The acceptance of the completed Work, given by the Authority in accordance with DB §109-11.4.

Final Design – The stage of design development, after Interim Design, at which time the Design Plans and Project Specifications for a Design Unit are 100% complete.

Final Inspection – The inspection scheduled after receipt of notification from the Design-Builder that it has completed all Work items, including punch list items and demolition Work, so that a certificate of Project Completion may be issued.

Final Supplemental Agreement – Agreement between the Authority and the Design-Builder, stating the total cost of the Work done by the Design-Builder. This document, which may also

be referred to as a "Final Agreement," provides a final tabulation of the net increases or decreases in the Contract Price.

Force Account – The Basis of Payment for the directed performance of design and/or construction Work, with payment based on the actual cost of labor, equipment, and materials, and including various constant activities.

Force Account Work—Work performed as a result of additions or changes to the Contract, with payment based on the actual cost of labor, equipment, and materials, as specified in DB §§109-7 and 109-9.

Generally Accepted Accounting Principles (U.S.) (US GAAP) – Generally accepted accounting principles in effect in the United States, including the pronouncements and guidance published in the Federal Accounting Standards Advisory Board Handbook of Accounting Standards and Other Pronouncements, as amended from time to time.

Geotechnical Engineering Bureau – The Authority employee or other designated inspection agency or representative of the Authority, having responsibility for providing Geotechnical Engineering Services, including laboratory testing of earthwork materials.

Good Faith Efforts (GFE) – The efforts to achieve a MWBE goal or other MWBE requirement which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement. Good Faith Efforts shall meet the requirements of 49 Code of Federal Regulations (CFR) 26.53.

Governing Agency – Any Governmental Person having jurisdiction over an aspect of the Work or the Project.

Governmental Approval – Any approval, authorization, certification, consent, decision, exemption, filing, lease, license, permit, registration, concession, grant, franchise, waiver, variance or other approval, guidance, protocol, mitigation agreement, or memoranda of agreement/understanding, or ruling and any amendment or modification of any of them provided or required by or with any Governmental Person in order to design and construct the Project.

Governmental Person – Any federal, state, local, or foreign government; any political subdivision; or any governmental, quasi-governmental, judicial, public, or statutory instrumentality, administrative agency, authority, body, or entity other than the Authority.

Governmental Rule – Any statute, law, code, regulation, ordinance, rule, judgment, order, decree, agreement, directive, guideline, policy requirement, other governmental restriction, or any similar form of decision of, determination by, interpretation of, or administration of any of the foregoing by any Governmental Person, which is applicable to the Work or the Project, whether now or hereafter in effect. "Governmental Rule," however, excludes Governmental Approvals.

Guarantor – A parent company or other affiliate of a Principal Participant that is providing performance security for the Contract through a guaranty in the form prescribed in the RFP.

Guaranty – An instrument executed by a Guarantor in the form prescribed in the RFP, guaranteeing the Design-Builder's obligations under the Contract Documents.

Hazardous Materials – Any (a) substance, product, waste, pollutant, contaminant or other material of any nature whatsoever that exceeds maximum allowable concentrations for elemental metals, organic compounds or inorganic compounds, as defined by any Environmental Law; (b) substance, product, waste, pollutant, contaminant or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to any Environmental Law; (c) substance, product, waste, pollutant, contaminant or other material of any nature whatsoever which may give rise to liability under clause (a) or (b) or under any statutory or common law theory based on negligence, trespass, intentional tort, nuisance, or strict liability or under any reported decisions of a state or federal court; (d) petroleum hydrocarbons excluding de minimis amounts and excluding petroleum hydrocarbon products contained within regularly operated motor vehicles; and (e) hazardous building materials including asbestos or asbestos-containing materials, lead or PCBs in structures and/or other improvements on or in the Site or in subsurface artifacts (other than mineral asbestos naturally occurring in the ground). The term “Hazardous Materials” includes Hazardous Waste and contaminated materials.

Hazardous Waste – Waste as defined in 40 CFR Part 261.

Highway Advisory Radio – A radio system used to notify and broadcast advisory messages to the motoring public over 530 AM radio band.

Incremental Costs – Those costs, if any, which the Design-Builder incurs as a result of a particular circumstance which the Design-Builder would not have incurred but for the circumstance. In determining such costs, one would determine the total cost which the Design-Builder would have incurred had the circumstance not occurred, and subtract such amount from the costs actually incurred. The difference is the “increment.” For example, if the Design-Builder originally had to relocate three water lines, and a fourth water line is discovered in the same area which can be relocated by the same crew, subject to the provision of the Contract, the Incremental Costs would be the costs of keeping the crew working the additional time to relocate the fourth water line, and would not include any portion of the expense of moving the crew to the Site in the first place.

Independent Assurance – The activities that are undertaken in accordance with 23 CFR 637.203(a)(2), providing an unbiased and independent evaluation of all the sampling and testing procedures, equipment calibration, and qualifications of personnel (Design-Builder’s or Authority’s) used in the Acceptance Program, including the Design-Builder’s QC. The Independent Assurance (IA) agent for the Project will be designated by the Authority.

Indicative Plans – Those Plans that are provided as reference information indicating the nature and type of Work to be designed and constructed as part of the Project and reflecting items for which the Authority has no particular view on the specific configuration or material used in the final product. Indicative Plans do not necessarily reflect the final locations, quantities, or all elements required to complete the design.

Initial Baseline Progress Schedule – The Baseline Progress Schedule submitted with the Proposal.

Inspection – The act of viewing or looking carefully at construction, manufacturing, design, safety, and maintenance practices, processes, and products, including document control and Working Plan review, to ensure the practices, processes, and products comply with the

requirements contained in the Contract and activities specified in the Contract, Design Plans, and/or Project Specifications.

Inspector – A common term used to describe a representative of the Design-Builder or Authority detailed to inspect methods of construction or fabrication and/or materials, equipment for Work both on and off the Site of the Project.

Instructions to Proposers – Those documents containing directions for the preparation and submittal of information by the Proposers in response to the RFP, as amended by any addenda thereto.

Interim Design – The stage of design development after Definitive Design where the Design Plans and Project Specifications for a Design Unit are at the 60% to 80% stage of completion.

International Accounting Standards (IAS) – International accounting standards in effect and issued by the International Accounting Standards Board, as amended from time to time.

Landscape Development – Any development or item used as part of the Project or as a separate action through the use, placement, and management of land and elements for aesthetic enhancement, such as decorative surfaces and wall faces, benches, waste receptacles, tables, etc., and plant materials consistent with a specific, approved landscape architectural Design Plan.

Landscaping – The use and placement of plant materials (trees, shrubs, vines, and certain ground covers) consistent with an approved landscape architectural Design Plan. Planting vegetation for screening and erosion control purposes does not constitute landscaping.

Land Surveyor – A Land Surveyor licensed or otherwise authorized to practice surveying under Article 145 and registered or otherwise authorized under Article 130 of the New York State Education Law.

Leadership in Energy and Environmental Design – The United States Green Building Council (USGBC) standard for sustainable building performance.

Lien – Any pledge, security interest, mortgage, deed of trust or other charge or encumbrance of any kind, or any other type of preferential arrangement (including any agreement to give any of the foregoing, any conditional sale or other title retention agreement, any lease in the nature of a security instrument, and the filing of or agreement to file any financing statement or other instrument intended to perfect a security interest).

Limits of Constructions – The Project Limits as identified on the Directive Plans in *Part 6 – RFP Plans*.

Listed Material Source – A local source of material that may be listed and described in the Plans and in the Contract for possible use on the Project.

Management Plan – The Management Plan developed by Design-Builder as defined in *Part 3, Section 2 – Project Management*.

Manufacturer - A Manufacturer is an entity that operates or maintains a factory or establishment that produces on its premises the Material, Equipment, or supplies obtained by the Design-Builder for incorporation into the Project.

Material - Any approved material acceptable to the Commissioner and conforming to the requirements of the Specifications.

Materials Bureau – The Authority employee or its designated inspection agency or representative, with responsibility for providing materials engineering services including laboratory testing.

Materials Testing Firm or Laboratory – An independent testing firm or Laboratory, having experience in performing Quality Control activities.

Minority-Owned Business Enterprise – A business enterprise, including a sole proprietorship, partnership, or corporation that is a small business at least 51% owned by one or more minority group members and meets the definition set forth in Article 15-A of the New York State Executive Law.

Necessary Basic Project Configuration Change – Material changes in the Basic Project Configuration that are necessary to correct an error, omission, or defect in the Basic Project Configuration (with the understanding that a change shall be deemed “necessary” only if the error, omission, or defect creates a conflict with other Contract requirements or another problem which cannot reasonably be corrected without a material change in the Basic Project Configuration).

Ninety Day Schedule – The schedule submitted by the Design-Builder pursuant to DB §108-1.2.2A.

Non-Conformance Report – The written documentation of deficiencies, instances of non-compliance, errors, and/or omissions in the Work, per DB §105-16. The Non-Conformance Report is a means and method to document findings brought forth by either the Design-Builder or the Authority at any point during the Project design or construction to identify non-conforming items that shall be documented and managed until Final Acceptance.

Notice to Proceed – Written notice to the Design-Builder to proceed with some or all of the Work as specified in the Contract including, when applicable, the start date of the Contract Time.

Order on Contract – A written order issued by the Authority in accordance with DB §104-3 or DB §109-9.

Oversight – Actions by the Authority to satisfy itself that the Design-Builder is designing, constructing and managing the Work in accordance with the Contract Documents. It includes actions identified in the Contract Documents by the terms QA, Independent Assurance, Verification Sampling and Testing, compliant/compliance, accept/acceptance, inspect/inspection, audit, ensure, certify, confirm, review, verify or terms of similar import. Authority’s comments as a result of Oversight are conveyed to the Design-Builder through consultation and written comment. Neither the activity of Oversight nor the lack of consultation and written comment on the part of the Authority shall be construed to relieve the Design-

Builder and its organization from the responsibility and costs for meeting all Contract and regulatory requirements.

Part – Unless otherwise required by the context, a major subdivision of the Contract Documents.

Partial Suspension – Suspension of Work on some, but not all, items.

Payment Bond (Labor and Materials Bond) – The bond, in the form set forth in the RFP or as otherwise approved by the Authority, executed by the Design-Builder and its Surety, in the stated maximum amount required by the Contract, guaranteeing the payment of all monies due to persons furnishing labor or materials to the Design-Builder or its Subcontractors in the prosecution of the Work, up to such stated maximum amount.

Performance Bond (Faithful Performance Bond) – The bond, in the form set forth in the RFP or as otherwise approved by the Authority, executed by the Design-Builder and its Surety or Sureties, in the stated maximum amount required by the Contract, guaranteeing performance of all Work in compliance with the requirements of the Contract Documents including all Orders on Contract, Amendments, and Supplemental Agreements pertaining thereto.

Person – Any individual, firm, corporation, company, sole proprietorship, limited liability company (LLC), joint venture, voluntary association, partnership, trust, unincorporated organization, or other legal entity.

Preliminary DB Utility Work Agreements – The agreements made between the Authority and utility owners.

Prestressed Concrete Construction Manual – The New York State Prestressed Concrete Construction Manual published by the Office of Structures Design and Construction, which is current on the date of advertisement for bids. The Prestressed Concrete Construction Manual is a mandatory supplement to the contract documents for contracts which include Prestressed Concrete Units (Structural).

Principal Participant – Any of the following entities:

- A) The Design-Builder;
- B) If the Design-Builder is a partnership, joint venture, or limited liability company, each general partner or member of the Design-Builder; and/or
- C) Each Person holding (directly or indirectly) an equity interest in the Design-Builder.

Professional Architect – A professional architect licensed or otherwise authorized to practice architecture under Article 147 and registered or otherwise authorized under Article 130 or the New York State Education Law.

Professional Engineer – A professional engineer licensed or otherwise authorized to practice engineering under Article 145 and registered or otherwise authorized under Article 130 of the New York State Education Law.

Professional Landscape Architect – A professional landscape architect licensed or otherwise authorized to practice engineering under Article 148 and registered or otherwise authorized under Article 130 of the New York State Education Law.

Project – The improvements to be designed and constructed by the Design-Builder and all other Work product to be provided by the Design-Builder in accordance with the Contract Documents.

Project Completion – Completion of all Work on the Project and Final Inspection thereof, including: (i) completion of all construction and demolition punch list Work, (ii) acceptance of the Work by third parties as required, (iii) completion of final clean-up of the Site as required by the Contract Documents, and (iv) demobilization from the Work site(s).

Project Completion Date – The date specified in the *Agreement, Article 2 – Contract Time*, by which Design-Builder is required to achieve Project Completion.

Project Labor Agreement – The collective bargaining agreement with one or more labor organizations that establishes the terms and conditions of employment for the Project.

Project Manager - The Design-Builder's designated representative responsible for all aspects of the Work, including construction oversight, design oversight, project finances, project scheduling, etc. Disputes regarding design or construction that cannot be resolved with the designer or in the field will be brought to the attention of the Design-Builder's Project Manager for resolution.

Project Requirements – All of the terms and conditions set forth in *Part 3 – Project Requirements*.

Project Specifications – Those specifications developed by the Design-Builder to define and control the specific requirements, conditions, means, and methods to be used on the Project. Project Specifications will be based on the Contract requirements, including the Standard Specifications, and shall provide finished products that meet or exceed the quality requirements of the Contract. Project Specifications are subject to review, consultation and written comment of the Authority's Project Manager during Design Reviews, and to a determination by the Authority, in their sole discretion, whether the Project Specifications meet the Contract requirements.

Project Superintendent - The Design-Builder's on-site designated representative who oversees the construction of the Design-Build Contract, including directing and coordinating the activities of the Design-Builder's workforce and all subcontractors, ensuring that the work progresses according to schedule, and ensuring that material and equipment are delivered to the site on time, etc.

Proposal – The Proposal submitted by the Design-Builder in response to the RFP, including any revisions thereto. If the Authority requested a revised Proposal, the term "Proposal" means the revised Proposal submitted by the Design-Builder, including any revisions thereto.

Proposal Date or Proposal Due Date – The date of submittal of the Proposal, as specified in the Agreement.

Proposal Price – The Contract Price stated in the *Agreement, Article 1 – Compensation*, as of the date of execution thereof.

Protect in Place – Any activity undertaken to avoid damaging a utility which does not involve removing or relocating that utility, including staking the location of a utility, avoidance of a utility's location by construction equipment, installing steel plating or concrete slabs, encasement in concrete, temporarily de-energizing power lines, and installing physical barriers. For example, temporarily lifting power lines without cutting them would be considered a method in which to Protect in Place, whereas temporarily moving power lines to another location after cutting them would be considered a Temporary Relocation. The term includes both temporary measures and permanent installations meeting the foregoing definition.

Quality – The degree to which a product or service conforms to a given requirement.

Quality Assurance – The Authority's process of forming an acceptance decision to ensure the Design-Builder's design and construction, including the workmanship and materials incorporated into the Project, are in accordance with the Contract requirements. The QA process includes all the planned and systematic Oversight actions that provide the Authority with confidence that the Design-Builder is performing QC in accordance with the Quality Control Plan, that all Work complies with the Contract and that all Materials incorporated in the Work, all Equipment, and all elements of the Work will perform satisfactorily for the purpose intended. Quality Assurance includes, but is not limited to, monitoring and verification of design through auditing, spot-checking and participation in the review of the design, and monitoring and verification of construction, manufacturing/process facilities and equipment, on site equipment and QC documentation through auditing, spot inspections and Verification Sampling and testing at production sites and the Project Site. Quality Assurance also includes Independent Assurance, consultation and provision of written comments by the Authority, documentation of QA activities, final inspection and Final Acceptance.

Quality Assurance Inspection – Quality Assurance Inspections performed by the Authority in accordance with DB §§112 and 113.

Quality Assurance Laboratory – Any testing laboratory retained by the Authority to perform laboratory QA testing that complies with the requirements for Authority certification for applicable tests.

Quality Assurance Sampling and Testing – Sampling and testing performed by the Authority or firm retained by the Authority independently of the Design-Builder production or QC Inspectors.

Quality Characteristic – The characteristic of a unit or product that is actually measured to determine conformance with a given requirement. Example: measuring percent air content in concrete is a Quality Characteristic.

Quality Check Points (Hold Points) – Quality Check Points (QCP) established at various stages of construction for the Project that provide an opportunity to evaluate work for acceptability before beginning the next portion of the work.

Quality Control – The total of all activities performed by the Design-Builder, Constructor, Designer, Construction Inspection Professional Engineering Firm and the Materials Testing Firm or Laboratory, Subcontractors, producers or manufacturers to ensure that the Work performed by the Design-Builder conforms to the Contract requirements. For design, this shall include, but

not be limited to, procedures for design quality, checking, design review including reviews for constructability, and review and approval of Working Plans. For construction, Quality Control activities shall include, but not be limited to, procedures for materials handling and construction quality, inspection, sampling and testing of materials, both on site and at the plant(s), field testing of materials, obtaining and verifying material certifications, record keeping and equipment monitoring and calibration, production process control, and monitoring of environmental compliance. Quality Control also includes documentation of all QC design and construction efforts.

Quality Control Inspection – Quality Control inspections are performed by the Design-Builder’s personnel who are responsible for assessing and adjusting design, production and construction processes so as to control the level of quality being produced in the Project. The purpose of QC Inspections is to measure those quality characteristics and to inspect those activities that affect the production at a time when corrective action can be taken to substantially decrease the likelihood that appreciable non-conforming material will be incorporated in the Project.

Quality Control Plan – The Design-Builder’s plan for implementing the Design-Builder’s overall Quality System and associated activities, including Design-Builder’s QC and procedures to assure and document quality of design and construction activities through reviews, inspections, testing, internal communications, and necessary interfaces with the Authority and the Authority’s QA activities.

Quality Control Sampling and Testing – Sampling and testing performed by the Design-Builder.

Quality Manager – The Design-Builder’s designated individual who is responsible for the overall Quality Program of the Design-Builder, including the quality of management, design, and construction.

Quality Program – The overall quality system and associated activities, including the Authority’s QA and IA program, Design-Builder QC activities and associated Quality Control Plan that will assure materials and workmanship incorporated into the Project are in conformity with the Contract requirements, Design Documents and Project Specifications.

Reasonably Close Conformity – Compliance with reasonable and customary manufacturing and construction tolerances where working tolerances are not specified. Where working tolerances are specified, Reasonably Close Conformity means compliance with such working tolerances. Without detracting from the complete and absolute discretion of the Authority’s Project Manager to insist upon such tolerances as establishing Reasonably Close Conformity, the Authority’s Project Manager may accept variations beyond such tolerances as Reasonably Close Conformity where they will not materially affect the value or utility of the Work and the interests of the State.

Reference – Any publication or other document, or provision(s) contained therein, to the extent that it is specifically identified as a “Reference” in the Contract Documents. The Design-Builder is not required to use References in design and construction of the Project, but may use the References as it deems appropriate.

Reference Documents – The documents provided with and so designated in the RFP. The Reference Documents, including plans contained therein and/or so designated, are not Contract

Documents and were provided to Design-Builder for informational purposes only and are relied upon at the Design-Builder's own risk.

Region – One of eleven geographical subdivisions of the State used to designate or identify the location of the proposed Work.

Regional Director – The director, acting for the Commissioner, who is delegated the authority and responsibility to execute the total Authority prescribed Work Plans for his/her respective Region.

Regulatory Agencies – Those Governmental Persons involved in permits, approvals, 106 process, consultation or otherwise having jurisdiction over or involvement with any aspect of the Project.

Release for Construction – The stage of design development where the Design Plans and Project Specifications for a Design Unit or a component thereof are 100% complete and satisfy the requirements of DB §111-12.2.

Relocation – Each removal, relocation, abandonment, and/or protection in place (including provision of temporary services as necessary) of any and all utilities that is necessary in order to complete the Work as required by the Contract.

Request for Proposals – The written solicitation issued by the Authority (and as amended by any Addenda) seeking Proposals (including quality and price) to be used to identify the Proposer offering the best value to the Authority. The RFP will be issued only to Persons who are on the Short-List.

Request for Qualifications – The written solicitation, including all Addenda thereto, issued by the Authority seeking SOQs to be used to identify the shortlisted Proposers that received the RFP for the Project.

Resident Engineer – A qualified individual as specified in the RFP, who directs the organization and coordination of the inspectors and the on-site Construction Quality Control inspection of the execution of the construction by the Design-Builder. He ensures that the construction is executed in accordance with the approved designs, drawings and specifications related to the work under construction.

Responsible Architect – The New York-registered architect designated by the Designer for each Design-Builder-designated Design Unit who is responsible for signing and sealing design reports, Design Plans, Working Plans and Project Specifications for the assigned Design Unit(s).

Responsible Engineer – The New York-licensed engineer, designated by the Designer for each Design-Builder-designated Design Unit who is responsible for signing and sealing design reports, Design Plans, Working Plans and Project Specifications for the assigned Design Unit(s).

RFP Date – The date the RFP was issued, as specified in the *Agreement*.

RFP Plans – Those plans included in *Part 6 – RFP Plans* which are, generally-speaking, incomplete plans representing the Project and its components. RFP Plans may be Administrative Plans, Directive Plans or Indicative Plans.

ROW Acquisition Schedule – The schedule for acquisition of rights of way (including fee acquisitions and easements) and other real property interests by the Authority set forth in *Part 3, Section 7 – Right-of-Way*, as the initial Acquisition Clearance and Status Report.

ROW Limits – The area within the Project Limits that is between the highway boundaries, held in trust by Authority for the People of the State of New York in either fee or easement.

Safety Manager - The Design-Builder's designated person who working under the direction of the Project Manager shall have the primary responsibility for implementing and tracking safety measures for the Project and for ensuring that the Project is progressed safely and in accordance with the Design-Builders Safety Plan, the Contract requirements and the Safety Requirements of the Project. See also, Part 2, DB § 107-7.10.

Safety Plan – The plan that sets out the Design-Builder's means of complying with its obligations in relation to Project safety, which plan shall be provided and maintained in accordance with DB §107-7.5.

Scope of the Project – The brief description of the Work to be performed to design and construct the Project as contained in the Contract Documents.

Secretary – The Secretary of State of New York.

Section – Unless otherwise required by the context, a subdivision of the Project or a subdivision of a Part of the Contract Documents.

Site – Those areas designated in writing by the Authority for performance of Work and such additional areas as may, from time to time, be designated in writing by the Authority for the Design-Builder's use in performance of the Work. The Site initially includes the area within the ROW Limits. For purposes of insurance (subject to any notification and other requirements imposed by the insurer(s) for approval), indemnification, safety and security requirements, and payment for use of equipment, the term "Site" also includes (a) the field office sites, (b) any property used for bonded storage of material for the Project approved by the Authority, (c) staging areas dedicated to the Project, and (d) areas where activities incidental to the Project are being performed by Design-Builder or Subcontractors, but excluding any permanent locations of Design-Builder or such Subcontractors.

Site Security Plan – The plan that sets out the Design-Builder's means of complying with its obligations in relation to Site security, which plan shall be provided to the Authority and maintained in accordance with the Contract.

Special Provisions – Additions and revisions to the edition of the *Standard Specifications Construction and Materials*, published by the New York State Department of Transportation , current on the Contract execution date..

Specialty Subcontractor - Those consultants or subcontractors identified to perform Work critical to the success of the Project such as design, Construction Inspection, materials testing, demolition, environmental compliance, landscaping, or other specialty work.

Stakeholder – Any Person designated by the Authority as such, including:

- A) The State, primarily represented by the Authority, including its subsidiary agencies and Authorities;
- B) The FHWA;
- C) Other states and/or multi-state authorities directly affected by or cooperating with the development of the Project;
- D) Federal and State regulatory and permitting agencies having jurisdiction over portions of the Work;
- E) Counties, cities, towns, and villages within the State directly affected by the Project;
- F) Other public or private entities impacted or potentially impacted by the Project, such as authorities, utility owners, transit systems, and railroads; and
- G) Other entities specifically identified by the Authority.

Standards – Any publications or other documents, or provision(s) contained therein, to the extent that they are specifically identified as “Standards” in the Contract Documents. The term includes standards developed and published by the Authority, and recognized associations, societies, institutes and other entities for design and construction. Standards established by reference in the Contract Documents constitute a further elaboration of the Project requirements.

Standard Plans – Detailed Plans that depict the dimensional requirements and clearances of certain features of the Project and components, subassemblies, or systems to be incorporated into the Project, issued by the Authority or other Stakeholder, for general application and repetitive use in connection with the Project.

Standard Specifications – The edition of the *Standard Specifications Construction and Materials*, published by the New York State Department of Transportation , current on the Contract execution date, excluding Part 100.

State – The State of New York.

Steel Construction Manual – The New York State Steel Construction Manual published by the Office of Structures Design and Construction, which is current on the date of advertisement for bids. The Steel Construction Manual is a mandatory supplement to the contract documents for contracts which require the Design-Builder to furnish or rehabilitate structural metals.

Structural Tests and Special Inspections – All tests and inspections associated with materials, installation, fabrication, erection, or placement of components and connections requiring expertise to ensure compliance with approved construction documents and referenced standards, associated with Chapter 17 of the NY State Building Code. All tests and inspections are to be coordinated with the designated Code Compliance Specialist (Coordinator)/Code Compliance Manager.

Subcontract – Any agreement entered into by the Design-Builder or a Subcontractor (at any tier unless otherwise specified) for a portion of the construction or any other part of the Work in connection with, and under the terms of, the Contract.

Subcontractor – Any Person with whom the Design-Builder has entered into any Subcontract and any other Person with whom any Subcontractor has further subcontracted any part of the Work, at any tier. Suppliers and materialmen are excluded from the term. The term does not include any employee with an employment contract, or any employee organization with a collective bargaining agreement, who with the written consent of the Authority, sublets any part of the Contract.

Substantial Completion – The point at which the Project, or Section thereof, is complete, such that all items or Work, as described in Contract Document, Part 3 – Project Requirements, have been completed in accordance with the Contract Requirements and Approved by the Authority's Project Manager.

Surety – The corporate body or bodies properly licensed in the State which has or have issued the Performance and/or Payment Bond.

Suspension and Debarment – The disqualification of a Person from proposing on public works projects for a period of time determined in accordance with United States Department of Transportation (USDOT) regulations.

Temporary Relocation – Any interim Relocation of a utility (i.e., the installation, removal, and disposal of the interim facility) pending installation of the permanent facility in the same or a new location, and any removal and reinstallation of a utility in the same place with or without an interim Relocation.

Termini – A general term used to describe the limits of the Project, and including the beginning and end of the Project, the ROW Limits, pit sites, haul roads, and temporary and permanent construction or maintenance easements.

Test - The methods adopted by the Authority and the Design-Builder to ascertain the quality, character, and acceptability of Materials and processes utilized in performing the Contract.

Thruway – The network of toll roads and bridges operated by the New York State Thruway Authority.

Time Related Dispute – Any Dispute arising from any event not within the Design-Builder's control, performance, action, force, or factor which materially and adversely affects the scheduled time of performance depicted in the Design-Builder's most recent Baseline Progress Schedule submitted to the Authority.

Transportation Operations Coordinating Committee – A coalition of 16 transportation and public safety agencies in the New York/New Jersey/ Connecticut metropolitan region created in 1986 to provide a cooperative, coordinated approach to regional transportation management.

Unit Price – The price per unit of measure specified for items of Work in accordance with any unit priced Orders on Contract.

Utility - A Person, corporation, municipality, or public authority engaged in the distribution of electricity, gases, petroleum products, water, steam, the collection of wastewater, the operation of traffic control systems, or the provision of telecommunication services.

Utility Work Agreement – The Preliminary DB Utility Work Agreements and DB Utility Work Agreements.

Utility Delay – The meaning set forth in DB §104-4.2.3.

Utility Information – The utility-related data set forth in the Contract.

Utility Owner - The owner or operator of any Utility (including Persons and Governmental Persons).

Utility Relocation Plans – The Design Plans for Relocation of a utility impacted by the Project, to be prepared by the Design-Builder or the utility owner.

Utility Standards – The standard specifications, standards of practice, and construction methods that are applicable to a Relocation pursuant to the terms and conditions of a Utility Agreement; provided that if a particular facility is not governed by a Utility Agreement or the applicable Utility Agreement does not specify applicable standards, the term “Utility Standards” shall mean the standard specifications, standards of practice, and construction methods that are customarily applied by a utility owner to its facilities, in effect as of the Proposal Date.

Value Engineering Change Proposal – A proposal developed and documented by the Design-Builder which (A) produces a net savings to the Authority without impairing essential functions or characteristics of the Project (including the meeting of requirements contained in all Governmental Approvals); and (B) would modify or require a change in any of the requirements of or constraints set forth in the Contract Documents in order to be implemented. A Value Engineering Change Proposal cannot be based solely upon a change in quantities.

Verification Sampling and Testing – Sampling and testing performed by the Authority, or by a firm retained by the Authority, to validate the Design-Builder’s QC sampling and test data that was used in the acceptance decision. Verification sampling and testing is conducted whenever the Design-Builder’s Quality Control data (Construction Inspection and Sampling and Testing of Construction Materials) is used in the acceptance decision. Verification is performed by the Authority, or its agent, to validate the Design-Builder’s data.

Warranties – The written commitments of the Design-Builder as set forth in the Contract regarding quality and performance over a specified period of time after Final Acceptance of the Project.

Women-Owned Business Enterprise – Women-Owned Business Enterprise means a business enterprise, including a sole proprietorship, partnership, or corporation that is a small business at least 51% owned by one or more US citizens or permanent resident aliens who are women and meets the definition set forth in Article 15-A of the New York State Executive Law.

Work – All of the administrative, design, engineering, real property acquisition support services, utility support services, procurement, legal, professional, manufacturing, supply, installation, construction, supervision, management, testing, verification, labor, material, equipment, maintenance, warranty, documentation, and other duties and services to be furnished and

provided by the Design-Builder as required by the Contract Documents, including all efforts necessary or appropriate to achieve Final Acceptance of the Project and to fulfill the Design-Builder's warranties. In certain cases, the term is also used to mean the products of the Work.

Work Product – All data, information, documentation and other materials prepared by or on behalf of the Design-Builder and in any way related to the Project including designs, drawings, reports, schedules, studies, plans, specifications, deliverables and supporting documentation the Design-Builder may be required to submit pursuant to the Contract, engineering documents, calculations and computations, geotechnical soils and soil boring data, analyses, reports and records, property files, agreements and documents, all documents comprising or underlying the Design-Builder's development of the Design Documents, engineers' and inspectors' diaries and reports, utility relocation plans and agreements, right-of-way record maps and surveys, and other data, analyses, studies and reports, correspondence and memoranda relevant to design or construction decisions, correspondence and memoranda relevant to operation and maintenance decisions, contracting plans, air quality monitoring data, environmental reviews, studies and reports, mitigation studies and reports, data, assessments, studies and reports regarding Hazardous Materials investigations, testing, borings, monitoring and analyses, manifests regarding handling, storage or transportation of Hazardous Materials, correspondence and agreements relating to Governmental Approvals, Orders on Contract, work authorizations, final quantities, pile driving records, records of accidents and traffic management, field test records and reports, concrete pour records, surfacing depth check records, grade and alignment books, cross-section notes, drainage notes, photographs, false work and form plans, records of construction materials, and any other documents which can be reasonably described as technical or engineering documents. Work Product expressly excludes, however, documents and information which the Design-Builder and Authority mutually agree in writing, or which a court determines, to be exempted or protected from public disclosure.

Work Zone Traffic Control Plan – The required plan for traffic control and management developed by Design-Builder.

Workforce Participation Plan – A plan prepared by Design-Builder addressing Design-Builder's and Subcontractors' workforces and equal employment opportunity goals.

Working Plans – Those documents prepared by the Design-Builder to supplement Design Plans to specify additional details and procedures for construction of the Project, including the following:

- A) Construction details;
- B) Demolition Plans;
- C) Erection plans;
- D) Fabrication plans;
- E) Transportation plans
- F) Storage plans
- G) Field design change plans;

- H) Stress sheets;
- I) Shop plans;
- J) Lift plans;
- K) Bending diagrams for reinforcing steel;
- L) Falsework plans;
- M) Material Waste Area Grading Plans;
- N) Other Plans required to adequately describe the Work in accordance with the Contract;
and
- O) Similar data required for the successful completion of the Work.

DB 101-4 OTHER DEFINITIONS

The following terms, whether lower-cased or capitalized, shall have the following meanings:

affiliate (of a designated entity) – (a) Any Person which, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, the designated entity or any of the members, partners or shareholders holding a significant equity interest in the designated entity; and (b) any Person for which a significant equity interest in such Person is held by (i) the designated entity, (ii) any of the designated entity’s members, partners or significant shareholders or (iii) any affiliate of the designated entity under part (a) of this definition.

For purposes of this definition, the term “control” means the possession, directly or indirectly, of the power to cause the direction of the management of a Person, whether through voting securities, by contract, by family relationship, or otherwise.

approval/approve – With respect to approvals to be provided by the Authority hereunder, the term “approval” means a written statement by the Authority’s authorized representative, based on a review by or on behalf of the Authority of specified Work for compliance with Contract requirements, indicating that the specified Work has been approved. Approvals will only be given for those submittals, activities, or Work specifically identified for “approval” in the Contract Documents. The term “approve” means “provide approval.” See also DB §105-16.

award – The decision of the Authority to accept a responsive Proposal from a responsible Proposer that provides the best value to the Authority for the Work identified in the RFP, subject to the execution and approval of a satisfactory Contract, provision of Labor and Material and Performance Bonds to secure the payment and performance thereof, provision of such insurance as is required under the Contract, and the satisfaction of such other conditions as may be specified or otherwise required by law.

bridge – The term bridge shall apply to any structure, whether single or multiple span construction, with a clear span in excess of 20 feet when measurement is made horizontally along the center line of roadway from face to face of abutments or sidewalls immediately below the copings or fillets, or, if there are no copings or fillets, at 6 inches below the bridge seats or

immediately under the top slab, in the case of frame structures. In the case of arches, the span shall be measured from spring line to spring line. All measurements shall include the widths of intervening piers or division walls, as well as the width of copings or fillets.

building – Any roofed structure used or intended for supporting or sheltering any use or occupancy. The word “building” shall be construed when used herein as though followed by the words “or part or parts thereof” unless the context clearly requires a different meaning. The term “building” shall include residential structures.

business – A corporation, partnership, individual, sole proprietorship, joint venture, or any other legal entity through which commercial activity is conducted.

calendar day – Every day shown on the calendar, beginning at 12:00 a.m. (midnight) Eastern Time (standard or daylight as applicable).

commissioning – A systematic quality assurance process to ensure that all highway, bridge and building systems, including mechanical, electrical, plumbing and HVAC systems, are properly integrated and perform according to the design intent and Contract requirements.

community stakeholder – The Persons, with whom the Design-Builder will need to coordinate its activities on a regular, daily basis during performance of the Work.

composite items – Items that consist of rock and non-rock components and are limited to unclassified excavation and trench excavation.

construction – The construction, reconstruction, alteration, conversion, repair, installation of equipment or use of buildings and structures, and requirements or standards relating to or affecting materials used in connection therewith, including provisions for safety and sanitary conditions.

construction emergency – Damage to or a malfunction in buildings or property of the State of New York caused by an unanticipated, sudden and unexpected occurrence which involves a pressing necessity for immediate repair, reconstruction or maintenance in order to permit the safe continuation of a necessary public use or function, or to protect the property of the State of New York, or the life, health or safety of any person.

construction zone – The area from the first traffic control sign announcing that roadwork is being performed ahead to the last sign announcing the end of the roadwork.

consultation – Discussions and meetings for the purpose of review, observation and/or inspections of the Design-Builder’s Work by the Authority’s representatives. The Authority shall have no duty of independent investigation or inquiry with respect to any such review, observation or inspection. See also DB §105-16.

controlling operation – An operation which at the particular time under consideration has a controlling effect on the progress of the Project as a whole.

culvert – An enclosed channel open at both ends carrying water from a stream or water course through an artificial barrier such as a roadway embankment. The term culvert shall apply to any structure, whether of single or multiple span construction, with an interior width of 20 feet or less when measurement is made horizontally along the center line of roadway from face to face of

abutments or sidewalls immediately below the copings or fillets, or, if there are no copings or fillets, at points 6 inches below the bridge seats or immediately under the top slab in the case of frame structures. In the case of arches, the span shall be measured from spring line to spring line. All measurements shall include the widths of intervening piers or division walls, as well as the widths of copings or fillets.

day – Calendar day unless otherwise designated.

design – Those characteristics of a system or components that are selected by the Design-Builder in response to the applicable requirements.

design-build – The Project's delivery methodology under which the Authority contracts with a single entity that has responsibility for the design and construction of the Project under a single contract with the Authority.

differing site condition – Subsurface or latent physical conditions that are encountered at the Site and differ materially from the conditions indicated in the Contract, and unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the type of Work provided for in the Contract. Site conditions shall be considered indicated in the Contract only to the extent specified in DB §104-5, and claims based on differing site conditions are subject to the restrictions and limitations set forth in DB §104-5.

employee – Any individual working on the Project under the direction or control of, or who receives compensation from, the Design-Builder or any Subcontractor.

equipment — All machinery, tools, and apparatus necessary for the proper construction and acceptable completion of the Work, together with the necessary supplies for upkeep and maintenance.

fabricator – Any Person with which the Design-Builder subcontracts to assemble, construct, or otherwise substantially alter material or supplies into assemblies, components, or finished items for inclusion into the Work prior to resale.

fee taking – Property which is necessary to be acquired by appropriation in fee for purposes connected with the Project.

final design – A stage of design development as described in DB §111-8.

final payment – Payment by the Authority of the final installment of the Contract Price in accordance with the Final Supplemental Agreement.

fixed quantity item – An item of Work where payment is restricted to the quantity stated. A fixed quantity item is an item of Work that does not require measurement(s) to establish the actual quantity.

float – The difference between early completion times and late completion times for activities as shown on the Baseline Progress Schedule. The term includes any float contained within an activity as well as any period containing an Artificial Activity.

foreign contractor – In the case of an individual, a person who is not a resident of the State; in the case of a partnership or joint venture, one having one or more partners or members who is not a resident of the State; and in the case of a corporation, limited liability company or other form of organization, one not organized under the laws of the State.

highway – The whole strip of land bounded by the right-of-way lines.

holiday – Depending on the context, the term holiday has the following meaning:

To the extent that a Project Labor Agreement applies to the Project, in determining whether a particular day is considered a work day for purposes of performance of construction Work, holidays will be observed as specified in the Project Labor Agreement.

For purposes of determining constraints on closure of lanes to traffic, holidays will be as specified in *Part 3, Section 17 – Work Zone Traffic Control and Access*.

For all other purposes, including determining allowable time periods for submittals, notices, reviews, approvals and payments, the following days will be observed as holidays:

- A) New Year's Day (January 1);
- B) Martin Luther King Day (3rd Monday in January);
- C) Presidents' Day (3rd Monday in February);
- D) Memorial Day (last Monday in May);
- E) Independence Day (July 4);
- F) Labor Day (1st Monday in September);
- G) Columbus Day (2nd Monday in October);
- H) Veterans' Day (November 11);
- I) Thanksgiving Day (4th Thursday in November); and
- J) Christmas Day (December 25).

If any holiday listed in (A) through (J) above falls on a Saturday or Sunday, the previous Friday or following Monday, respectively, shall be considered a holiday.

inspection – The act of viewing or looking carefully at construction, manufacturing, design, safety, and maintenance practices, processes, and products, including document control and Working Plan review, to ensure the practices, processes, and products comply with the requirements contained in the Contract and activities specified in the Contract, Design Plans, and/or Project Specifications.

key personnel – The persons identified in DB §108-3.1 and those additional persons that may be designated as such by the Project Manager in accordance with DB §108-3.

laboratory – An AASHTO accredited testing laboratory.

laying length of pipe – Feet (laying length) of pipe shall be measured by multiplying the number of whole units by the nominal length of each unit and adding thereto the length of any fractional units incorporated in the Work. The nominal length of a unit or fractional unit shall be the inside measured length from butt end to butt end and exclusive of the bell or groove on the female end.

management – When used with respect to Hazardous Materials, sampling, stock-piling, treatment, clean-up, remediation, transportation, and/or off-site disposal of Hazardous Materials, whichever is the most cost-effective approach authorized under applicable Governmental Rules and/or Environmental Law.

manufacturer – A manufacturer is a Person that operates or maintains a factory or establishment that produces on its premises the material, equipment, or supplies obtained by the Design-Builder for incorporation into the Project.

material – When used as a noun, any substances specified for use in the construction of the Project and its appurtenances.

median – That portion of a divided highway separating the traveled way. The median includes the median shoulders.

method of measurements – With respect to unit priced Work, the method by which performance is measured for purposes of determining number of units for which payment is owing.

mobilization — The process of activating and moving resources required to perform the Work to the Site(s) where the Work will be performed. Resources include necessary personnel, equipment and supplies.

nighttime – The hours between 10:00 p.m. and 6:00 a.m. Eastern Time (standard or daylight as applicable).

non-conformance – Any condition in equipment, materials, processes or other Project elements which does not comply with required plans, specifications, codes, standards, documentation, records, procedures or Contract requirements.

partnering — Actions taken to assure that the Project is completed in the most efficient, timely, safe, and cost effective manner for the benefit of all concerned, through communication, organization, establishing goals, continuous improvement, problem identification, conflict resolution, managing change and other appropriate activities. The parties involved in partnering may include: the Authority; the Design-Builder; Subcontractors; suppliers; the community within which the Project is constructed; the community served by the Project; federal, State, and local governments or other public agencies; and utilities.

performance specification – A specification that establishes Contract requirements in terms of design parameters and performance parameters to be met. Also may include parameters for determining performance and corrective action to be taken.

plan – A general term including the scheme, program or method worked out before hand to accomplish an objective, and the detailed drawings and diagrams on a plane showing an orderly arrangement of parts of the overall design or objective.

punch list – The list of Work to be completed as a condition precedent to achievement of Project Completion, limited to items of Work necessary to correct imperfections which have no adverse effect on the safety, use or operability of the Project.

right of way – A general term denoting land, property, or interests therein (including easements), usually in a strip or parcel acquired for or devoted to a highway.

roadMWBEd — The graded portion of a highway within the top and side slopes prepared as a foundation for the pavement structure and shoulders.

roadside – A general term including: (1) the areas between the outside edges of the shoulders and the right-of-way boundaries; (2) the unpaved median areas between inside shoulders of divided highways; and (3) areas within interchanges.

roadway – The portion of a highway included between the outside edges of the shoulders.

road section – That portion of a highway included between the top of the slope in cut and the bottom of slope in fill.

samples – Physical examples of materials, equipment or workmanship submitted to the Authority's Project Manager by the Design-Builder to establish standards by which the Work shall be judged, provided such samples meet Contract requirements.

shop drawings – Drawings, diagrams, illustrations, schedules, test data, performance charts, cuts, brochures and other data, which are prepared by the Design-Builder or any Subcontractor, manufacturer, supplier or distributor for submission to the Authority's Project Manager by the Design-Builder as an illustration of a portion of the Work.

shoulder – The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of base and surface courses.

specification – A written description of functional characteristics or the nature of a construction item to be procured. It may include a statement of any of the user's requirements and may provide for inspection, testing\ or preparation of a construction item before procurement.

structural steel – Shapes, plates, H-piling, sheet piling and cables.

structures – Bridges, culverts, retaining walls, noise walls, cribbing, manholes, drainage structures, endwalls, buildings, sewers, service pipes, underdrains, foundation drains, and other features which may be encountered in the Work and not otherwise classed herein.

supplier or material supplier – A Person that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the Contract are bought, kept in stock, and regularly sold to the public in the usual course of business. A material supplier is a Person that engages in, as its principal business, and in its own name, the purchase and sale of the products in question. A material supplier who deals in bulk items such as steel, cement, gravel, stone and petroleum products need not keep such products in stock, if it owns or operates distribution equipment. Packagers, brokers, manufacturer's representatives or other persons who arrange or expedite transactions are not material suppliers.

traveled way – The portion of the roadway for the movement of vehicles, exclusive of the shoulders. Through traveled way is the portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

unit price – The price established by the Contract for a specified unit quantity of Work that is measured for payment.

utility – Person, corporation, municipality or public authority engaged in the distribution of electricity, gases, petroleum products, water, steam, the collection of wastewater, the operation of traffic control systems, or the provision of telecommunication service. For the purposes of these Specifications, the term Utility will apply to organizations that operate utilities owned by others.

utility owner—The owner or operator of a utility (including Governmental Persons and other Persons).

utility work—The work necessary for Relocations, whether performed by the Design-Builder or by, or on behalf of, a utility owner, including labor, equipment and materials associated with design, design review, construction, construction management, permit processing and fees, inspection, and administrative and overhead costs; the term also includes any Betterments incorporated into a Relocation.

vendor – A manufacturer, fabricator, material or equipment supplier.

work day or working day – For purposes of performance of construction Work hereunder, a day on which weather and other conditions not under the control of the Design-Builder will permit construction operations to proceed for the major part of the day on the principal item or items of Work which would normally be in progress at that time, excluding any holidays and other days on which the Design-Builder is specifically prohibited from working as specified in a Project Labor Agreement. Work days may include days on which the Design-Builder is prohibited from closing a lane or lanes or impeding traffic.

For all other purposes, including determining allowable time periods for submittals, notices, reviews, approvals and payments, the term “work day” means each day, exclusive of Saturdays, Sundays and State recognized public holidays.

worker – See employee.

written comment – Comments on the Design-Builder’s Work provided by the Authority in writing, generally provided following consultation with the Design-Builder. Such comments are not to be construed as approvals. See also DB §105-16.

DB 101-5 LANGUAGE

In the Contract Documents, where appropriate:

- A) the singular includes the plural and vice versa;
- B) references to statutes or regulations include all statutory or regulatory provisions consolidating, amending or replacing the statute or regulation referred to;

- C) the words “including,” “includes” and “include” shall be deemed to be followed by the words “without limitation”;
- D) unless otherwise indicated references to sections, appendices or schedules are to sections, appendices or schedules attached to the document in which the reference is included, and references to “Parts” are to Parts of the Contract Documents;
- E) words such as “herein,” “hereof” and “hereunder” shall refer to the entire document in which they are contained and not to any particular provision or section;
- F) words not otherwise defined which have well-known technical or construction industry meanings, are used in accordance with such recognized meanings;
- G) references to Persons include their respective permitted successors and assigns and, in the case of Governmental Persons, Persons succeeding to their respective functions and capacities;
- H) words of any gender used herein shall include each other gender where appropriate;
- I) when expressions such as "directed, authorized, permitted, approval, acceptable, or satisfactory" are used they are implicitly followed by the words "by the Authority's authorized representative" or "to the Authority's authorized representative"; and
- J) with respect to Orders on Contract, statements that the Design-Builder "may" receive or request a time extension or increase in the Contract Price shall mean that the Design-Builder's entitlement to an Order on Contract is subject to all applicable conditions and limitations contained in the Contract Documents or applicable as a matter of law with respect to the relief requested, including strict adherence to contractual notification and recordkeeping requirements, limitations on allowable costs, requirements to mitigate damages, requirements to establish that the Critical Path has been delayed, requirements to establish that the Design-Builder did not cause the occurrence giving rise to the cost or delay and is otherwise without fault, and requirements to otherwise provide satisfactory justification for any claims for an extension of the Contract Time and/or increase in the Contract Price.

DB 101-6 STANDARD FOR APPROVALS

In all cases where approvals, acceptances or consents are required to be provided by Authority or Design-Builder hereunder, such approvals, acceptances or consents shall not be withheld unreasonably except in cases where a different standard (such as sole discretion) is specified, and shall not be unreasonably delayed if no response time is specified. In cases where sole discretion is specified, the decision shall not be subject to dispute resolution or other legal challenge; provided, however, the issue of whether the decision was arbitrary or capricious shall be subject to dispute resolution hereunder.

DB 101-7 FORMS

All forms referenced herein are available on-line or may be obtained from the Authority.

**DB SECTION 102
REQUIREMENTS AND CONDITIONS**

DB 102-1 [RESERVED]

DB 102-2 NO MISUNDERSTANDING

The Design-Builder acknowledges that it examined the Contract Documents and the Site prior to submitting its Proposal and has fully informed itself from its personal examination of the same regarding the quantities, character, location, and other conditions affecting the Work to be performed including the existence of poles, wires, pipes, ducts, conduits, and other facilities and structures of municipal and other public service corporations on, over, or under the Site.

The Design-Builder agrees that the Proposal Price includes all costs arising from existing conditions shown or specified in the Contract Documents, and/or readily observable from a Site inspection prior to the Proposal Date, and/or generally recognized as inherent in the nature of the Work, and/or for which Design-Builder has assumed the risk pursuant to the Contract Documents. The Design-Builder further acknowledges that its responsibilities under this Contract include conducting such additional geotechnical exploratory work and Site investigations as may be necessary or appropriate for design and construction of the Project.

The Authority in no way warrants or guarantees that the information made available by the Authority or found in the Contract Documents covers all conditions at the Site or that said information and Contract Documents should act as a substitute for personal investigation, interpretation, and judgment by the Design-Builder.

The components of the Contract Documents are intended to be complementary and to describe and provide for a complete Project. The following components of the Contract Documents complement one another in the following declining order of precedence:

- A) Appendix A, Standard Clauses for New York State Contracts;
- B) Appendix B, Federal Requirements (including Attachment 1, FHWA Form 1273; Attachment 2, Federal Prevailing Wage Rate; Attachment 3, Goals for Equal Employment Opportunity (EEO) Participation; Attachment 4, Goals for Disadvantaged/Minority/Women's Business Enterprise (D/M/WBE) Participation; and Attachment 5, Supplemental Title VI Provisions (Civil Rights Act));
- C) Appendix C, State Prevailing Wage Rates;
- D) DB Agreement (other than Appendix A, B, and C);
- E) Parts 3 through 8 of RFP and any Addenda which modifies Parts 3 through 8;
- F) DB Section 100 General Provisions (Part 2) and any Addenda which modifies DB Section 100;
- G) The Standard Specifications of the New York State Department of Transportation , current on the Proposal Due Date, Sections 200 through 700;

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- H) The RFP Instructions to Proposers; and any Addenda which modifies the RFP Instructions to Proposers; and
- I) Design-Builder's Proposal, including all addenda or appendices thereto (Part 9) (except as provided below).

However, where the Design-Builder's Proposal presents Work or products of a higher quality than that shown elsewhere in the Contract Documents, and the Authority has accepted the proposed change to the Work and products to that of a higher quality, the Design-Builder's Proposal will take precedence for that specific higher quality Work and products, as applicable. Additionally, subject to DB §104-4.6, where the Design-Builder's Proposal includes an approved Alternative Technical Concept, the Design-Builder's Proposal (including the approved Alternative Technical Concept) will take precedence for that specific Work that is the subject of the approved Alternative Technical Concept.

Except as otherwise expressly specified, whenever separate publications are referenced in the Contract Documents, it shall mean those, as amended, which are current on the Proposal Due Date.

Dimensions given on the Plans or which can be calculated will govern over scale dimensions.

The fact that the Contract Documents may omit or misdescribe any details of any Work which are necessary to carry out the intent of the Contract Documents, or which are customarily performed, shall not relieve the Design-Builder from performing such omitted Work (no matter how extensive) or misdescribed details of the Work, and they shall be performed as if fully and correctly set forth and described in the Contract Documents, without entitlement to an Order on Contract hereunder except as specifically allowed. The Authority's answers to any questions posed during the procurement process for the Contract shall in no event be deemed part of the Contract Documents and shall not be relevant in interpreting the Contract Documents except as they may clarify provisions otherwise considered ambiguous.

The Design-Builder will be supplied with two conformed sets of the Contract, one set of which the Design-Builder shall keep available on the Work Site at all times. A set will consist of one paper hardcopy and one electronic softcopy on computer-readable media. The Design-Builder may purchase additional sets for the cost of printing, assembling, and mailing the documents.

If the Design-Builder becomes aware of an apparent error, omission or ambiguity in any of the Contract Documents or of an apparent conflict between (i) any of the provisions in the Contract Documents (whether expressly set forth or incorporated by reference), (ii) any of the Contract Documents, or (iii) any of the Contract Documents and the actual Site, the Design-Builder shall notify the Authority's Project Manager in writing of any such error, omission, ambiguity or conflict, within 10 days of becoming aware of the error, omission, ambiguity or conflict, and shall obtain specific instructions in writing from the Authority's Project Manager before proceeding with the Work affected thereby. The Authority's Project Manager shall make a determination regarding such error, omission, ambiguity or conflict, in his/her sole discretion, and the Design-Builder shall promptly comply with such determination without entitlement to any adjustment to the Contract Price or any extension of Contract Time, except to the extent expressly provided in the Contract. The Authority's Project Manager may require the Design-Builder to modify Plans or other documents to correct the error, omission, ambiguity or conflict, as the case may be.

Failure of the Design-Builder to notify the Authority's Project Manager as required herein shall be deemed a waiver of the Design-Builder's right to claim any adjustment to the Contract Price or any extension of Contract Time for changed or Extra Work, and the Design-Builder shall indemnify the Authority for any damages suffered by the Authority resulting from any such failure.

Regardless of whether the Design-Builder raises the issue, the Authority's Project Manager shall always have the right to notify the Design-Builder if the Design-Builder is interpreting a provision of the Contract Documents or Standard incorrectly and the Design-Builder shall comply with the Authority Project Manager's determination of the correct interpretation.

DB 102-3 COOPERATION BY THE DESIGN-BUILDER

The Design-Builder shall give its constant attention to the Work while it is in progress and shall cooperate with the Authority and its other contractors in every possible way. The Design-Builder shall place in charge a competent and reliable English speaking Design-Builder's Project Manager, who shall have authority to act for the Design-Builder, shall be capable of managing the Contract and the design and construction Work being performed, and who shall be acceptable to the Authority's Project Manager. The Design-Builder shall maintain on the Work Site or at a convenient nearby location, an office where its Project Manager can be contacted. The Design-Builder shall assure that its Project Manager attends the Project initiation meeting.

The Design-Builder shall, at all times, employ labor and equipment which shall be sufficient to prosecute the several classes of Work to full completion in the manner and time specified. All workers shall have sufficient skill and experience to properly perform the Work assigned to them. All workers engaged on special or skilled Work shall have had sufficient experience in such Work to properly and satisfactorily perform it and operate the equipment involved. Any person employed by the Design-Builder whom the Authority's Project Manager may deem unruly, disorderly, incompetent or unfit to perform the Work shall be at once discharged, and shall not be again employed. In case of a disagreement with the Design-Builder regarding the discharge of such employees, the matter may be reviewed by the Authority.

The Authority will provide an experienced Project Manager with an adequate staff to keep pace with the Design-Builder's progress. The Design-Builder shall recognize the Authority's Project Manager as the Authority's representative on all matters relating to the Project.

DB 102-4 COORDINATION OF WORK

The Authority reserves the right to let other contracts in the Work area that may require coordination with the Work under this Contract. The Design-Builder acknowledges that, from the Contract Documents, it has been informed of such other contracts in the Work area. The Design-Builder has carefully reviewed the Contract Documents and all other pertinent information made available by the Authority that relate to the nature and scheduling of these other contracts that may be awarded and will submit a Baseline Progress Schedule that takes into account the need to coordinate its Work with those other contractors. It is the obligation and duty of the Design-Builder under the Contract to coordinate its Work with the work of these other contractors. There may be other contractors, subcontractors, utilities, or employees of the Authority and its authorized representatives working at or adjacent to the Work Site during the performance of the Contract by the Design-Builder. The Design-Builder may not have exclusive access to or occupancy of the territory within or adjacent to the limits of the Project. To the extent indicated in the Contract Documents, the Authority may also require that certain facilities

and areas be used concurrently by the Design-Builder and others, in which case the Authority will advise the Design-Builder of the schedules of others. However, the Design-Builder should anticipate that its Work may be interrupted or delayed from time to time on account of the concurrent activities of others.

The Design-Builder shall arrange the Work and shall place and dispose of the material being used so as to not unreasonably interfere with the operations of the other contractors within the Project Limits. The Design-Builder shall join its Work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others. Delays and interferences to the Critical Path caused by activities of other Authority contractors, which delays and/or interferences could not reasonably have been anticipated from the Contract Documents or could not have been avoided given reasonable notice, may entitle the Design-Builder to an appropriate extension of time and/or time related damages. If any part of the Design-Builder's Work depends on the work of any other contractor and/or the Authority for proper execution and/or results, that would render the Work unsuitable for proper execution and /or results, the Design-Builder shall promptly notify the Authority of any discrepancies and/or defects in said other work as are reasonably ascertainable from visual inspection of the Site prior to proceeding with its own Work, provided, however, that Design-Builder shall not be obligated to conduct testing or engineering analysis of such other work except to the extent would normally be required by a prudent contractor joining its Work to existing work in the ordinary course of business.

If the Design-Builder and another contractor are unable to agree on the sequence of work or other matters, either may petition the Authority's Project Manager for a decision resolving issues between the parties. The Authority's Project Manager shall allow a reasonable time for response by all affected parties. After review of all comments, the Authority's Project Manager shall render a decision within five days, which shall be binding on all parties.

DB 102-5 UTILITIES

DB 102-5.1 Authority Requirements for Utilities That Occupy Authority Property

The Authority's interaction with Utilities located within the Highway Right Of Way (ROW) is governed by 17 NYCRR (Official Compilation of Codes, Rules and Regulations of the State of New York) Part 131.

The Authority has notified all Utilities, pipeline owners, or other parties who seemingly are affected by the proposed construction based on the preliminary design plans and endeavor to have Preliminary DB Utility Work Agreements executed with potentially affected Utilities prior to the Award of the Contract.

The Design-Builder, in coordination with the Authority's Project Manager (or his designee), shall meet with all the affected Utility owners or operators for the purpose of discussing the effect on the utility facilities and to agree on a plan to maintain, protect, relocate, reinstall, or other action that may be necessary for the work to progress.

Reference is made to General Obligations Law §11-102 which concerns the liability of a Utility for compensation for damages caused by interference with and/or delay of progress of work under a State public construction contract.

DB 102-5.2 DB Utility Work Agreements

If Preliminary DB Utility Work Agreements have been executed, they will be identified in *Part 4 – Utility Requirements*.

Utilities which may be impacted by the Project have been identified in *Part 4 – Utility Requirements*.

If Preliminary DB Utility Work Agreements have not been executed and included in the Contract Documents, the Authority, in conjunction with the Design-Builder, shall negotiate with each affected utility for Relocation of the utility's facilities after Award and enter into a DB Utility Work Agreement. The Design-Builder agrees to cooperate as reasonably requested by the Authority in pursuing and executing DB Utility Work Agreements after Award, including attendance at negotiation sessions and review of DB Utility Work Agreements. The Authority and the Design-Builder shall exercise due diligence and good faith efforts in coming to an agreement with each affected utility. Each DB Utility Work Agreement shall be executed by the Authority, the Design-Builder and the Utility Owner. The Design-Builder shall remain responsible for the coordination between itself and the utility owner after DB Utility Work Agreements have been executed in order to maintain the Project schedule.

Issues to be addressed in the DB Utility Work Agreements may include the following:

- A) Responsibility for design and/or construction of the relocations;
- B) Design requirements and construction specifications;
- C) Betterments, including the approach to determining whether an item is a betterment;
- D) Notifications to the involved parties;
- E) Review of designs and/or cost estimates by the Utility or the Design-Builder, including timeliness;
- F) Emergency response actions and timing;
- G) Limitations on timing of construction or interruption of service;
- H) Damage repair;
- I) Inspections and testing by the Utility and/or Design-Builder;
- J) Approvals (including provisions for early start of construction); and
- K) Payment for relocation.

If a utility owner requests the Design-Builder to design and/or construct a Betterment, or advises the Design-Builder that the utility owner intends to design and construct a Betterment, the Design-Builder shall promptly analyze the impact of such Betterment on the Baseline Progress Schedule and notify the Authority if it appears the Betterment may affect the Critical Path. The Design-Builder shall use its best efforts to negotiate arrangements with the utility owner that avoid potential Critical Path impacts.

DB 102-5.3 Reference Information

The Authority will make available to the Design-Builder upon request all information obtained from utilities, pipeline owners, and other parties that the Authority has notified concerning the proposed construction. Such information will be considered Reference Documents.

DB 102-5.4 Avoiding Relocations

Regardless of who is required to bear the cost of any proposed Relocation or to perform the Work relating to such Relocation, the location of utilities and potential impact of Relocation of such facilities shall be considered in finalizing the design and construction of the Project, with the following goals:

- A) Avoiding relocation of utilities to the extent practicable;
- B) If relocation of a utility is not reasonably avoidable, protecting the facility in place to the extent practicable; and
- C) Otherwise minimizing the potential costs and delays relating to Relocations to the extent practicable.

The foregoing goals shall be pursued by taking into consideration the impact of Relocations on the Project as a whole, without regard to who is required to bear the cost of any proposed Relocation or to perform the Work relating to such Relocation.

DB 102-5.5 Utilities Not Covered by DB Utility Work Agreement

If public or private utility lines or pipelines or other appurtenances are encountered during the course of the Work, which may be impacted by the Work, and which are not covered by an existing DB Utility Work Agreement, the Design-Builder shall immediately suspend construction operations at the site of the utility in question. The Design-Builder shall then provide the Authority with a written assessment of the potential impacts to the Utilities and Contract Work, including options, time impacts, schedule impacts, and a proposed action plan. Construction Operations at the site of the utility in question shall remain suspended until such time that the Authority and utility owner negotiate an agreement for the required action, or the Authority provides written authorization allowing Work to proceed without such an agreement. Subject to DB §104-4.2.1, the Design-Builder will not be allowed adjustments for delays or extra expense with respect to any such suspension.

DB 102-5.6 Compliance

All Relocations shall be accomplished in accordance with all applicable Governmental Rules, including those developed to protect archaeological sites, as well as the requirements of DB §107-15.

DB 102-5.7 Adjacent Facilities

At points where the Design-Builder's operations are adjacent to utilities, damage to which might result in considerable expense, loss, or inconvenience, Work shall not begin until all arrangements necessary for the protection thereof have been made by the Design-Builder and the utility owner. The Design-Builder shall cooperate with all utility owners (including owners of

underground or overhead utility lines and owners of utilities attached to existing Authority structures) in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement Work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted. See also DB §107-15 addressing Work near underground facilities.

DB 102-5.8 Interruption of Service

In the event of interruption to utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Design-Builder shall promptly notify the proper authority regarding the restoration of service. If any essential service (including water, gas, electric fiber-optic, cable, telephone or other utility) is interrupted, the Design-Builder shall provide continuous repair Work until the service is restored. No Work shall be undertaken around fire hydrants until provision for service has been approved by the local fire authority.

DB 102-6 WORK AFFECTING RAILROADS

DB 102-6.1 Railroad Clearances

Requirements and procedures for operations on or adjacent to railway facilities are found in a Special Note entitled 'Special Provisions for Protection of Railway Interests'.

No temporary bridge, falsework, staging, or obstructions shall be erected over the track or tracks within the clearance zone required by the railroad company.

An operated track, catenary or electrical facility is fouled when any object is brought closer than the clearances set forth by the railroad company. Vehicles or construction equipment shall be considered to be fouling the track when located in such a position that failure of same with or without load brings the equipment within the fouling limit. The Design-Builder shall so conduct its Work and handle its equipment such that no part of any material or equipment shall foul an operated track, catenary, electrical facility, or signal facility without written permission of the chief engineer of the railroad company affected.

The Design-Builder shall contact the railroad facility owner prior to start of construction to obtain clearance requirements from the centerline of track, electrical facility or signal facility to establish the fouling limits for the facility.

DB 102-6.2 Supervision and Railroad Approval

All Work on any contract affecting a railroad company's property and/or ROW facilities, including temporary track detour, shall be carried out under the joint supervision of the Authority and the railroad company or companies in a manner satisfactory to both entities, pursuant to written agreement between the railroad company and Design-Builder. Design-Builder shall be responsible for payment of railroad flagging costs associated with the Work.

No Work shall begin until the railroad company has been notified in writing by the Design-Builder of the anticipated date to begin Work, the anticipated type of Work, and the anticipated length of time required to complete the Work.

The Design-Builder shall obtain prior approval from the railroad company to use a railroad service road to access a site, and shall be responsible for any associated permit application and fees. The Design-Builder shall obtain the written approval of the chief engineer, or appropriate representative(s), of the railroad company or companies affected in respect to the details and methods to be employed in constructing any structures, track detours, falsework, removal of structures, allowable track clearances, and any or all other details that may in any manner affect the operation or maintenance of any or all railroad facilities. The requirement that written approval shall be obtained from the chief engineer, or appropriate representative(s), of the railroad company shall be complied with before the Design-Builder begins actual construction Work. The Design-Builder acknowledges that the Proposal Price includes all the costs of these requirements, including any expense occasioned by delay or interruption of its Work by reason of the operation or maintenance of the railroad facilities.

Approval by the chief engineer, or appropriate representative(s), of the railroad company affected does not absolve the Design-Builder from any liability resulting from its contractual operations.

A copy of the written agreements between the railroad company and the Design-Builder concerning the protection of the railroad company's property or completion of the Work shall be provided to the Authority.

DB 102-6.3 Coordination of Work

The Design-Builder shall coordinate with the railroad company or railroad companies in carrying out railroad Force Account Work. When the work of the Design-Builder or Subcontractor dovetails with the railroad Force Account Work, the materials shall be delivered and the operations conducted so as to carry on the work continuously in an efficient and skillful order.

Delays or oversight on the part of the Design-Builder or Subcontractors in getting any or all of their work performed in the proper manner, thereby requiring removal and replacement of work already in place will not be the basis for a claim for extra compensation to the Design-Builder. Such work shall be performed at the cost and expense of the responsible Design-Builder or Subcontractor.

DB 102-6.4 Railroad Employees

When, in the opinion of the appropriate representative of the railroad company, the Design-Builder's normal operations in progressing this Contract are such that an operated track is or might be fouled or railroad traffic endangered, the railroad company or companies will employ protective labor, when found necessary for railroad operations. Unless an item for railroad protection is included in the contract, payment for the services described above shall be made to the railroad company directly by the Authority pursuant to the terms of a State-Railroad agreement negotiated for the contract. When an item for railroad protection is included in the contract, the Design-builder shall pay for such services. All services for protective labor and similar protective service occasioned by the operation of the Design-Builder, except as noted in the preceding paragraph shall be at the sole expense of the Design-Builder.

The Design-Builder shall, at its own expense, carry compensation and other insurance for protective labor furnished by the railroad company or companies.

It is agreed that the furnishing of any protective labor shall not relieve the Design-Builder from any liability of payment for any damage caused by its operations (see DB §107-26).

DB 102-6.5 Protection of Railroad Service and Facilities

The Design-Builder shall take special care and vigilance to avoid damage to the trains, tracks, or other facilities of the railroad company and shall conduct its Work so as not to interfere with the movement of trains or other operations of the railroad company. Whenever Work may affect the safety or movement of trains, the method of doing the Work shall be submitted to the chief engineer, or appropriate representative, of the railroad company affected for approval. No Work affecting safety or movement of trains shall be commenced or prosecuted until written approval of the chief engineer, or appropriate representative, of the railroad company is received. The approval of the chief engineer, or appropriate representative, of the railroad company will not release the Design-Builder from any responsibility for any damages to the railroad company caused by the acts of the Design-Builder or its employees and Subcontractors. If, during the carrying out of the Contract Work, the trains, tracks, or other facilities of the railroad company are endangered, the Design-Builder shall immediately do such Work as directed by the Authority's Project Manager to restore safe conditions and, upon failure of the Design-Builder to carry out such orders immediately, the railroad company may, with the approval of the Authority's Project Manager, take whatever steps are necessary to restore safe conditions. The cost and expense to the railroad company of restoring safe conditions or of any damage to the railroad company's trains, tracks, or other facilities caused by the Design-Builder's operations shall, when approved by the Authority's Project Manager, be considered a charge against the Design-Builder and shall be paid for by it, or upon its failure or refusal to pay such charge within a reasonable time after the railroad company submits the bill to it, the amount thereof may be deducted by the Authority from any monies due or that may become due to the Design-Builder under the Contract, and any such sum so deducted may be paid to the railroad company after an audit by the Authority of the items of such cost and expense.

In performing construction operations both on and off railroad ROW areas, the Design-Builder shall prevent the fouling of railroad track ballast with earth, mud, silt, or other foreign matter. To prevent fouling of the ballast, it may be necessary for the Design-Builder to construct temporary erosion control measures or sheeting, or provide other precautionary measures that are required.

Where, in the opinion of the railroad company, demolition work, concreting, or hauling along or across tracks will result in ballast becoming fouled, the Design-Builder shall take preventive measures to protect the entire ballast section by nailing canvas, plywood, or similar material to the ties in the entire area to be affected. The protective material shall remain in place until there is no further possibility of fouling the ballast and then be removed by the Design-Builder.

The Work required to protect the railroad track ballast shall be performed by and at the expense of the Design-Builder and under the supervision of, and to the satisfaction of, the appropriate representative of the railroad company. The railroad company will assume no responsibility for the adequacy of the Work.

In the event that the railroad track ballast does become fouled after the aforementioned protective measures are taken, the railroad company, with its own forces, shall remove and

replace the fouled ballast with clean ballast. The charges for this work will be billed by the railroad company against the Design-Builder.

DB 102-6.6 Lifting

All lifting operations shall be conducted in accordance with the requirements of DB §107-7 and Design-Builder's Safety Plan. In addition, equipment used for erection or removal of structures over railroad facilities shall have a minimum lifting capacity of 150% of the lift weight (operational capacity limited to 66 2/3% of the tipping load).

DB 102-6.7 Use of Explosives

Blasting shall be conducted in such a manner as not to endanger the public or obstruct highways or endanger facilities or operation of the railroad. The Design-Builder shall furnish, while blasting, at its own cost and expense, watch persons and other protection necessary to protect the public and railroad, and shall comply with DB §107-7.14 with regard to blasting.

DB 102-6.8 [Reserved]

DB 102-6.9 Communications and Signals

The cost of all changes in telecommunication and signal facilities necessary to complete the contract work will be paid for by the State. The cost of all changes in telecommunication and signal facilities made for the convenience of the Design-Builder shall be paid for by the Design-Builder.

DB 102-6.10 Design-Builder's Private Grade Crossing

If the Design-Builder elects, and the railroad company or companies approve, to have installed for Design-Builder's use a private grade crossing at the Site of the Work, the Design-Builder shall make a formal request to the railroad company or companies for such a crossing. After the Design-Builder has entered into an agreement with the railroad company or companies pertaining to the size and type of crossing, the payment of the cost for installing and removing the crossing, the obtaining of the necessary insurance for the protection of the railroad company, and the agreement as to the required protection to railroad traffic when the crossing is in use, the railroad company or companies will be responsible for the installation and removal of the temporary crossing at the sole expense of the Design-Builder.

DB 102-6.11 Sidetrack Facilities

When sidetrack facilities are required by the Design-Builder, it shall, at its sole cost and expense, make the necessary arrangements for the use of existing sidings or tracks not in service or the construction of new sidings. The Design-Builder shall, at its sole cost and expense, restore any and all existing sidings and tracks used for sidetrack facilities to the condition existing prior to use by the Design-Builder. The construction location and use of all sidetrack facilities are to be subject to the approval of the chief engineer, or appropriate representative, of the railroad company affected.

The railroad company may move the Design-Builder's cars which are placed on existing sidings at any time to permit the placing of cars for said railroad company's business.

When any turnouts from the main tracks are approved by the railroad company such turnouts will be furnished, installed, and removed by the railroad company at the expense of the Design-Builder. Any signal work and rails necessary for sidetrack facilities will be furnished, installed, and removed by the railroad company at the Design-Builder's expense.

DB 102-6.12 Railroad Use of Completed Work

The Design-Builder agrees that the railroad company affected may, prior to the completion of the Work to be performed under the Contract and the acceptance thereof, enter upon and use any portion of said Work located on railroad property without any compensation to the Design-Builder for such use and without any compensation or payment to the Design-Builder for any delay in the Work caused by such use. The taking possession and use shall not be deemed an acceptance of the Work so taken and used or any part thereof.

DB 102-6.13 Work Trains and Railroad Equipment

If the Design-Builder elects to use work trains or any railroad equipment which operates on the tracks of the railroad company, the operation of such trains and equipment is subject to any requirements determined by the appropriate representative of the railroad company affected. The cost of the services of any railroad employees required by the railroad company to operate such trains or equipment shall be paid by the Design-Builder. This shall include the cost of necessary flaggers.

DB 102-6.14 Operation of Railroad

The Design-Builder shall make every possible effort to reduce to a minimum the length of time that the railroad company will have to operate over any track detour, and to this end it shall continue full operation throughout the winter months, if directed by the Authority's Project Manager, on any and all Work necessary to permit the railroad company to restore its tracks in their permanent location as quickly as possible. The Design-Builder shall conduct its Work so that schedule speed can be maintained by the railroad at all times.

DB 102-6.15 Clean-up

Before requesting Final Acceptance of Work accomplished on property belonging to the railroad company, the Design-Builder shall obtain written release from the railroad company that the property has been cleaned, cleared, and returned to a condition acceptable to the railroad company and the Design-Builder has removed all of the tools, implements, and other material belonging to the Design-Builder or one of its Subcontractors, employees, or agents. If after diligent effort the Design-Builder is not able to obtain a release from the railroad company, the Design-Builder will provide the Authority's Project Manager with written evidence of efforts to obtain the release, and the Authority's Project Manager will either provide the Design-Builder with a list of required additional steps to obtain the release or the release requirement will be waived.

All of the above correspondence shall be in writing.

DB 102-7 LABOR AND EMPLOYMENT

The provisions of the New York State Labor Law, as amended, shall be applicable, provided that any provisions of the New York State Labor Law that are in conflict with Federal law

(including the Davis-Bacon Act and regulations promulgated thereunder, and the Federal-Aid construction contract compliance requirements contained in 23 CFR Section 635.117) are superseded. In the event that a provision of a Project Labor Agreement conflicts with any provisions of the New York State Labor Law or any applicable Federal law, the provisions of the Project Labor Agreement shall apply to the fullest extent allowed by law.

DB 102-7.1 Wages

State and Federal prevailing wage rate schedules are a part of the Agreement. The Federal prevailing wage rate schedule is Attachment 2 to Appendix B Federal Requirements. State prevailing wage rates are addressed in Appendix C. The Design-Builder shall pay the higher of the two wages and supplemental (fringe) benefits. All on-site workers shall be paid prevailing wages. The Design-Builder shall ensure that workers are paid the appropriate wages and supplemental (fringe) benefits. The Design-Builder shall obtain periodic wage rate schedule updates from the NYS Department of Labor (NYSDOL). Wage rate amendments and supplements are available on the NYSDOL website at www.labor.state.ny.us. All changes or clarification of labor classification(s) and applicability of prevailing wage rates shall be obtained in writing from the Office of the Director, NYSDOL Bureau of Public Work. The cost of changes in wage rate schedules and supplements (fringes) over the Contract duration is included in the Proposal Price and each Order on Contract.

On-site Design-Builder or Subcontractor employees shall be paid prevailing wages required under the Davis-Bacon Act. "On-site" shall have the equivalent meaning as "site of the work" as defined in 29 CFR Section 5.2(1) and shall include the physical place or places where the construction called for in the Contract will remain when Work on it has been completed; and any other site where a significant portion of the construction is completed, provided that such site is established specifically for the performance of the Contract. Facilities such as job headquarters, fabrication plants, tool yards, mobile factories, batch plants, borrow pits, etc. are considered "on-site" provided that they are dedicated exclusively to the performance of the Contract and provided that they are adjacent or virtually adjacent to the physical place or places where the construction called for in the Contract will remain when Work on it has been completed. Not included in the definition of "on-site" are facilities whose location and continuance in operation are determined wholly without regard to the Contract, even where the operations for a period of time may be dedicated exclusively to the performance of the Contract.

In accordance with the New York State Labor Law, Sections 220 and 220-d:

- A) No laborer, worker, or mechanic, in the employ of the Design-Builder, Subcontractor or other person doing or contracting to do the whole or any part of the Work contemplated by the Contract shall be permitted or required to work more than eight hours in any one day or more than five days in any one week, except in the emergencies set forth in the Labor Law.
- B) The wages paid for a legal day's work shall be not less than the prevailing rate of wages as defined by law.
- C) The supplements to be provided to laborers, workmen or mechanics shall be in accordance with the prevailing practices.

- D) The filing of payrolls in a manner consistent with subdivision 3-a of Labor Law Section 220 is a condition precedent to payment of any sums due and owing to any person for work done upon the Project.
- E) The minimum hourly rate of wages to be paid shall be not less than that stated in the Contract Documents, and any redetermination of the prevailing rate of wages after the Contract is approved shall be deemed to be incorporated herein by reference as of the effective date of redetermination and shall form a part of these Contract Documents.
- F) The Contract may be forfeited and no sum paid for any Work done thereunder on a second conviction for willfully paying less than: (a) the stipulated wage scale as provided in Labor Law, §220(3), as amended; or (b) the stipulated minimum hourly wage scale as provided in Labor Law, §220-d, as amended.

DB 102-7.2 Payroll Records

The Design-Builder shall furnish the Authority's Project Manager and the Construction Quality Assurance Engineer each week with its payroll records and statement of compliance with respect to the wages paid each of its employees and each Subcontractor employees (including apprentices, trainees, watch persons, and guards) engaged on the Work during the preceding weekly payroll period. Certified payrolls shall contain work class, daily and weekly number of hours worked, wage rate, deductions made and actual wages paid. Certified payrolls shall be annotated by race and gender, and shall be submitted on Form WH-347 or Form HC-231-1.

DB 102-7.3 Training

An apprentice is defined as an individual who is enrolled in an apprenticeship training program that is registered with the NYS Department of Labor. A trainee is defined as an individual who is enrolled in an On-the-Job Training (OJT) program that is approved by the Federal Highway Administration (FHWA).

A number of sources to obtain training for apprentices/trainees are available. These include:

- A) NYSDOL-approved apprenticeship program sponsored by a union or a temporary project level agreement with a union which has a NYSDOL approved apprenticeship program.
- B) A NYSDOL-approved apprenticeship program sponsored by a contractor.
- C) A NYSDOL-approved apprenticeship program sponsored by a contractor signatory with an apprenticeship sponsor consortium for certain services.
- D) An FHWA-approved OJT program (where applicable).

Approved OJT Programs are currently limited to apprenticeable occupations as determined by NYSDOL or USDOL. A list of approved OJT programs can be found in the On-the-Job Training and Apprenticeship Program Construction Catalogue which may be obtained from the Authority.

Training under Training Special Provisions, if required, will be shown in the Contract Documents. In order to fulfill training requirements required under Training Special Provisions and/or DB §102-9 Equal Employment Opportunity Requirements, training should begin as early

as possible during the Contract. The Authority recommends that all bidders have an approved apprenticeship or OJT program prior to bidding.

The Design-Builder shall furnish the apprentice/trainee a copy of the program to be followed in providing the training. The Design-Builder shall provide each apprentice/trainee with a certification showing the type and length of training satisfactorily completed.

When training is required under Training Special Provisions and/or DB §102-9 Equal Employment Opportunity Requirements, the Design-Builder shall designate to the Authority's Project Manager, at the pre-work conference, a person (or persons) from its existing workforce as the trainer and training coordinator for any apprentice(s)/ trainee(s).

The trainer shall:

- A) Be located on the Site generally on a daily basis; and
- B) Be responsible for the day-to-day supervision and training of persons on the Site; and
- C) Be responsible for the preparation and submission of a monthly training progress report, after consultation with designated apprentices/trainees.

The training coordinator shall:

- A) Be knowledgeable about the Contract and the Apprenticeship/OJT programs to be used; and
- B) Be responsible for ensuring on-the-job orientation of apprentice/trainees; and
- C) Be responsible for ensuring meaningful and effective training for the duration of training.

DB 102-7.4 Training Monitoring

The Design-Builder shall use EBO to monitor training.

DB 102-7.5 Public Notices

The Design-Builder shall post, in a location accessible to all workers, a copy of the New York State Department of Labor's (NYSDOL) schedules of prevailing wages and supplements for this Project, a copy of all re-determinations of such schedules for the Project, the New York State Workers' Compensation Law Section 51 notice, all other notices required by law to be posted at the Site, NYSDOL's notice that this Project is a public work project on which each worker is entitled to receive the prevailing wages and supplements for the occupation at which he or she is working, the notice in 23 CFR Section 635.119 concerning false statements and all other notices which the Authority's Project Manager directs the Design-Builder to post. The Design-Builder shall provide a weather-resistant surface for such notices which is satisfactory to the Authority's Project Manager. The Design-Builder shall maintain such notices in a legible manner and shall replace any notice or schedule which is damaged, defaced, illegible, or removed for any reason. The Design-Builder shall post such notices before commencing any Work on the Site and shall maintain such notices until all Work on the Site is complete.

DB 102-7.6 Federal-Aid Requirements

No procedures or requirement shall be imposed by any state which will operate to discriminate against the employment of labor from any other state, possession or territory of the United States, in the construction of a Federal-Aid Project. The selection of labor to be employed by the Design-Builder on any Federal-Aid Project shall be of its choosing.

The Design-Builder shall not use convict labor unless performed by convicts who are on parole, supervised release, or probation for construction, maintenance or any other purpose at the Site or within the Project Limits from the time of Contract award or the start of Work on Force Account until Final Acceptance of the Work by the Authority.

DB 102-8 MWBE UTILIZATION

A Disadvantaged Business Enterprise (MWBE) is a for-profit, small business concern as defined pursuant to the federal Small Business Act that is at least 51% owned by one or more individuals who are both socially and economically disadvantaged and which meets the definition set forth in 49 CFR Part 26. The Authority seeks to:

- A) Ensure nondiscrimination in award and administration of Authority's contracts;
- B) Ensure that only firms that fully meet MWBE eligibility standards are permitted to participate in the Authority's MWBE programs;
- C) Help remove barriers to the participation of MWBEs in the performance of Authority's contracts;
- D) Create a level playing field on which MWBEs can fairly compete for Authority's contracts; and
- E) Assist in the development of firms that can compete successfully in the construction industry outside the MWBE programs.

The Design-Builder shall take all necessary and reasonable steps in accordance with the laws, rules and regulations cited in this subsection to promote the objectives outlined above. The Design-Builder shall comply with the applicable laws, rules and regulations and the D/M/WBE Program requirements stated below. The Design-Builder or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of Authority contracts. The Design-Builder shall carry out the applicable requirements of 49 CFR 26 in the award and administration of Federal-Aid contracts. Failure by the Design-Builder to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the Authority deems appropriate, including but not limited to withholding Contract payments from the Design-Builder. The Design-Builder shall not use the requirements of these specifications to discriminate against any qualified company or group of companies. These requirements shall be made a part of all subcontracts and agreements entered into as a result of this contract.

DB 102-8.1 Statutory/Regulatory Authority

The Federal statutory authority for the Disadvantaged Business Enterprise (MWBE) Program is contained in the Surface Transportation Assistance Act of 1982 (Public Law 97-424, §105(f)),

the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17, §106©), the Intermodal Surface Transportation Efficiency Act of 1991, and the Transportation Equity Act of the 21st Century. New York State has enacted Section 9 of the Infrastructure Investment Act, Section 85 of the New York State Highway Law and Section 428 of the New York State Transportation Law. Regulations have been promulgated under 49 CFR Part 26 and 17 NYCRR Part 35.

DB 102-8.2 MWBE Goal and Monitoring

This is a Federal-Aid contract with a single MWBE goal and only MWBE attainment will be counted towards meeting that goal, however, the utilization of certified small businesses and M/WBE firms is also encouraged, and the Design-Builder may be required to provide monthly reporting regarding utilization of all such firms.

The Authority has established a contract utilization goal for MWBEs as specified in the Agreement. The goal remains in effect throughout the life of the Contract. In executing the Agreement, the Design-Builder declares that it subscribes to the utilization goal and shall meet the goal or demonstrate that it could not meet them despite its good faith efforts. If the Contract is awarded with commitments to MWBE firms that are less than the Contract goal, the Design-Builder shall continue good faith efforts to achieve the Contract goal throughout the life of the Contract. The Authority will continually monitor efforts by the Design-Builder to provide opportunities for MWBE participation, undertake solicitations for MWBE participation, document commitments for MWBE utilization and verify attainments accomplished by MWBE firms. The Authority will review the Design-Builder's documentation of good faith efforts to ensure that maximum opportunities are acted upon towards meeting the MWBE goal.

DB 102-8.3 Eligibility

Only those MWBE firms that are certified by the New York State Unified Certification Program (NYSUCP) are eligible to be used for goal attainment on this Contract.

MWBE certification is not an endorsement of the quality or performance of the business, but simply an acknowledgment of the firm's status as a MWBE.

DB 102-8.4 Counting MWBE Participation

The value of the Work performed by a MWBE, including that of a MWBE Design-Builder, with its own equipment, with its own forces, and under its own supervision will be counted toward the goal, provided the utilization is a commercially useful function. A MWBE Design-Builder (or MWBE joint venture) shall still provide opportunities for participation by other MWBEs. Work performed by MWBEs working for the Design-Builder will be counted as set forth below. If the Authority determines that some or all of the MWBE's work does not constitute a commercially useful function, only the portion of the work considered to be a commercially useful function will be credited toward the goal.

- A) **Subcontractors.** 100% of the value of the Work to be performed by a MWBE Subcontractor will be counted toward the MWBE goal. The value of such Work includes the cost of materials and supplies purchased by the MWBE, except the cost of supplies or equipment leased from the Design-Builder or its affiliates will not be counted. Any tier subcontracting will be permitted. In instances where a first tier contractor is not a

MWBE, but any other tier subcontractor is a MWBE, the amount of the other tier contract to the MWBE will be counted toward the MWBE goal.

- B) **Manufacturers/Fabricators.** 100% of the expenditure to a MWBE manufacturer or fabricator will be counted towards the MWBE goal. Manufacturers or Fabricators may provide materials to the Design-Builder, a Subcontractor, or other firm working on the contract for installation.
- C) **Material Suppliers.** 60% of the expenditure to a MWBE material supplier will be counted toward the MWBE goal. Packagers, brokers, manufacturer's representatives, or other persons who arrange or expedite transactions are not material suppliers. Material Suppliers may provide materials to the Design-Builder, a Subcontractor, or other firm working on the contract for installation.
- D) **Brokers/Manufacturer's Representatives.** 100% of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees for transportation charges for the delivery of materials or supplies provided by a MWBE broker/manufacturer's representative will be counted toward the MWBE goal, provided they are determined by the Authority to be reasonable and not excessive as compared with fees customarily allowed for similar services. The cost of the materials and supplies themselves will not be counted. Brokers may supply materials to the Design-Builder, Subcontractor, or other firm working on the contract.
- E) **Services.** 100% of fees or commissions charged by a MWBE for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of the Contract will be counted toward the MWBE goal, provided the fee is reasonable and not excessive as compared with fees customarily allowed for similar services.
- F) **Trucking Operations.** The MWBE trucking firm of record is the firm that is listed on the MWBE Utilization Worksheet. The MWBE shall own and operate a least one registered, insured, and fully operational truck used on the Contract and shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting the MWBE goal. The MWBE trucking firm of record shall control the day-to-day MWBE trucking operations on the Contract, and shall be responsible for (1) negotiating and executing rental/leasing agreements; (2) hiring and terminating the work force; (3) coordinating the daily trucking needs with the Design-Builder; and (4) scheduling and dispatching trucks.
 - 1) **MWBE Owned/Leased Trucks.** 100% of the value of the trucking operations the MWBE provides on the contract using trucks it owns or leases on a long-term basis that are registered, insured, and operated by the MWBE using drivers it employs, will be counted toward the MWBE goal(s). A lease shall indicate that the MWBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the MWBE, so long as the lease gives the MWBE absolute priority for use of the leased truck. Leased trucks shall display the name and identification number of the MWBE.

- 2) Other MWBE Trucks. The MWBE may obtain trucks from another MWBE including a MWBE owner/operator. 100% of the value of the trucking operations that the other MWBE provides will also be counted toward the MWBE goal.
 - 3) Non-MWBE Trucks. The MWBE may obtain trucks from a non-MWBE including an owner-operator. Only the value of the fee or commission that the MWBE receives as a result of the arrangement with the non-MWBE will be counted toward the MWBE goal.
- G) **Joint Venture.** Joint ventures between MWBEs and non-MWBEs as subcontractors will be counted toward the Contract MWBE goal in proportion to the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the MWBE performs with its own forces. The joint venture agreement is subject to approval by the Authority and a copy of which is to be furnished by the Design-Builder before execution of the contract.
- H) **Equipment Rental.** 100% of the expenditure to a MWBE for equipment rental will be counted toward the MWBE goal. The Design-Builder shall have a written rental agreement with the firm that rents the equipment.

DB 102-8.5 Conditions of Participation

MWBE participation will be counted toward meeting the MWBE Contract goal, subject to all of the following conditions:

- A) **Commercially Useful Function.** A MWBE is considered to perform a commercially useful function when it is responsible for the execution of a distinct element of work on a contract and carries out its responsibilities by actually performing, managing, and supervising the work involved in accordance with normal industry practice. Regardless of whether an arrangement between the Design-Builder and the MWBE represent standard industry practice, if the arrangement erodes the ownership, control or independence of the MWBE or in any other way does not meet the commercially useful function requirement, that firm shall not be included in determining whether the MWBE goal is met and shall not be included in MWBE reports. If this occurs with respect to a firm identified as a MWBE, the Design-Builder shall receive no credit toward the MWBE goal and may be required to backfill the participation. A MWBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction or contract through which funds are passed in order to obtain the appearance of MWBE participation.

A MWBE may present evidence to rebut a determination by the Authority that the MWBE is not performing a commercially useful function. Commercially useful function determinations by the Authority are subject to review by the Federal Highway Administration (FHWA) but the determination may not be administratively appealed to USDOT.

- B) **Work Force.** The MWBE must employ a work force (including administrative and clerical staff) separate and apart from that employed by the Design-Builder, other Subcontractors on the Contract, or their Affiliates. This does not preclude the employment by the MWBE of an individual that has been previously employed by another firm involved in the Contract, provided that the individual was independently

recruited by the MWBE in accordance with customary industry practice. The routine transfer of work crews from another employer to the MWBE shall not be allowed.

- C) **Supervision.** All Work performed by the MWBE must be controlled and supervised by the MWBE without duplication of supervisory personnel from the Design-Builder, other Subcontractors on the contract, or their Affiliates. This does not preclude routine communication between the supervisory personnel of the MWBE and other supervisors necessary to coordinate the Contract Work.
- D) **Equipment.** MWBE Subcontractors may supplement their equipment by renting or leasing additional equipment in accordance with customary industry practice. The MWBE shall obtain approval of the Authority prior to renting equipment from the Design-Builder or its affiliates, and shall provide documentation to the Authority demonstrating that similar equipment and terms could not be obtained at a lower cost from other customary sources of equipment. The required documentation shall include, but not be limited to, copies of the rental or leasing agreements, and the names, addresses, and terms quoted by other sources of equipment.

DB 102-8.6 Good Faith Efforts

To determine whether a Design-Builder who has not met the MWBE goal has complied with good faith obligations under this Section, the Authority will determine whether the efforts the Design-Builder made to obtain MWBE participation were "good faith efforts" in accordance with CFR 26.53. Efforts to obtain MWBE participation that are merely pro forma are not good faith efforts, nor are efforts that, even if they are sincerely motivated, given all relevant circumstances, they could not reasonably be expected to produce a level of MWBE participation sufficient to meet the goal.

When a contract is awarded with commitments to MWBE firms that is less than the Contract goal, the Design-Builder shall continue good faith efforts. The Design-Builder shall periodically review items that are available for MWBE participation, typically before the beginning of a new construction season and when significant new items of work are added to the contract, and conduct additional MWBE solicitations and outreach.

In order to evaluate the Design-Builder's good faith efforts, the Authority will consider the quality, quantity, and intensity of the different kinds of efforts that the Design-Builder has made. Below is a list of the types of actions which the Authority will consider as part of the Proposer's good faith efforts to obtain MWBE participation. It is not a mandatory checklist, nor is it intended to be exhaustive or exclusive.

- 1) Soliciting through reasonable and available means the interest of certified MWBEs who have the capability to perform the work of the contract. The Design-Builder shall solicit this interest within sufficient time to allow the MWBEs to respond to the solicitation. The Bidder shall verify that MWBEs received the solicitation by following up the initial solicitation with at least one additional solicitation via a different media. The Bidder shall keep records of efforts to solicit and negotiate with MWBEs as evidence of good-faith efforts, using the *Solicitation Log* as a continuing record.
- 2) Soliciting, at a minimum, certified MWBEs within the appropriate geographic area:
 - a. For all work, soliciting certified MWBEs within 75 miles of the contract location.

- b. For trucking operations and equipment rental, soliciting certified MWBEs within 75 miles of the contract location.
 - c. For work such as guide rail, fencing, landscaping, work zone traffic control, survey, signs, permanent highway lighting, traffic signals, and intelligent transportation systems (ITS); soliciting certified MWBEs within 150 miles of the contract location.
 - d. For work such as pavement markings, manufacturers, fabricators, material suppliers, brokers, and services; soliciting certified MWBEs within 300 miles of the contract location, or on an upstate or downstate basis.
- 3) Selecting portions of the work to be performed by MWBEs in order to increase the likelihood that the MWBE goal(s) will be achieved. This includes, where appropriate, either breaking down operations or combining like or related operations into logistically and economically feasible units to facilitate MWBE participation, even when the Design-Builder might prefer to perform these work items with its own forces.
 - 4) Providing interested MWBEs with adequate information on where and how to obtain the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
 - 5) It is the Design-Builder's responsibility to make a portion of the work available to MWBEs and to select those portions of the work or material needs consistent with the available MWBEs and material suppliers, so as to facilitate MWBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of MWBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for MWBEs to perform the work.
 - 6) The fact that there may be some additional costs involved in finding and using MWBEs is not in itself sufficient reason for a Design-Builder's failure to meet the contract MWBE goal(s), as long as such costs are reasonable. The ability or desire of a Design-Builder to perform the work of a contract with its own organization does not relieve the Design-Builder of the responsibility to make good faith efforts. Design-Builders are not, however, required to accept higher quotes from MWBEs if the price difference is excessive or unreasonable.
 - 7) Not rejecting MWBEs as unqualified without sound reasons based on a thorough investigation of their capabilities.
 - 8) Making efforts to assist interested MWBEs in obtaining bonding, lines of credit or insurance as required by the Authority.
 - 9) Making efforts to assist interested MWBEs in obtaining necessary equipment, supplies, materials, or related assistance.
 - 10) Where available, effectively using the services of available minority/women focused media, trade associations, and contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of MWBEs.

If at any time the Authority determines that the Design-Builder has failed to undertake good faith efforts to meet the MWBE goal, the Authority will, before exercising any remedies available for such failure, provide the Design-Builder an opportunity for administrative reconsideration, by an official who did not take part in the original good faith efforts determination, that the Design-Builder failed to undertake good faith efforts to meet the MWBE goal. As part of this reconsideration, the Design-Builder shall have the opportunity to provide written documentation or argument and to meet in person with the Authority's reconsideration official concerning the issue of whether it has made adequate good faith efforts to meet the goal. The Authority will send the Design-Builder a written decision on reconsideration, explaining the basis for finding that the Design-Builder did or did not make adequate good faith efforts to meet the goal.

DB 102-8.7 Changes to MWBE Utilization

The Design-Builder shall obtain Authority approval for substantial revisions in MWBE utilization prior to implementing any proposed change through submission of a revised *MWBE Utilization Worksheet* using the Authority approved civil rights reporting software.

If the reduction of the MWBE's work or the removal of the MWBE, including for reasons of commercially useful function violations, causes the MWBE utilization to fall below the goal, the Design-Builder shall make good faith efforts to find another MWBE to substitute for the original MWBE to perform at least the same amount of work as the MWBE that was terminated, to the extent needed to meet the contract goal(s).

A MWBE may be substituted if the work committed to the MWBE is deleted or reduced by the Design-Builder and enough work remains to substitute an equal commitment amount to the affected MWBE.

The following modifications will be considered a substantial revision in D/M/WBE utilization:

1. Adding, removing or substituting a MWBE.
2. Adding new item(s) of work to a MWBE within the same (3 digit) NYSDOT MWBE work code (i.e. 606 - Guide Railing) not currently approved.
3. Significantly reducing the dollar value of or eliminating the MWBEs work. Significant reduction will be determined by comparison to the total MWBE contract goal.

The following modifications will not be considered a substantial revision in MWBE utilization:

1. Increasing the dollar value of work or adding new types(s) of work within the same core (3 digit) NYSDOT MWBE work code (i.e. 606 - Guide Railing) to a MWBE.
2. Substituting similar dollar values of work within a currently approved core (3 digit) NYSDOT MWBE work code (i.e. 606 – Guide Railing).
3. Changes in utilization due to differences between estimated quantities and actual work performed.

In accordance with 49 CFR 26.53(f)(1), the Design-Builder shall not terminate a MWBE listed on the approved MWBE Utilization plan without the prior written consent of the Authority. This includes, but is not limited to, instances in which the Design-Builder seeks to perform work

originally designated for a MWBE subcontractor with its own forces or those of an affiliate, a non-MWBE firm, or with another MWBE firm. The Authority will consent only if the Design-Builder has good cause to terminate the MWBE firm. Good cause includes, at a minimum, one the following circumstances:

- The listed MWBE fails or refuses to execute a written contract;
- The listed MWBE fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the MWBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Design-Builder;
- The listed MWBE fails or refuses to meet the Design-Builder's reasonable, nondiscriminatory bond requirements.
- The listed MWBE becomes bankrupt, insolvent, or exhibits credit unworthiness;
- The listed MWBE is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1,200 or applicable state law;
- The Authority has determined that the listed MWBE is not a responsible firm;
- The listed MWBE voluntarily withdraws from the project and provides to the Authority written notice of its withdrawal;
- The listed MWBE is ineligible to receive MWBE credit for the type of work required;
- A MWBE owner dies or becomes disabled with the result that the listed MWBE is unable to complete its work on the contract;
- Other documented good cause that the Design-Builder determines compels the termination of the MWBE. Provided, that good cause does not exist if the Design-Builder seeks to terminate a MWBE it relied upon to obtain the contract so that the Design-Builder can self-perform the work for which the MWBE was engaged or so that the Design-Builder can substitute another MWBE or non-MWBE contractor after contract award.

Before submitting its request to terminate and/or substitute a MWBE to the Authority, the Design-Builder shall give notice in writing to the MWBE subcontractor, with a copy to the Authority, of its intent to request to terminate and/or substitute, and the reason for the request.

The Design-Builder shall give the MWBE five days to respond to the notice and advise the Authority and the Design-Builder of the reasons, if any, why the MWBE objects to the proposed termination of its subcontract and why the Authority should not approve the Design-Builder's action. If required in a particular case as a matter of public necessity (e.g., safety), the Authority may approve a response period shorter than five days.

DB 102-8.8 MWBE Utilization Reporting

As stated, this Contract has a single MWBE goal, and only MWBE attainment will be counted towards meeting that goal, however, the utilization of certified small businesses and M/WBE firms is also encouraged.

As soon as practicable, but not later than prior to the first contract payment, the Design-Builder shall enter all current utilization data into the Authority approved civil rights reporting software from the Form LDB, Table 1 as submittal as part of the Proposal. Thereafter, data shall be entered each month, not later than the 15th of the following month. Data shall be current through the end of the last full payroll week for that month, or as otherwise approved by the Construction Quality Assurance Engineer to coordinate with payment submittals.

The Design-Builder shall submit updates of their commitments to MWBE firms, and obtain acknowledgement from all MWBEs in EBO within 120 days of the Notice to Proceed. At this point in the contract, dollar value commitments to all MWBE firms (as previously committed to on Form LDB Tables 1 & 2) shall be entered electronically into EBO, and MWBE firms shall acknowledge those commitments in EBO.

The Authority approved civil rights reporting software is *Equitable Business Opportunity Solution* (EBO). The EBO software is a web-based system owned and maintained by the Authority, and provided to the Design-Builder at no cost. The Design-Builder shall use the Authority approved civil rights reporting software on this contract. The Design-Builder shall submit complete, accurate, electronic data to the Authority for each month, not later than the 15th of the following month.

The Design-Builder shall report payments made to all firms working under this contract for the Design-Builder, including all MWBEs, in order to measure goal attainment and to gauge the effect of MWBE goal(s) on the industry. The Design-Builder shall submit payment data for all firms and for all certified MWBEs that are due a payment or have received a payment within the last month. All firms and MWBEs shall acknowledge payment not later than 7 calendar days after receipt. Attainments will be measured based on payments made to MWBEs. Attainments based on work completed by MWBEs that are no longer certified will not be counted after the MWBE is no longer certified.

For each MWBE, the Design-Builder shall explain, in writing, the scope of Work to be performed by the MWBE and expressly indicate any item or component of the scope which is not completely performed by the MWBE. The value of each work assignment to a MWBE shall have a corresponding NYSDOT - MWBE work code for Authority verification of certification and payment. Each MWBE shall be identified for its type of service/material provided, (examples: design, inspection, materials, trucking and construction).

For each MWBE trucking operation, the Design-Builder shall also indicate the type of trucking operation to be performed, the number of trucks owned/leased, the number of trucks working on-site or off-site, rate per hour/ton/load/etc., duration or amount, and total dollar value of the proposed MWBE commitment. The Design-Builder shall provide copies of all lease agreements utilized by the MWBE.

If at the time of proposal the Design-Builder has committed towards the MWBE goal through the combined use of commitments to MWBE firms (Form LDB Table 1) and commitments to work items to be performed by MWBE during the time of the contract (Form LDB Table 2), it shall

submit the Solicitation Log, together with other documentation that provides evidence of good faith efforts. If at the time of proposal the Design-Builder has met the MWBE goal solely by commitments to MWBE firms (Form LDB Table 1 only), then submission of evidence of good faith efforts is not required.

DB 102-8.9 Required Records

The Design-Builder shall keep records and documents for six years following performance of this Contract to indicate compliance with this Section. These records and documents, or copies thereof, will be made available at reasonable times and places for inspection by any authorized representatives of the Authority and will be submitted to the Authority upon request, together with other compliance information which may be required.

DB 102-8.10 Reporting Violations of Program Rules

The Design-Builder is responsible for ensuring that the MWBE performs a commercially useful function on the Contract as defined in DB Section 102-6.5(A). If the Design-Builder becomes aware of any violations of this Section, the Design-Builder is required to promptly report the violations to the Authority's Project Manager.

DB 102-8.11 Design-Builder Failure to Comply

The Authority's acceptance of the Design-Builder's proposal is conditioned upon the Design-Builder's acceptance of the MWBE program requirements.

If the Design-Builder within 120 days of the Notice to Proceed:

1. fails to obtain acknowledgements of MWBE commitments from all proposed MWBE firms,
or
2. fails to attain the MWBE utilization goal and to satisfactorily provide evidence of its good faith efforts,

the Authority may not proceed with further design acceptances. The Design-Builder, upon receipt of written notification of its failure to comply with the MWBE utilization requirements shall have 5 work days to carry out the corrective action(s) described in the notification.

If the Authority determines that the Design-Builder has failed to meet the good faith effort requirements, the Authority will, before proceeding with further design acceptances, provide the Design-Builder an opportunity for administrative reconsideration by an official who did not take part in the original determination that the Design-Builder failed to meet the goal or make adequate good faith efforts to do so. As part of this reconsideration, the Design-Builder shall have the opportunity to provide written documentation or argument and to meet in person with the Authority's reconsideration official concerning the issue of whether it met the goal or made adequate good faith efforts to do so. The Authority will send the Design-Builder a written decision on reconsideration, explaining the basis for finding that the Design-Builder did or did not meet the goal or make adequate good faith efforts to do so.

The Authority may suspend Contract payments in accordance with ARTICLE 10, No Periodic Payment on Design-Builder's Non-Compliance, of the Contract Agreement, the Design-Builder may be directed to attend a hearing before the Contract Review Unit, or the Authority may follow any other lawful procedure upon due notice in writing to the Design-Builder, including

cancellation, termination, or suspension in whole or in part in accordance with ARTICLE 12, Right to Suspend Work and Cancel Contract. The Design-Builder may also be referred to the USDOT for possible suspension or debarment as provided in 49 CFR 29 and such other sanctions as may be imposed and remedies invoked as provided under the authority of 49 CFR 26, or by rule, regulation, or order of the Commissioner or as otherwise provided by law.

DB 102-9 EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

The Authority seeks to ensure nondiscrimination in employment under all the Authority's contracts. The Design-Builder shall comply with the following Equal Employment Opportunity (EEO) requirements. The Contract goals for a specific contract are contained in *Appendix B to the Agreement*. The covered area is the county or counties in which the work is located.

Equal Employment Opportunity provisions are also found on Form FHWA 1273 Required Contract Provisions Federal-Aid Construction Contracts, a copy of which is included in *Appendix B to the Agreement*.

Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

DB 102-9.1 Statutory/Regulatory Authority

The Federal authority for Equal Employment Opportunity provisions is contained in 23 USC Section 140(a), 23 CFR Section 230, 41 CFR Parts 60-1 and 60-4, and Executive Order 11246. State authority is contained in Section 428 of the New York State Transportation Law, Article 15-A of the New York State Executive Law, and Section 2879 of the New York Public Authorities Law and the rules promulgated there under, including 5 NYCRR Part 140 et seq.

DB 102-9.2 Definitions

A minority group member is defined under this subsection as someone who is, and can demonstrate membership in, one of the following groups:

- A) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
- B) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
- C) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
- D) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identifications).

DB 102-9.3 Employment Goals

The Design-Builder shall provide equal employment opportunity and shall take affirmative action for all minority groups, both male and female; and women, both minority and non-minority. If the Design-Builder performs work outside of the covered area, it shall apply the goals established for the county where the work is actually performed. The Authority will monitor the Design-Builder's attainments towards EEO goals in accordance with DB §102-9.4 Civil Rights Monitoring and Reporting.

The goal set for the Contract are expressed as percentages of the total hours of employment and training of minority and female utilization the Design-Builder should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Design-Builder is expected to make substantially uniform progress in meeting its goals in each trade. The hours of minority and female employment and training shall be substantially uniform throughout the length of the Contract, and in each trade, and the Design-Builder shall make a good faith effort to employ minorities and women evenly on each of its contracts. The transfer of minority or female employees, apprentices, or trainees from contractor to contractor or from contract to contract for the sole purpose of meeting the Design-Builder's goals is a violation of the Contract.

DB 102-9.4 Civil Rights Monitoring and Reporting

- A) Civil Rights Officers: The Design-Builder and each firm doing business as an affiliate shall designate a Corporate Civil Rights Officer, a Corporate MWBE Representative, and a contract site Equal Employment Opportunity (EEO) Representative in the Authority approved civil rights reporting software. The designated individuals shall have the responsibility to and shall be capable of effectively administering and promoting an active program of equal employment opportunity and who shall be assigned adequate authority and responsibility to do so. A single individual may fulfill multiple roles. The Design-Builder shall update the Authority approved civil rights reporting software within 10 calendar days of any changes in these roles.
- B) Workforce Participation Plan: The Design-Builder shall submit a Workforce Participation Plan, in accordance with the requirements of Part 3 - Project Requirements, covering the Design-Builder's workforce and the workforce of all its Subcontractors, together and coordinated with the Baseline Progress Schedule that addresses the Equal Employment Opportunity goals. The Design-Builder shall not start work until the Authority and the Design-Builder have agreed upon and accepted the Workforce Participation Plan. The Design-Builder shall submit a revised plan when a significant work force build-up or reduction will substantially affect goal attainment, or when a revised schedule is requested by the Authority. Such revised Workforce Participation Plan must be agreed upon by the Authority or the original will remain in effect.
- C) Equal Employment Opportunity (EEO) Monitoring and Reporting: The Design-Builder's compliance with the EEO Requirements will be based on its Employment Utilization, affirmative action steps and its good faith efforts to meet the goals. The Design-Builder shall enter all current employee utilization data into the Authority approved civil rights reporting software on a monthly basis. The Authority, in evaluating the Design-Builder's good faith efforts to meet the EEO goal, will first analyze the Design-Builder's goal attainment on an individual contract. If the Design-Builder is not meeting the goal for a single trade or contract, the Authority will analyze, progressively, the Design-Builder's

goal attainment on all contracts held by the Design-Builder within the county and/or the State. This method of analysis shall be applied primarily but not solely to contracts with small population numbers. Other factors to be considered include the location of the contracts, the relative proximity of the contracts to each other, and the nature of the work.

- D) **Employee Utilization Data:** The Design-Builder shall submit employee utilization data for its workforce and for each Subcontractor with a Subcontract exceeding \$10,000 to the Authority on a monthly basis showing hours worked for each payroll week, for each trade and classification, by gender and ethnicity. Employee utilization data shall include data from the start of the contract up to and including the month being reported. For the purpose of determining utilization percentages, the hours of female and minority employment shall be tabulated separately and attainment percentages calculated separately.

- E) **Design-Builder Compliance:** If the Design-Builder fails to meet the EEO goal for minorities or women, the Authority may require training of minorities and women to satisfy the employment goals. If the Design-Builder fails to meet the EEO goal or is in noncompliance with the nondiscrimination clauses, the Authority may suspend additional contract payments in accordance with DB §109-5.4, *No Periodic Payment on Design-Builder's Non-Compliance*. Due to failure to comply with Authority direction, the Design-Builder may be directed to attend a hearing before the Authority's Contract Review Unit, or the Authority may follow any other lawful procedure upon due notice in writing to the Design-Builder, including cancellation, termination, or suspension in whole or in part in accordance with the *Agreement, Article 12 – Right to Suspend Work and Cancel Contract*. The Design-Builder may also be referred to the U.S. Department of Labor, Office of Federal Contract Compliance Programs (OFCCP), which has the sole authority to determine compliance with Executive Order 11246 and its implementing regulations. OFCCP may declare the Design-Builder ineligible for further Federal-Aid contracts in accordance with procedures authorized in Executive Order 11246, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246, or by rule, regulation, or order of the U.S. Secretary of Labor, or as otherwise provided by law.

- F) **Federal-Aid Highway Construction Contractors Annual EEO Report:** The Design-Builder shall submit all required data to produce an annual Form FHWA 1391 Federal-Aid Highway Construction Contractors Annual EEO Report to the Authority not later than the second Friday in August covering the last payroll period worked in July, for all ongoing Federal-Aid contracts. The data shall indicate the number of minority men, minority women, nonminority men, and non-minority women employees currently engaged in each trade

DB 102-9.5 Design-Builder Obligations

The Design-Builder shall comply with all provisions of Federal Executive Order 11246 and the provisions of State and Federal laws and regulations. The Design-Builder shall furnish all information and reports required by Executive Order 11246 and by rules, regulations, and orders of the Secretary of Labor or pursuant thereto, and will permit access to its books, records, and accounts by the Authority and the U.S. Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders. The Design-

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Builder shall develop and implement an EEO policy in accordance with Form FHWA 1273 Required Contract Provisions Federal-Aid Construction Contracts.

- A) **Non-Discrimination:** The Design-Builder shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, disability or marital status. The Design-Builder shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, national origin, age, disability or marital status. Such actions shall include the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Design-Builder shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Authority setting forth the provisions of this non-discrimination clause. The Design-Builder shall not use the goals or affirmative action requirements to discriminate against any person because of race, color, religion, sex, national origin, disability or marital status.
- B) **Solicitations:** The Design-Builder shall state in all solicitations or advertisements for employees placed by or on behalf of the Design-Builder, that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, age, disability or marital status.
- C) **Collective Bargaining Agreements:** The Design-Builder shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Design-Builder's commitments to equal employment opportunities, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Design-Builder has a collective bargaining agreement, to refer either minorities or women shall excuse the Design-Builder's obligations.
- D) **Complaints of Alleged Discrimination:** The Design-Builder shall promptly investigate all complaints of alleged discrimination made to the Design-Builder in connection with its obligations under this Contract, shall attempt to resolve such complaints, and shall take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, corrective action shall include such other persons. Upon completion of each investigation, the Design-Builder shall inform every complainant of all available avenues of appeal. The Design-Builder shall not retaliate or discriminate against any person because he or she has opposed unlawful discrimination or because he or she has filed a complaint, testified or assisted in any proceeding relating to unlawful discrimination.
- E) **Non-Compliance:** In the event of the Design-Builder's non-compliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations, or orders, this Contract may be canceled, terminated or suspended in whole or in part and the Design-Builder may be declared ineligible for further contracts in accordance with procedures authorized in Executive Order 11246, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246, or by rule, regulation, or order of the U.S. Secretary of Labor, or as otherwise provided by law.

- F) Subcontracts/Purchase Orders: The Design-Builder shall include the provisions of DB §102-9.5 Design-Builder Obligations in every Subcontract or purchase order, so that such provisions will be binding upon each Subcontractor or vendor. In the event the Design-Builder becomes involved in, or is threatened with, litigation with a Subcontractor or vendor as a result of such direction by the Authority, the Design-Builder may request the United States to enter into such litigation to protect the interests of the United States.

DB 102-9.6 Affirmative Action Steps

The Design-Builder shall take specific affirmative actions to promote equal employment opportunity. The evaluation of the Design-Builder's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Design-Builder shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

- A) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which Design-Builder's employees are assigned to work. The Design-Builder, where possible, shall assign two or more women to each construction contract. The Design-Builder shall specifically ensure that all forepersons, superintendents, and other onsite supervisory personnel are aware of and carry out the Design-Builder's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- B) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Design-Builder or its unions have employment opportunities available, and maintain a record of the organizations' responses.
- C) Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Design-Builder by the union or, if referred, not employed by the Design-Builder, this shall be documented in the file with the reason therefore, along with whatever additional actions the Design-Builder may have taken.
- D) Provide immediate written notification to the Authority when the union or unions with which the Design-Builder has a collective bargaining agreement has not referred to the Design-Builder a minority person or woman sent by the Design-Builder, or when the Design-Builder has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.
- E) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Design-Builder's employment needs, especially those programs funded or approved by either the NYS Department of Labor or the US Department of Labor. The Design-Builder shall provide notice of these programs to the sources compiled under DB §102-9.6(B) above.

- F) Disseminate the Design-Builder's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Design-Builder in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- G) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, forepersons, etc., prior to the initiation of construction work at any site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- H) Disseminate the Design-Builder's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Design-Builder's EEO policy with other contractors and Subcontractors with whom the Design-Builder does or anticipates doing business.
- I) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Design-Builder's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Design-Builder shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
- J) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the Site and in other areas of the Design-Builder's work force.
- K) Validate all tests and other selection requirements in accordance with State and Federal laws, rules and regulations.
- L) Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities. Encourage these employees to seek or to prepare for promotional opportunities through appropriate training, etc.
- M) Ensure that seniority practices, labor classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Design-Builder's obligations under these specifications are being carried out.
- N) Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

- O) Document and maintain a record of solicitations of offers for Subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- P) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Design-Builder's EEO policies and affirmative action obligations.

DB 102-9.7 Associations

Design-Builders are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations. The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Design-Builder is a member and participant, may be asserted as fulfilling one or more of its obligations, provided that the Design-Builder actively participates in the group, makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the benefits of the program are reflected in the Design-Builder's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Design-Builder. The obligation to comply, however, is the Design-Builder's and failure of such a group to fulfill an obligation shall not be a defense for the Design-Builder's noncompliance.

DB 102-9.8 Hometown Plans (Federal-Aid Contracts Only)

If Design-Builder is participating (pursuant to 41 CFR Section 60-4.5) in a Hometown Plan approved by the USDOL in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Design-Builders participating in Hometown Plans shall be able to demonstrate their participation and document their compliance with the provision of the Hometown Plan. Each company participating in an approved plan is individually required to comply with its obligation under the EEO clause and to make a good faith effort to achieve each goal under the plan in each trade in which it has employees. The overall good faith performance by other contractors toward a goal in an approved plan does not excuse any covered contractor's failure to take good faith efforts to achieve the Plan goals and timetables.

DB 102-10 STATE AND LOCAL SALES TAX EXEMPTION

In connection with capital improvement contracts, under the New York State Tax Law, all tangible personal property which will become an integral component of a structure, building, or real property of the Authority, or any of its political subdivisions, is exempt from State and local retail sales tax and compensating use tax.

DB 102-11 WORK AFFECTING SHIPPING

Design-Builder's Work activities in, over, or adjacent to navigable waters shall be performed in accordance with all obligations and requirements set forth in *Part 3, Project Requirements*.

DB 102-12 IRAN DIVESTMENT ACT OF 2012

This project is subject to the Iran Divestment Act of 2012 (Act). As a result of the Act, Chapter 1 of the 2012 Laws of New York, a new provision has been added to the State Finance Law (SFL), § 165-a. The requirements of the Act and information regarding the Act can be accessed at: <http://www.ogs.ny.gov/about/regs/docs/ida2012.pdf>

Pursuant to State Finance Law (SFL) § 165-a(3)(b), the Commissioner of the Office of General Services (OGS) has developed and maintains a list (prohibited entities list) of “persons” who are engaged in “investment activities in Iran” (both are defined terms in the law). The list may be found on the OGS website at: <http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf>

DB 102-13 UNITED STATES DEPARTMENT OF TRANSPORTATION HOTLINE

Persons with knowledge of bid collusion (i.e., contractors, suppliers, work persons, etc.), or other questionable contract related practices (inadequate materials, poor workmanship, theft of materials, etc.), are encouraged to report such activities by calling the U.S. DOT HOTLINE. The HOTLINE number is 1-800-424-9071 and calls will be answered from 8:00 A.M. to 5:00 P.M. EST, Monday through Friday.

This HOTLINE is under the direction of the U.S. DOT's Inspector General. All information will be treated confidentially and the caller's anonymity will be respected.

DB 102-14 NEW YORK STATE INSPECTOR GENERAL HOTLINE

Reports of New York State Governmental Misconduct may be made in strict confidence to the New York State Inspector General. You can file a complaint in any of the following ways: You may call the Inspector General's 24-hour, toll-free Hot Line at 1-800-DO RIGHT (1-800-367-4448). This will put you in contact with trained staff who can discuss with you the specifics of your complaint. You can use the on-line complaint form on this site, <http://ig.ny.gov/content/on-line-complaint-form>. You also can file a complaint by mail at:

Office of the State Inspector General

Empire State Plaza, Agency Building 2, 16th Floor

Albany, New York 12223

**DB SECTION 103
PARTNERING; PERFORMANCE SECURITY**

DB 103-1 [RESERVED]

DB 103-2 PARTNERING

It is the Authority's policy to use the principles of partnering to guide the management of Design-Build (DB) contracts and the DB program within the parameters covered by the laws, regulations, and other policies that govern work in the public sector.

These partnering principles are intended to promote quality through continuous improvement at all stages of design and construction. The goal of the Authority is to complete each project in the most efficient, timely, safe, and cost effective manner to the mutual benefit of the Design-Builder and the Authority, meaning a quality Project delivered on time, within budget, and without significant Disputes.

None of the actions identified as part of, or taken in the course of, partnering shall be construed to alter, modify, delete, or waive any of the provisions or requirements of the Contract Documents or any applicable Governmental Rules.

The Authority, with the Design-Builder, will manage the Contract in a cooperative manner utilizing the following principles of partnering:

- A) Establish communications with all involved parties early in the partnering process;
- B) Establish a relationship of shared trust, equity, and commitment;
- C) Develop strategies for identifying mutual goals;
- D) Develop strategies for timely communications and decision making;
- E) Establish a process for timely response to changes or variations in field conditions;
- F) Solve potential problems at the lowest level, before they negatively impact the Project;
- G) Encourage the use of products, technology, and processes that provide a demonstrated level of improved quality; and
- H) Develop a plan for periodic joint evaluation based on mutually agreed goals.

These principles are to be implemented in an equitable fashion that recognizes the problems that are inherent in design and construction, addresses the different-than-expected field conditions, resolves Disputes in an open communications manner, and makes Contract adjustments in a timely and fair manner consistent with the terms of the Contract. The Contract Documents are intended to fairly allocate risk, resulting in a balanced contractual approach to risk-sharing.

The Authority will consider additional suggestions from the Design-Builder regarding the incorporation of partnering into the coordination and cooperation required with third parties such

as Subcontractors, Suppliers, utility owners, and railroads, or as otherwise desired by the Design-Builder.

Any cost associated with effectuating partnering will be agreed to by both the Design-Builder and the Authority and will be shared equally with no change in the Contract Price. The Design-Builder shall pay all costs and submit paid invoices to the Authority for 50% reimbursement.

DB 103-3 PAYMENT AND PERFORMANCE BONDS

At the time the Design-Builder returns the executed Contract to the Authority, the Design-Builder shall furnish the Payment Bond and Performance Bond as specified in the RFP Instructions to Proposers.

DB SECTION 104 SCOPE OF WORK

DB 104-1 WORK REQUIRED

Refer to the Agreement and Part 3, Project Requirements, for a general description of the Work required for the Project.

The Design-Builder shall be responsible for the coordination and performance of the Work of its Subcontractors and Suppliers. Operations shall be arranged and conducted so that delays will be avoided. Where the Work of the Design-Builder or Subcontractors overlaps or dovetails with that of other contractors, materials shall be delivered and operations conducted so as to carry on the Work continuously in an efficient and workmanlike manner.

Delays or oversights on the part of the Design-Builder or Subcontractor(s) in getting any or all of the Work completed in accordance with the Contract Requirements, thereby requiring the removal and replacement of Work already in place, or in any other way delaying the Work, shall not be the basis for a claim of extra compensation. Any removal and/or replacement of Work already in place, which is required as a result of delays or oversights on the part of the Design-Builder or Subcontractor(s), shall be performed at the cost and expense of the Design-Builder.

Subject to the exceptions specified in DB §105-12 with respect to the maintenance responsibilities described therein, DB §108-9 with respect to official shutdown periods and DB §109-11.1 with respect to partial acceptance of units or portions of the Project prior to Project Completion, the Design-Builder shall provide preventive and corrective maintenance for the entire Site until Project Completion.

DB 104-2 INTENT OF CONTRACT

The parties intend for the Contract to be a lump-sum design-build contract obligating the Design-Builder to perform all Work necessary to complete the Project within the Contract Time, for the Contract Price, subject only to certain limited exceptions expressly set forth in the Contract. The Design-Builder will be required to coordinate its Work with the Authority's other contractors including contractors who are engaged in other Authority contracts or other Persons who are engaged in construction work in the overall vicinity of the Project.

DB 104-2.1 Description of Work

The intent of the Contract is to provide for the engineering, design, construction, and completion in every detail of the Work described, including necessary preliminary and construction surveys. The Design-Builder shall furnish all labor, material, equipment, tools, transportation, and supplies required to complete the Work in accordance with the terms of the Contract, except those materials to be furnished by the Authority in accordance with the provisions of the Contract.

The Design-Builder shall not only rely on the description contained in the Contract to identify all of the Project components to be designed, constructed, and/or installed. The Design-Builder shall determine the full Scope of the Project through thorough examination of the Request for Proposals and the Project Site, and such other investigations as may be appropriate.

The intent of the Contract Documents is to include all items/aspects of the Work that are necessary for the proper initiation, execution, and completion of the Project. A requirement occurring in any component of the Contract Documents is as binding as though occurring in all.

DB 104-2.2 Professional Licensing Laws

The Authority does not intend to contract for, pay for, or receive any design services which are in violation of any professional licensing laws, and by execution of the Contract, the Design-Builder acknowledges that the Authority has no such intent. It is the intent of the parties that the Design-Builder is fully responsible for furnishing the design of the Project, although the fully licensed design firm(s) or individuals designated herein will perform the design services required by the Contract Documents. Any references in the Contract Documents to the Design-Builder's responsibilities or obligations to "perform" the design portions of the Work shall be deemed to mean that the Design-Builder shall "furnish" the design for the Project. The terms and provisions of this DB §104-2.2 shall control and supersede every other provision of the Contract Documents with respect to this issue.

DB 104-2.3 Ownership of Work Product and Intellectual Property Licenses

Provided the Authority has made payment to the Design-Builder as required therefore by this Contract, all Work Product furnished by the Design-Builder to the Authority hereunder shall be considered property of the Authority, except that all pre-existing copyrights, design rights, patents, trademarks, trade secrets and other intellectual property rights in the Work Product (collectively, "Pre-existing IP Rights") shall remain the property of the Design-Builder. The Design-Builder hereby grants to the Authority an irrevocable license, in perpetuity and at no additional cost, to retain and use Pre-existing IP Rights for operations, maintenance and improvements to the Project, and for other purposes relating to the Authority's facilities or operations. Such license includes the right to grant sublicenses to the Authority's contractors and subcontractors of any tier. Subject to the foregoing, Design Documents shall become the Authority's property upon preparation; shop drawings, working drawings and samples shall become the Authority's property upon delivery to the Authority; and other documents prepared or obtained by Design-Builder in connection with the performance of its obligations under the Contract, including studies, manuals, as-built drawings, technical and other reports and the like, shall become the property of the Authority upon the Design-Builder's preparation or receipt thereof. Copies of all Design Documents, shop drawings and working drawings shall be furnished to the Authority upon preparation or receipt thereof by the Design-Builder. The Design-Builder shall maintain all other documents described in this DB §104-2.3 in accordance with DB §104-16 and as otherwise required by the Contract Documents, and shall deliver copies to the Authority as required by the Contract Documents or upon request if not otherwise required to be delivered, with an indexed set delivered to the Authority as a condition to Final Acceptance.

The Authority hereby grants to the Design-Builder a non-exclusive, royalty-free license to use intellectual property included in the Work Product in connection with Work performed hereunder and with respect to other projects undertaken by the Design-Builder, provided that said license does not apply to any Pre-existing IP Rights. Said license includes the right to grant sublicenses to Subcontractors responsible for development of said intellectual property.

DB 104-3 CONTINGENCIES, EXTRA WORK, AND DEDUCTIONS

DB 104-3.1 Right to Issue Orders on Contract

The provisions of the *Agreement, Article 8 – Alterations and Omissions* shall apply. Whenever the Authority determines that, from any unforeseen cause, the terms of the Contract should be altered to provide for changes, contingencies, Extra Work or the deletion of Work, an Order on Contract may be issued to the Design-Builder, who shall promptly proceed with the performance of the Work, as so modified, and the designing and furnishing of the materials and equipment necessary for its accomplishment.

No instructions, either written or verbal from any employee or agent of the Authority shall be construed as an order for changes until receipt by the Design-Builder of written notification that an Order on Contract has been approved by the Authority, or written notification from the Authority's Project Manager that changes in the Work are eligible and authorized for payment in accordance with DB §109. Otherwise, payment for any unforeseen Work shall be made only if the Design-Builder complies or has complied with all of the provisions of DB §§104-3.2, 104-4, 104-5, 104-6, 104-7, 109-9, 109-10 and 109-15, as applicable.

DB 104-3.2 Significant Changes in the Character of Work

If the Authority wishes to add Work to this Contract, such addition may be considered a significant change in the character of the Work. In such event an adjustment shall be made to the Contract.

A significant change in the character of the Work shall also be deemed to occur if the Authority directs the Design-Builder to delete or modify the Work such that this Contract would no longer be considered a Design-Build contract for the Project of the nature described in the Contract Documents. In such event, the Design-Builder shall perform the Work not terminated as directed by the Authority. If a basis for adjustment of the Contract Price cannot be agreed upon, then an adjustment shall be made in such amount as the Authority's Project Manager may determine to be fair and equitable, excluding anticipated profit for the Work that has been deleted. If deletion or modification of the Work creates float in the schedule enabling early completion, the Order on Contract may include an appropriate modification of the Contract Deadlines.

The Design-Builder shall comply with the notice, recordkeeping and other requirements of DB §§104-4, 104-5, 104-6, 104-7, 108-6, 109-9, 109-10 and 109-15, as applicable, with respect to any request to adjust the Contract Price or the Contract Time due to an alleged significant change in the character of the Work. The Authority will have no liability and no adjustment will be made for any damages (i) if the Design-Builder fails to comply with such requirements or (ii) which accrued more than 10 work days prior to the filing of such a notice.

DB 104-4 CHANGES IN BASIC PROJECT CONFIGURATION; UTILITY RELOCATIONS; HAZARDOUS MATERIALS; ENVIRONMENTAL MITIGATION

DB 104-4.1 Changes in Basic Project Configuration

The Authority acknowledges and agrees that the Design-Builder's Proposal was based on certain basic information presented by the Authority regarding the nature of the Project to be constructed as documented in the RFP. This basic information is considered the Basic Project Configuration.

Except as authorized by an Order on Contract, the Design-Builder shall not make any material change in the Basic Project Configuration. Non-material Authority-Directed Changes may be covered by an Order on Contract whether they are within the parameters of the Basic Project Configuration or not. Non-material Authority-Directed Changes may be ordered without any change in the Contract Price or extension of the Contract Time, provided the change is ordered prior to completion of the Definitive Design Review for the affected Design Unit(s).

DB 104-4.1.1 Not Used

DB 104-4.1.2 Necessary Basic Project Configuration Change

Notwithstanding the fact that this Contract generally obligates the Design-Builder to undertake all Work necessary to complete the Project without changes in the Contract Price, this DB §104-4.1.2 provides for a change in the Contract Price to be made in conjunction with Necessary Basic Project Configuration Changes. If any Necessary Basic Project Configuration Change increases or decreases the cost of performing the Work, then the Authority will issue an Order on Contract to adjust the Contract Price accordingly. Furthermore, if the Design-Builder commences any construction Work affected by the change prior to delivery of appropriate notice of the change to the Authority under this DB §104, the Order on Contract shall allow the Authority a credit for the cost of any unnecessary Work performed and/or shall exclude any additional costs associated with redoing the Work already performed. The Order on Contract shall also account for any offsets from Orders on Contract previously issued.

In the event that the Authority approves a Necessary Basic Project Configuration Change that reduces the Design-Builder's costs, the Order on Contract shall note the amount of cost decrease available for future offsets.

If a Necessary Basic Project Configuration Change results in a Critical Path delay, the Order on Contract may include an appropriate extension of time and/or time-related damages. If a Necessary Basic Project Configuration Change creates float in the schedule thus allowing early completion without additional cost, the Order on Contract shall include an appropriate modification of the contract deadlines accelerating the time for completion.

The notice, recordkeeping and other requirements of DB §§104-7, 108-6, 109-9, 109-10 and 109-15 shall apply with respect to any request to adjust the Contract Price or the Contract Time due to a Necessary Basic Project Configuration Change.

DB 104-4.1.3 Relationship to VECP

If a Value Engineering Change Proposal (VECP) results in a material change in Basic Project Configuration, any cost savings from such VECP shall be shared in accordance with DB §104-13.

DB 104-4.1.4 Inaccuracies in RFP Plans

The Design-Builder shall be responsible for any cost increases and/or delays resulting from changes in requirements and obligations of the Design-Builder relating to the Project due to inaccuracies in the RFP Plans other than an error, omission, or defect in the Directive Plans constituting or requiring a material change in the Basic Project Configuration. If any such changes occur, no change in the Work shall be deemed to have occurred and no Order on Contract will be issued for any such cost increases and/or delays, unless the change qualifies

as a Necessary Basic Project Configuration Change. Accordingly, any non-material changes in the Basic Project Configuration shall be the responsibility of the Design-Builder.

DB 104-4.1.5 Applicability of Orders on Contract

In general, the Design-Builder may implement non-material changes in the Basic Project Configuration without an Order on Contract, unless the change involves a circumstance for which an Order on Contract is specifically required hereunder.

DB 104-4.2 Changes Applicable to Utility Relocations

All public and private utilities within or adjacent to the Work Sites, that are known to the Authority, are described in the Contract Documents. The Design-Builder is cautioned that the number, type, size, location and configuration of the Utilities are not guaranteed; nor is there a guarantee that all existing Utilities are described in the Contract Documents.

The following provisions govern entitlement to Orders on Contract with respect to Relocation of utilities.

DB 104-4.2.1 Inaccuracy of Utility Information

- A) If any underground utility requiring Relocation by the Design-Builder is not indicated at all in the Contract Documents, or is materially inaccurately indicated therein (as specified in *Part 4 – Utility Requirements*), then the Design-Builder shall be entitled to an Order on Contract with respect to any increase in the Design-Builder's costs of performing the Work that is directly attributable thereto. Notwithstanding the foregoing, the Design-Builder shall be fully liable for, and no Order on Contract shall be issued under this DB §104-4.2 with respect to, any such underground utility that was known to the Design-Builder prior to the Proposal Date or that would have been known to the Design-Builder by undertaking a reasonable investigation prior to the Proposal Date, including any utility as to which surface inspection of the area would have shown its existence or the likelihood of its existence in the correct location, size, and/or material, as applicable, by reason of the existence of above-ground facilities, such as buildings, meters, junction boxes, or identifying markers.
- B) If any underground utility identified in the Contract Documents as requiring Relocation by the Design-Builder is not accurately indicated therein (as specified in *Part 4 – Utility Requirements*), and if as a result Relocation of such utility is not necessary or there is a reduction in the Relocation Work for such utility, then the Authority shall be entitled to an Order on Contract reducing the Contract Price to reflect the value of the reduction in the Work directly attributable to the correction of such inaccurate information.
- C) No change in "conflict/no conflict" status between information represented in the Contract Documents, Design Plans, and/or as-built conditions shall be grounds for an Order on Contract under this DB §104-4.2, except to the extent that the change in "conflict/no conflict" status is the result of inaccuracies (per *Part 4 – Utility Requirements*) in the locations of utilities shown in the Contract Documents for which the Design-Builder is otherwise entitled to an Order on Contract pursuant to this DB §104-4.2.

DB 104-4.2.2 Change in Allocation of Duties in DB Utility Work Agreements

If a DB Utility Work Agreement allocates responsibility for Relocation to the Utility Owner and provides that the utility owner is entitled to be paid its costs for Relocation, the Authority shall make such payments directly to the utility owner. If the DB Utility Work Agreement allocates responsibility for Relocation to the Design-Builder, the cost of Relocation is included in the Proposal Price. Orders on Contract resulting from a reallocation of duties between the Design-Builder and the utility owner from that found in the DB Utility Work Agreements shall be governed by this DB §104-4.2.2.

- A) Change in Allocation of Duties from the Utility Owner to the Design-Builder. If the DB Utility Work Agreement allocates to the utility owner the responsibility to perform design and/or construction for the Relocation of a particular utility, and after the Proposal Date the Authority gives notice to the Design-Builder that all or part of such Work is being reallocated to the Design-Builder, then effective immediately upon the Design-Builder's receipt of a proceed order to that effect, the scope of the Design-Builder's duties for such utility shall be expanded to include those duties specifically reallocated to the Design-Builder as described in said notice. The Design-Builder shall be entitled to an Order on Contract increasing the Contract Price to reflect the Design-Builder's additional costs incurred which are directly attributable to such additional duties and are not subject to direct reimbursement from the utility owner. If the change in allocation of duties impacts the Baseline Progress Schedule Critical Path, an adjustment in time will be included in the Order on Contract.
- B) Change in Allocation of Duties from the Design-Builder to the Utility Owner. If the DB Utility Work Agreement allocates to the Design-Builder the responsibility to perform either design and/or construction for the Relocation of a particular utility, and after the Proposal Date the Authority gives notice to the Design-Builder that all or part of such Work is being reallocated to the utility owner, then effective immediately upon the Design-Builder's receipt of a proceed order to that effect, the scope of the Design-Builder's duties with respect to such utility shall be reduced to exclude those duties specifically reallocated to the utility owner as described in said notice. The Authority shall be entitled to issue an Order on Contract reducing the Contract Price to reflect the value of the reduction in the Work directly attributable to such reduced duties. In the event that the parties cannot negotiate such value in advance, the amount of the Order on Contract shall be an amount equal to the actual cost to the utility owner of the Work reallocated to the utility owner plus a mark-up on such costs as described in DB §109-9.2.1(E). If the change in allocation of duties impacts the Baseline Progress Schedule Critical Path, an adjustment in time may be included in the Order on Contract.

DB 104-4.2.3 Utility Delays

The term "Utility Delay" shall mean Critical Path delay directly attributable to any of the following, subject to the limitations set forth below: (a) inability of Authority and the Design-Builder, after diligent efforts, to reach agreement with a utility owner on a necessary DB Utility Work Agreement, within a reasonable time, (b) failure by a utility owner to meet any time parameters for performance by such utility owner which are set forth in the applicable DB Utility Work Agreement, and (c) utility owner decision to implement a Betterment with respect to any its facilities requiring relocation.

With respect to any claim that a Utility Delay has occurred under item (b) of the definition of the term: (1) a Utility Delay shall not include any failure or delay that is excused under a “force majeure” provision in the applicable DB Utility Work Agreement; (2) once the Design-Builder has reviewed and agreed to the design furnished by a particular utility owner, any subsequent delay in the Critical Path due to failure of such design to comply with the requirements of the Contract shall not constitute a Utility Delay; and (3) once the Design-Builder has reviewed and agreed to construction work performed by or on behalf of a particular Utility Owner, any subsequent delay in the Critical Path due to any failure of such construction to comply with the requirements of the Contract shall not constitute a Utility Delay.

The Design-Builder shall not be entitled to an extension of any Contract Deadline on account of any Utility Delay except as provided in this DB §104-4.2.3. The Design-Builder shall give written notice to the Authority of any circumstance which may lead to such a request for time extension, within five days after the Design-Builder becomes aware that such circumstance has occurred or is likely to occur.

The Design-Builder shall not be entitled to an extension of any Contract Deadline on account of the Design-Builder’s failure to fully cooperate in good faith with the Authority and the Utility Owners in providing the Design-Builder’s Plan and Schedules for performing Work that could be impacted by the utility relocations.

The Design-Builder shall be responsible for all costs that result from the Design-Builder’s failure to cooperate with the Authority and Utility Owners and shall be prepared to modify the Work and schedule to accommodate any Utility relocation(s) required as part of the DB Utility Work Agreement(s) at no additional cost to the Authority.

Damages or delays caused by a Utility, which results in interference with and/or delay of progress of Work, may be recovered by the Design-Builder in accordance with all remedies provided by law including but not limited to General Obligations Law Section 11-102.

DB 104-4.2.4 Conditions and Restrictions on Time Extensions for Utility Delay.

The Design-Builder shall not be entitled to any extension of any Contract Deadline(s) pursuant to this DB §104-4.2.4, unless all of the following conditions are satisfied:

- A) The Design-Builder has provided evidence reasonably satisfactory to the Authority that (i) the Design-Builder has fulfilled its obligation under the Contract to coordinate with the utility owner to prevent or reduce such delay, and (ii) the Design-Builder has otherwise made diligent efforts to obtain the timely cooperation of the utility owner but has been unable to obtain such timely cooperation;
- B) If applicable, the Design-Builder has provided a reasonable Relocation plan to the utility owner;
- C) There exist no circumstances which have delayed or are delaying the affected Relocation, other than those that fit within the definition of a Utility Delay.

The restrictions set forth in DB §104-4.2.6 shall also apply with respect to Orders on Contract relating to time extensions for Utility Delays.

DB 104-4.2.5 Betterments

If the Authority agrees to the addition of any Betterments to the Work with respect to facilities covered by the DB Utility Work Agreements, the Authority will issue an Order on Contract pursuant to DB §104-3.1 with respect thereto. The Design-Builder shall not be entitled to an increase in the Contract Price with respect to any Betterments except as allowed under DB §104.4.2.3 and this DB §104-4.2.4.

DB 104-4.2.6 Impact of Design Changes on Relocations

Inasmuch as the Design-Builder is both furnishing the design of and constructing the Project, the Design-Builder may have significant opportunities to reduce the costs of certain portions of the Work, which may increase the costs of certain other portions of the Work. In considering such opportunities, the Design-Builder shall at all times consider the impact of design changes on Relocations of utilities with the overall goal of minimizing the necessity for Relocations of such utilities to the extent practicable, as specified in DB §102-5.4. If the Design-Builder elects to deviate from the design set forth in the Indicative Plans, and such deviation either (1) reduces the costs of any Relocation of a utility (including by avoiding Relocation of a utility shown as requiring Relocation in the Contract Documents), or (2) requires new Relocations or otherwise increases Relocation costs, then the following shall apply to any resulting cost increases or decreases affecting the Design-Builder and/or the Authority:

- A) The Design-Builder shall not be entitled to an Order on Contract for any such additional costs which it incurs, including both additional Relocation costs and the costs of any additional Work on other aspects of the Project undertaken in order to facilitate the avoidance or reduction of Relocation costs;
- B) The Design-Builder shall reimburse the Authority for any such additional expenses which the Authority incurs, including any net increase in amounts owed by the Authority to any utility owner under a DB Utility Work Agreement attributable to such design changes or any payment owing to a utility owner for work which is unusable or which must be redone as a result of such design changes; and
- C) Except as accounted for in determining the net increase in costs as specified in (B), the Design-Builder shall have no obligation to provide a credit to the Authority on account of reductions in the cost of the Work due to any such avoided or reduced Relocation.

DB 104-4.2.7 Additional Restrictions on Utility-Related Orders on Contract

Whenever the Design-Builder claims entitlement to an Order on Contract under this DB §104-4.2:

- A) Avoidance of Relocations. The Design-Builder shall bear the burden of (i) proving that the Utility Relocation could not reasonably have been avoided and (ii) proving and justifying the amount of any costs and/or delays claimed by the Design-Builder, including demonstrating that the timing and nature of the investigations undertaken by the Design-Builder were appropriate and that the increased costs and/or time could not have been avoided by more timely and appropriate investigation. No Order on Contract under this DB §104-4.2 may be made if a reasonable Site investigation and exploration during the pre-construction phase would have indicated the location of the utility and the Utility Relocation could reasonably have been avoided.

- B) Incremental Costs Only. The Order on Contract shall allow a price increase only for the Incremental Costs arising from the circumstances giving rise to such Order on Contract.
- C) Coordination Costs. In no event will the Design-Builder be awarded any increase in the Contract Price for any costs of negotiating or coordinating with utility owners.
- D) Timing of Orders on Contract. In general, the parties anticipate that Orders on Contract for utility Relocations will be executed as the changes occur. However, the Authority and the Design-Builder may agree to consolidate certain changes into a single Order on Contract. The Design-Builder's mark-ups under DB §109-9.2.1(E) shall be deemed to include compensation for all costs associated with any time differential between performance of the Relocation Work and the date of issuance of the Order on Contract.
- E) Incidental Utility Work. The Design-Builder shall not be entitled to an Order on Contract for increased costs of the Work resulting from, or for any extension of time for, delays associated with Incidental Utility Work. Incidental Utility Work includes the following:
- 1) Any Relocation of any utility service lines,
 - 2) Any Temporary Relocations of utilities implemented for the convenience of the Design-Builder's own construction operations,
 - 3) Protections in place,
 - 4) The adjustment of utility appurtenances (e.g., manholes, valve boxes, and vaults) for line and grade upon completion of roadway work,
 - 5) All work necessary to remove any utilities (whether or not in use as of the Proposal Date) in situations for which leaving the utilities in place is not feasible or not permitted, or for facilities which the Design-Builder proposes be removed to accommodate or permit construction of the Project, regardless of whether replacements for such utilities are being installed in other locations, and/or
 - 6) All work necessary to abandon in place any utility in accordance with proper procedures (e.g., flushing, capping, slurry backfill, etc.).
- F) The Design-Builder bears full responsibility for identifying conflicts between the Project and any appurtenances to utility facilities as well as service lines, and any omissions or other inaccuracies in information provided by the Authority or any other Person regarding such service lines or appurtenances shall not be considered material and shall not be grounds for an Order on Contract.
- G) Voluntary Action. If the Design-Builder elects to make payments to utility owners or to undertake any other efforts which are not required by the terms of the Contract Documents (including any agreement by the Design-Builder to make payment to a utility owner on account of a Betterment or to perform Betterment work without reimbursement from the utility owner), the Design-Builder shall not be entitled to an Order on Contract in connection therewith. The Design-Builder shall promptly notify the Authority of the terms of any such arrangements.

DB 104-4.3 Hazardous Materials Order on Contract

Except as specified in this DB §104-4.3, the Proposal Price includes all costs of management of Hazardous Materials located in, on or under the property within the Project Limits (excluding any additional parcels designated by the Design-Builder) as of the date the Authority makes such property available to Design-Builder. An Order on Contract may be issued for costs of management of such pre-existing Hazardous Materials if they are of a type, quantity or location that differs materially from the types, quantities or locations of Hazardous Materials identified in the RFP or the Contract Documents as potentially present at the Site, and for costs and expenses due to Critical Path delays directly attributable to discovery of such pre-existing Hazardous Materials, except to the extent that Design-Builder is responsible for such Hazardous Materials as specified in this DB §104-4.3. An Order on Contract may also be issued for costs of management of third party Hazardous Materials spills within the Project Limits.

No Order on Contract will be issued if Design-Builder had actual or constructive knowledge of such materials as of the Proposal Date, and no Order on Contract will be issued for any costs that could reasonably have been avoided if the Design-Builder could have discovered the existence of such materials through a reasonable site investigation, exploration and desktop documentary study during the pre-construction period. Furthermore, the Design-Builder bears full responsibility for all costs and expenses, including costs and expenses due to Critical Path delays, for any release or threatened release of Hazardous Material (i) brought onto the Site by Design-Builder or Subcontractors, or (ii) negligently removed or handled by Design-Builder or Subcontractors, regardless of the source, origin or method of deposit of such Hazardous Materials. Except with respect to Hazardous Materials that are Design-Builder's responsibility as described in the preceding sentence, Design-Builder shall not be required to execute any hazardous waste manifests as a "generator" with respect to Hazardous Materials encountered within the Project Limits, and Hazardous Materials encountered within the Project Limits shall be disposed of, if at all, utilizing an EPA identification number or other appropriate legal device obtained by, and carried in the name of, Authority or another Person designated by the Authority.

The Design-Builder shall utilize the services of previously qualified, trained, and/or appropriately certified personnel and Subcontractors for Hazardous Materials management. No training costs (or costs for physical examinations of workers) will be allowed in any Orders on Contract for Hazardous Materials management services.

DB 104-4.4 Changes in Environmental Performance Commitments

If any FEIS, Record of Decision and/or secured permits and permit conditions result in changes to the scope of the Environmental Performance Commitments or the Design-Builder's obligations with respect to Environmental Approvals as set forth in *Part 3, Section 3 – Environmental Compliance*, the Design-Builder shall be entitled to a negotiated Order on Contract addressing the changes. Compensation is allowed only for the Incremental Costs associated with compliance with the new requirements, and no additional compensation will be made for Work relating to such compliance that was included in its original scope, including any commitments made in Design-Builder's Proposal or changes negotiated with the Design-Builder prior to award of the Contract.

Notwithstanding the foregoing, the Design-Builder will bear full responsibility for obtaining any new Environmental Approvals or changes to existing Environmental Approvals and performance

of any mitigation measures required as the result of its design decisions or construction methodologies, including reimbursement of incremental costs incurred by the Authority as a result thereof.

DB 104-4.5 Orders on Contract for Change in Law

Changes in the scope of the Work may occur as the result of a Change in Law. The Design-Builder shall notify the Authority within 10 days after the Design-Builder first discovers (or should have discovered in the exercise of reasonable prudence) that a Change in Law has occurred, providing details regarding the Governmental Rule that has changed and describing how the scope of the Work is impacted. Upon receipt of such notice the Authority shall promptly investigate the matter, and if he/she finds that a Change in Law has occurred, an equitable adjustment may be made and the Contract modified in writing accordingly, as specified herein. Design-Builder shall be entitled to compensation only for the Incremental Costs associated with the Change in Law, and shall not be entitled to additional compensation in connection with a Change in Law for any Work that was included in its original scope, including any commitments made in Design-Builder's Proposal, nor shall the Design-Builder be entitled to compensation for any change in a Governmental Rule not falling within the definition of Change in Law. An Order on Contract for a Change in Law resulting from changes to the sales and use tax exemption described in DB §102-10 shall adjust the Contract Price to account for such costs, without markup.

Notwithstanding anything to the contrary in the Contract Documents, the Design-Builder shall implement changes in Standards attributable to a Change in Law only if required to do so by the Authority by an Order on Contract. Upon receipt of notification from the Design-Builder regarding such a Change in Law, the Authority will determine whether to issue an Order on Contract implementing the change in Standards. In addition to the other limitations specified herein, with respect to Changes in Law resulting in modification of Standards, the Design-Builder shall not be entitled to any compensation for costs that could have been avoided had the Design-Builder timely notified the Authority of the Change in Law.

Design-Builder may request a time extension if the Change in Law, through no fault of Design-Builder, adversely affects the Critical Path, provided that no extension of time shall be allowed for delays that could have been avoided had the Design-Builder timely notified the Authority of the Change in Law.

DB 104-4.6 Alternative Technical Concepts

The Design-Builder acknowledges that, subject to the allocation of responsibilities set forth in the Contract Documents, any approvals from Persons other than the Authority required to implement approved Alternative Technical Concepts incorporated in the Contract Documents are Design-Builder's sole responsibility to obtain and may be disapproved for any reason (or for no stated reason). Design-Builder agrees that if any condition set forth in the Authority's pre-approval of an ATC included in its Proposal has not been met as of the Proposal Date, the Design-Builder shall be responsible for ensuring that such condition is satisfied before implementing the ATC. If the Design-Builder fails to obtain any required approval, fails to satisfy any such condition, or fails in any other way to implement the approved Alternative Technical Concept, it shall comply with the corresponding baseline requirements (unmodified by the Alternative Technical Concept) without any increase in the Contract Price or extension of the Contract Deadlines.

The Design-Builder acknowledges and agrees that, to the extent that the Design-Builder uses any technical concept submitted by an unsuccessful proposer and provided to Design-Builder by the Authority, the Design-Builder shall do so at the sole risk of Design-Builder, and such use shall in no way confer or be deemed to confer liability upon the Authority or the unsuccessful proposer(s).

DB 104-5 DIFFERING SITE CONDITIONS

DB 104-5.1 Differing Site Conditions Generally

During the progress of the Work, if subsurface or latent physical conditions are encountered at the Site differing materially from those indicated by the Authority for specific locations where the Authority's tests were taken and to the degree of accuracy indicated in the Contract—or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the Work provided for in the Contract are encountered at the Site—the party discovering such conditions shall promptly notify the other party to the Contract in writing of the specific differing conditions within 10 days of the discovery and before they are disturbed, or as soon as practicable thereafter, and before the affected Work continues.

- A) Grounds for a differing site condition claim exist when the information indicated in the geotechnical borings and/or tests provided by the Authority in *Part 7 – Engineering Data* is established to be materially inaccurate at the specific location(s) of those borings or tests, to the extent that correct boring data would have resulted in accurate assumptions regarding site conditions by the Design-Builder, and provided Design-Builder had no actual or constructive knowledge of such conditions as of the Proposal Date. The Authority represents that, to the best of its knowledge, the information represented by the borings and tests taken by the Authority are accurate at the location of the borings and tests to the degree of accuracy indicated in the Contract. Any extrapolation of such information to other locations by the Design-Builder shall be at the Design-Builder's risk.
- B) Grounds for a differing site condition claim also exist in the event of discovery of physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the type of work provided for in the Contract, provided Design-Builder had no actual or constructive knowledge of such conditions as of the Proposal Date, and Design-Builder would not have discovered the condition by making a reasonable site investigation, exploration and desktop documentary study during the pre-construction phase.
- C) Upon written notification, the Authority's Project Manager shall, within a reasonable time, investigate the conditions. If the Authority's Project Manager determines that a differing site condition exists that causes an increase in the cost required for the performance of any Work under the Contract for which a claim may be made pursuant to either (A) or (B), above, and/or has delayed a Critical Path, an adjustment that excludes anticipated profit but includes cost of Critical Path delays will be made, and the Contract will be modified in writing, in accordance with DB §109-15. The Authority's Project Manager shall notify the Design-Builder of the determination and whether or not an adjustment of the Contract is warranted.
- D) No claim of the Design-Builder under this clause shall be allowed unless the Design-Builder has given the notice required herein. If the Authority's costs are increased as a

result of any delay by the Design-Builder in ascertaining conditions and providing notice, the damage that could have been mitigated by earlier notice will be calculated and any Contract adjustment will be reduced accordingly. No claim by the Design-Builder for an adjustment shall be allowed if submitted after final payment under the Contract.

- E) No claim may be made for conditions discovered during construction which might be considered unknown physical conditions at the Site of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the Work provided for in the Contract, if a reasonable site investigation and exploration during the pre-construction phase would have indicated the condition.
- F) The Design-Builder shall bear the burden of proving that a differing site condition exists and that it could not reasonably have designed the Project or worked around the differing site condition so as to avoid additional cost by resequencing, reallocating or redeploying its forces to other portions of the Work or to other activities unrelated to the Work (with the understanding that any additional costs reasonably incurred in connection with such reallocation or redeployment are allowable). Each request for an Order on Contract based on differing site conditions shall be accompanied by a statement signed by a qualified professional setting forth all relevant assumptions made the Design-Builder with respect to the condition of the Site, justifying the basis for such assumptions and explaining exactly how the existing conditions differ from those assumptions, and stating the efforts undertaken by the Design-Builder to find alternative design or construction solutions to eliminate or minimize the problem and the associated costs.
- G) The Design-Builder's rights under this section do not excuse the Design-Builder from its responsibility to determine what additional geotechnical information is required to support its design and construction, to obtain such information and to ensure that such information is accurate.

The notice requirements specified herein also apply to DB §104-4.2. The notice, recordkeeping and other requirements of DB §§104-6, 104-7, 108-6, 109-9, 109-10 and 109-15 also shall apply with respect to any request to adjust the Contract Price or the Contract Time due to a differing site condition.

DB 104-5.2 [Reserved]

DB 104-6 EXTRA WORK

If the Authority directs the Design-Builder to perform any Work not included in the original scope pending issuance of an Order on Contract, the Design-Builder shall maintain a record of Work authorized but not yet incorporated in the Contract using MURK 11a, MURK 12C, MURK 13D and/or MURK 17, for changes under DB §§104-3.2, 104-4, 104-5 or Extra Work ordered and/or agreed by the Authority.

DB 104-7 NOTICES AND RECORDKEEPING

The Design-Builder shall give the Authority written notice of Design-Builder's contentions regarding any event, matter or circumstance set forth in DB §104-3.2, 104-4, 104-5, 109-10 or 109-15 in accordance with the applicable notice requirements. To the extent that a notice period is not otherwise expressly provided in the Contract with respect to any such event, matter or circumstance, Design-Builder shall provide written notice to the Authority within 10 work days

after Design-Builder has knowledge or should have had knowledge of the relevant event, matter or circumstance.

Timely provision of notice shall be a necessary requirement for consideration of any Contract adjustment as provided in this DB §104. Any failure of the Design-Builder to comply with said requirements will be grounds for denial of the claim or Dispute and the Authority does not have to show prejudice to its interest before such denial is made. In the event the Design-Builder fails to provide the required written notice within the time limit established, and/or in the event the Design-Builder fails to maintain and submit specified records, the claim or Dispute for additional compensation and/or extension of Contract Time shall be deemed waived, notwithstanding the fact that the Authority may have actual notice of the facts and circumstances which comprise such dispute and is not prejudiced by said failure.

The notice, recordkeeping and other requirements of DB §§108-6, 109-9, 109-10 and 109-15 shall apply with respect to all matters for which this DB §104 provides for issuance of an Order on Contract, in addition to the notice, recordkeeping and other requirements contained in this DB §104. The Design-Builder may not rely on any verbal or oral instructions from Authority representatives as constituting a waiver of any such requirements.

The Design-Builder shall provide written notice to the Authority within 10 work days of receipt of a direction to complete work that the Design-Builder believes is not Contract Work, or that any direction of the Authority's Project Manager requires the Design-Builder to perform work that Design-Builder believes exceeds the requirements of the Contract. During the progress of such disputed work, the Design-Builder shall keep daily records in accordance with DB §109-9 – Extra Work, Force Account Work and Record Keeping, for all labor, material and equipment used for disputed work. For Time Related Disputes, the Design-Builder shall comply strictly with the notice and record-keeping requirements set forth in DB §109-10.

The Design-Builder shall keep Contract records in accordance with the MURK, including requirements contained in subsequent revisions of the Manual. In several instances specified herein (such as Force Account Work, application for approval of Subcontractors, etc.), the Design-Builder shall furnish such data and information on forms as established in MURK.

DB 104-8 MAINTAINING TRAFFIC

The Design-Builder shall maintain and protect traffic in accordance with the requirements of the MUTCD and the contract documents.

DB 104-8.1 Closing of Highway

The legal closing of a highway to public travel in the manner provided by Section 104 of the Highway Law will be done by the Commissioner or by the County Superintendent of Highways when requested by the Authority. Not all highways are legally closed during highway construction operations.

When a highway is legally closed and public travel diverted therefrom, adequate warning, danger and direction signs and lights shall be erected and maintained by the Design-Builder to properly protect and direct public travel by day and by night. Suitable barricades shall also be erected at the ends of such closed sections of highways and large signs displayed indicating such closure. All signs, barricades and other traffic control devices used shall conform to the MUTCD.

DB 104-8.2 Use of Restricted Highway

With the Award of the Contract the Commissioner will, unless otherwise specified, designate the section of Highway identified as a part of the Project under the Contract a “restricted Highway” pursuant to Section 104A of the New York State Highway Law and Section 1625 of the New York State Vehicle and Traffic Law. Pursuant to those laws, the Commissioner has the authority to do the following:

- A) Establish maximum and minimum speed limits at which vehicles may proceed along any such restricted Highway;
- B) Establish weight and dimension limits of vehicles;
- C) Regulate the use of such restricted Highway by pedestrians, equestrians, and animals;
- D) Regulate parking, standing, stopping, and backing up of vehicles; and
- E) Control Persons and Equipment engaged in Work on such Highway.

When used on such restricted Highways, all traffic control devices shall be considered as official traffic control devices and shall conform to the MUTCD with New York State Supplement.

The Commissioner will cause signs indicating such restrictions to be placed at such points as he/she deems necessary for the safe use of the restricted Highway. The traveling public and Design-Builder must observe and comply with these restrictions, as posted, except that the Design-Builder may be allowed greater latitude with respect to size and weight of construction Equipment.

The size and weight of construction Equipment used within the Project limits will be limited to that which is suitable and practical for the operation at hand so as not to injure or cause damage to the Work that is being done or to that portion of the old Highway that is to be retained as part of the completed Work. Loads in excess of the legal weights will not be permitted on any structure, on any new pavement, or on any resurfacing project, except as provided under DB §105-10.

DB 104-9 WORK ZONE TRAFFIC CONTROL

The Design-Builder shall develop a Work Zone Traffic Control Plan per Contract requirements and shall furnish, erect, and maintain barricades, warning signs, flaggers, and pilot cars in accordance with: the National Manual on Uniform Traffic Control Devices for Streets and Highways and the New York State Supplement 17 NYCRR Chapter V (collectively, MUTCD); the traffic control plan(s), as subject to the consultation and written comment of the Authority’s Project Manager; and the requirements of the Contract Documents. Flaggers shall be provided with equipment and training pursuant to requirements of the MUTCD. The equipment used by the flaggers shall be kept clean and in good repair by the Design-Builder at the Design-Builder’s expense. The Design-Builder shall take all steps necessary to either keep the existing roadway open with a minimum of inconvenience to the traveling public or provide an approved alternate route.

When requested by the Design-Builder and approved by the Authority’s Project Manager, or when directed by the Authority’s Project Manager, Sections of the Project may be opened to

traffic prior to completion of the entire Contract. Such opening shall not constitute Final Acceptance of the Work or any part thereof, or a waiver of any provisions of the Contract.

When a Section is opened in accordance with the Design-Builder's Work Zone Traffic Control Plan and/or as a result of the Design-Builder's request, the Design-Builder shall remain liable until Project Completion of the entire Project, and damage to the highway occurring before that time shall be repaired by the Design-Builder at the Design-Builder's expense, including the removal of earth or rock slides.

The Design-Builder's equipment shall enter and leave the traveled way only in the direction of public traffic. All movements on or across the traveled way shall be performed in a manner that will not endanger the traveling public.

The Design-Builder shall maintain the pavement surface of the lanes open to traffic adjacent to the Work zone within the limits of the Project traffic control.

Refer to DB §105-12 for information regarding the respective responsibilities of the Authority and the Design-Builder for maintenance of sections of roadway open to the traveling public.

If the Design-Builder fails to furnish warning devices, take protective measures as above provided, or complete shoulder work, drainage structures, or other features of the Work, the Authority's Project Manager, or Authority's Construction Quality Assurance Engineer, at his or her discretion, will notify the Design-Builder in writing of the defects along with a reasonable period of time in which the Work must be corrected or completed. If the Design-Builder fails to make a reasonable effort, in the sole opinion of the Authority's Project Manager, toward correction in this period of time, the Authority's Project Manager may then take such steps as the Authority's Project Manager deems necessary to correct the defects, or the Authority's Project Manager may terminate the Contract for default under DB §108-8.

The Design-Builder shall be liable and agrees to pay the Authority for all costs and expenses incurred by the Authority in correcting the defect(s).

DB 104-10 WORK ZONE TRAFFIC CONTROL FOR MOBILE OPERATIONS

For contracts that involve mobile operations, a Work Zone Traffic Control sequence shall be provided by the Design-Builder in accordance with the MUTCD. When last following vehicle and/or trailing vehicles are required by these provisions, they shall meet the requirements of Section 619 for Shadow Vehicles.

DB 104-11 RIGHTS IN AND USE OF MATERIALS FOUND ON THE WORK

The Design-Builder may use on the Project such suitable stone, gravel, sand, or other material as may be found in an excavation for accomplishing Work described by other items. The Design-Builder shall replace with other acceptable material, at the Design-Builder's own expense, all of the excavated material so removed which would have been used for the construction of embankments or bridge approaches or for other purposes, provided that such material is required to fulfill the intent of the Contract. No charge will be made against the Design-Builder for materials so used. The Design-Builder shall not excavate or remove material from within the ROW that is not within the grading limits as indicated by the slope and grade lines on the Design Plans, without written authorization from the Authority's Project Manager.

Unless otherwise provided, the material from existing old structures may be used temporarily by the Design-Builder in the erection of the new structure. Such materials shall not be cut or otherwise damaged, except with the written authorization of the Authority's Project Manager.

DB 104-12 SITE HOUSEKEEPING AND FINAL CLEANUP

DB 104-12.1 Site Housekeeping

The Site shall be cleaned up at the close of each work day, and be left in an orderly condition. Waste and debris shall be removed from the Site and surrounding areas cleaned of debris or waste generated from the Site. Containers shall be provided for the collection, and separation of waste and recyclable materials in accordance with applicable Governmental Rules, and garbage and other waste shall be disposed of at frequent and regular intervals. Any salvaged material not specified to be disposed of otherwise shall become the property of the Design-Builder and shall be removed from the Site.

DB 104-12.2 Final Cleanup

As a prerequisite to Project Completion, the construction area and all other adjoining areas, other than those owned by the Design-Builder, occupied by the Design-Builder in connection with the construction Work shall be cleaned of all surplus and discarded materials, spilled materials, excess materials left deposited on the permanent Work as a result of the Design-Builder's operations, falsework, and rubbish and temporary structures and buildings, that were placed thereon by the Design-Builder. The adjoining areas mentioned above, outside the normal limits for seeding, will be reshaped, seeded and mulched, or otherwise restored as directed by the Authority's Project Manager at the Design-Builder's expense.

DB 104-13 VALUE ENGINEERING CHANGE PROPOSAL

DB 104-13.1 Purpose and Scope

It is the intent of this provision to share with the Design-Builder any substantial direct cost savings which may be generated as a result of a VECP offered by the Design-Builder and approved by the Authority. The purpose is to encourage the use of the Design-Builder's ingenuity and experience in arriving at alternative designs, methods, and procedures that result in a lower direct cost to accomplish a prescribed function with the intention of sharing in the resulting savings.

The VECP should produce direct cost savings to the Authority and the public without, in the sole judgment of the Authority, impairing essential functions and characteristics of the Project including, service life, economy of operation, ease of maintenance, desired appearance, and safety. The Design-Builder, when developing a VECP, must address Environmental Requirements and similar concerns as part of the VECP. Value Engineering Change Proposals are limited to changes that are within the design parameters, as defined by the Authority, for the Project. Value Engineering Change Proposals may be developed by the Design-Builder or may be based on proposals from the Authority or information contained in another Proposal submitted in response to the Request for Proposals.

The "direct cost savings" is the difference of the "construction savings" generated by implementing the VECP minus reasonable "design costs" associated with the VECP. The "construction savings" is the difference between what it would cost to complete all the Contract

work without implementing the VECP and the cost to complete all the Contract work if the VECP is implemented. This includes any changes to quantities or unit prices across the entire Contract if affected by the VECP. If the estimated cost to complete all the Work without implementing the VECP differs from the estimated cost included in the Proposal Price, supporting documentation to explain the variance shall be provided. Reimbursable “design costs” are specific to engineering changes (examples: design changes, plan sheet revisions, and quantity estimating). Expenditures toward proposal preparation (examples: scheduling, documentation, cost analysis, material research, etc.) are not reimbursable.

Indirect cost savings (time, user delay, railroad Force Account costs, inspection costs, etc.), although considered when reviewing the merits of the VECP, are not reimbursed. A Value Engineering Change Proposal may alter the Baseline Progress Schedule and milestone dates, which, in turn, could affect time-related Contract provisions.

Value Engineering Change Proposals that reduce the time to complete the Project, and only result in indirect cost savings, may be accepted based on the mutual benefit derived. These VECPs will be evaluated in accordance with DB §104-13.6.

The provisions of this Section will not apply unless the Design-Builder identifies the submission as a VECP.

DB 104-13.2 Submittal of Conceptual VECP

A conceptual VECP is required for all VECPs. The conceptual VECP should outline the general technical concepts associated with the VECP and the estimated direct cost savings which may result. The conceptual VECP will be reviewed by the Authority and could result in one of the following actions:

- A) Approval of the VECP;
- B) Conceptual approval, and a request for the Design-Builder to submit a formal VECP;
- C) A request for additional information; or
- D) Rejection of the VECP.

The conceptual VECP should contain sufficient information to provide concept evaluation and review. The conceptual VECP will include the following, at a minimum:

- A) Conceptual plans;
- B) An initial estimate of costs which should include sufficient information to determine the reasonableness of the conceptual VECP;
- C) The most recently approved Baseline Progress Schedule showing the impact of the VECP on the Baseline Progress Schedule. The Baseline Progress Schedule shall include the time required to: develop a formal VECP, if required; approve an Order on Contract to incorporate the required changes into the Contract; order, fabricate, and deliver long lead material; and obtain or modify any Environmental Approvals or other required approvals. In addition, the Design-Builder must indicate the latest date that the conceptual VECP and the VECP Order on Contract must be approved to not affect the

currently approved Baseline Progress Schedule. Should the Authority find that insufficient time is available for review and processing, it may reject the conceptual VECP solely on such basis. If the Authority fails to respond to the conceptual VECP by the date specified, the Design-Builder will consider the VECP rejected and will have no claims against the Authority as a result thereof.

- D) A description of any previous use or testing of the conceptual VECP on another project of the Authority or elsewhere and the conditions or results therewith. The Design-Builder shall submit the technical aspects of the conceptual VECP in sufficient detail as to enable reviewers to determine the suitability of the VECP from an engineering perspective. If the technology is new, test information must be provided to the Authority's satisfaction. If the conceptual VECP was submitted previously on another project of the Authority, indicate the date, contract number, and action taken by the Authority.

An original and three copies of the conceptual VECP must be submitted to the Authority's Project Manager, plus any additional information requested by the Authority. The Authority may accept conceptual VECPs that require Contract Time extensions if sufficient cost savings or other benefits are anticipated, at the sole discretion of the Authority. Baseline Progress Schedules for these conceptual VECPs must include all of the above information plus the new anticipated Contract Deadline.

DB 104-13.3 Submittal of Formal VECP

Upon notification by the Authority's Project Manager that the conceptual VECP is approved and a formal VECP is necessary, the Design-Builder will submit an original and three copies of the following information with each formal VECP, plus any additional information requested by the Authority:

- A) A statement identifying the submittal as a cost reduction proposal of the difference between the existing Contract requirements and the proposed change and the comparative advantages and disadvantages of each, including considerations of service life, economy of operation, ease of maintenance, traffic flow, safety, desired appearance, and increase or reduction of environmental impacts;
- B) A description of the performance of the Work under the existing Contract requirements and under the proposed changes;
- C) An engineering analysis including Plans, computations, and other documents necessary for evaluation by the Authority;
- D) A listing of the Contract requirements that must be changed if the VECP is adopted, and a recommendation as to the manner in which the change(s) should be made;
- E) A detailed estimate for performing the design and construction Work under the existing Contract and for performing it under the VECP. An estimate of the cost to the Design-Builder for developing and implementing the changes must also be included;
- F) A listing of the Schedule of Prices items and schedule activities affected by the VECP; and

- G) An assessment of the effects that the adoption of the VECP will have on other costs to the Authority, including future right-of-way acquisition, maintenance, and operations.

The Design-Builder may be required to conduct a technical presentation as a part of the review process.

In preparing VECPs, the Design-Builder must perform an independent examination of the affected Work Site. The Authority shall rely exclusively upon the accuracy of the engineering data upon which the VECP is based. The Authority is not required to perform additional investigations, cross checks, or Site examinations. Adoption of a Design-Builder's VECP shall not be construed to alleviate or reduce the Design-Builder's full and absolute liability if the VECP upon implementation fails to satisfactorily perform because of the Design-Builder's use of inaccurate or incomplete engineering data or because of the Design-Builder's failure to adequately investigate and examine the affected construction Site.

DB 104-13.4 Conditions

The Design-Builder acknowledges and agrees that its Price Proposal was not based on the anticipated approval of a VECP and recognizes that any VECP may be rejected. If a VECP is rejected, the Design-Builder will be required to complete the Contract in accordance with the Contract Documents. A VECP will be considered after the Contract is awarded and only when all the following conditions are met:

- A) All VECPs, whether or not approved by the Authority for use in this Contract, apply only to this Contract and become the property of the Authority and will contain no restrictions imposed by the Design-Builder on their use or disclosure. The Authority will have the right to use, duplicate, and disclose in whole or in part any data necessary for the utilization of the VECP. The Authority retains the right to utilize any proposed VECP or part thereof on any other project without any obligation to the Design-Builder submitting the same.
- B) The approval of the conceptual VECP in no way obligates the Authority to accept the formal VECP. Furthermore, the Design-Builder shall have no claim against the Authority as a result of the rejection of any such conceptual or formal VECP.
- C) The Authority will be the sole judge as to whether a VECP qualifies for consideration and evaluation. It may reject any VECP that requires excessive time or costs for evaluation or which is not consistent with the Authority's policies for the Project.
- D) A VECP must provide the same service life or more, facilitate economy of operations and ease of maintenance, and achieve the desired appearance and safety. A VECP will not be allowed that changes the type and/or thickness of the pavement structure and material or solely substitutes one material for another. Examples of material that fall into inappropriate substitution situations are drainage pipes, bridge coatings, and pavement markings. Also, elimination of Work does not necessarily constitute a VECP.
- E) The VECP will not be experimental in nature, but must have been proven to the Authority's satisfaction under similar or acceptable conditions on another project of the Authority or at another location acceptable to the Authority.

- F) A VECP will be considered only if equivalent options are not already provided in the Contract Documents.
- G) The Authority will be the sole judge in determining if the proposed VECP will result in a sufficient amount of direct or indirect savings to offset the Authority's effort to review the VECP.
- H) If the Authority requires any additional information to evaluate the VECP, this information must be provided in a timely manner. Unless mutually agreed to otherwise, failure to do so will result in the rejection of the VECP. An incomplete or a poor quality VECP which hinders the Authority's review may also result in the rejection of the VECP.
- I) The Design-Builder shall encourage submission of VECPs from Subcontractors, provided that reimbursement is made by the Authority to the Design-Builder and that the terms of payment to the Subcontractor are satisfactorily negotiated and accepted before the VECP is submitted to the Authority. Subcontractors may not submit a VECP except through the Design-Builder.
- J) The Design-Builder will receive written notification from the Authority when the VECP is accepted. The Design-Builder will not order any materials until it has received the acceptance.

DB 104-13.5 Payment

If the Authority accepts the VECP, the changes and payment will be authorized through an Order on Contract. Reimbursement to the Design-Builder for the total cost of the revised Work will be paid in accordance with the payment provisions of DB §109. Progress payments may be made on a schedule adopted by the Authority's Project Manager.

If Authority accepts a VECP, the Contract Price shall be adjusted in accordance with the following:

- A) For VECPs which reduce the Design-Builder's costs, the Contract Price shall be reduced by an amount equal to the sum of: (a) 100% of any additional costs incurred by Authority, including the costs incurred in reviewing the VECP and any impact the VECP may have on Project revenue, but excluding the amounts due to the Design-Builder resulting from the VECP (excluding any impact on the Contract Price itself), plus (b) 50% of estimated net savings (or 75% in the case of a VECP based on another Proposer's Proposal). For such VECPs, the term "estimated net savings" shall mean: (i) the difference between the cost of performing the Work according to the Contract Documents and the actual cost to perform the Work, as modified by the VECP, less (ii) the actual costs of studying and preparing the VECP as substantiated by Design-Builder and approved by Authority in writing in accordance with the change procedures set forth herein, less (iii) the costs in (a) above. Design-Builder's profit shall not be considered part of the cost.
- B) For VECPs that result in an increase in the Design-Builder's costs, the Contract Price shall be increased by an amount equal to the sum of: (a) 100% of any additional costs incurred by Design-Builder and approved by Authority plus (b) 50% of estimated net savings. For such VECPs, the term "estimated net savings" shall mean (i) the amount of any savings in Authority's costs resulting from the VECP (taking into consideration the

costs incurred in reviewing the VECP and any impact the VECP may have on project revenue), less (ii) the actual costs of studying and preparing the VECP as substantiated by Design-Builder and approved by Authority in writing in accordance with the Order-on-Contract procedures set forth herein, less (iii) the costs in (a) above. Design-Builder's profit shall not be considered part of the cost.

- C) Design-Builder is not entitled to share in either collateral or future contract savings. The term "collateral savings" means those measurable net reductions in Authority's costs of operation resulting from the VECP, including costs of maintenance by Authority or any third party, logistics, Authority-furnished property and future costs associated with the Project. The term "future contract savings" shall mean reductions in the cost of performance of future construction contracts for essentially the same item resulting from a VECP submitted by Design-Builder.
- D) In a case where a VECP involves acquisition of additional property and/or reduces Authority's cost of property acquisition, the analysis of the VECP shall consider the additional costs or savings associated with the adjustment in the real property requirements for the Project, including the costs involved in adjusting the Governmental Approvals, Authority's additional costs, including costs of personnel, Design-Builder's out-of-pocket costs such as the price of the additional property, and the incremental reduction in Authority's costs (if any) for property acquisition. The estimated net savings shall be shared between Authority and Design-Builder as described above.
- E) In the event that Design-Builder proceeds with a Design-Builder-requested Order-on-Contract that Authority believes should be characterized as a VECP, and it is later determined through the dispute resolution process that the change meets the technical qualifications for a VECP, the Contract Price shall be reduced by an amount equal to the sum of: (a) 100% of any additional costs incurred by Authority resulting from the VECP plus (b) 75% of estimated net savings.

The Authority's Project Manager will be the sole judge of the estimated net savings in construction cost and costs incurred by the Authority resulting from the adoption of all or any portion of a VECP.

The Design-Builder's share will be considered full compensation to the Design-Builder for effecting all changes pursuant to the Order on Contract stemming from the VECP.

In the event of the Authority's acceptance of a direct cost savings conceptual VECP, and the Design-Builder is directed to proceed with the VECP implementation steps, and acceptance of the formal VECP is not reached, reimbursement of the implementation costs will be limited to 50%. If "advance" written acceptance is given to proceed with the Work, procure the material, and begin fabrication and rejection of the formal VECP occurs, the Work and fabrication costs will be reimbursed in accordance with DB §109. Regarding material, only those items not incorporated and unique to the Project (i.e., not restockable) will be evaluated for payment under DB §109.

There will be no reimbursement for any costs incurred prior to the acceptance of the conceptual VECP.

When multiple submittals are required to satisfy the basic information needs of the conceptual or formal VECP, and Contract Time is negatively impacted before review and subsequent

approval can be given by the Authority, the VECP may be rejected. In such cases, there will be no claim by the Design-Builder for the development costs and loss of anticipated savings and/or profits.

DB 104-13.6 Time Savings

The Authority will consider VECPs that result in time savings and at the same time increases the cost of the Project. The Authority will be the sole judge as to whether the benefits of completing the Project, or relevant milestone, offsets any increase to the cost of the Project. These submittals, while not constituting Value Engineering (VE), shall be reviewed using the VECP acceptance process. In addition to the information required in DB §§104-13.2 and 104-13.3 above, the Design-Builder shall also provide the Authority sufficient information to enable the Authority to calculate and evaluate the cost benefit of the savings in user delay.

DB 104-14 ALTERNATIVE METHODS AND EQUIPMENT

Where particular methods or equipment are specifically required in the Contract Documents, the Design-Builder may apply in writing to the Authority's Project Manager to use alternate methods and equipment to provide the same results. Such alternates may be used only after the written acceptance of the Authority's Project Manager. When, in the opinion of the Authority's Project Manager, satisfactory results are not being obtained using the Design-Builder's alternate methods and equipment, the methods and/or equipment shall be immediately modified to produce satisfactory results.

DB 104-15 WARRANTIES AND GUARANTEES

DB 104-15.1 Warranties

The Design-Builder warrants as follows:

- A) That all design Work performed pursuant to the Contract Documents, including that done by its Subcontractors and manufacturers, shall conform to all professional engineering principles generally accepted as standards of the industry;
- B) That all non-design Work shall be free of defects and that the Project shall be fit for use for the intended function; and
- C) That all materials and equipment furnished under the Contract Documents shall be of good quality and new.

In addition, the Authority may require, subject to express agreement in writing between the Authority and the Design-Builder, with approval from the FHWA when required, warranties associated with the contract for limited circumstances. A prototype warranty specification is available from the Authority for the purpose of the Design-Builder's providing a warranty for a particular item, as opposed to providing a warranty for an entire contract. The product warranty will be developed between the Authority and the Design-Builder with input from appropriate technical experts and the Office of Legal Affairs Division in conjunction with the Office of Construction Division, and incorporated into the contract via order-on-contract. The warranty may be used in situations including, but not limited to, work performed not in full compliance with the contract documents, where initial testing does not indicate any deficiency in the end product.

If the Authority determines that any of the Work has not met the standards set forth in this DB §104-15 at any time during the Warranty period for such Work, then the Design-Builder shall correct such Work as specified below even if the performance of such correction Work extends beyond the stated Warranty period.

Within seven days of receipt by the Design-Builder of notice from the Authority specifying a failure of any of the Work to satisfy the Design-Builder's Warranties, or of any Subcontractor representation, warranty, guarantee, or obligation which the Design-Builder is responsible to enforce, the Design-Builder and the Authority shall mutually agree when and how the Design-Builder shall remedy such violation, provided, however, that in case of an emergency requiring immediate curative action, the Design-Builder shall implement such action as it deems necessary and shall notify the Authority of the urgency of a decision. The Design-Builder and the Authority shall agree on a remedy immediately upon notice by or to the Authority of such emergency. If the Design-Builder does not use its best efforts to proceed to effectuate such remedy within the agreed time, or if the Design-Builder and the Authority fail to reach such an agreement within such seven-day period (or immediately, in the case of emergency conditions), then the Authority, upon notice to the Design-Builder, shall have the right to order the Design-Builder to perform the work or to perform or have performed by third parties the necessary Authority-approved remedy, and the costs thereof shall be borne by the Design-Builder.

DB 104-15.2 Warranty Period

Warranties for all Work shall commence upon Project Completion and shall remain in effect until two years after the date that Final Acceptance is achieved. If the Authority determines that any of the Work has not met the standards set forth in this DB §104-15 at any time during the Warranty period for such Work, then the Design-Builder shall correct such Work as specified below even if the performance of such correction Work extends beyond the stated Warranty period.

Within seven days of receipt by the Design-Builder of notice from the Authority specifying a failure of any of the Work to satisfy the Design-Builder's Warranties, or of any Subcontractor representation, warranty, guarantee, or obligation which the Design-Builder is responsible to enforce, the Design-Builder and the Authority shall mutually agree when and how the Design-Builder shall remedy such violation, provided, however, that in case of an emergency requiring immediate curative action, the Design-Builder shall implement such action as it deems necessary and shall notify the Authority of the urgency of a decision. The Design-Builder and the Authority shall agree on a remedy immediately upon notice by or to the Authority of such emergency. If the Design-Builder does not use its best efforts to proceed to effectuate such remedy within the agreed time, or if the Design-Builder and the Authority fail to reach such an agreement within such seven-day period (or immediately, in the case of emergency conditions), then the Authority, upon notice to the Design-Builder, shall have the right to order the Design-Builder to perform the work or to perform or have performed by third parties the necessary Authority-approved remedy, and the costs thereof shall be borne by the Design-Builder.

DB 104-15.3 Manufacturer Warranties and Guarantees

The Design-Builder shall provide to the Authority or the authority having jurisdiction of the facility any manufacturer's warranties and guarantees normally given as customary trade practice. For contracts involving the furnishing and/or installing of electrical and mechanical equipment, the Design-Builder shall guarantee the satisfactory in-service operation of mechanical and electrical equipment and related components for a period of six months following Final Acceptance of the

Project, at no cost to the Authority for either parts or labor. This requirement does not apply to mechanical and electrical equipment furnished by the Authority.

DB 104-15.4 Subcontractor Warranties

Without in any way derogating the Design-Builder's own representations, Warranties, and other obligations with respect to all of the Work, the Design-Builder shall obtain from all Subcontractors and cause to be extended to the Authority appropriate representations, warranties, guarantees, and obligations with respect to design, material, workmanship, equipment, tools, and supplies furnished by such Subcontractors, including all such representations, warranties, guarantees, and obligations required to be furnished by Subcontractors pursuant to the Contract Documents. All representations, warranties, guarantees, and obligations of Subcontractors shall be written so as to survive all Authority and Design-Builder Inspections, tests, and approvals, and shall run directly to and be enforceable by the Design-Builder and/or the Authority and their respective successors and assigns. The Design-Builder hereby assigns to the Authority all of the Design-Builder's rights and interest in all extended warranties for periods exceeding the applicable Warranty period which are received by the Design-Builder from any of its Subcontractors.

The Design-Builder retains responsibility for all Work performed on the Project, including all Work of Subcontractors and all materials and equipment provided by suppliers, vendors and/or manufacturers. Upon receipt from the Authority of notice of a failure of any of the Work to satisfy any Subcontractor warranty, representation, covenant, guarantee, or obligation, the Design-Builder shall be responsible for enforcing or performing any such representation, warranty, guarantee, or obligation, in addition to the Design-Builder's other obligations hereunder. The Authority's rights under this DB §104-15.4 shall commence at the time such representation, warranty, guarantee, or obligation is furnished and shall continue until the expiration of the Design-Builder's relevant Warranty (including extensions for redone Work). Until such expiration, the cost of any equipment, material, labor (including re-engineering), and/or shipping shall be for the account of the Design-Builder if such cost is covered by such a Warranty, and the Design-Builder shall be required to replace or repair defective equipment, material, or workmanship furnished by Subcontractor.

DB 104-15.5 Reserved

DB 104-15.6 Non-Exclusive Remedy

Any Warranties shall be in addition to all rights and remedies available under the Contract Documents or applicable law, and shall not limit the Design-Builder's liability or responsibility imposed by the Contract Documents or applicable law with respect to the Work, including liability for design defects, latent construction defects, strict liability, negligence, or fraud provided.

DB 104-15.7 Damages for Breach of Warranty

In addition to all rights and remedies available under the Contract Documents or applicable law, if the Design-Builder fails or refuses to provide the Warranty remedy described in this Section DB §104-15, notwithstanding a valid request by the Authority, the Design-Builder shall be liable for the cost of performance of the Warranty work by others. The Authority may also call on the Surety and/or Guarantor to perform the warranty obligations.

DB 104-15.8 Exclusions

The Warranties shall not require the Design-Builder to perform repair or replacement Work to the extent necessitated by the following:

- A) Normal wear and tear, provided that damage and/or deterioration outside allowable limits specified in the Contract Documents shall not be considered normal wear and tear;
- B) Failure to perform routine maintenance consistent with policies and/or procedures established by the Authority or other maintenance agencies, including Utility Owners, or in the absence of such policies and/or procedures, in accordance with industry standards of maintenance for similar projects in the United States;
- C) Rebellion, war, riot, act of sabotage, civil commotion, acts of vandalism, acts of terrorism, nuclear events or ionizing radiation causing direct physical damage;
- D) Wind, flood and/or earthquakes and other acts of God which exceed the severity or intensity specified in the Standards applicable to the design as specified in the Contract Documents;
- E) Fire, except when fire results from, or is exacerbated by, failure of a component otherwise covered by the Warranty provisions of this DB §104-15.8; and/or
- F) Spill or release of hazardous or contaminated substances, unless caused by the Design-Builder's organization or otherwise considered the Design-Builder's responsibility under DB §104-4.3.

DB 104-15.9 Reserved

DB 104-15.10 Warranty Performance Requirements

In addition to the Warranty provisions of DB §104-15, Project components shall meet the performance requirements specified in the Contract Documents.

DB 104-16 RETENTION OF RECORDS

The Design-Builder shall retain all records for six years after final payment is made under the Contract. Required records shall include all payrolls, accounts, correspondence, maps, photographs, or other documentary materials, regardless of physical form or characteristics, made or received by the Design-Builder in connection with the Contract. The Design-Builder shall establish a document-control system whose records are so arranged, identified, and indexed that any individual document, or component of the records, can be located with reasonable facility.

The Design-Builder shall maintain records of all required payrolls and of the details that comprise the total Contract Price including records maintained pursuant to DB §104-3 – Contingencies, Extra Work and Deductions and DB §109-10 – Dispute Resolution and Disputed Work Provisions. These records shall be available at any time within six years following the date of final payment of the Project at the request of the Authority for review and audit, if deemed necessary by the Authority. In case all or part of such records are not made so available, any items not supported by reason of such unavailability of the records shall be

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disallowed, or if payment has already been made, the Design-Builder shall, upon demand in writing by the Authority, refund to the Authority the amount so disallowed.

**DB SECTION 105
CONTROL OF WORK**

DB 105-1 AUTHORITY'S PROJECT ORGANIZATION

As designee of the Authority, the Authority's Project Manager has immediate charge of the Project. The Authority's Project Manager is responsible for the administration and satisfactory completion of the Project. The Authority's Project Manager will be delegated authority commensurate with that responsibility, including the authority to reject defective material and construction and disapprove and reject Design Documents that do not comply with Contract requirements.

Except as otherwise expressly provided in the Contract, the Design-Builder is required to submit all issues related to the Project through the Authority's Project Manager. All communications by the Design-Builder with the Authority, written or verbal, shall be in English. All references to costs, changes, prices, etc. shall be in United States dollars. Except as otherwise expressly provided in the Contract, the Authority's Project Manager, designated representative, Construction Quality Assurance Engineer, or Design Quality Assurance Engineer will address all questions that may arise under the Contract, including the following topics:

- A) Acceptability of Design Documents;
- B) The quality and acceptability of material furnished;
- C) Work performed;
- D) The rate of progress of the Work;
- E) Interpretation of the Contract;
- F) Acceptable performance of the Contract requirements; and
- G) Administration of monthly progress payments.

The decision of the Authority's Project Manager of the aforementioned shall be in writing, and shall be delivered to the Design-Builder's Project Manager as quickly as possible.

In addition to the authority to administer the Contract, modify the Contract by Order on Contract, and oversee and terminate the Contract as expressly provided in other Sections of the Contract, the Authority's Project Manager or designated representative will have the authority to suspend the Work, wholly or in part, or withhold progress payments due to the following:

- A) Conditions such that unsatisfactory Work might result;
- B) Improper material or procedures being used;
- C) Unsafe conditions for the workers or the general public as a result of the failure of the Design-Builder to correct those conditions;
- D) The Design-Builder's failure to carry out provisions of the Contract;

- E) The Design-Builder's failure to carry out directions of the Authority's Project Manager;
- F) The Design-Builder's failure to comply with applicable Governmental Rules;
- G) The Design-Builder's non-conformance with the Work Zone Traffic Control (WZTC) provisions of the Contract, causing serious disruptions to traffic operations; or
- H) The Authority's Project Manager's determination that suspension is necessary because of unsuitable weather.

The Authority's Project Manager may suspend Work if conditions exist that are potentially injurious to the Project, including Work being performed in the absence of Release for Construction documents and/or Work being performed in the absence of the Design-Builder's qualified Inspectors and/or sampling and testing personnel as specified in the Design-Builder's Quality Control Plan, and under any other circumstance expressly provided in the Contract, including DB §§107-10, 107-11, 107-12, 107-19 and 109-15. No additional compensation will be paid to the Design-Builder because of any such suspension. The Design-Builder shall not suspend Work without written authority from the Authority's Project Manager.

The Authority's Project Manager may also suspend the Work wholly or in part when deemed in the best interest of the Authority, including for other conditions or reasons beyond the control of the Design-Builder or not connected with the construction of the Project. Additional Work caused by such suspensions will be paid for by the Authority pursuant to DB §104-3.

Any adjustment of Contract Time for suspension of Work shall be made as provided in DB §108-6.

The Authority's Project Manager will be assisted by Authority staff or consultant personnel retained by the Authority, and may delegate some of these responsibilities to those Authority or consultant staff.

DB 105-2 CHARACTER OF WORKERS AND ORDERS TO FOREMAN

See DB §102-3 for requirements concerning the character of the Design-Builder's workers.

Whenever the Design-Builder's Project Manager is not present on any part of the Work where the Authority may desire to give directions, orders will be given by the Authority's Project Manager, or the Design Quality Assurance Engineer (DQAE) or Construction Quality Assurance Engineer (CQA), and shall be received and obeyed by the Design-Builder's foreman who may have charge of the particular Work in reference to which the orders are given. All foremen shall speak English.

DB 105-3 DESIGN PLANS AND WORKING PLANS

See DB §111.

DB 105-4 CONFORMITY WITH DESIGN PLANS AND PROJECT SPECIFICATIONS

All Work performed and all material furnished shall be in conformity with the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown on the Design Plans or indicated in the Project Specifications.

In the event the Authority's Project Manager finds the material, or the finished product in which the material is used, not in conformity with the Design Plans and Project Specifications, but that reasonably acceptable Work has been produced, he/she shall then make a determination if the Work may remain in place. In this event, the Authority's Project Manager will document the basis of his/her determination by Contract modification which will provide for an appropriate adjustment in the Contract Price in accordance with DB §109-7.6.

In the event the Authority's Project Manager finds the material, the finished product in which the material is used, or the Work performed are not in conformity with the Design Plans and Project Specifications and have resulted in an inferior or unsatisfactory product, the Work or material shall be documented via a Non-Conformance Report and corrected by and at the expense of the Design-Builder. If Design-Builder fails to correct any non-conforming Work within 10 business days of receipt of notice from Authority requesting correction, or if such non-conforming Work cannot be corrected within 10 business days, and Design-Builder fails to (a) provide to Authority a schedule for correcting any such non-conforming work acceptable to Authority within such 10 business day period, (b) commence such corrective Work within such 10 business day period and (c) thereafter diligently prosecute such correction in accordance with such approved schedule to completion, then Authority may cause the non-conforming Work to be remedied or removed and replaced and may deduct the cost of doing so from any moneys due or to become due to Design-Builder and/or obtain reimbursement from Design-Builder for such cost.

DB 105-5 PROJECT RECORDS

The Authority's Project Manager is required to keep his/her Project records in accordance with the requirements in the Contract Documents. In several instances (such as Force Account Work or application for approval of Subcontractors) the Design-Builder shall furnish such data and information on the forms as set up in the Contract. The Authority's Project Manager will furnish the appropriate forms. See also DB §104-16 – Retention of Records.

DB 105-6 COORDINATION WITH THIRD PARTIES

The Design-Builder shall coordinate all design and construction, including that of any Subcontractors, with other designers, contractors, the utility owners, governmental agencies, Authority's personnel, and operating personnel concerning Site access, establishment and use of temporary facilities, work schedules, and all other elements of the specified Work, which require interfacing with others. The Design-Builder shall coordinate with the railroad company in carrying out any railroad Force Account Work. When the Work of the Design-Builder or Subcontractor dovetails with the railroad Force Account Work, the material shall be delivered and the operations conducted so as to carry on the Work continuously in an efficient and skillful order.

The Authority shall have the right, at any time, to contract for and perform other work on, adjacent to, near, over or under the Work covered by this Contract. In addition, other work may be performed under the jurisdiction of another Authority or State agency. In such cases, when a dispute arises among contractors, the Authority will decide which agency will have jurisdiction over said dispute. The Design-Builder shall cooperate fully with such other contractors and carefully fit its own work to such other work as may be directed by the Authority.

Any delays in performance of the Work or the need to oversee and coordinate with work performed by others, including removal and replacement of Work already in place if needed, will

not be the basis for a claim for extra compensation. Such Work shall be done at the cost and expense of the Design-Builder or Subcontractor, as applicable.

The Design-Builder and each other contractor shall assume all liability, financial or otherwise, in connection with their respective contracts, and shall protect and save the Authority harmless from any and all damages or claims that may arise because of inconvenience, delay, or loss experienced by the Design-Builder or other contractors because of the presence and operations of other contractors working within the limits of this Project.

DB 105-7 TERMINATION FOR CONVENIENCE

DB 105-7.1 Notice of Termination

The Authority may, by written notice, terminate the Contract or any portion thereof after determining that for reasons beyond the control of either party hereto it is not feasible to proceed with or complete the Work originally contracted for, or that continuation of the Work is not otherwise in the Authority's best interest, and that termination would therefore be in the public interest. Such reasons for termination may include Executive Orders of the President relating to the prosecution of war or national defense; a national emergency which creates a serious shortage of material; orders from duly constituted authorities relating to energy conservation; restraining orders or injunctions obtained by third-party citizen action resulting from national or local laws or regulations, where the issuance of such order or injunction is primarily caused by acts or omissions of persons or agencies other than the Design-Builder; where the orderly progression of the Project is interfered with or delayed by acts or omissions of persons or agencies other than the Design-Builder; or any other circumstance in which the Authority determines that it is in the Authority's best interest to terminate the Agreement. The Design-Builder acknowledges and agrees that the issuance of such notice by the Authority shall be conclusive as to its necessity. Termination (or partial termination) of the Contract shall not relieve any Surety of its obligation for any claims arising out of the Work performed.

DB 105-7.2 Design-Builder's Responsibilities Upon Termination

After receipt of a Notice of Termination, and except as otherwise directed by the Authority, the Design-Builder shall immediately proceed as follows, regardless of any delay in determining or adjusting any amounts due under this Section.

- A) Stop Work as specified in the notice;
- B) Communicate such notice to all affected Subcontractors and suppliers and that their Subcontracts and supply agreements are not to be further performed unless otherwise authorized in writing by the Authority;
- C) Place no further Subcontracts or orders for materials, services or facilities, except as necessary to complete the continued portion of the Work, if any, or for mitigation of damages;
- D) Terminate all Subcontracts to the extent that they relate to the Work terminated unless directed by the Authority to assign all of the right, title and interest of the Design-Builder under one or more such Subcontracts, in which case the Design-Builder shall assign the Subcontracts identified by the Authority and terminate all remaining Subcontracts;

- E) Subject to the prior approval of the Authority, settle all outstanding liabilities and claims arising out of such termination of Subcontracts;
- F) Provide the Authority with an inventory list of all materials previously produced, purchased or ordered from suppliers for use in the Work and not yet used in the Work, including its storage location, as well as any documentation or other property required to be delivered hereunder which is either in the process of development or previously completed but not yet delivered to the Authority, and such other information as the Authority may request; and transfer title and deliver to the Authority, in the manner, at the times, and as and to the extent, if any, directed by the Authority (i) fabricated or unfabricated parts, the Work in process, completed Work, supplies and other material produced or acquired for the Work terminated; and (ii) the Design Documents, working drawings and all other completed or partially completed drawings (including plans, elevations, sections, details and diagrams), specifications, records, samples, information and other property that would have been required to be furnished to the Authority if the Work had been completed;
- G) Complete performance in accordance with the Contract Documents of all Work not terminated;
- H) Take all action that may be necessary, or that the Authority may direct, for the safety, protection and preservation of (i) the public, including public and private vehicular movement, (ii) the Work and (iii) the equipment, machinery, materials and property related to the Contract Documents that is in the possession of the Design-Builder and in which the Authority has or may acquire an interest;
- I) As authorized by the Authority in writing, use its best efforts to sell, in a manner, at the times, to the extent, and at the price or prices directed or authorized by the Authority, any property of the types referred to in DB §105-7.2(F); provided, however, that the Design-Builder (i) is not required to extend credit to any purchaser, and (ii) may acquire the property under the conditions prescribed and at prices approved by the Authority. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Authority under the Contract Documents or paid in any other manner directed by the Authority;
- J) If requested by the Authority, withdraw from the portions of the Site designated by the Authority and remove such materials, equipment, tools and instruments used by, and any debris or waste materials generated by, the Design-Builder and any Subcontractor in the performance of the Work as the Authority may direct; and
- K) Take other actions directed by the Authority.

DB 105-7.3 Responsibility After Notice of Termination

The Design-Builder shall continue to be responsible for damage to materials after issuance of the Notice of Termination, except as follows:

- A) The Design-Builder's responsibility for damage to materials for which partial payment has been made as provided herein shall terminate when the Authority certifies that those materials have been stored in the manner and at the locations directed by the Authority.

- B) The Design-Builder's responsibility for damage to materials purchased by the Authority subsequent to the issuance of the notice that the Contract is to be terminated shall terminate when title and delivery of those materials has been taken by the Authority.
- C) Immediately after the Authority determines that the Design-Builder has completed the Work directed to be completed prior to termination and such other work as may have been ordered to secure the Project for termination, the Design-Builder will no longer be required to provide for continuing safety, security and maintenance at the Site.

DB 105-7.4 Negotiated Termination Settlement

DB 105-7.4.1 Settlement Proposal

After receipt of a Notice of Termination, the Design-Builder shall submit a final termination settlement proposal to the Authority in the form and with the certification prescribed by the Authority. The Design-Builder shall submit the proposal promptly, but no later than 60 days from the effective date of termination, unless the Design-Builder has requested a time extension in writing within such 60-day period and the Authority has agreed in writing to allow such an extension. The Authority will then review the Design-Builder's termination settlement proposal and will act upon it, return it with comments or reject it. If the Design-Builder fails to submit the proposal within the time allowed, the Authority may determine, on the basis of information available to it, the amount, if any, due the Design-Builder because of the termination and shall pay the Design-Builder the amount so determined. The Design-Builder agrees to make all records available to the extent deemed necessary by the Authority to verify the costs in the Design-Builder's settlement proposal.

DB 105-7.4.2 Negotiated Settlement Amount

The Design-Builder and the Authority may agree, as provided in DB §105-7.4.1, upon the whole or any part of the amount or amounts to be paid to the Design-Builder by reason of the total or partial termination of Work pursuant to this DB §105-7. Such negotiated settlement may include a reasonable allowance for profit solely on Work which has been completed as of the termination date and subsequently accepted by the Authority. Upon determination of the settlement amount, the Contract will be amended accordingly, and the Design-Builder will be paid the agreed amount. Nothing in DB §105-7.5, prescribing the amount to be paid to the Design-Builder in the event that the Design-Builder and the Authority fail to agree upon the whole amount to be paid to the Design-Builder by reason of the termination of Work pursuant to this DB §105, shall be deemed to limit, restrict or otherwise determine or affect the amount(s) which may be agreed upon to be paid to the Design-Builder pursuant to this DB §105-7.4.2. The Authority's execution and delivery of any settlement agreement shall not affect any of its rights under the Contract Documents with respect to completed Work, relieve the Design-Builder from its obligations with respect thereto, including Warranties, or affect the Design-Builder's rights under the Contract Bonds as to such completed or non-terminated Work.

DB 105-7.5 Determination of Settlement Amount If Negotiations Fail

If the Design-Builder and the Authority fail to agree, as provided in DB §105-7.4.2, upon the whole amount to be paid to the Design-Builder by reason of the termination of Work pursuant to this DB §105-7, the amount payable (exclusive of interest charges) shall be determined by the Authority in accordance with the following, but without duplication of any amounts agreed upon in accordance with DB §105-7.4.

DB 105-7.5.1 Payment Amount

Subject to the limit on the Authority expenditures set forth in DB §109-7.3, the Authority will pay Design-Builder the sum of the following amounts for Work performed prior to the effective date of the Notice of Termination, as such amounts are determined by the Authority:

- A) The Design-Builder's actual reasonable out-of-pocket cost (without profit, and including equipment costs only to the extent permitted by DB §109-9) for all Work performed other than unit priced Work. Costs to be reimbursed include mobilization, demobilization and work done to secure the Project for termination, including reasonable overhead and accounting for any refunds payable with respect to insurance premiums, deposits or similar items, as established to the Authority's satisfaction. In determining the reasonable cost, deductions will be made for the cost of materials to be retained by the Design-Builder, amounts realized by the sale of materials and for other appropriate credits. Deductions will also be made for the cost of damaged materials. When, in the opinion of the Authority, the cost of an item of Work is excessively high due to costs incurred to remedy or replace defective or rejected Work, the reasonable cost to be allowed will be the estimated reasonable cost of performing that Work in compliance with the requirements of the Contract Documents and the excessive actual cost will be disallowed.
- B) A profit on clause (A) above will be ten percent, provided, however, that if it appears that the Design-Builder would have sustained a loss, an appropriate adjustment shall be made in the settlement amount.
- C) The cost of settling and paying claims arising out of the termination of Work under Subcontracts and supply agreements as provided in Section DB §105-7.2(E), exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the Subcontractor or supplier prior to the effective date of the Notice of Termination under the Contract, which amounts shall be included in the cost on account of which payment is made under clause (A) above.
- D) The reasonable out-of-pocket cost (including ten percent overhead) of the preservation and protection of property incurred pursuant to DB §105-7.2(H) and any other reasonable out-of-pocket cost (including overhead) incidental to termination of Work under the Contract, including the reasonable cost to the Design-Builder of handling material returned to the supplier, delivered to the Authority or otherwise disposed of as directed by the Authority.
- E) For unit priced Work, payment will be made for the actual number of units of Work completed at the Contract unit prices.

DB 105-7.5.2 Maximum Compensation

The Design-Builder acknowledges and agrees that it shall not be entitled to any compensation in excess of the value of the Work performed (determined as provided in DB §105-7.5.1) plus its settlement costs, and that items such as lost or anticipated profits, unabsorbed overhead and opportunity costs shall not be recoverable by it upon termination of the Contract. However, the total amount to be paid to the Design-Builder for Work performed prior to the termination may not exceed the total amounts payable for such Work set forth in the PPS-C for the terminated Work, less the amount of payments previously made and less the portion of such amount allocable to Work not terminated. In addition, the costs identified in DB §105-7.5.1(B), (C), (D) and (E) will be allowed as described therein. Furthermore, if any refund is payable with respect

to insurance or bond premiums, deposits or similar items which were previously passed through to the Authority by the Design-Builder, such refund shall be paid directly to the Authority or otherwise credited to the Authority.

DB 105-7.5.3 Excluded Items

Except for normal spoilage, and except to the extent that the Authority will have otherwise expressly assumed the risk of loss, there will be excluded from the amounts payable to the Design-Builder under DB §105-7.5.1, the fair value, as determined by the Authority, of equipment, machinery, materials and property which is destroyed, lost, stolen or damaged so as to become undeliverable to the Authority, or to a buyer pursuant to DB §105-7.2(I). The amount set forth in the Proposal by the Design-Builder for the Work terminated shall be a factor to be analyzed in determining the value of the Work terminated.

DB 105-7.5.4 Payment of Termination Amount

Upon determination of the amount of the termination payment, the Contract shall be amended to reflect the agreed termination payment, and the Design-Builder shall be paid the agreed amount.

DB 105-7.6 Partial Termination

If a termination hereunder is partial, the portion of the Contract Price allocable to the remainder of the Work shall be adjusted as appropriate to account for the change in the overall scope of the Project.

DB 105-7.7 Reduction in Amount of Claim

The amount otherwise due the Design-Builder under this DB §105-7 shall be reduced by (a) all advance payments, or other payments, made to or on behalf of the Design-Builder applicable to the terminated portion of the Contract, (b) the amount of any claim which the Authority may have against the Design-Builder or any Subcontractor or supplier in connection with the Contract Documents, (c) the agreed price for, or the proceeds of the sale of, any property, materials, supplies or other things acquired by the Design-Builder or sold, pursuant to the provisions of this DB §105-7, and not otherwise recovered by or credited to the Authority, (d) amounts that the Authority deems advisable to retain to cover any existing or threatened claims, Liens and stop notices relating to the Project, including claims by utility owners, (e) the cost of repairing any non-conforming Work and (f) any amounts due or payable by the Design-Builder to the Authority.

DB 105-7.8 Partial Payments

The Authority may, from time to time, under such terms and conditions as it may prescribe and in its sole discretion, make partial payments on account against costs incurred by the Design-Builder in connection with the terminated portion of the Contract, whenever in the opinion of the Authority the aggregate of such payments shall be within the amount to which the Design-Builder will be entitled under this DB §105-7. If the total of such payments is in excess of the amount finally agreed or determined to be due under this DB §105-7, such excess shall be payable by the Design-Builder to Authority upon demand.

DB 105-7.9 Subcontracts

The Design-Builder shall insert in all Subcontracts and supply agreements a requirement that the Subcontractor or supplier shall stop Work on the date and to the extent specified in a Notice of Termination from the Authority in accordance with this DB §105-7, and shall require Subcontractors to insert the same provision in each Subcontract and supply agreement at all tiers.

For the purposes of DB §105-7.4.2 and DB §105-7.5, upon termination under DB §105-7.2(D) of Work under any Subcontract or supply agreement, the Design-Builder will not be entitled to reimbursement for that portion of the termination settlement with any such Subcontractor or supplier which constitutes anticipatory or unearned profit on Work not performed, or which constitutes consequential damages on account of the termination or partial termination.

DB 105-7.10 No Unearned Profits or Consequential Damages

Under no circumstances shall the Design-Builder be entitled to anticipatory or unearned profits or consequential or other damages as a result of a termination or partial termination under this DB §105-7. The payment to the Design-Builder determined in accordance with this DB §105-7 constitutes the Design-Builder's sole and exclusive remedy for a termination under this DB §105-7.

As set forth herein, the Authority waives claims for consequential damages against the Design-Builder arising out of or resulting from the Work under this Contract in the following instances: consequential damages incurred by the Owner for rental expenses, for loss of use, income, profit, or reputation, for business interruption, for interest and financing charges, for depreciation, and for loss of management or employee productivity.

The waiver of consequential damages does not include third party claims for consequential damages, or any damages other than those set forth above, or any damage or assessment provisions set forth elsewhere in this Contract, including but not limited to: consequential and other damages in the event of default by the Design-Builder or termination of the Design-Builder for cause; liquidated damages; engineering charges; lane rental charges; or incentive or disincentive payments. For the purposes of clarity, the waiver of claims set forth herein shall not limit the Indemnification requirements set forth in this Contract, and thus the requirement to indemnify against "damages...of every name and description," including consequential damages, remains undisturbed."

DB 105-7.11 No Waiver

Termination for convenience shall not result in a forfeiture by the Authority of damages it may be entitled to in connection with any default, except to the extent that settlement of such damages was included in the calculation of the compensation owing the Design-Builder upon the termination for convenience.

DB 105-7.12 Dispute Resolution

Any failure of the parties to agree on amounts due under this DB §105-7 shall be a Dispute to be resolved in accordance with DB §109-10.

DB 105-7.13 Allowability of Costs

All costs claimed by Design-Builder under this DB §105-7 shall, at a minimum, be allowable, allocable and reasonable in accordance with the cost principles and procedures of 48 CFR Part 31.

DB 105-7.14 Termination Prior To Issuance of NTP

Notwithstanding anything to the contrary contained herein, in the event that the Authority terminates the Contract prior to issuance of NTP, the Design-Builder's sole compensation hereunder shall be payment of the amount that it is entitled to receive pursuant to and in accordance with the terms and conditions of the Stipend Agreement, provided that the Design-Builder shall have executed such agreement and delivered it to the Authority in accordance with the RFP. The Design-Builder acknowledges that the Authority has no obligation to make any payment to the Design-Builder in excess of the amount to which the Design-Builder would be entitled pursuant to the Stipend Agreement if the Contract is terminated prior to issuance of NTP. If the Design-Builder performs any Work prior to issuance of NTP, it does so at its own risk.

DB 105-8 STAKEOUT

The Design-Builder shall furnish, incidental to the cost of other work items, all stakes, templates, standard subgrade testers, straight edges, approved paint and marking devices, and such temporary structures as may be necessary for marking and maintaining points and lines for the Work, and is to give the Authority's Project Manager such facilities, labor, and material for giving the lines and points as he/she may require.

All property and survey monuments which may be disturbed during construction shall be properly tied to fixed points before being disturbed and properly re-set in their original location, using similar material by the Design-Builder upon the completion of the Work. Field location notes shall be recorded and made available to the Authority's Project Manager upon request at no additional cost to the Authority.

All survey control and boundary location work shall be performed in accordance with the Authority's Land Surveying Standards and Procedures Manual under the direction of a Licensed Land Surveyor. All survey work performed for Quality Control and Quality Assurance should utilize (1) similar levels of measurement precision and methods to perform positional measurements, (2) the same control network from which measurements are made, and (3) the same survey measurement procedures to ensure consistency of results.

Terrain features are measured and positioned by various methods relative to the contract control network established for each contract. The precision with which an instrument or equipment positions a point is related to the quality of the method by which measurements are made, and the ability to duplicate the same measurement. The local accuracy of a located point is the closeness of the measured or computed value to a standard or accepted value (actual spatial position on the earth). Positional tolerance is the allowable spatial difference between making measurements by two different methods or by the same method at separate times, all of which have the same level of precision.

Horizontal coordinates and vertical elevations of existing features provided as part of the Contract are located in the field based on accuracies achievable for each positional point

relative to the contract control. Positional accuracies are directly related to the strength of the contract control network, the methods used to make the measurements, the precision of the instruments used to measure to the feature, and how definable the feature is which is being located. Point feature locations represent a single position (for example: property line marker, sign post, utility pole, or fire hydrant) and can be re-identified or verified in the field to within a small variation (high confidence level) from where they were initially positioned. Linear feature locations define the alignment of that feature. That alignment can be verified to within a specific tolerance depending on the spacing or frequency at which the points were originally measured to define that alignment. Straight or uniformly curved linear features (for example: curb line, edge of roadway, or edge of sidewalk) which can be easily defined in the field should have a relatively small positional variation from their designed location when compared to a verified field location. Irregular shaped or not as clearly defined linear features (for example: break lines, ditch lines, tree lines, or environmental area perimeters) which are sometimes difficult to define or delineate precisely in the field, could have a larger variation from where they were initially positioned when compared to a field-verified location.

Digital terrain model (DTM) surfaces, when provided by the Authority, are made up of a combination of point and linear features. The precision of a data collection instrument does not necessarily indicate what positional tolerance should be expected of any feature verified from an existing DTM. The location or elevation of a feature selected from a DTM surface can, at best, be determined by interpolating the horizontal position or elevation between previously located points. The verification of any specific elevation on the DTM surface is directly related to: (1) the spacing of collected data or break lines used to produce that surface; (2) the uniformity of the surface being measured; (3) the steepness of the slope of that surface; and (4) how obscured the surface is from the measuring technique used to originally locate the surface. Standardized procedures for determining the spacing/frequency of point and linear features (including break lines), are critical to providing consistent results. Standardized procedures for determining feature locations are described in NYSDOT's "Land Surveying Standards and Procedures Manual" and "Specifications for Photogrammetric Stereocompilation."

Verification of the positional tolerance of the DTM surface elevation requires a comparison of the original collected point data with recollected point data measured at the same horizontal locations. Field comparisons to interpolated DTM surfaces or recreated surface information (from other information sources) shall not be used for verification of the positional tolerance of a feature. Comparisons of re-measured point data can only be made with the original collected point data, not to interpolated positions. Measurements for verification of DTM point data shall also be made from the same contract control network, and by instruments capable of an equal or greater precision.

DB 105-9 INSPECTION

The Design-Builder shall have the responsibility for QC inspection of all Work. See DB §§111, 112 and 113 for the specific Design-Builder QC Inspection and QC responsibilities.

DB 105-9.1 Authority and Duties of Authority's Oversight Staff

The Authority's Construction Quality Assurance Engineer, and associated construction staff shall be authorized to inspect all Work done and material furnished, including all or any part of the Work and the preparation, fabrication, or manufacture of the material to be used. The Construction Quality Assurance Engineer, and associated construction inspectors may be Authority employees or agents acting for the Authority. Inspection shall include the Design-

Builder's compliance with applicable safety requirements set forth in DB §107-7. The Construction Quality Assurance Engineer and associated staff are not authorized to either alter or waive requirements of the Contract Documents or to issue instructions contrary to the Design Plans and Project Specifications without written approval of the Authority's Project Manager or to act as foreman for the Design-Builder. A Non-Conformance Report will be issued for unacceptable Work or material, as set forth in DB § 105-9.3. Oversight is for the sole benefit of the Authority and does not:

- A) Relieve the Design-Builder of responsibility for providing adequate QC measures;
- B) Relieve the Design-Builder of responsibility for damage to or loss of the material/Work before Project Completion;
- C) Obligate the Authority to determine that Substantial Completion of the Project, Project Completion or Final Acceptance have occurred; or
- D) Affect the continuing rights of the Authority hereunder.

DB 105-9.2 Authority's Inspection of Work

All material and each part or detail of the Work may be subject to Inspection by the Construction Quality Assurance Engineer, and associated staff and the Authority's Project Manager. The Authority's Project Manager and Authority staff shall be allowed full access to the Work and shall be furnished with necessary information and assistance by the Design-Builder to make a complete and detailed Inspection.

If the Authority's Project Manager requests it, the Design-Builder, at any time before Final Acceptance of the Work, shall remove or uncover such portions of the finished Work as may be directed. After examination, the Design-Builder shall restore said portions of the Work to the standard required by the Project Specifications. If the Work thus exposed or examined proves acceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed may be paid for as Extra Work under DB §§104-3 and 109-9. But, if the Work so exposed or examined proves unacceptable, or if the Design-Builder failed to document its Work according to the requirements of the Quality Control Plan, the uncovering or removing and the replacing of the covering or making good of the parts removed will be at the Design-Builder's expense. Furthermore, any Work done or materials used without adequate notice to and opportunity for prior inspection by the Authority and others as specified herein may be ordered uncovered, removed or restored at the Design-Builder's cost, even if the Work proves acceptable after uncovering. Except with respect to Work done or materials used as described in the foregoing sentence, if Work exposed or examined under this DB §105-9.2 is in conformance with the requirements of the Contract Documents, then any delay in the Critical Path from uncovering, removing and restoring Work shall be considered a Authority-Caused Delay, and an Order on Contract may be issued to the Design-Builder for the cost of such efforts and recovery of any delay to any Critical Path occasioned thereby.

The Design-Builder shall provide at least a 24-hour notice, or such other notice to which the parties have agreed, before beginning Work on any item and before resumption of Work on an item after an extended suspension.

When a unit of government, political subdivision, or railroad is to pay a portion of the cost of the Work covered by this Contract, its representative(s) shall have the right to inspect the Work.

Such inspection shall in no sense make the unit of government, political subdivision, or railroad a party to this Contract and shall in no way interfere with the rights of either party hereunder.

The above paragraphs shall not apply to pavement or sub-base rejected as a result of core tests. Work so rejected shall be removed and replaced at the expense of the Design-Builder.

The Design-Builder shall transmit a copy of any audit or inspection report conducted by SSPC, OSHA, or EPA, or any other government agency to the Authority's Project Manager within seven days of receiving such a report. If any Subcontractor responsible for painting structural steel has been disciplined by SSPC or placed on warning, probation, suspended or revoked status from the Painting Contractor Certification Program during the past 24 months, the Design-Builder shall provide a written explanation of the cause for such action, the corrective measures enacted, and the Subcontractor's PCCP status.

DB 105-9.3 Correction of Unacceptable Work

All Work which does not conform to the requirements of the Contract shall be considered unacceptable unless otherwise determined acceptable under the provisions in DB §105-4.

Unacceptable Work, whether caused by poor workmanship, defective material, damage through carelessness, or any other cause found to exist prior to the Final Acceptance of the Work shall be documented via a Non-Conformance Report and corrected in a manner acceptable to the Authority irrespective of the presence of, or lack of, a CQAE or a representative of the Authority at the time the Work was originally completed. The fact that Authority representatives may have previously overlooked such defective Work shall not constitute an approval or acceptance of any part of it.

DB 105-10 CONSTRUCTION EQUIPMENT

Per Section 385 of the New York State Vehicle and Traffic Law or 23 USC Section 127 for Federal-Aid Projects on the Interstate system, only New York State legal loads are allowed on the Bridge(s), Ramp(s) and Roadway(s). Special Hauling Permits, required for special or occasional overweight and/or oversize loads exceeding NYS legal limits, are issued at the discretion of the Authority and only under special conditions and for use at designated times and locations.

DB 105-10.1 Deliveries or Removal of Materials or Equipment from the Project Limits:

The Design-Builder shall ensure that all construction equipment or vehicles delivering material or traveling to a Project from outside the Project Limits or removing construction equipment or material from the Project have all required permits issued through the established Authority's Central Permits Bureau in accordance with Section 385 of the New York State Vehicle and Traffic Law or 23 USC Section 127 for Federal-Aid Projects on the Interstate system. The appropriate permit will indicate any special conditions under which move can be made such as the limits gross weights or axle loadings, the frequency of such passages, and all other limiting factors.

For oversize/overweight goods and equipment moves, haulers can apply for Special Hauling Permits via standard procedures. For details on the application process contact the NYS Dept of Transportation's Special Hauling Permit Section at 888-783-1685 or 518-485-2999 or consult the Authority's website at www.nypermits.org. Applications should be submitted at least 72

hours in advance. Details on the application process can be found on the Authority's website or at www.nypermits.org.

For overweight goods such as demolition debris and millings, contact the Authority's Divisible Load Overweight Section in Albany at 888-783-1685 or 518-485-2999.

DB 105-10.2 Movement of Materials or Equipment within Project Limits:

Construction equipment or vehicles operating within the Project Limits having gross weights or axle loadings within the legal limits set by Section 385 of the New York State Vehicle and Traffic Law (or 23 USC Section 127 for Federal-Aid Projects on the Interstate system) may operate without specific approval.

Prior to use of construction equipment vehicles with over-legal gross weights or axle loadings on any existing, modified or new structure, culvert, on any new pavement, or on any resurfaced pavement within the Project Limits, the Design-Builder shall submit a written request to the Authority's Project Manager. The request shall be accompanied, upon request, by an appropriate analysis performed by a Professional Engineer, including the pertinent equipment data, and shall demonstrate that the operations will not result in detrimental effects on the highway or structure.

Use of over-weight construction equipment or vehicles on portions of the Project other than listed above shall be subject to the Approval of the Authority's Project Manager. If it is determined that the use of construction equipment or vehicles is having a detrimental effect or will result in detrimental effects on the finished highway, the Authority's Project Manager will so notify the Design-Builder to modify or cease the operations and make all necessary repairs at no cost to the State.

Design approval of any shop drawing (e.g. steel erection procedures) does not constitute approval of a Special Hauling Permit. Notice of movement of any permitted oversized and/or overweight vehicle must be given at least 24 hours in advance of the scheduled move.

DB 105-11 WINTER EARTHWORK OPERATIONS

Construction operations requiring soil compaction shall not be performed from November 1 to April 1 except with the written permission of, and under such special conditions and restriction as may be imposed by, the Authority's Project Manager. In all work incorporated into the final product, the Design-Builder shall not place material that is frozen, or place fill material on frozen ground regardless of the date.

DB 105-12 MAINTENANCE DURING CONSTRUCTION

The Design-Builder shall maintain the Work during and after construction until Project Completion, except as may be provided elsewhere in the Contract Documents. The maintenance shall constitute continuous and effective Work prosecuted day by day, with adequate equipment and forces such that the roadway or structures are kept in satisfactory condition at all times.

In the case of a contract for the placing of a course upon a course or subgrade previously constructed, the Design-Builder shall maintain the previous course or subgrade during all

construction operations, including when the plan calls for placing traffic on the unfinished roadway.

The Authority or its agents shall provide snow and ice control for state owned highways and bridges that are opened to traffic.

All costs of maintenance Work during and after construction until Project Completion are included in the Proposal Price and the Design-Builder will not be paid an additional amount for such Work.

DB 105-13 FAILURE TO MAINTAIN ROADWAY OR STRUCTURE

If the Design-Builder, at any time, fails to comply with the provisions of DB §105-11 or DB §105-12, the Authority's Project Manager will immediately notify the Design-Builder of such noncompliance. If the Design-Builder fails to commence to remedy unsatisfactory maintenance immediately after receipt of such notice and prosecute the remedial action with diligence, the Authority's Project Manager may immediately proceed to maintain the Project, and the entire cost of the maintenance will be deducted from monies due or to become due to the Design-Builder.

DB 105-14 DISPUTE RESOLUTION AND DISPUTED WORK PROVISIONS

See DB §109-10.

DB 105-15 DESIGN-BUILDER'S RESPONSIBILITY FOR WORK

The Design-Builder is responsible for carrying out the provisions of the Contract at all times, regardless of whether an authorized CQAE or representative is present or not. Any Work or item that is, at any time, found to be out of specification or not in compliance with the Design Plans shall remain the responsibility of the Design-Builder and shall be subject to such corrective measures that are approved in writing by the Design-Builder's Designer and accepted in writing by the Authority's Project Manager.

DB 105-16 CONSULTATION AND WRITTEN COMMENT, APPROVALS, AND NON-CONFORMANCE REPORTS

Except for items specifically designated for "approval" in the Contract Documents, the Design-Builder shall be responsible for determining how to address written comments and other input received from the Authority during the consultation process concerning reviews, observations and/or inspections regarding Design Documents, Working Plans, other required submittals and construction means and methods. While the Design-Builder is not required to revise its Work in response to such comments, the Design-Builder shall develop designs that are code compliant and conform to all Project Requirements and provide a timely written response to the Authority's Project Manager, or person designated by the Authority's Project Manager, regarding its disposition of all such comments. Any issues raised during consultation and written comment by the Authority, if not properly addressed by the Design-Builder, could affect the Authority's Final Acceptance of the Project.

Deficiencies, non-compliances, errors, and/or omissions, in either design or construction Work, shall be documented by the Design-Builder, and may be documented by the Authority, in written Non-Conformance Reports (NCRs). Regardless of whether the Design-Builder or the Authority

initiates a NCR, the Design-Builder shall respond to and address issues covered by each NCR within two weeks of NCR initiation. In addition, the Design-Builder shall bring the Work into compliance with Contract requirements or perform corrective measures as described in the NCR, subject to concurrence or other direction by the Authority. In any case, the Design-Builder shall not be relieved of its obligation to comply with the Contract requirements by any failure by the Authority to issue a NCR or by any acceptance of Work by the Authority, and the Authority shall not be deemed to have waived its right to bring a claim concerning deficiencies, non-compliance, errors or omissions by any failure to issue a NCR or by any acceptance of Work.

Approvals will only be given by the Authority for those submittals or Work specifically identified in the Contract Documents as for "approval."

Consultation and written comments or Approval by the Authority of Design Documents, Working Plans, other required submittals, activities/actions, construction means and methods, and/or the Design-Builder's construction detail does not relieve the Design-Builder of the full responsibility for providing adequate Quality Control measures and does not relieve the Design-Builder of providing proper and sufficient material, equipment, and labor to complete the Work in accordance with the Contract, Design Plans, and Project Specifications.

DB 105-17 MEETINGS

The Design-Builder shall participate in meetings as indicated in this Section. The Design-Builder shall record minutes of all meetings and distribute them within five days of the meeting. Meeting minutes shall clearly identify the following:

- A) Action items and issues;
- B) The party responsible for the action item;
- C) The status of issues; and
- D) Due dates for identified action items.

Action items and issues shall be retained on the minutes until the required action is completed and/or the issue is resolved.

DB 105-17.1 Pre-Work Conference

The Authority's Project Manager will consult with the Design-Builder and arrange and lead a meeting promptly after issuance of NTP.

The Design-Builder shall be represented by all appointed key personnel. See DB §108-3 for information regarding the Design-Builder's key personnel.

The meeting will take place at a location determined by the Authority's Project Manager in the Project vicinity.

The agenda of the meeting shall include the following items:

- A) Submission of executed bonds, guarantees, Warranties, and insurance policies and certificates, if not already provided;

- B) Planned activity for the first 60 days after NTP;
- C) Submission of the list of intended Subcontractors;
- D) Submission of the Plans required under the Contract;
- E) The Authority's Project Manager or the Design-Builder may add other items to this agenda; and
- F) Schedule Development and Submissions.

DB 105-17.2 Value Engineering and Proposal Concepts Evaluation Meetings

The Authority's Project Manager may consult with the Design-Builder and arrange and lead meetings within 30 days of NTP to complete the following:

- A) Review initial Value Engineering Change Proposals (VECPs) (see DB §104-13) submitted by the Authority or the Design-Builder; and
- B) Discuss the concepts and ideas contained in other Proposals that may be incorporated into the Contract.

If requested by the Authority's Project Manager, the Design-Builder shall prepare an estimate of effects (time and cost) for VECPs or to incorporate concepts included in other Proposals into the Contract.

Attendance at the meetings and the preparation of the estimate of effects shall not entitle Design-Builder to any increase in the Contract Price.

Other VE meetings may be called by the Design-Builder or the Authority, as necessary, to discuss and evaluate additional VECPs that may arise.

This meeting may be combined with the Pre Work Conference.

DB 105-17.3 Design Mobilization Meeting

The Design-Builder's Project Manager will consult with the Authority's Project Manager and will arrange and lead a meeting at the Designer-Builder's Project office prior to the Design-Builder's initiating design Work. The Design-Builder's key personnel who will be responsible for activities on the agenda shall attend the meeting.

The agenda shall be developed in consultation between the Authority's Project Manager and the Design-Builder and prepared by the Design-Builder and shall include the following:

- A) Organization for design;
- B) Review of qualifications of design QC staff;
- C) Design workshop agenda (see DB §111-16);
- D) Location of design personnel;

- E) Design schedule and time allocations for Design Reviews; and
- F) Design Quality Control and Quality Assurance.

DB 105-17.4 Site Mobilization Meeting

The Design-Builder's Project Manager will consult with the Authority's Project Manager and arrange and lead a meeting at the Design-Builder's office prior to the Design-Builder's occupying any part of the Site. The Design-Builder's key personnel who will be responsible for activities on the agenda shall attend the meeting.

The agenda shall be developed in consultation between the Authority's Project Manager and the Design-Builder and prepared by the Design-Builder and shall include the following items:

- A) Use of premises by the Authority and the Design-Builder;
- B) Authority's requirements;
- C) Temporary utilities and facilities;
- D) Security and "housekeeping";
- E) Right-of-way and construction survey;
- F) Schedule for establishing Work areas, temporary facilities, and facilities and equipment for Authority's staff;
- G) Temporary works; and
- H) Plans for early construction, if any.

DB 105-17.5 Progress Meetings

Progress meetings shall be held at least weekly throughout the duration of the Project. The Design-Builder shall prepare (1) a meeting agenda in consultation with the Authority's Project Manager and (2) a current summary of all issues (including reference to the relevant version of any report, schedule or other document) to be included in the next monthly progress report with respect to each item listed in DB §108-1.3, and distribute copies of the meeting agenda, the issues summary and draft minutes of the previous meeting to all planned participants at least five days prior to the meeting. The Design-Builder shall lead the meetings.

The Design-Builder's key personnel shall attend the progress meetings.

A typical agenda shall include the following items:

- A) Confirmation of minutes of the previous meeting and matters arising at the previous meeting;
- B) Review of Work progress;
- C) Design problems and decisions;

- D) Field observations, problems, and decisions;
- E) Identification of issues affecting planned progress;
- F) Planned activities (design and construction) for the coming two week period;
- G) Maintenance of quality and Work standards;
- H) Safety;
- I) Environmental issues;
- J) Schedule submissions and updates;
- K) Work Zone Traffic Control;
- L) Status of Orders on Contract, if any;
- M) Utilization of MWBEs, M/WBEs and other small businesses; and
- N) Public Involvement Plan.

DB 105-17.6 Special Meetings

The Authority's Project Manager may require special meetings at any time and that all or specified Design-Builder key personnel attend.

DB SECTION 106 CONTROL OF MATERIAL

DB 106-1 SOURCE OF SUPPLY AND QUALITY REQUIREMENTS

All material used in the Work shall meet the quality requirements described in the Contract Documents, unless the same are altered by Special Provision, or by the Design-Builder's Proposal. To the extent the information is known as of the date NTP is issued, the Design-Builder shall, within 30 days of NTP, document, in writing, in the QC documentation file with a copy to the Design-Builder's Construction Quality Control Engineer and the Authority's Construction Quality Assurance Engineer, the sources of supply and kinds of material that will be used in the Work. The documentation shall be updated as the Design-Builder updates its sources of supply, and a copy of the updated documentation shall be provided to the Construction Quality Assurance Engineer.

As soon as the information is known to the Design-Builder, it shall notify the Authority's Construction QA Engineer of the name and address of the fabricator of all structural steel/structural precast concrete. This notification shall list the specific shop or shops in which the steel/structural precast concrete will be fabricated. It shall be the responsibility of the Design-Builder to advise the Construction QA Engineer of the sources of proposed material sufficiently in advance of their use to allow the Authority to conduct quality verification or inspection activities in a timely manner.

The Design-Builder shall place in the QC documentation file, with a copy to the Authority's Construction QA Engineer, a Material Safety Data Sheet (MSDS) meeting current requirements of 29 CFR Sections 1910-1200 and 29 CFR Section 1926 for material to be used in the Work before each material is first used in the Project. The requirement to provide an MSDS shall apply to all material to which workers are exposed, to the extent that 29 CFR Section 1926.59 requires an MSDS for that material. This applies to the material brought to the job Site to be incorporated into the Work, as well as to all material that is encountered at the job Site as a result of the use or incorporation of the other material.

All costs of exploring and developing sources shall be borne by the Design-Builder. When the Design-Builder elects to develop new, noncommercial material sources, the requirements for environmental acceptability shall apply, and the Design-Builder shall conduct, document in the QC documentation file, and submit to the Authority's Construction QA Engineer, all Environmental Resource studies and Cultural Resource studies in accordance with DB §107-9. If the Design-Builder purchases material, the requirements for environmental acceptability shall not apply. However, if the Design-Builder negotiates with an owner of a commercial source to establish a material source within the boundaries of an existing commercial source, and if the Design-Builder obtains the material from the source with the Design-Builder's employees, then the environmental acceptability requirements identified for a noncommercial source shall apply. In addition, the Authority may determine that certain commercial sources or specific areas within commercial sources known to have sensitive environmental, social, or cultural concerns may not, as a matter of public interest, be approved for use. If this information is not available until after the Proposal Date, and the Authority does not approve a commercial source or use of a specific area within a commercial source that was used by the Design-Builder to prepare its Proposal, then the requirements of DB §104-4 shall apply. If the Design-Builder purchases material from a material source established for another project by another contractor working

under contract to the Authority, and if the material source must be expanded beyond the area where Environmental Resource and Cultural Resource approvals have previously been obtained pursuant to DB §107-9, then the requirements for environmental acceptability shall apply to the additional area and the requirements of DB §107-9 must be completed.

In documenting Contract compliance, the Design-Builder shall include in the QC documentation file the following for each material source of supply:

- A) Location;
- B) All lease agreements, purchase orders, or pit agreements made between parties involved with the pit owner or Supplier and the Design-Builder;
- C) Environmental acceptability. Environmental acceptability includes completing the Environmental Resource and Cultural Resource requirements of DB §107-9, including the Authority's written Cultural Resource approval. The Authority's Construction QA Engineer shall notify the Design-Builder when the requirements under DB §107-9 have been met. It may take 30 days from the date copies of documentation are delivered to the Authority's Construction QA Engineer to obtain such notice. The requirements of DB §104-4 shall apply if the time needed to obtain regulatory approval exceeds statutory requirements.
- D) Plans for restoration after use of acceptable standards of contouring and re-vegetation; and
- E) Laboratory testing.

DB 106-2 SUPPLIER PLANT INSPECTION

The Authority will provide Supplier Plant inspections. For Supplier Plant inspection activities undertaken by the Authority, the following conditions shall be met:

- A) The Authority's Inspector or Engineer shall have the cooperation and assistance of the Design-Builder's Quality Manager and the producer with which the Design-Builder has contracted for material;
- B) The Authority's Inspector or Engineer shall have full entry at all reasonable times to such parts of the plant (inclusive of all documentation related to product quality) as may concern the manufacture or production of the material being furnished;
- C) When required by the Authority's Inspector or Engineer, the Design-Builder shall arrange for such facilities as are necessary to adequately inspect the production or fabrication of the material; and
- D) Adequate safety measures shall be provided and maintained.

As part of its Quality Assurance activities, the Authority reserves the right to retest any material before or during incorporation into the Work which had been tested by the Design-Builder at the source of supply, after the same has been delivered, and to provide consultation and written comments and/or Non-Conformance Reports on any material that, when retested, does not meet the requirements of this Contract.

DB 106-3 SAMPLES, TESTS, AND CITED SPECIFICATIONS

All material and products proposed to be used in construction shall be inspected, sampled, and tested by the Design-Builder for QC, as described in DB §112, Appendix 112A, Appendix 112B and as indicated by the Contract Documents. Whenever the Contract Documents provide for “certification or Approved List” as a basis of Acceptance, the Authority reserves the right to conduct Verification Sampling and Testing of material in any shipment prior to incorporation in the Work.

Test specimens shall be removed from sampled items, prepared for testing, and shipped to the Design-Builder’s laboratory in accordance with the Quality Control Plan. The cost of all samples, and any other expenses incurred in making material or products ready for Inspection, sampling, and/or testing are included in the Proposal Price. Where testing methods are not described in the Contract Documents, details of test methods may be obtained from the Authority.

The expense of all Design-Builder performed reviews, inspections, sampling, and testing shall be borne by the Design-Builder.

The expense of all Authority QA activities, including reviews, inspections, sampling, and testing, and oversight performed in the 48 contiguous states of the US, including the shipment of samples by the most economical means, shall be paid for by the Authority unless specifically excluded elsewhere in the Contract Documents.

Documents which are relevant to the production and acceptance of hot mix asphalt (HMA) and Portland cement concrete (PCC) mixtures shall be submitted in US Customary Units only. This refers to mix design forms, production monitoring (QC) forms, batching tickets, delivery tickets, and all other mix design and production related documents. MURK forms and SiteManger reporting shall be used where appropriate.

No material shall be used until the Design-Builder has provided documentation to the QC documentation file that the material meets Contract requirements and such material shall be used only so long as the quality continues to meet Contract requirements. The acceptance at any time of any materials shall not bar future rejection of such materials if subsequently found to be defective in quality or uniformity.

The Design-Builder shall furnish the names of companies from which it purchases material which is inspected at manufacturing plants with the item number, the contract number, and the destination for each shipment of material so ordered. If any part of the Contract is sublet, the Subcontractor shall also conform to the foregoing requirements.

Unless otherwise designated, when a reference is made in the Contract Documents to a specification or test designation either of the AASHTO, ASTM, federal specifications, or any other recognized non-proprietary national organization, it shall mean the specification or test method (including Provisional AASHTO and Tentative ASTM) which is current on the RFP Date.

Where plant Inspection is not maintained by the Authority, the method and procedure for QC sampling, inspecting, and reporting shall conform to that established by the Authority in DB §112 and its Appendices. The US Standard Screen Sieves meeting ASTM E11 (AASHTO M 92), shall be used on all material requiring gradation tests.

DB 106-4 CERTIFICATE OF COMPLIANCE

The Design-Builder, as part of QC activities and documentation, shall provide material certificates of compliance in the QC documentation file covering material for all Contract Items. The Design-Builder shall meet the requirements of DB §112-12.

As part of the material certification, the Design-Builder's Quality Manager or Engineer of Record will be certifying compliance with the following statements:

- A) That the material described on the document complies with the requirements defined in the Contract;
- B) That mill test reports, manufacturers' certificates of compliance, and other pertinent documents are made available to Authority's personnel upon request; and
- C) That, when required, all manufacturing processes associated with the production of steel and iron material complies with DB §106-12, or that special waivers have been granted.

Electric items meeting UL approval, and underground utility material meeting ASTM or AWWA specifications, and so certified or stamped on the product, will require no further certification, unless requested in writing by the Authority's Construction Quality Assurance Engineer.

A Certificate of Compliance shall be furnished for steel and iron materials. The certificates, in addition to certifying that the materials comply with the specifications, shall specifically certify that all manufacturing process for the materials occurred in the United States, except as for the exceptions permitted under DB §106-12.

Certifications for metal products, when required, shall include a statement that the material was melted and manufactured in the United States except as provided in Section 165 of the Surface Transportation Assistance Act of 1982, as amended by Sections 1041(a) and 1048(a) of the Intermodal Surface Transportation Efficiency Act of 1991 with regard to the furnishing and coating of iron and steel products. A nationwide waiver for this provision has been granted for pig iron and processed, pelletized, and reduced iron ore.

Material that appears on the Authority's "Approved List" will require the manufacturer's certification, literature, and shop drawings before fabrication and installation.

Manufacturer's certifications and documents prepared for general use, such as catalog cuts and manufacturer's directions, shall use US Customary units, or if both US Customary and SI measurement units are shown, the US Customary units will be the primary units. In drawings and documents containing dual units, the US Customary units will be the primary units, and the US Customary units will be the units reviewed. The Design-Builder shall be responsible for all annotations on the source documents, conversions between the measurement systems and all errors resulting therefrom.

Some standard specifications reference a manufacturer's certification as evidence of acceptability of specific materials or products. A manufacturer's certification can only be properly executed by the manufacturer or producer of the material or product. When manufactured products are subsequently provided by a material supplier other than the manufacturer, a material supplier's certification shall be provided in addition to the manufacturer's certification.

When shipments are made directly by the manufacturer or producer, the manufacturer's certification shall include the components outlined below. When shipments are made by a material supplier, a material supplier's certification shall accompany the manufacturer's certification, and shall include the essential components outlined below:

- A) Name of the company and address of its manufacturing or producing facility.
- B) Generic name of the material or product and the Standard Specifications §700 Materials designation number.
- C) Sufficient detail to describe the quantity contained in the shipment, the contract number and a date of shipment. A material supplier's certification shall clearly indicate that the shipment is all or a portion of the quantity detailed on the accompanying manufacturer's certification.
- D) The certification shall definitively state that the material contained in the shipment meets the requirements of a specific Authority specification or a specific specification or standard of another agency (i.e., ASTM, AASHTO, AWWA, etc.). If the material in the shipment contains steel and/or iron, the certification shall definitively state that the material is or is not of domestic origin. An acceptable statement is: "Conforms (or Does not conform) to the requirements of DB §106-12 Buy America." If the product supplied has been altered subsequent to the certification by the manufacturer, the material supplier's certification shall definitively state that the material or product contained in the shipment meets the requirements of a specific NYSDOT standard specification or a specific specification or standard of another agency.
- E) The certification shall be signed by a person authorized to legally bind the company, as indicated by statement or title/position. Notarization of the signature is not required.

Material that is not permanently incorporated into the Project will not require a certificate of compliance, unless otherwise stated in the Contract. The Design-Builder shall supply material meeting the requirements of the Contract Documents even though a material certificate of compliance is not required.

The Design-Builder may furnish material purchased in bulk or left over from previous projects by documenting in the QC documentation file material certificates of compliance for the current Project.

All material damaged in transit or during handling shall be replaced or repaired by the Design-Builder at no additional cost to the Authority.

DB 106-5 PLANT ACCEPTED MATERIAL

Any material which has been plant inspected and accepted by the Design-Builder for this Contract shall not be shipped to other Work unless authorized by the Authority.

DB 106-6 REJECTION

Material, which has either been rejected on the results of Design-Builder QC tests or as the result of the Authority's Oversight or Verification Sampling and Testing and resulting Non-Conformance Report, will not be re-sampled or re-tested unless otherwise agreed to by the

Authority. Rejected material shall be removed immediately from the Site of the Work by the Design-Builder at its expense unless otherwise agreed to by the Authority's Construction Quality Assurance Engineer. No rejected material, the defects of which have been subsequently corrected, shall be used until agreed to in writing by the Authority.

DB 106-7 STORAGE OF MATERIALS

Material shall be so stored as to ensure the preservation of its quality and fitness for the Work. Stored material, even though accepted before storage, shall be inspected prior to its use in the Work and shall meet the requirements of the Contract at the time of its use.

The Design-Builder shall be responsible for the protection of the stored material and for the replacement or repair of material affected by inadequate protection. Upon written approval of the Authority's Construction Quality Assurance Engineer, portions of the ROW may be used for storage purposes and for the placing of the Design-Builder's plant and plant equipment. However, additional space must be provided by the Design-Builder at its sole expense and liability. The Design-Builder, at its own expense, shall restore the storage sites to their original condition.

DB 106-8 TRANSPORTATION OF MATERIAL

Railroad cars, barges, and other containers used for the transportation of material shall be clean when any material is deposited therein.

All material shall be handled in such a manner as to preserve its quality and fitness for the Work. Aggregates shall be transported from the storage site to the Work Site in vehicles constructed and operated to prevent loss or segregation of material after loading so there will be no inconsistencies in the material intended for incorporation in the Work as loaded and actually received at the place of operations. All material shall be transported in such a manner as to fully comply with all State and federal regulations, including the prevention of leakage or scattering of material or damage to material in any fashion.

DB 106-9 AUTHORITY-FURNISHED MATERIAL

The Design-Builder shall furnish all material required to complete the Work, except those items specified to be furnished by the Authority.

Material furnished by the Authority will be delivered or made available to the Design-Builder at the times specified in the Contract.

The cost of handling and placing all material after it is delivered to the Design-Builder shall be considered as included in the Price for the item in connection with which it is used. The Design-Builder will be held responsible for all material delivered to the Design-Builder, and deductions will be made from monies due to the Design-Builder to make good on shortages and deficiencies from any cause whatsoever, for damage which may occur after such delivery, and for demurrage charges.

DB 106-10 RECYCLED MATERIALS

The Design-Builder is encouraged to provide reused or recycled materials to the maximum extent possible. Recycled materials currently approved by the Authority include glass, recycled

asphalt pavement (RAP), recycled Portland cement concrete aggregate (RCA), blast furnace slag, fly ash, microsilica, waste stream plastics and tires.

In order to be considered for use by the Authority, recycled or waste material must exhibit the desired engineering characteristics, consistently satisfy specification requirements, provide an acceptable level of performance, be economically competitive with available materials, and not be harmful to the environment. If waste materials are proposed to be used, the Design-Builder may need to obtain a beneficial use determination (BUD) from the NYS Authority of Environmental Conservation prior to its use as specified in 6 NYCRR 360-1.15. The beneficial use determination, testing evaluation and approval of unapproved waste materials can be a very long term process over multiple years, and should not be expected to be completed for any given contract.

DB 106-11 FIELD LABORATORY AND FIELD OFFICES

The Design-Builder may furnish field laboratories and field offices in accordance with the Quality Control Plan as approved by the Authority. The Design-Builder shall provide a separate field verification laboratory in accordance with Standard Specifications § 637-2.02, Field Laboratory, and any other requirements included in the Contract Documents, for the exclusive use by the Authority. All laboratories and tests used in the acceptance decision shall be performed by qualified laboratories. The Authority shall have access to the laboratories as and when requested to observe Supplier's testing and documentation. Independent verification testing may be performed at the Authority's field laboratory or any laboratory of their choosing.

DB 106-12 BUY AMERICA

DB 106-12.1 General Buy America Bid Requirement and Definition

In accordance with 41 USC Section 8301 et seq., 23 CFR Section 635.410 and Section 146 of the New York State Finance Law, as amended, permanently incorporated steel and/or iron material shall be domestically produced regardless of the percentage they comprise in a manufactured product or form they take.

To qualify as domestic, all manufacturing processes, including manufacture, fabrication, grinding, drilling, welding, finishing, coating, and assembly of any product containing steel and/or iron material must have been performed in the United States (US). To further define the coverage, a domestic product is a manufactured construction material that was produced in one of the 50 states, District of Columbia, Puerto Rico, or territories and possessions of the US. Raw materials used in the steel and/or iron material may be imported. Raw materials are materials such as iron ore, limestone, and waste products, which are used in the manufacturing process to produce the steel and/or iron material products. Waste products would include scrap (i.e., steel no longer useful in its present form from old automobiles, machinery, pipe, and railroad tracks). Also steel trimmings from mills or product manufacturing are considered waste. Extracting, crushing, and handling the raw material which is customary to prepare them for transporting are exempt from Buy America requirements. The use of foreign source steel or iron billets is not acceptable under this Section. FHWA has determined that "green wire/rod" (used in the manufacturing of filler material used in welding steel) must meet the Buy America provisions.

Notwithstanding the foregoing, the Design-Builder may permanently incorporate into the Work under this Contract a minimal amount of foreign steel and/or iron material if the combined cost

of such material does not exceed 0.1% of the total Contract Price or \$2,500.00, whichever is greater. The combined cost of foreign steel and/or iron material will be that shown to be the value of the steel and/or iron products as they are delivered to the Project, documented by invoice or bill of sale to Design-Builder.

DB 106-12.2 Control of Material

All items, regardless of origin, shall comply with the requirements found in the Contract Documents. In the event the Contract is awarded based on using only domestic steel and/or iron material, the Design-Builder must supply only domestic steel and/or iron material and will be paid based on the Contract Price based on using only domestic steel and/or iron material. The Design-Builder will be responsible for ensuring that the domestic steel and/or iron material is supplied in conformance with the above referenced laws. Such responsibility extends to informing all affected Subcontractors and Suppliers of the requirements set forth in this Section and ascertaining that steel and/or iron material being supplied is in conformance with the requirements of the Contract Documents.

DB 106-12.3 Buy America Waivers

The Authority may request waivers to the requirements of this Section from FHWA if it can be demonstrated that the use of domestic steel and/or iron material would be inconsistent with the public interest, or if such material and products are not produced in the US in sufficient and reasonably available quantities and of satisfactory quality

Provided one or more of the above requirements are met, the Design-Builder may submit a request for a waiver to the Authority's Project Manager with a copy to the Authority's Construction Quality Assurance Engineer. The request shall include copies of all documentation verifying the unavailability of the material or product and/or justification of the application for a waiver.

Any final approval of the waiver request will be made by FHWA and concurred with by the Authority.

**DB SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC**

DB 107-1 LAWS, PERMITS, AND LICENSES

The Design-Builder shall conduct its operations in compliance with all applicable Governmental Rules and the lawful direction of the officers, agents or representatives of the United States, the State of New York, counties, cities, towns and villages, as applicable. The Design-Builder shall protect and indemnify the Authority and/or the State of New York, any municipality in which the Work is being performed; and/or any public benefit corporation, railroad, or public utility whose property or facilities are affected by the Work, against claims or liability arising from or based on the violation of such Governmental Rules, whether by the Design-Builder itself or its Subcontractors. The Design-Builder shall procure all licenses and permits necessitated by the Design-Builder's operations. All costs due to compliance with the above-described laws, regulations, and ordinances shall be included in the Contract Price unless otherwise provided for in the Contract.

Prior to the commencement of any construction Work on this Project, the Design-Builder shall contact the municipal or State agency responsible for air, noise, and water quality control regulations to determine the standards that shall be adhered to during construction operations.

- A) **Invasive Species.** Federal and State agencies have promulgated regulations regarding invasive plant species, agricultural insects and diseases. The Design-Builder shall thoroughly clean all construction equipment and vehicles operating in infested areas prior to moving to non-infested areas in accordance with Federal and State Authority of Agriculture regulations.
- B) **Independent Contractor.** The relationship of Design-Builder to the Authority is that of an independent contractor, and the Design-Builder, in accordance with its status as such contractor, agrees that it will conduct itself consistent with such status, that it will neither hold itself out as nor claim to be an officer or employee of the Authority by reason hereof, and that it will not, by reason hereof, make any claim, demand or application to or for any right or privilege applicable to an officer or employee of the Authority, including workers' compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit.
- C) **Cooperation with Investigations.** The Design-Builder hereby agrees that upon the refusal of a person, when called before a grand jury, head of a State Authority, temporary State commission or other State agency, or the organized crime task force in the NYS Authority of Law, which is empowered to compel the attendance of witnesses and examine them under oath, to testify in an investigation, concerning any transaction or contract had with the State, any political subdivision thereof, a public authority or with any public Authority, agency or official of the State or of any political subdivision thereof or of a public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract;
 - 1) Such person, and any firm, partnership or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any public authority or official thereof, for goods, work or services, for a period of five years after such refusal, and;

2) Any and all contracts made with any public authority or official thereof, since the effective date of this law, by such person, and by any firm, partnership or corporation of which he is a member, partner, director or officer may be canceled or terminated by the public authority without incurring any penalty or damages on account of such cancellation or termination, but any moneys owed by the public authority for goods delivered or work done prior to the cancellation or termination shall be paid.

D) **Archaeological Salvage.** Whenever, during the course of construction, historical or prehistoric objects or human remains are encountered, such objects shall not be destroyed or moved. The Design-Builder shall stop work to avoid disturbing such areas and notify the Authority's Project Manager immediately. The Authority's Project Manager will notify the appropriate Authority personnel and other authorities and arrange to have an immediate inspection of the site conducted. Removal or salvage of archaeological objects, other than Environmental Resources or Cultural Resources that are identified in the RFP or the Contract Documents, will be considered Extra Work. Such work will be limited to that performed within the right of way, and at any location under direct control of the Design-Builder used as a source of approved borrow material or a spoil disposal area. See DB §107-9.3.

DB 107-2 RESTORATION OF SURFACES OPENED BY PERMIT

The right to construct or reconstruct utility services in the highway or to grant permits for the same, at any time, is hereby expressly reserved by the Authority for the proper authorities of the municipality or county in which the Work is done, and the Design-Builder shall not be entitled to damages for the digging up on the highway.

Individuals, firms, or corporations wishing to make an opening in the highway surface must secure a permit from the Authority. The Design-Builder shall allow parties bearing said permits, and only those parties, to make openings in the highway.

When ordered by the Authority's Project Manager, the Design-Builder shall make, in an acceptable manner, all necessary repairs due to such openings and such necessary Work will be paid for as provided in DB §§104-3 and 109-9.

DB 107-3 PATENTED DEVICES, MATERIAL, AND PROCESSES

It is mutually understood and agreed that the Contract Price is to include all royalties and costs arising from patents, trademarks, and copyrights in any way involved in the Work. Whenever the Design-Builder is required or desires to use any design, device, material, or process covered by letters, patent, or copyright, the Design-Builder shall indemnify and save harmless the Authority from any and all claims for infringement by reason of the use of any such patented design, device, material, or process to be performed under the Contract, and shall indemnify the Authority for any costs, expenses, and damages which it may be obliged to pay by reason of any such infringement at any time during the prosecution of, or after the completion of, the Work.

DB 107-4 FEDERAL-AID

The Design-Builder shall conform in all respects in accordance with the true intent and meaning of each and all of the federal requirements contained in the Contract Documents. When any of such federal provisions may be in conflict with any other provisions of the Contract, the federal

provisions shall prevail and take precedence and be of force over and against any said conflicting provisions of said Contract. See DB §102-2.

Any Work performed under a Federal-Aid contract shall be subject to inspection by the appropriate federal agency. Such inspection shall in no sense make the federal government a party to this Contract and will in no way interfere with the rights of either party hereunder.

DB 107-5 COMPLIANCE WITH PAYMENT OF TAXES

The Design-Builder is required to observe and comply with all laws regarding the payment of taxes imposed by the State or by other lawful political entities.

The Design-Builder provided to the Authority its federal tax identification number prior to award of the Contract in accordance with the ITP.

DB 107-6 SANITARY CODE

The Design-Builder shall comply with the provisions of the State sanitary code relating to camps and obtain from the local health officers permits for the construction, maintenance, and operation of labor camps, if used.

The Design-Builder shall provide and maintain, in a neat and sanitary condition, such accommodations for the use of the Design-Builder's and Authority's employees as may be necessary to comply with the requirements of the State and local boards of health or of other bodies having jurisdiction.

DB 107-7 SAFETY AND HEALTH REQUIREMENTS

The Design-Builder shall perform all Work in the Contract in a skillful manner with due regard to the safety and health of its employees and of the public. The Design-Builder shall comply with 29 CFR Section 1926 regarding the safety and protection of persons employed in construction and demolition Work.

No employee may use, distribute, dispense, possess or manufacture any alcoholic beverages, illegal drugs or any other intoxicating substance on the Site. The Design-Builder's written policy shall require that employees not report to work under the influence of drugs or alcohol, nor be impaired or unable to function at the workplace as a result of consuming alcohol or other intoxicants. While prescription drugs are not prohibited, they should not render an employee unfit for duty. The Design-Builder employees that are suspected of using drugs or alcohol, or who are suspected to be under the influence of such substances, shall be reported to the Authority's Project Manager. Any Design-Builder or Subcontractor employees who are under the influence of drugs or alcohol may be deemed incompetent, and are subject to dismissal in accordance with DB §105-2 Character of Workers and Orders to Foreman.

DB 107-7.1 Occupational Safety and Health

In accordance with OSHA regulations, the Design-Builder's employees shall be required to wear protective helmets (hard hats) when there is a possible danger of head injury from impact, from falling or flying objects, or from electrical shock and burns. Additionally, all employees working within an active highway ROW must wear protective helmets at all times. Helmets are not required for employees within a completely enclosed cab constructed of steel frame and glass

or inside an automobile. Helmets must meet current OSHA standards for impact, electrical shock, and burn protection. For purposes of this DB §107-7, the Design-Builder's employees will be considered to include all personnel on the Project Site under the direction of the Design-Builder, whether such individuals are employed by the Design-Builder, a Subcontractor, vendor or other Person.

It shall be the responsibility of the Design-Builder to perform all necessary planning, supervision, and training activities to ensure that all of the requirements of 29 CFR Section 1926 are fully met for all workers employed in the construction of the Project. The Design-Builder shall provide to the Authority prior to the start of Work satisfactory evidence that all current requirements of 29 CFR Section 1926 will be adequately addressed.

DB 107-7.2 Safety and Protection

The Design-Builder shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. It shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to, the following:

- A) All employees on the Work and all other persons who may be affected thereby;
- B) All the Work and all equipment and material to be incorporated therein, whether in storage on or off the Site; and
- C) Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities, except as designated for relocation, removal, or replacement as part of the Work.

Immediate action shall be taken after an accident to correct the work methods and conditions that are the apparent cause of the accident.

The Design-Builder's duties and responsibilities for the safety and protection of the Work shall continue until Project Completion occurs. The Design-Builder shall coordinate its Work with the Authority's safety staff.

The Design-Builder shall comply with the following:

- A) Conduct the Work with due regard for the protection of public and private property and the health, welfare, mobility, safety, and convenience of the public, particularly with regard to disabled persons and pedestrians;
- B) When the Work involves use of public ways, provide necessary flaggers and traffic control devices and install and maintain means of reasonable access to all fire hydrants, service stations, warehouses, stores, houses, garages, and other property. Private residential driveways shall be closed only within the specified constraints and requirements for notice contained in the Contract Documents;
- C) Allow the public's travel over any public highway, street, or sidewalk without obstruction or interference except as specified in the Contract Documents. Do not obstruct drainage in roads or natural or constructed drainage ways;

- D) Comply with all instructions received from the Authority or local authorities regarding protection of public and private property and the health, welfare, mobility, public safety, and convenience of the public;
- E) Provide reasonable access to the Work area at all times for emergency traffic, such as police, fire, and ambulance units; and
- F) Give notice and describe upcoming construction to agencies, owners, tenants, and residents in accordance with the Contract Documents.

DB 107-7.3 Emergencies and Accident Reporting

In emergencies affecting the safety of persons or the Work or property at the Site or adjacent thereto, the Design-Builder, without special instruction or authorization from the Authority, is obligated to act at its discretion to prevent threatened damage, injury, or loss. The Design-Builder shall give the Authority prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.

The Design-Builder shall immediately notify the Authority verbally of any accident or incident that results in the death of a worker, motorist or pedestrian. The Design-Builder shall notify the Authority in writing within 24 hours, with the details relative to any accident or incident occurring within the Project Limits or directly related to construction activity or involving any worker employed on the Contract or delivering materials, equipment or supplies to the Contract, if:

- A) The accident or incident (1) results in the death of a worker, or (2) requires that a worker is hospitalized overnight for treatment of the injury, or (3) results in 3 or more personal injuries; or
- B) The accident or incident involved a utility (overhead or underground); or
- C) The accident or incident involved a motorist or pedestrian; or
- D) The incident was a near miss; or
- E) The accident otherwise meets the notification requirements of OSHA.

The Authority's Project Manager will provide the Design-Builder with a copy of the Authority's accident report for any accident occurring within the Project Limits or involving the Design-Builder's personnel, equipment or operations.

Any action by the Design-Builder that presents a potentially imminent danger of injury to the public, a worker, or the inspection staff or others may be halted immediately by the Authority's Project Manager, and additional operations may also be stopped as a result of such action, in accordance with DB §105-1. The Design-Builder's personnel shall have local emergency numbers readily available at all times. These numbers shall include local utility, police/fire and medical assistance. In the event of an emergency, the Design-Builder shall evacuate all employees and endangered persons from the immediate vicinity to the best of the Design-Builder's ability.

DB 107-7.4 Design-Builder's Safety Obligations

The Design-Builder shall perform all actions necessary for safety and be solely and completely responsible for conditions on the Site, including safety of all persons and property on the Site for the duration of the Contract. This requirement shall apply continuously for the duration of the Contract and shall not be limited to normal business hours or other time constraints or be reduced or diminished in any way because the Design-Builder is not given sole possession of the Site. The Design-Builder is fully responsible for the safety of workers engaged upon the Project and all other persons working at or visiting the Site and the protection of the public in the vicinity.

DB 107-7.5 Design-Builder's Safety Plan

The Design-Builder shall submit a written Project-specific Safety Plan which documents the Design-Builder's safety policy and which identifies and addresses specific health and safety concerns to be encountered on the Project to the Authority for review and approval. Before the Work begins, and periodically throughout the Project, the Design-Builder's Project supervision staff shall meet with the Authority's Project Manager to review and discuss the status of safety issues on the Project. An appropriate notice shall be posted at the job Site that the Project's Safety Plan is available for examination by any worker employed on the Project.

The Design-Builder shall implement, review, and update the Safety Plan and introduce a program for assuring that the Safety Plan is followed at all times. The Design-Builder shall coordinate with all authorities and relevant entities as necessary to ensure compliance with the Safety Plan.

The Authority will monitor and audit the Design-Builder's safety performance.

The Design-Builder's Safety Plan shall provide for the following:

- A) Planning, management, and design to avoid hazards;
- B) Detection of potential hazards;
- C) Timely correction of hazards;
- D) Dedication to the protection of the public and the workers;
- E) Active participation of all persons involved with the Contract;
- F) Dedicated safety staff;
- G) Liaison with the Authority's safety monitoring staff; and
- H) Safety training and safety meetings.

The Design-Builder shall ensure that all its employees and those of the Subcontractors of any tier (including labor-only) are under an obligation at all times to fully conform to the provisions of the Safety Plan. In the event that the Design-Builder's employees or its Subcontractors fail to conform to the provisions of the Safety Plan, the Design-Builder shall take appropriate disciplinary measures. Such measures shall include suspension, removal of offending

employees from the Site, and dismissal. The obligations and requirements of this DB §107-7 shall be included in the terms and conditions of employment of all employees of the Design-Builder and all Subcontractors of any tier, including labor-only Subcontractors.

DB 107-7.6 Content of the Safety Plan

The Safety Plan shall be comprehensive and include all required actions, activities, rules, and mitigation relative to the safety of the Work. An appropriate notice shall be posted on the Project Site that the Project Safety and Health Plan is available for examination by any worker employed on the Project. The Safety Plan shall include the following items:

- A) Policy statement indicating the Design-Builder's commitment to safety, stating goals for OSHA recordable and lost-time incidence rates;
- B) Identification of Authority's and Design-Builder safety officers, including responsibility definitions, an organization chart, reporting procedures, safety inspection procedures, and audit programs;
- C) References to all applicable Governmental Rules;
- D) An employee safety education and training plan for required training for all workers, including a separate program and Hazardous Materials communications Plan for workers involved with Hazardous Materials remediation, required toolbox meetings, and required posting of information, Hazard Communication Training (29 CFR Section 1926.59), Safety Training and Education (29 CFR Section 1926.21), and other training required by 29 CFR Section 1926;
- E) Procedures to address Project health and safety concerns, including housekeeping, material handling and storage, personal protective equipment, wall and floor openings, scaffolds, ladders, welding, flame cutting, electrical equipment, lock-out or tag-out, motor vehicles, heavy equipment, small tools, concrete forms, steel erection, cranes and hoisting, work platforms, fire prevention and protection, sanitation, confined space entry, blasting and explosives, identification of restricted areas and measures to barricade, fence, cover and otherwise prevent access to such areas, fall protection, working over water, electrical safety, drilling, lifting, work zone safety, night time safety, excavation and trench, silica, lead safety, asbestos, backing policy, overhead and underground utilities, pavement striping, radiation safety, power tools, lifting, histoplasmosis, and other items;
- F) Industrial hygiene, including respiratory protection, noise, Hazardous Materials, MSDS, and lists of hazardous chemicals present;
- G) Fire protection and prevention (including provisions prohibiting the storage of any flammable materials beneath, or within the proximity of any structure, at any time);
- H) Emergency and rescue procedures, including detailed procedures for all types of emergencies, such as medical, fire, chemical spill, property damage, bomb threat, severe weather, flooding, explosion, and earthquakes;
- I) Incident investigation, reporting, and record keeping;

- J) Policy for substance abuse;
- K) Security provisions;
- L) Safety requirements and procedures for surveyors and engineering personnel conducting Site investigations and Verification Sampling and Testing;
- M) Procedures for compelling worker compliance with health and safety requirements; and
- N) Procedures to address distraught, emotionally disturbed persons and/or homeless persons.

The Safety Plan shall contain a list of the detailed safety procedures to be followed. Safety procedures shall be prepared separately for individual activities and these detailed procedures shall be appendices to the Safety Plan.

Certain of these items may be submitted in the format of the Design-Builder's health and safety program, with the Project's Safety Plan limited to Project-specific issues.

The Design-Builder shall be responsible for ensuring that each Subcontractor employed on the Project complies with the requirements of this DB §107-7.6. The Design-Builder shall provide to the Authority a Safety Plan covering all Work to be done by a specific Subcontractor prior to that Subcontractor starting Work. As an alternative, the Design-Builder may provide a certification that all activities performed by, and workers employed by, Subcontractors will be subject to the Design-Builder's Safety Plan. Submission of the required Safety Plan by the Design-Builder and its acceptance by the Authority shall not be construed to imply approval of any particular method or sequence for addressing health and safety concerns or to relieve the Design-Builder from the responsibility to adequately protect the health and safety of all workers involved in the Project as well as any members of the public who are affected by the Project.

In accordance with the New York State Labor Law §220-h, all laborers, workers, and mechanics shall be certified prior to performing any work on the Contract as having successfully completed a course in construction safety and health approved by the US Department of Labor's Occupational Safety and Health Administration (OSHA) that is at least 10 hours in duration. The Design-Builder shall attach proof of completion to first certified payroll for initial workers, and to subsequent payrolls for new or additional workers. The Design-Builder shall clearly indicate on subsequent payrolls any workers not previously employed on that Contract. If no proof of completion has been submitted for a worker listed on a certified payroll, the Authority's Project Manager will alert the Design-Builder to this fact. If the Design-Builder cannot provide proof of completion and the worker continues to work, the Authority will notify the Design-Builder in writing with a copy to the NYSDOL by e-mail at PWAsk@labor.state.ny.us.

DB 107-7.7 Submittal of the Safety Plan

Prior to the start of any field Work or construction, the Design-Builder shall submit its Safety Plan to the Authority's Project Manager and the Authority's Safety Construction Coordinator for written acceptance, based on the Design-Builder's Safety Plan information contained in its Proposal along with the incorporated comments of the Authority's Project Manager and any other required updating. The Safety Plan shall be a controlled document to be issued by the Design-Builder to, at least, the following persons:

- A) The Authority's Project Manager;
- B) The CQAE;
- C) The Authority's safety monitoring coordinator;
- D) The Design-Builder's Project Manager;
- E) The Design-Builder's Safety Manager;
- F) Subcontractors of any tier, including labor-only Subcontractors; and
- G) The Design-Builder's Quality Manager.

Other controlled copies shall be distributed as determined by the Design-Builder and the Authority's Project Manager. Uncontrolled copies shall be issued as considered necessary by the Design-Builder.

The Design-Builder shall maintain a traceable record of the issuance of the controlled copies including numbering and acknowledgement of receipt. Revisions of the Safety Plan shall be issued to all recipients of the controlled copies and managed in the same way as the controlled copies.

DB 107-7.8 Revisions to the Safety Plan and Procedures

The Authority's Project Manager may require a revision to the Safety Plan or any safety procedure in order to ensure compliance with the Contract. The Design-Builder shall, following discussion with the Authority's Project Manager, issue such revision within 30 days of receipt of the instruction. A revision shall include an addition, omission, or revision, as applicable.

The Design-Builder shall review the Safety Plan and any safety procedure in order to revise it in accordance with activities and experiences on the Site. Such revision, from time to time, shall enhance the standards of safety being implemented on the Site. At the very least, procedures shall be reviewed and new procedures issued whenever the character or extent of any activity is changed or a new activity of a different nature is introduced which necessitates such revision.

In addition to such revision, the Design-Builder shall make a formal review of the Safety Plan once every 12 months on or near the anniversary of NTP. Such formal review shall consider all matters pertaining to safety planning and implementation, including accident reports, inspections, audits, suggestions from meetings, and other sources, such as, the Authority's Project Manager and hazard analysis reviews. Within seven days of finishing this review, the Design-Builder shall issue a review report to the Authority's Project Manager, giving the conclusions of the review and identifying the revisions to be made to the Safety Plan.

Within 30 days of the issue of the review report, the Design-Builder shall issue a revised Safety Plan for review and written Approval by the Authority's Project Manager.

DB 107-7.9 Compliance with Laws and Regulations

The Safety Plan and its implementation shall comply in all respects with all applicable federal, State, and local laws, regulations, and Governmental Rules.

DB 107-7.10 The Design-Builder's Safety Organization

The Design-Builder shall designate a member of its board of directors, if it is a corporation or a joint venture, or a principal of its organization who shall be responsible and directly accountable to the Authority in all matters concerning safety. The Design-Builder shall also require the Design-Builder's Project Manager to be responsible and directly accountable to this designated safety board member or principal in all matters concerning construction safety.

The Design-Builder shall appoint, within 30 days of NTP, a Safety Manager whose Project duties shall be solely connected with the safety aspects of the Project and who shall report directly to the designated safety board member or principal. Such an appointment shall be subject to written acceptance by the Authority's Project Manager. The Safety Manager shall implement, maintain, and monitor compliance with the Safety Plan and all safety procedures, and be based full-time at the Site.

The Safety Manager is responsible for adopting and implementing the company's health and safety program and ensuring that the program complies with Occupational Safety and Health Administration (OSHA) and NYSDOT Standard Specifications. The Safety Manager must also identify health and safety concerns that apply to each construction site, investigate any safety concerns brought to their attention and administer the proper procedure to correct the concern. The Safety Manager shall train new construction workers and current employees the proper safety and health procedures to be in compliance with OSHA and NYSDOT Standard Specifications, conduct annual employee training sessions to update workers on safety procedures and responsibilities and ensure that all employees have the required Proper Protective Equipment and that it is utilized during the construction operation being performed.

The Design-Builder shall provide and maintain an organizational structure that shall ensure the effective control of the Project's safety assurance tasks by the Design-Builder's safety staff. Such staff shall be engaged solely in safety assurance. Responsibilities and task subdivision shall be clearly identified in the Safety Plan, and shall show direct lines of communication and reporting between the Design-Builder's Safety Manager and the designated safety board member or principal and between the Design-Builder's Safety Manager and the Design-Builder's Project Manager.

The Design-Builder shall not remove the appointed Safety Manager without the prior written consent of the Authority's Project Manager. The Design-Builder shall nominate a replacement at the same time consent is sought.

If the Safety Manager is removed under DB §102-3, a suitably qualified and immediately available replacement shall be proposed to the Authority's Project Manager within 14 days of receipt of the notice requiring the removal.

The Design-Builder shall provide adequate numbers of supporting staff for the Safety Manager, including a deputy to act in his/her absence.

The Design-Builder shall not commence any Work on the Site until the Safety Manager has been appointed and accepted by the Authority's Project Manager, and has commenced duties on the Site.

The Design-Builder shall ensure that all Subcontractors of any tier whatsoever, including labor-only Subcontractors, shall provide adequate safety staff.

Each Subcontractor of every tier, including labor-only Subcontractors, shall have a safety supervisor who shall have appropriate experience and training. Each Subcontractor safety supervisor shall be responsible for implementing and maintaining its respective safety plan. Subcontractor safety supervisors shall devote a substantial amount of their time to such duties. All Subcontractor safety plans shall at all times conform to the Design-Builder's Safety Plan.

Breaches of the Design-Builder's Safety Plan or other conduct prejudicial to safety may be cause for the Authority's Project Manager to require the removal of any employee, including the Design-Builder's Project Manager or Safety Manager, from the Site.

The Design-Builder shall give authority to the Safety Manager and safety staff to issue stop orders that instruct employees of the Design-Builder and its Subcontractors of any tier, including labor-only Subcontractors, to cease operations and take urgent and appropriate action to make the Site safe and prevent unsafe working practices or other infringements of the Safety Plan or breach of any Governmental Rules.

The Design-Builder shall require its Safety Manager to verify by Inspection that the requirements of this DB §107-7 and the Design-Builder's Safety Plan and safety procedures are being strictly complied with. In the event of any non-compliance, the Safety Manager shall forthwith issue an instruction to stop Work until the non-compliance is rectified. If the Design-Builder considers the non-compliance to be of a minor nature, implementation may be delayed 24 hours, with the Authority's consent. If the Authority's Project Manager states that such delay is acceptable, the Design-Builder may suspend implementing the instruction for 24 hours and resume working. During the 24-hour period, the Design-Builder shall rectify the non-compliance.

No Work shall be performed on Site unless the Design-Builder's Safety Manager or designated deputy is on Site. Subcontractors shall not perform work at the Site unless the specified safety supervisors are on the Site..

DB 107-7.11 Safety Considerations in Design

The Design-Builder shall identify and analyze the hazards and risks associated with the Work, including during construction and its ultimate use, and shall design the Work so as to eliminate, mitigate, or control such hazards.

DB 107-7.12 Health and Safety Inspections

The Design-Builder shall notify the Authority's Project Manager of any Inspections to be conducted on the Project by USDOL, OSHA, NYSDOL, or other health and safety agencies, and of any resulting closing conference, and provide the Authority's Project Manager with the opportunity to be present at such Inspections and closing conference. The Design-Builder shall notify the Authority in writing of the results of any health and safety Inspections conducted on the Project by representatives of USDOL OSHA, NYSDOL, or other health and safety agencies, within one work day of the completion of the closing conference resulting from such Inspections. If any citations are issued for alleged violations of 29 CFR Section 1926, a copy shall be provided to the Authority's Project Manager within one work day of their receipt by the Design-Builder, and a copy of the final disposition of such citations shall also be provided to the Authority's Project Manager within one work day of their receipt by the Design-Builder. In addition to the notification provisions of DB 107-7.3, the Design-Builder shall notify the Authority in writing within 24 hours of the details relative to any accident or incident occurring at the Site

involving any worker employed under the Contract or delivering material, equipment, or supplies to the Project, provided that the following criteria are met:

- A) The accident or incident occurs within the confines of the Project; and
- B) The accident or incident results in the death of the worker, or requires that the worker is hospitalized overnight for treatment of the injury; or
- C) The accident otherwise meets the notification requirements of OSHA.

DB 107-7.13 Reports

The Design-Builder shall submit a safety report in form acceptable to the Authority with each monthly progress report (DB §108-1.3).

DB 107-7.14 Drilling and Blasting

If drilling and blasting operations are to be performed by the Design-Builder, a Project meeting relative to the method, manner, and procedure of blasting operations shall be held at the Site with the Authority's Project Manager, the Design-Builder, the Project's blasting contractor or Subcontractor, and representatives of all interested agencies including a Authority engineering geologist, at least 10 days prior to the commencement of drilling and blasting operations.

Whenever explosives are used, they shall be of such character and strength and in such amounts as are permitted by the State and local laws and ordinances and all respective agencies having jurisdiction over them. The right is reserved for the Authority's Project Manager and those agencies to specify the maximum size of the charges.

Blasting shall be done only at such time as the Authority's Project Manager and those agencies shall approve and under such restrictions as they may impose.

If a blast causes injury, damage to property, adverse effects upon traffic, or causes gases to migrate and/or accumulate in a potentially harmful manner, all blasting operations shall cease pending review of the procedures. The review will be conducted by the Authority's Project Manager in conjunction with an Engineering Geologist to ensure that proper procedures and practices were used to determine if the approved procedures need to be revised. Should the findings of the review indicate the injury, damage, traffic delay, or migration/accumulation of gases was attributed to improper blasting operations, the blaster of record may be removed at the Authority's option.

The Design-Builder shall employ only experienced supervisors and workers in the handling, loading, and firing of the explosives. The Design-Builder shall meet all the requirements of 12 NYCRR 23 and 12 NYCRR 39 and 29 CFR Section 1926, and Design-Builder's attention also is directed to the requirements of Industrial Code Rule 39 of NYSDOL's Board of Standards and Appeals, the applicable sections of the New York State Labor Law (including Section 452 through 460), which, together with the conditions indicated herein, shall provide for the possession, handling, use, storage, and transportation of all explosives used at the Site.

All explosives shall be stored in a secure manner in compliance with all laws and ordinances, and all such storage places shall be clearly marked. Where no local laws or ordinances apply, storage shall be provided in a manner satisfactory to the Authority's Project Manager and, in

general, not closer than 1,000 feet from roads, buildings, camping areas, or places of human occupancy.

DB 107-7.15 Explosives in Demolition

Demolition Work shall not be performed by the use of explosives unless approved by the Authority's Project Manager.

DB 107-7.16 Excavation or Blasting Near Combustible Gas Pipes

No Person shall discharge explosives in the ground, nor shall any person other than a State, county, city, town, or village employee regularly engaged in the maintenance and repair thereof excavate in any existing street, highway, or public place, unless notice thereof in writing shall have been given at least 72 hours in advance to the Person, corporation, or municipality engaged in the distribution of gas, electricity, steam, or water, or the provision of telephone or telegraph service in such territory. The person having direction or control of such Work shall give such notice and, further, he/she shall ascertain whether there is, within 100 feet in such street, highway or public place, or in the case of a proposed discharge of explosives, within a radius of 200 feet of such discharge, any pipe of any other Person, corporation, or municipality conveying combustible gas, and if there be any such pipe he/she shall also give such notice to any such other Person, corporation, or municipality. Provided, however, that in any emergency involving danger to life, health, or property it shall be lawful to excavate without using explosives if the notices prescribed herein are given as soon as reasonably possible, and to discharge explosives to protect a Person or Persons from an immediate and substantial danger of death or serious personal injury if such notices are given before any such discharge is undertaken. Any such Work shall be performed in such manner as to avoid damage to any utility facilities.

If, in the course of any such excavation, blasting, or other Work, damage or the potential thereof is occasioned to any utility facility used in the transmission or distribution of gas, electricity, water, steam, telephone, or telegraph, whether by direct contact, undermining of soil or other support thereof, or otherwise, the Person having direction or control of such Work shall promptly take all reasonable measures necessary to protect individuals and the public from loss or the potential thereof and shall immediately notify the utility owner of such damage or potential damage to its facilities. Neglect on the part of the Person having direction or control of such Work and responsible for any damage or potential damage to such facilities (1) to take such safety precautionary measures as are necessary or reasonably required promptly or (2) to immediately notify the affected utility owner of damage or potential damage to its facilities, occasioned by such Person or under its direction or control, shall be a violation of this Section. Nothing herein contained shall preclude or prevent recovery of monetary damages by the affected utility owner or by any other Person suffering damage from the disruption of utility services occasioned by excavation, blasting, or other Work in the vicinity thereof.

Pursuant to the Laws of New York, Chapter 957, the New York State Public Service Commissioner has the power, through Inspectors or duly authorized employees of his/her Authority, to examine and inspect excavation and demolition methods used by any Person within 15 feet in any direction of an underground pipeline used for conveying natural gas, or any other combustible substance or steam, and to order compliance with the standards for excavation and demolition near underground gas pipelines contained in regulations issued or applied pursuant to Section 119-b of the New York State Public Service Law and 16 NYCRR 753.

The Design-Builder shall provide the New York State Public Service Commission's Inspector access to the Project.

DB 107-7.17 Guarding and Protection

The Design-Builder shall be responsible for guarding and protecting open and unattended excavations and other potentially hazardous locations in and adjacent to areas lawfully frequented by any person. Such guarding and protection shall consist of any one, or a combination of, the following:

- A) A substantial fence or barricade, not less than four feet in height and mounted on satisfactory supports spaced at intervals of not more than 10 feet. Warning signs reading "DANGER-KEEP OUT" shall be mounted on the fence or barricade, as required by the Authority's Project Manager, at no more than 100-foot intervals. The signs shall be a minimum of 24 inches wide by 16 inches high. The lower portion of the sign shall be white and shall bear the words "KEEP OUT" in 5-inch black letters. The upper portion shall be predominantly red with 5-inch white lettering spelling out the word "DANGER." The lettering shall be enclosed by an approximately elliptical, white ring and the entire sign bordered in black. All barricades and warning signs shall be furnished, erected, relocated, maintained, and removed as required.
- B) A 4-foot (minimum) extension of the trench sheeting above the ground surface adjacent to the excavation.
- C) A substantial covering over an excavation. Where it is possible that vehicles will move over such covering, the covering shall be of sufficient strength to withstand the loading.

DB 107-7.18 Emergency Call-Out List

The Design-Builder shall provide the Authority, at the time of the site mobilization meeting, with a list ("Call Out List") of a minimum of four responsible personnel, available on a 24-hour, 7 days a week (24/7) basis, for call out if conditions arise that require the Design-Builder's attention at the Site. In addition to providing on and off hours phone numbers, all persons on the Call Out List shall be equipped with telephone call activated paging devices, or cell phones, which display the call back number, or other approved paging devices. Any person on the Call Out List shall have the authority to promptly call out personnel and resources necessary to respond to an emergency and protect the public. The Call Out List shall also include field office and main office telephone numbers and be updated as changes occur.

DB 107-7.19 Equipment Involving Radioactive Materials

The use of equipment involving radioactive materials, including, nuclear density gauges, shall adhere to all applicable regulations, including US Nuclear Regulatory Commission regulations, related USDOT regulations concerning transportation of radioactive material, and 12 NYCRR 38. As a part of the Safety Plan, the Design-Builder shall include in its submittal to the Authority's Project Manager a section regarding radiation safety if such equipment will be used on the Project. The Safety Plan shall address in detail transportation and storage of the equipment and operating and emergency procedures. It shall provide the name and address of the Design-Builder's radiation safety officer. A copy of the owner's license to possess the radiation source, issued by NYSDOL shall also be provided. All operators of the equipment shall be certified by a gauge manufacturer as to having completed training on the safe use of

the equipment. A copy of the certification shall be provided to the Authority's Project Manager for each operator prior to their Work on the Project.

DB 107-7.20 Use of Personal Entertainment Devices and Portable Phones

The Design-Builder shall ensure that workers are able to perceive hazards, are not distracted from their tasks, and are not creating hazard(s) through the use of personal entertainment devices. The Design-Builder shall ensure that portable phones, two-way radios, and other communication devices are used by workers for performing work tasks only. Flaggers shall use portable phones, two-way radios, and other communication devices only to communicate with other flaggers, workers or supervisors regarding flagging operations. Equipment operators shall use portable phones, two-way radios or other communication devices while actively operating equipment only for communicating with workers performing directly related work tasks. Truck drivers shall use hands free technology for all calls while driving within work zones. Portable phones, two-way radios, and other communication devices shall be equipped with hands-free technology whenever practicable. Workers shall not use personal entertainment devices with earphones such as radios, iPods, MP3 players, media players, or other personal entertainment devices while working.

DB 107-8 SITE SECURITY

DB 107-8.1 Requirements

The Design-Builder shall be responsible for the security of the Site and the Work from the date the Site is released to the Design-Builder until Project Completion. This shall include the protection of all workers, offices, workshops, equipment, material, and the Work from damage by vandalism, flood, storm, fire, theft, or other intentional acts. The foregoing shall not be construed to relieve the Design-Builder of responsibility for Work not yet completed as of the date of Project Completion.

The Site shall be adequately protected at all times to prevent unauthorized access onto the Site, particularly to areas of high safety risk. This protection shall include security fencing at areas of high safety risk to the public as well as areas with high risk of vandalism and other areas where necessary for the Design-Builder to fulfill obligations under the Contract. All necessary access for the public through the Site shall be adequately protected. The Design-Builder shall ensure that all of the Design-Builder's vehicles and vessels and any Subcontractor's vehicles and vessels that enter the Site are identifiable by a clearly visible plaque which includes the company's name, Design-Builder's logo and a unique serial number.

The Design-Builder shall provide adequate lighting and guarding at main security areas, Work areas, and storage yards.

The Design-Builder shall establish and maintain a system and people to control and guide visitors to and around the Site.

The Design-Builder shall designate a safe parking area(s) for workers to park private vehicles near the Project Site. The Design-Builder's personnel may park within the right of way or on any public roads or streets if approved by the Authority's Project Manager.

In addition to these security provisions, the Design-Builder shall adhere with the security provisions contained in *Part 3 – Project Requirements*, if applicable..

DB 107-8.2 Site Security Plan

If required in the Contract Documents, the Design-Builder shall prepare a Site Security Plan within 60 days of NTP, describing the Design-Builder's procedures for securing the Site. The Site Security Plan shall include the security requirements described in DB §107-8.1. The Design-Builder shall review and update the Site Security Plan on a regular basis, and provide copies of any changes to the Authority's Project Manager.

DB 107-8.3 Reports

The Design-Builder shall submit a security report, reporting any security-related incident, with the monthly progress report (DB §108-1.3).

DB 107-9 ENVIRONMENTAL AND CULTURAL RESOURCES

Before construction, the Authority shall obtain the Environmental Resource and Cultural Resource approvals for the Project area included in the Contract Documents. Special Environmental Resource and Cultural Resource requirements developed to protect resources shall be described in the Contract Documents. The Design-Builder shall abide by all Environmental and Cultural Resource management requirements. The Authority's Project Manager and environmental staff are available to assist the Design-Builder in the area of Environmental Resource and Cultural Resource management.

DB 107-9.1 Environmental and Cultural Resource Discoveries

If the Design-Builder encounters an Environmental Resource or Cultural Resource that is not included in the Contract Documents, the Design-Builder shall terminate all further operation in the immediate area until the Authority's Project Manager determines that appropriate environmental staff of the Authority and regulatory authorities have had the opportunity to review the location and complete appropriate mitigation actions. This termination shall not preclude continuation of the Work in other areas.

DB 107-9.2 Responsibility for Damage to Environmental and Cultural Resources

The Design-Builder shall repair, at its expense, all damage to Environmental Resources or Cultural Resources caused by failure to abide by requirements included in the Contract Documents to protect resources identified during the Environmental Resources and Cultural Resources evaluation. The extent of such an action shall be determined in coordination with the Design-Builder, Authority's representatives, and the regulatory authorities with management jurisdiction over the subject resources.

The Design-Builder shall be responsible for time and cost impacts of any delays resulting from the Design-Builder's non-compliance with Governmental Rules or other Contract requirements related to Environmental Resources and Cultural Resources issues.

DB 107-9.3 The Design-Builder's Responsibility for Environmental and Cultural Resources Approval

Before beginning soil-disturbing activities at areas such as camp sites, plant sites, crusher sites, stockpile sites, equipment yards, borrow pits, and surfacing pits, as well as for any construction area obtained by the Design-Builder that is not included in the Contract Documents, the Design-

Builder shall employ a qualified environmental scientist and Cultural Resource professional to conduct an Environmental Resources and Cultural Resources study. The environmental scientist and Cultural Resource professional must have appropriate resource study permits and meet the professional qualifications established by regulatory authorities to conduct the required studies. The documentation prepared must meet the standards of the Authority and regulatory authorities. The documentation must also meet the standards of State, tribal, or federal land managing agencies if the proposed activity is located on land under their jurisdiction. The studies are required regardless of land ownership, and they must be in conformance with the requirements included in NEPA and the National Historic Preservation Act.

The Cultural Resources review must meet standards established by the State Historic Preservation Officer (the Commissioner of Parks, Recreation and Historic Preservation) and, if applicable, the appropriate land-managing agency. A State, tribal, or federal agency with jurisdiction over the property may also establish other Environmental Resources and Cultural Resources study requirements. The documentation prepared for the Environmental Resources and Cultural Resources studies shall be submitted to the Authority's Project Manager and, if required, to other regulatory authorities with jurisdiction over the land or resources that are present. Copies shall also be submitted to the Authority's appropriate environmental staff. The Authority's environmental staff shall submit the Cultural Resources studies to SHPO (the New York State Office of Parks, Recreation and Historic Preservation). The Design-Builder shall complete any other coordination required by Environmental Requirements. The Authority's Project Manager shall notify the Design-Builder when Cultural Resources approval from the Authority's environmental staff and SHPO has been obtained. The coordination may take 30 days from the date it is delivered to the Authority's environmental staff.

The Authority shall be responsible for any costs and expenses due to Critical Path delays directly attributable to discovery of Environmental Resources or Cultural Resources that are not identified in the RFP or the Contract Documents. The Design-Builder is responsible for all costs and expenses, including costs and expenses due to Critical Path delays, for all Environmental Resources or Cultural Resources that are identified in the RFP or the Contract Documents.

Approval of the State, tribal, or federal land-managing agency, if applicable, and coordination with regulatory authorities and the State Historic Preservation Officer must be completed before the Design-Builder initiates any soil-disturbing activities at the locations subject to this requirement. In addition, the Design-Builder shall abide by all Environmental Resource and Cultural Resource requirements for protection of resources identified during the Environmental Resources and Cultural Resources studies.

- A) Previously completed Environmental Resources and Cultural Resources investigations. Environmental Resources and Cultural Resources investigations previously completed by others for the same location to be used by the Design-Builder can be used for the Environmental Resources and Cultural Resources requirements described in this Section so long as those previously completed investigations meet the standards identified here. The Design-Builder shall obtain copies of the Environmental Resources and Cultural Resources documentation and submit them to the Authority's Project Manager and, if required to do so, to other regulatory authorities with jurisdiction over the land or resources that are present. Copies shall also be submitted to the appropriate environmental staff of the Authority. The Authority's environmental staff and the Authority's Project Manager shall determine if the documentation meets the standards identified in this Section and is acceptable. If the previously completed studies do not

meet the Referenced Standards, then new Environmental Resources and Cultural Resources studies must be completed.

- B) Parking Equipment in Highway ROW. Environmental Resources and Cultural Resources inventories may not be completed by the Authority for some projects when construction is confined to the existing paved surface of the road. In these situations, as shall be noted in the Contract Documents, the Design-Builder shall identify all locations along the Project corridor where equipment shall be parked during construction. The Environmental Resources and Cultural Resources requirements of this Section must be completed by the Design-Builder if any of the designated locations are in areas where previously undisturbed soils are present.

DB 107-10 SOIL EROSION

The Design-Builder shall schedule and conduct its Work to minimize soil erosion and to minimize silting and muddying of streams, rivers, irrigation systems, impoundments (lakes and reservoirs), and lands adjacent to or affected by the Work. Construction of drainage facilities and performance of other Work which will contribute to the control of erosion and sedimentation shall be carried out in conjunction with earthwork operations or as soon thereafter as practicable. The area of bare soil exposed at any one time by construction operations shall be kept to a minimum. Prior to the start of the applicable construction, the Design-Builder shall submit to the Authority's Project Manager for acceptance schedules for accomplishment of temporary and permanent erosion control Work as are applicable for clearing and grubbing, grading, bridges and other structures at watercourses, construction, and paving. In addition, it shall also submit for acceptance at the same time its proposed method of erosion control on haul roads and borrow pits and its plan for disposal of surplus excavated material. No Work shall be started until the erosion control schedules and methods of operation have been accepted by the Authority's Project Manager. If conditions change during construction, the Design-Builder may be required to submit a revised schedule for acceptance as directed by the Authority's Project Manager. In carrying out the control measures under this Section, the Design-Builder will be guided by, but not limited to, the following controls:

- A) Erosion and Sediment Control of borrow areas, spoil areas and construction roads shall be conducted both during and after completion of the work, to minimize soil erosion and not cause or contribute to a violation of water quality standards and prevent sedimentation on lands adjacent to or affected by the work. The Design-Builder shall submit grading Plans for all borrow pits or areas or spoil or waste areas to the Authority's Project Manager for acceptance prior to the start of Work on, or the use of, such areas. The grading Plans shall indicate the sequence of operations, temporary slopes, and other factors which may have an influence on erosion control;
- B) When Work areas, borrow areas, spoil areas or gravel pits are located in or adjacent to waterways or impoundments, such areas shall be separated from the rest of the waterway or impoundment by a dike or other barrier to prevent sediment from entering a flowing waterway or impoundment. Care shall be taken during the construction and removal of such barriers so as not to cause turbidity or sedimentation; and
- C) Water from aggregate washing or other operations containing sediment shall be treated by filtration, settling basin, or other means sufficient to reduce the turbidity or sedimentation of receiving waterways. Turbid wash or pump discharges shall not be allowed to enter waterways or impoundments.

No payment will be made for any labor, material, or equipment needed for soil erosion abatement as described above.

When it becomes necessary, the Authority's Project Manager will inform the Design-Builder of unsatisfactory construction procedures and operations insofar as erosion control is concerned. If the unsatisfactory construction procedures and operations are not corrected promptly, the Authority's Project Manager may suspend the performance of any or all of other construction until the unsatisfactory condition has been corrected.

DB 107-11 WATER QUALITY

DB 107-11.1 General Water Quality Requirements

The Authority shall apply for and obtain any and all permits required for construction involving waters of the US as defined by the US Army Corps of Engineers. It shall be assumed that construction affecting a live stream shall require a permit from the US Army Corps of Engineers. All construction activities occurring within regulated waters of the US shall be completed in full compliance with the permit obtained for said construction, and the Design-Builder shall be fully liable for all consequences arising as a result of the Design-Builder's failure to comply with all requirements and conditions of the permit.

All Work in the vicinity of live streams, water impoundments, wetlands, or irrigation supplies shall be completed in such a manner as to minimize vegetation removal, soil disturbance, and erosion. Crossing of live streams with heavy equipment shall be minimized, as determined by the Authority's Project Manager. Therefore, temporary bridges or other structures shall be used wherever an appreciable number of waterway crossings are necessary. Unless otherwise accepted in writing by the Authority's Project Manager, mechanized equipment shall not be operated in live waterways.

All waterways shall be cleared as soon as practicable of falsework, piling, debris, or other obstructions placed during construction operations and which are not a part of the finished Work.

Ditches which are filled, or partly inoperative, shall be cleaned and made operative before the Design-Builder stops Work for any day, and shall be maintained in a condition satisfactory to the Authority's Project Manager for the duration of the Contract.

Equipment refueling and maintenance and concrete dumping in the vicinity of water courses is strictly prohibited. These activities shall be performed in proper containment areas. Pollutants such as fuels, lubricants, bitumens, raw sewage, and other harmful materials shall not be discharged into or near waterways and impoundments or into natural or manmade channels leading to them.

The Design-Builder is responsible for compliance with applicable Clean Water Act permits and regulations, all applicable regulations of fish and wildlife agencies, and statutes relating to the prevention and abatement of pollution.

No payment will be made for any labor, material, or equipment needed for water pollution abatement as described above.

When it becomes necessary, the Authority's Project Manager will inform the Design-Builder of unsatisfactory construction procedures and operations insofar as water pollution abatement is concerned. If the unsatisfactory construction procedures and operations are not corrected promptly, the Authority's Project Manager may suspend the performance of any or all of other construction until the unsatisfactory condition has been corrected.

DB 107-11.2 Protection of Streams, Lakes, and Reservoirs and the NPDES

The Design-Builder shall be responsible for obtaining and complying with the requirements of NPDES and SPDES permits. In carrying out Work along or adjacent to live streams, the Design-Builder shall comply with the regulations and requirements of the relevant regulatory authorities and in accordance with the Contract Documents.

DB 107-12 AIR QUALITY AND DUST ABATEMENT

The Design-Builder shall schedule and conduct activities to minimize impacts to air quality and to prevent hazardous or objectionable air quality conditions within the Project Limits and in areas adjacent to or affected by the Work. The Authority's Project Manager will suspend the performance of any construction activity that creates hazardous or objectionable air quality conditions until the unsatisfactory condition has been corrected.

- A) Dust: The Design-Builder shall apply pro-active measures to prevent discharge of dust into the atmosphere that unreasonably interferes with the comfortable enjoyment of life and property or is harmful to plants or animals.
- B) Burning: Any material generated by any activity for the development, modification, and construction of any transportation facility shall not be burned on the Project Site. This shall include products of land clearing and demolition.
- C) Prevention: The Design-Builder shall employ appropriate protection techniques and/or systems to prevent hazardous or objectionable air quality conditions, particularly when conducting drilling, cutting, grinding, abrasive blasting, or similar operations that impact air quality.

DB 107-13 NOISE ABATEMENT

In urban or populated rural areas where quiet conditions normally prevail, no equipment that emits noise above 70 db measured at an offset distance of 50 feet, if the work is on land, and at the nearest point of the shoreline, if the work is in the water, shall be operated during nighttime hours unless such Work is otherwise specified in the Contract Documents. The Authority's Project Manager may authorize nighttime Work under special circumstances or emergency conditions.

DB 107-14 CONSTRUCTION AND DEMOLITION DEBRIS (NOT APPLICABLE IN NASSAU AND SUFFOLK COUNTIES)

The New York State Authority of Environmental Conservation regulates solid waste management facilities under 6 NYCRR 360-1. Its various subparts define solid waste, including construction and demolition debris, and regulate the disposal of those wastes.

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In accordance with 6 NYCRR 360-7, the disposal of the below specified construction and demolition wastes in landfills outside of Nassau and Suffolk Counties is exempt from regulation under 6 NYCRR 360-1. If operations are undertaken only between the hours of sunrise and sunset, and no fee or other form of consideration is required for the privilege of using the facility for disposal purposes, the following are exempt from regulation:

- A) A site at which only recognizable uncontaminated concrete, asphalt pavement, brick, soil, or stone is placed; or
- B) A landfill for the disposal of trees, stumps, wood chips, and yard waste when the generation and disposal of such waste occur on property, or properties, under the same ownership and control.

The wastes listed above are considered to be uncontaminated when they have not come in contact with a Hazardous Waste, industrial waste, or petroleum product through a spill or other occurrence. Wastes may be presumed uncontaminated absent records, existing data, or knowledge or observation to the contrary. The term soil specifically includes uncontaminated soil material generated by the cleaning of ditches, drainage, culverts, storm sewers, catch basins, and related appurtenances and sweeping streets. Reinforcing steel embedded in concrete is considered an incidental metal and is included within the definition of concrete.

Exempt wastes, as noted above, which have been generated on the Project Site by the Work under this Contract may be buried on the Project Site on property owned by the Authority in accordance with the requirements of Standard Specifications §203-3.08, Disposal of Surplus Excavated Materials or Standard Specifications §203-3.10, Embankments, and DB §107-21.2. Exempt waste shall not be pulverized, shredded, or otherwise processed such that the individual waste components are rendered unrecognizable. Vegetative wastes shall be segregated from other exempt wastes when buried. All on-site disposal shall be subject to the Authority's Project Manager's approval of location, final condition, and appearance.

Payment for the proper disposal of waste generated by the Work under this Contract is included in the appropriate Price Items. The absence or unavailability of disposal sites on the Project shall not be the basis of a claim for extra compensation by the Design-Builder for the necessary and appropriate off-site disposal of exempt wastes.

Disposal of all construction and demolition debris other than the exempt wastes listed above shall occur off-site at a disposal facility authorized to accept such waste for disposal pursuant to 6 NYCRR 360. Off-site disposal of exempt wastes shall be carried out in accordance with 6 NYCRR 360.

Nothing herein is intended to prevent the Design-Builder from removing material to off-site locations for speculative accumulation, beneficial use, recovery, or recycling purposes if such activities are consistent with all applicable federal, State, and local laws and regulations.

DB 107-15 CONSTRUCTION, EXCAVATION, AND DEMOLITION CONTRACTS AT OR NEAR UNDERGROUND FACILITIES

All costs associated with verification of the location of underground facilities pursuant to 16 NYCRR 753, as amended, are included in the Contract Price. The Design-Builder shall provide access to Public Service Commission personnel to examine and inspect excavation and demolition methods used within 15 feet in any direction of any underground facility.

- A) The Design-Builder shall provide to the Authority's Project Manager, in writing, the information provided to the One-Call notification system, or the utility if it is not a One-Call notification system member, and the control number issued for each call placed to request designation of underground facilities. The Design-Builder shall protect and preserve designations until no longer required for safe Work near the underground facility.
- B) The Design-Builder shall identify and provide to all Work Site supervisors and equipment operators a list of emergency telephone numbers for each utility having facilities within the Project Limits. Supervisors shall periodically review the location of underground facilities with all workers who are subject to exposure, including new employees. If the Design-Builder fails to notify the One-Call notification system or a non-member utility prior to excavation or activity listed above, a stop work order will be issued in accordance with the provisions of DB §109-15.2. Prior to lifting the stop work order, the Authority will consider convening a show cause meeting, at its convenience, to consider worker dismissal in accordance with DB §102-3 or Contract termination in accordance with *Agreement, Article 12 – Right To Suspend Work and Cancel Contract*, and DB §105-7.
- C) Verification: Pursuant to 16 NYCRR 753, the Design-Builder shall verify precise location, size, depth, and direction of run of an underground facility or its encasement, by hand shovel or vacuum excavation, prior to the use of powered equipment or the installation of any proposed Work, including the projected line of a trenchless installation such as boring or drilling, within the tolerance zone. Powered equipment may be used to remove pavement or masonry within the tolerance zone, but only to the depth of such pavement or masonry. Powered equipment shall not be used within 4 inches of the verified location of an underground facility.
- D) Contact or Damage: Pursuant to 16 NYCRR 753, the Design-Builder shall, in the event of contact or damage to an underground facility, immediately notify the utility and the Authority's Project Manager, suspend excavation or demolition in the immediate vicinity of the contacted or damaged facility, and take such emergency actions as are warranted to protect all endangered persons to the best of its ability.
- E) Pressure Pipes: Pressure pipes shall not be pressurized without being adequately restrained against movement and no personnel shall be allowed in a trench or area containing a pressure pipe during initial pressurization until the pipe has been fully pressurized. Particular attention shall be paid to fittings and bends that create a thrust, which, if improperly restrained, may cause the pipe joints to separate and injure nearby personnel.

DB 107-16 HAZARDOUS MATERIAL REPORTING AND CLEAN-UP OF SPILLS

The Design-Builder shall be responsible for reporting and cleaning up spills associated with construction of the Project, and shall report and respond to spills of Hazardous Materials such as gasoline, diesel fuel, motor oils, solvents, chemicals, toxic and corrosive substances, and other material that are a threat to public health or the environment. The Design-Builder shall be responsible for reporting past spills encountered during construction and current spills not associated with construction. Reports shall be made immediately to the Authority's Project Manager if on State ROW or to the property owner if outside of State ROW. Unreported spills identified after construction and associated with construction of the Project shall be cleaned up

by the Design-Builder. Failure to report or respond to a spill shall result in the Design-Builder bearing the full cost of remediation of clean-up of such unreported spills.

The Authority shall be responsible for any costs and expenses due to Critical Path delays directly attributable to any new discovery of Hazardous Materials that are of a type, quantity or location that differs materially from the types, quantities or locations of Hazardous Materials identified in the RFP or the Contract Documents as potentially present at the Site and that the Design-Builder is not otherwise responsible for as provided in DB § 104-4.3 and this DB §107-16. The Design-Builder is responsible for all costs and expenses, including costs and expenses due to Critical Path delays, for any release or threatened release of Hazardous Material (i) which was brought onto the Site by the Design-Builder or Subcontractors, or (ii) which was negligently removed or handled by the Design-Builder or Subcontractors, regardless of the source, origin or method of deposit of such Hazardous Materials. Except with respect to Hazardous Materials as described in the preceding sentence, the Design-Builder shall not be required to execute any hazardous waste manifests as a “generator,” and Hazardous Materials encountered in the performance of the Work shall be disposed of, if at all, utilizing an EPA identification number or other appropriate legal device obtained by, and carried in the name of, the Authority or another Person designated by the Authority.

DB 107-17 PRIME COAT, TACK COAT, AND SOIL STERILANTS

Application of prime coat, tack coat, and soil sterilants in roadway surfacing must avoid soils outside the roadway prism. Contamination must be carefully avoided in irrigation supplies, wetlands, water impoundments, and live streams.

DB 107-18 STATE AND FEDERAL LAND-MANAGING AGENCIES

In carrying out Work within or adjacent to State or federal lands and forests, the Design-Builder shall comply with all regulations of the State or federal authority having jurisdiction governing the protection of these areas, and shall observe all sanitary laws and regulations. The Design-Builder shall keep the areas in an orderly condition, dispose of all refuse, and obtain permits for the construction and maintenance of all construction camps, stores, warehouses, residences, latrines, cesspools, septic tanks, and other structures in accordance with the requirements of the applicable federal or State regulations.

DB 107-19 PREVENTION OF FOREST AND GRASS FIRES

The Design-Builder shall take all responsible precautions to prevent and suppress forest and grass fires and shall require all employees and Subcontractors, both independently and at the request of the appropriate officials, to perform all actions reasonably within their power to prevent and suppress and to assist in preventing and suppressing forest fires and to make every possible effort to notify a forest official at the earliest possible moment of the location and extent of any fire seen by them. The Design-Builder shall take the necessary steps to prevent and control fires in areas where severe fire hazards exist and, when required in the Contract, furnish and maintain firefighting equipment and tools as required by the agency having jurisdiction. The Design-Builder shall comply with fire regulations applicable to the area where the Design-Builder is working and shall suspend fire-hazardous operations when necessary, at the direction of the Authority's Project Manager and pursuant to DB §109-15.2.

DB 107-20 MINIMIZATION OF SOIL DISTURBANCE

The Design-Builder shall ensure that damage to, or removal of, vegetation and trees shall be kept to a minimum and that no extraneous clearing, grubbing, land disturbance, or excavations shall take place. The Design-Builder shall bear the full cost of vegetation remediation necessary due to the Design-Builder's action.

DB 107-21 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE

The Design-Builder shall be responsible for the preservation of all public and private property. The Design-Builder shall protect carefully from disturbance or damage all land, governmental survey monuments, and property markers until the Authority's Project Manager has witnessed or otherwise referenced their location, and the Design-Builder shall not remove any monuments or markers until so directed.

The Design-Builder shall be responsible for all damage or injury to property of any character during the prosecution of the Work resulting from any act, omission, neglect, or misconduct in the Design-Builder's manner or method of executing the Work, or at any time due to defective Work or material, and said responsibility will not be released until Project Completion, except as otherwise specified in DB §105-12 with respect to the maintenance responsibilities described therein, DB §108-9 with respect to official shutdown periods and DB §109-11.1 with respect to partial acceptance of units or portions of the Project prior to Project Completion. When or where direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work or in consequence of the non-execution thereof by the Design-Builder, the Design-Builder shall restore, at its own expense, such property to a condition similar or equal to that existing before such damage or injury was done by repairing, rebuilding, or otherwise restoring as may be directed, or the Design-Builder shall correct or compensate for such damage or injury in an acceptable manner.

DB 107-21.1 Restoration of Disturbed Areas Outside the ROW

All areas outside of the ROW, except as noted in the following text, disturbed, used by, or serving as a source of material for the Design-Builder shall be restored to a pleasing and acceptable condition as specified and as satisfactory to the Authority's Project Manager. The Design-Builder shall obtain the written acceptance of the Authority's Project Manager for the use of any specific area before any Work in such area is begun, except as noted in the following text. Where deemed necessary by the Authority's Project Manager, the Design-Builder shall submit, as part of the request for acceptance, a grading plan showing the proposed final grading of the area. Acceptance shall not be given if, in the opinion of the Authority's Project Manager, the area is not suited to acceptable restoration or if serious or permanent ecological damage is foreseeable. This requirement applies to areas such as, but not limited to, borrow pits or areas, spoil or waste areas, haul roads, storage areas, batching areas, equipment storage areas, shop areas, and all similar areas. This does not apply to areas which have been or are being used by the Design-Builder as its established and permanent headquarters and equipment pool sites or to commercial borrow sources, commercial gravel pits, commercial quarries, public disposal areas, and all similar areas.

In accordance with the New York State Mined Land Reclamation Law (Article 23, Title 27 of the New York State Environmental Conservation Law) all borrow pits and aggregate sources outside of the ROW, where more than 1,000 tons or 750 cubic yards, whichever is less, of minerals are removed from the earth within any 12 successive calendar months, require mining

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permits obtained from the NYS Authority of Environmental Conservation. When such permit is required, the Design-Builder, in addition to complying with all restoration requirements for all areas as stated below, may be required by the Authority's Project Manager to meet any standard contained in the New York State Mined Land Reclamation Rules and Regulations (6 NYCRR 420 et seq.). In general, the restoration shall include the following:

- A) The removal of all equipment and parts, junk, rubbish, excess material, and debris of all kind;
- B) Clean-up as required; grading as shown, if a grading Plan has been prepared; or grading so as to blend into the surrounding ground forms to the satisfaction of the Authority's Project Manager;
- C) Scarification of storage yards, batching sites, and haul roads to the depth determined by the Authority's Project Manager as necessary to support vegetation;
- D) The removal and re-grading of temporary roads or areas as required by the Authority's Project Manager;
- E) The repair or removal of damaged trees and the fertilizing, seeding, and mulching of the areas as provided for in the Contract or as directed by the Authority's Project Manager; and
- F) Grading the slopes of excavated areas to a stable condition, but in no case shall earth cut faces be left steeper than one vertical on one and one-half horizontal. All rock cut slopes shall be scaled to remove any loose or unstable rock.

Areas within sight of the finished highway or any other highway will require particular attention insofar as the above features are concerned. It is the intent to have all such areas present a pleasing appearance to travelers on any highway.

Where borrow pits result in the formation of ponds or low areas intermittently filled with water, the Design-Builder shall furnish the Authority's Project Manager with a copy of its agreement with the landowner permitting the use of such areas. If such an area is within sight of any highway, the Authority's Project Manager's written acceptance must be obtained prior to the removal of any borrow from such a location. If such acceptance is not granted, material for use under this Contract or for any other Authority contract may not be removed from the area. In the event the Design-Builder removes material from such an area without the written acceptance of the Authority's Project Manager, payment will not be made for any item of Work in which the material has been used. Grading Plans may be required for such areas and due consideration given to the appearance of the areas if they are visible from any highway. All of this restoration shall be accomplished as a condition to Project Completion, except that the Work of restoring the Design-Builder's work areas (storage, batching, equipment, and shop areas) may be done after Final Acceptance.

In the event the Design-Builder carries on any operation on the referenced areas without written acceptance of the Authority's Project Manager, no payment need be made for any item in the Contract involved in any way with any operation on the unaccepted area, at the sole and final discretion of the Authority's Project Manager.

DB 107-21.2 Restoration of Disturbed Areas Within the ROW

All disturbed areas within the ROW but outside of the Work limits shall be restored to a pleasing and acceptable condition as specified and as satisfactory to the Authority's Project Manager. For the purposes of this Section, the Work limits shall include the road section plus a reasonable work area at top of cut and toe of fill as determined by the Authority's Project Manager. Disturbed earth areas within the Work limits shall be graded in a manner approved by the Authority's Project Manager and seeded as specified for standard turf establishment.

The Design-Builder shall obtain the written permission of the Authority's Project Manager before beginning the use of any area within the ROW but outside the Work limits as noted in the preceding paragraph through modification of the contract limits by Order on Contract or the issuance of a highway work permit. Where deemed necessary by the Authority's Project Manager, the Design-Builder shall submit, as part of the request for permission, a grading Plan showing the proposed final grading of the area. If, in the opinion of the Authority's Project Manager, the area is not adaptable to acceptable restoration or if serious or permanent environmental damage is foreseeable, permission shall not be given. This DB §107-21.2 applies to areas such as, but not limited to, borrow pits or areas, spoil or waste areas, haul roads, storage areas, batching areas, water points, equipment storage areas, shop areas, and similar areas. In general, the restoration shall include the following:

- A) The removal of all equipment and parts, junk, rubbish, excess material, and debris of all kind;
- B) Clean up as required; grading as shown, if a grading Plan has been prepared; or grading so as to blend into the surrounding ground forms to the satisfaction of the Authority's Project Manager;
- C) Scarification of storage yards, batching sites, and haul roads to the depth of the compaction as determined by the Authority's Project Manager;
- D) The removal of pavement or granular surfacing from temporary roads or areas as required by the Authority's Project Manager; and
- E) The repair or removal of damaged trees and the fertilizing, turf establishment, and mulching of the areas as provided for in the Contract or as directed by the Authority's Project Manager.

Areas within sight of the finished highway or any other highway will require particular attention insofar as the above features are concerned. It is the intent to have all such areas present a pleasing appearance to travelers on any highway.

All of this restoration shall be accomplished as a condition to Project Completion

Design-builder shall be responsible for all costs of restoration of disturbed areas which extend beyond the Work limits.

Any damage to delineators, milemarkers, and safety appurtenances to remain caused by the Design-Builder's operations shall be repaired or the item replaced at no expense to the Authority. Any delineators, milemarkers or safety appurtenances which have been moved to facilitate any operation shall be reset in their original location.

DB 107-22 ACQUISITION AND CONVEYANCE OF REAL PROPERTY

DB 107-22.1 Right of Way

In the event that the Authority has identified property to be used for the Project, the boundaries of said property will be depicted in the Contract Documents. The Authority will acquire ROW, including easements and other property rights, in accordance with the ROW Acquisition Schedule. The Authority will staff a ROW team that will be available to acquire ROW and deal with all ROW issues that may arise. Upon issuance of the Environmental Approvals and authorization from the appropriate State and federal agencies, the Authority will begin acquisition of ROW, including easements and other property rights, based on approved maps.

The Design-Builder shall have access to properties as shown in the ROW Acquisition Schedule once a notice of availability is issued unless otherwise agreed to in writing between the Design-Builder and the Authority.

The Design-Builder shall not negotiate with any owner(s) to obtain early possession of property within the limits of any parcels scheduled for acquisition by the Authority or intended to be used for permanent improvements. If the Design-Builder intends to request the Authority to acquire such parcel, the Design-Builder shall not negotiate with the owner(s) of such interests.

- A) The Design-Builder shall cooperate with the Authority in the completion of Project design and identification of final ROW requirements and construction impacts. It is expected that the Design-Builder will identify any additional ROW needs no later than the Definitive Design Review for any affected Project component.
- B) The Design-Builder shall coordinate with the Authority regarding any design features that may impact properties, even though no property acquisition is contemplated. The intent is to avoid damages to properties not previously identified and addressed.

DB 107-22.2 Authority's Responsibilities

In addition to Authority's responsibilities identified in DB §107-22.1, the Authority will keep a current status record of ROW acquisitions on updates to the ROW Acquisition Schedule.

DB 107-22.3 ROW Coordination

Within 30 days of NTP, the Design-Builder will meet with the Authority to discuss the following:

- A) Identification and evaluation of the status of all required ROW parcels (title certification, vested, paid or deposit made, relocation complete, availability) and
- B) The Design-Builder's preferred priorities for acquisition of outstanding ROW which the Authority may accommodate as feasible.

Subsequent status updates will be provided via the Authority's Acquisition and Clearance Status Report. The Design-Builder shall not enter onto parcels until the Authority has issued a notice of availability for each parcel.

DB 107-22.4 Change in Project Design

If, after the Contract award, the Design-Builder identifies additional parcels to be acquired and/or modifications to the ROW Limits (fee takings, easements, or other property rights), the Design-Builder shall provide justification of the need for additional ROW, indicate the limits of affected parcels, and request the Authority to prepare new or revised surveys, legal descriptions, and ROW maps. The Authority will review the request, determine whether the proposed acquisition is appropriate and necessary, and notify the Design-Builder regarding the minimum time required to complete the acquisition.

If the Authority determines that the acquisition is appropriate and required for the Project, the Authority will acquire the ROW in accordance with Authority's procedures, subject to the conditions specified in this DB §107-22 regarding allocation of time and cost responsibilities.

DB 107-22.5 Delay in Acquisition

The Design-Builder shall meet with the Authority to review ROW acquisition status at progress meetings. The Authority will notify the Design-Builder of any anticipated delay in acquisitions to enable the Design-Builder to undertake appropriate efforts to reschedule its activities to accommodate the delay and reduce impacts to schedule and cost. In the event that the Design-Builder determines that the Critical Path may be affected, the Design-Builder shall notify the Authority immediately, and in no event later than 24 hours after making such determination, and shall coordinate with the Authority to ascertain the best course of action to avoid such delay through alternative design or construction methods or revisions to the Design-Builder's Baseline Progress Schedule or ROW Acquisition Schedule.

If properties are not available by the dates shown in the ROW Acquisition Schedule, the Design-Builder shall exercise good faith efforts to work around any delay and to minimize any time or cost impacts associated with changes in the ROW Acquisition Schedule, provided that the Design-Builder shall consult with Authority regarding its workaround plans, and shall in no event take any actions that might jeopardize the safety of the property owners or restrict access to the properties. If Authority fails to provide access by the scheduled dates through no fault of the Design-Builder, delaying the Critical Path, the Design-Builder may be entitled to delay damages for the schedule delay to the extent provided in DB §109-15.1.

DB 107-22.6 Precedence of ROW Acquisition Schedule

The Baseline Progress Schedule and the design of the Project furnished by the Design-Builder shall not require the Authority to acquire any real property except in accordance with the ROW Acquisition Schedule or as agreed by the Authority and the Design-Builder.

DB 107-22.7 ROW within Federal or State Lands

Deviations from planned ROW may be allowed within federal government land boundaries. However, acquisition of additional ROW from federal agencies generally requires considerably more time than a private property acquisition.

The Design-Builder is responsible for constructing features, such as fencing and drainage, required by State and federal land management agencies.

DB 107-22.8 Encroachments

The Authority will aggressively pursue removal of any encroachments located within the existing ROW on or before issuance of Notice to Proceed.

The Design-Builder shall notify the Authority of any encroachments that are in the way of construction upon their discovery.

Upon written notification by the Authority, the Design-Builder will remove any encroachments that are in the way of construction in accordance with the Authority's rules, regulations, and procedures.

If the Design-Builder is required to remove encroachments that are not identified in the Contract Documents, such Work will be considered Extra Work under DB §104-3, and the Design-Builder may be entitled to additional compensation and/or time.

DB 107-22.9 Temporary Property Interests

The Design-Builder shall be solely responsible for acquisition of any temporary interests in property outside of the ROW Limits. Temporary interests may include rights to use property required for borrow pits, staging areas and storage, as well as any property outside the ROW Limits needed for any temporary facilities being constructed by the Design-Builder. The Design-Builder shall pay the purchase price for all such property interests directly.

The Authority shall have no obligation to acquire temporary interests in property, but may, in its sole discretion, agree to do so following receipt of request from the Design-Builder. If the Authority agrees to undertake any such acquisition, any delay beyond the anticipated time for acquisition shall not be considered grounds for an equitable adjustment except to the extent that the delay was directly attributable to actions taken by the Authority, or its failure to act in a timely manner.

The Design-Builder shall promptly notify the Authority of all temporary interests in property that they or any of their Subcontractors acquire in the vicinity of the Project.

DB 107-22.10 [Reserved]

DB 107-23 PERSONAL LIABILITY OF PUBLIC OFFICIALS

In carrying out the provisions of the Contract Documents or in exercising powers or authority granted to them by or within the scope of this Contract, there shall be no liability upon the Authority, the Authority's Project Manager, or any of their authorized representatives, either personally or as officials of the Authority, it being understood that in such matters they act solely as agents and representatives of the Authority.

DB 107-24 NO THIRD-PARTY LIABILITY

It is specifically agreed between the parties executing this Contract that it is not intended by the provisions of the Contract to make anyone a third-party beneficiary of the Contract or to authorize anyone not a party to this Contract to maintain an action for damage pursuant to the terms or provisions of this Contract.

DB 107-25 [RESERVED]

DB 107-26 DAMAGE

Design-Builder shall have the charge and care of all aspects of the Project, and shall take every precaution against injury or damage to any part thereof by the action of the elements or from other causes, whether arising from the execution of or the non-execution of the Work at all times until Project Completion. The Design-Builder shall rebuild, repair, restore, and make good all injuries or damages to portions of the Work, occasioned by the above causes, before Project Completion to the extent required to prevent damage to the Work and third parties. The Design-Builder shall bear the expense thereof except as provided in DB §§104-3, 107-26.1, 107-26.2, 109-9 and 109-11.1.

DB 107-26.1 Damage by Public Traffic

Payment shall be made to the Design-Builder for repair or replacement of any permanent element of the highway which is completed to the stage of serving its intended function and is subsequently damaged by accident by public traffic. The Design-Builder must supply satisfactory evidence that such damage was caused by a public traffic accident and not by vandalism or by the Design-Builder's equipment. Satisfactory evidence shall generally be limited to the following: accident reports filed with the New York State Authority of Motor Vehicles, police agencies, or insurance companies; statements by reliable, unbiased eye witnesses; and identification of the vehicle involved in the accident. Physical evidence that the damage was caused by a motor vehicle (such as tire marks or broken headlight glass) will not be sufficient unless it can be shown that the damage was not caused by the Design-Builder's vehicles or by vandalism.

Repair or replacement Work caused by a public accident for which there is an identified Unit Price will be paid for at the Unit Price for that item. All other repair or replacement Work caused by a public accident will be paid for at an agreed price or by means of Force Account. Payment will not be made for repair or replacement Work in any way connected with untimely failure of any portion of the highway under public traffic. The determination regarding whether an untimely failure has occurred shall be made by the Authority's Project Manager, taking into consideration the normal life and the amount of normal wear of the element involved. This provision does not relieve the Design-Builder of the responsibility of WZTC for the Project or the responsibility of having a wholly complete and acceptable job at the time of Project Completion and Final Inspection of the entire Project. Payment for such damage shall be made only after the Design-Builder has demonstrated to the satisfaction of the Authority's Project Manager that it has made every reasonable effort to collect the costs from the person or persons responsible for damage.

The Design-Builder shall be responsible for damages resulting from faulty designs as shown by the Design Plans and Project Specifications.

DB 107-26.2 Delays and Damage by Occurrence

In the event that damage to the Work in progress is caused by an event which constitutes an "occurrence," as hereinafter defined, and to the extent that such damage has been determined by the Authority to be beyond that which may be anticipated from heavy storms, and also to the extent that such damage is not reimbursable by insurance carried by the Design-Builder, the Design-Builder may apply in writing to the Authority for the Authority to pay or participate in the

cost of repairing the damage to the Work from such cause or, in lieu thereof, and at the sole discretion of the Authority, terminate the Contract and relieve the Design-Builder of further obligation to perform the Work. "Occurrence" shall include only those floods, droughts, tidal waves, fires, hurricanes, earthquakes, windstorms or other storms, landslides, or other catastrophes when such occurrences or conditions and effects have been proclaimed a disaster or state of emergency by the President of the United States, the Governor of the State of New York, the Federal Highway Administrator, or the chief executive of a County or City, or acts of terrorism, nuclear events or ionizing radiation causing direct physical damage, unless such damage is caused by the Design-Builder's action or inaction or the Design-Builder's means and methods of construction.

DB 107-26.3 Application by Design-Builder

The Design-Builder's written request for the Authority to pay or participate in the cost of rebuilding, repairing, restoring, or otherwise remedying such damage that has been determined by the Authority to be beyond that which may be anticipated from heavy storms to the Work shall be submitted to and approved by the Authority's Project Manager before performing any Work other than emergency Work, including emergency Work necessary to provide for passage of public traffic.

DB 107-26.4 Prompt Response to Claim by the Public

The Design-Builder's responsibility for the Project site applies to the full limits of the contract regardless of the extent or nature of contract work at a particular location. This obligation begins when the contract is awarded and continues until Final Acceptance of the work. The Design-Builder shall promptly address all written damage claims of the public and, if not addressed directly, claims shall be promptly turned over to the Design-Builder's insurance carrier without prejudicing the validity of the claim. There should be an interval of no more than ten (10) working days between receipt of a written claim by the Design-Builder and receipt by the carrier. The Design-Builder and/or the Insurance Carrier are expected to investigate, determine and adjust such claims promptly and fairly with notice to the Project manager. The Project Manager will monitor claims by the public. If the Design-Builder fails to provide satisfactory resolution through a timely claims adjustment process or denies the claim without proper cause and justification, the Authority may invoke DB §108-8 or utilize other remedies.

DB 107-26.5 Maximum Loads

See DB §105-10 for information on construction equipment and maximum allowable loads.

DB 107-27 LIABILITY AND OBLIGATION TO INDEMNIFY

DB 107-27.1 Liability and Obligation to Indemnify by the Design-Builder

The Design-Builder shall be responsible for all damage to life and property due to negligent or otherwise tortious acts, errors or omissions of the Design-Builder in connection with its services under the Contract Documents. To the fullest extent permitted by law: (a) the Design-Builder shall indemnify, hold harmless, and release the Authority and/or the State of New York, any municipality in which the Work is being performed; and/or any public benefit corporation, railroad or public utility whose property or facilities are affected by the Work from suits, claims, actions, damages, and costs of every name and description resulting from negligent or otherwise tortuous acts, errors or omissions of the Design-Builder, or acts by the Design-Builder

which infringe intellectual property rights or trade secrets, made in connection with the Work under this Contract and until the Final Acceptance thereof; (b) with respect to personal injury or property damage occurring after Final Acceptance and not covered by the indemnity in clause 107-27.1(a), the Design-Builder shall indemnify, hold harmless, and release the Authority and/or the State of New York, any municipality in which the Work is being performed; and/or any public benefit corporation, railroad or public utility from suits, claims, actions, damages, and costs of every name and description resulting from negligent or otherwise tortious acts, errors or omissions of the Design-Builder in connection with its services under the Contract Documents; (c) the Design-Builder shall indemnify, hold harmless, and release the Authority's Inspector from suits, claims, actions, damages, and costs involving personal injury and property damage resulting from the Design-Builder's Work under the Contract during its prosecution and until the Final Acceptance thereof. The Authority may retain such monies from the amount due the Design-Builder as may be necessary to satisfy any claim for damages recovered against the Authority, any municipality in which the Work is being performed, any public benefit corporation, railroad, or public utility whose property or facilities are affected by the Work, or the Authority's Inspectors. The Design-Builder's obligation under this paragraph shall not be deemed waived by the failure of the Authority to retain the whole or any part of such monies due the Design-Builder, or where such suit, action, damages, and/or costs have not been resolved or determined prior to release of any monies to the Design-Builder under the Contract. Such obligation shall not be deemed limited or discharged by the enumeration or procurement of any insurance for liability for damages imposed by law upon the Design-Builder, Subcontractors, the Authority, the State, any municipality in which the Work is being performed, any public benefit corporation, railroad, or public utility whose property or facilities are affected by the Work, or any Authority consultants or contractors working relative to the Project.

The Design-Builder has the obligation, at its own expense, for the defense of any action or proceeding which may be brought against the parties specified in this Section. This obligation shall include the cost of attorney fees, disbursements, costs, and other expenses incurred in connection with such action or proceeding. The provisions of this section shall survive the expiration or termination of the Contract.

Without limiting the generality of the foregoing, Design-Builder's obligation to indemnify, save harmless and release the Persons identified in this DB §107-27.1 specifically includes any suits, claims, actions, damages, and costs of every name and description resulting from any spill or release or threatened spill or release of a Hazardous Material (i) attributable to the negligence, willful misconduct or breach of contract by Design-Builder, its Subcontractors or agents, or (ii) which was brought onto the Site by Design-Builder or any of its Subcontractors or agents.

Notwithstanding the foregoing, the Authority reserves the right to join such action, at its sole expense, when it determines there is an issue involving a significant public interest.

Such obligation does not extend to those suits, actions, damages, and costs of every name which arise out of the sole negligence of the Authority, the State of New York, any municipality in which the Work is being performed, any public benefit corporation, railroad, or public utility whose property or facilities are affected by the Work of the Project, or any Authority consultants or contractors working relative to the Project, their agents, or their employees.

DB 107-27.2 CERCLA Agreement

Without limiting their generality, the indemnities set forth in this DB §107-27 are intended to operate as agreements pursuant to Section 107(e) of the Comprehensive Environmental

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Response, Compensation and Liability Act, 42 U. S. C. Section 9607(e), to insure, protect, hold harmless and indemnify the indemnified parties identified herein.

DB 107-27.3 Insurance Requirements

Insurance terms, conditions, and requirements are set forth in Article 17 of Part 1 – DB Agreement, and apply to the project. The requirements set forth in Article 17 are based on Table 107-1, Insurance Requirements for Design-Build Contracts, below. In addition to the types of insurance shown in Table 107-1, the Design-Builder shall be required to maintain Workers Compensation and Disability Insurance, and Design-Builders Risks insurance, in accordance with Article 17.

TABLE 107-1 INSURANCE FOR DESIGN-BUILD CONTRACTS						
Insurance Type	Contract Value (Millions)					
	\$0-\$10	\$10-\$25	\$25-\$50	\$50-\$100	\$100-\$250	Over \$250
Commercial General Liability Insurance (CGLI)	\$1 million per occurrence; \$2 million aggregate	\$1.5 million per occurrence; \$3 million aggregate	\$2 million per occurrence; \$4 million aggregate	\$3 million per occurrence; \$6 million aggregate	\$5 million per occurrence; \$10 million aggregate	\$5 million per occurrence; \$10 million aggregate
Commercial Auto	\$1 million per accident	\$1 million per accident	\$1 million per accident	\$1 million per accident	\$1 million per accident	\$1 million per accident
Umbrella / Excess Liability	None required	None required	At least \$5 million when combined with the CGLI	At least \$10 million when combined with the CGLI	At least \$25 million when combined with the CGLI	At least \$50 million when combined with the CGLI
Special Protective & Highway Liability Policy	\$1 million per occurrence / aggregate	\$2 million per occurrence / aggregate	\$2 million per occurrence; \$4 million aggregate	\$3 million per occurrence; \$6 million aggregate	\$5 million per occurrence; \$10 million aggregate	\$5 million per occurrence; \$10 million aggregate
Professional Liability / Errors & Omissions¹	\$1 million per occurrence; \$1 million aggregate	\$2 million per occurrence; \$2 million aggregate	\$3 million per occurrence; \$3 million aggregate	\$4 million per occurrence; \$4 million aggregate	\$5 million per occurrence; \$5 million aggregate	\$10 million per occurrence; \$10 million aggregate
Railroad Protective²	\$1 million per occurrence / aggregate	\$1 million per occurrence; \$2 million aggregate	\$2 million per occurrence; \$4 million aggregate	\$2 million per occurrence; \$5 million aggregate	\$2 million per occurrence; \$6 million aggregate	\$2 million per occurrence; \$6 million aggregate
Builders' Risks (See Note 3)	Not Required	\$1 million (Deductible \$25,000)	\$2.5 million (Deductible \$50,000)	\$5 million (Deductible \$100,000)	\$10 million (Deductible \$200,000)	\$25 million (Deductible \$500,000)
Marine Protective	See note 3	See note 3	See note 3	See note 3	See note 3	See note 3
Pollution Legal Liability	See note 3	See note 3	See note 3	See note 3	See note 3	See note 3

Notes:

- 1) Professional Liability / Errors & Omissions: The amounts set forth in Table 107-1 are for projects where there is a notable design element, i.e. a difficult bridge, etc. The actual amounts required in Part 1, DB Agreement, Article 17, may be less.
- 2) Railroad Protective: RR Protective insurance should only apply when there is work around railroad facilities.
- 3) Builders' Risks; Marine Protective; Pollution Legal Liability:

None of these insurance types are required in standard contracts. One or more of these types may be included in Part 1, DB Agreement, Article 17, as deemed necessary by the Authority in accordance with the following guidelines.

- Builders' Risks insurance will be included if a notable structure, such as a bridge or a building, is included in the Project.
- Marine Protective Insurance will be included if there is to be construction from vessels, or there is a risk of damage to wharfs, bridges, vessels, etc.
- Pollution Legal Liability insurance will be included if there are considerable hazardous materials on site.

DB 107-28 NO WAIVER OF LEGAL RIGHTS

Final Acceptance shall not preclude or prevent the Authority from correcting any measurement, estimate, certificate, or price reduction made before or after completion of the Work, nor shall the Authority be precluded or prevented from recovering from the Design-Builder, its Surety, or both such overpayment as it may sustain. A waiver on the part of the Authority of a breach of the Contract shall not be held to be a waiver of any other or subsequent breach.

The Design-Builder, without prejudice to the terms of the Contract, shall be liable to the Authority for latent defects, fraud, or such gross mistakes as may amount to fraud.

DB 107-29 COMMENCEMENT OF ACTION ON STATE PUBLIC WORKS CONTRACTS

The time within which an action under this Contract against the Design-Builder must be commenced shall be computed from the date on which Project Completion is achieved, as determined in accordance with the procedure set forth in DB §109-11.3; provided that the time for an action relating to the Design-Builder's post-completion obligations shall be computed from the end of the warranty period specified in DB §104-15.

DB 107-30 THE DESIGN-BUILDER'S RESPONSIBILITY FOR THE TRAVELING PUBLIC

The Design-Builder shall conduct Work within the construction zone so that there will be minimal hazard to anyone transiting the Work Site on the open lanes of travel. To keep hazards to a minimum, the Design-Builder shall keep equipment, material, and workers from intruding into the travel lanes, remove any hazardous construction debris deposited on those lanes on a continuous and regular basis, inspect and repair the travel lanes, and remove obstacles deposited by the public as they transit the Work Site.

Notification that a hazard to the public exists may be received through the Design-Builder's Inspections, from the Authority's employees, or the public, among other means. The Design-Builder has a duty to monitor all Work sites for hazards to the public. In any case, corrective action shall be taken to remedy the hazard within a reasonable time after notification is received. The Design-Builder shall have a contact number answerable on a 24 hour basis so that action can be initiated quickly when hazards are identified.

All claims from the public for losses that are alleged to have occurred within the construction zone shall be handled by the Design-Builder, even though a Subcontractor may have introduced the hazard that caused the damage. The Design-Builder shall designate, before the Work commences, the individuals who will be responsible for response to third party claims. The individuals shall provide claimants with a written outline of the Design-Builder's claims procedure, along with a written copy of the Design-Builder's name, address, and telephone number and the name and title of the Design-Builder's individual assigned to damage claim response. The Design-Builder shall maintain a status report of all claims filed and the status of such claims. This report shall contain, at a minimum, the name, address, and telephone number of the claimant; the nature of the claim; pertinent findings regarding the claim; and a statement regarding the resolution of the claim. This report shall be available to the Authority's Project Manager upon request.

The Design-Builder shall establish a local contact number for the purpose of filing claims and post that telephone number conspicuously so that claimants can contact the right person quickly. In addition, the Design-Builder's name, address, and telephone number shall be posted at each approach to the construction zone. All construction vehicles (whether Design-Builder, Subcontractor, or privately owned) working at the construction zone shall have clean and unobstructed license plates and be marked legibly with the appropriate company name.

There should be an interval of no more than 10 work days between receipt of a written claim by the Design-Builder and receipt by the carrier. The Design-Builder and/or the insurance carrier are expected to investigate, determine and adjust such claims promptly and fairly with notice to the Authority's Project Manager. The Authority's Project Manager will monitor claims by the public. If the Design-Builder fails to provide satisfactory resolution through a timely claims adjustment process or denies the claim without proper cause and justification, the Authority may invoke DB §109-5.4, *No Periodic Payment on Design-Builder's Non-Compliance*, or may utilize other remedies.

DB 107-31 RELEASE TO PERFORM CONTRACT WORK ON PRIVATE LAND

DB 107-31.1 Use of Adjacent Land for Contract Work.

The Design-Builder shall not enter upon any parcel until the Authority has the legal, physical possession and payment has been made or deposited as stated in DB §107-22 Acquisition and Conveyance of Real Property. Releases may be used for Work outside of the existing right-of-way that minimizes the construction impacts of the Project on a property owner and is not essential for the construction of the Project. Work performed under a release may include: plantings; unsound and hazardous tree removal; minor grading; and reconnection of private driveways, walkways and utilities.

The Authority will secure all releases prior to the Design-Builder performing Work on private parcels. The Design-Builder may not secure releases for the Work. If a release is not obtained,

the Design-Builder shall not enter upon the parcel and the Work will be removed from the Contract.

Any damage resulting from the Design-Builder's Work on private property shall be satisfactorily repaired or items replaced at the Design-Builder's expense.

The Authority's Project Manager will coordinate with the property owner to determine the disposition of removed trees in accordance with applicable Governmental Rules.

DB 107-31.2 Use of Adjacent Land for Design-Builder Staging, Access and Office Space

A release letter is not used for property rights outside of the ROW Limits acquired by the Design-Builder (e.g., rental of property for equipment staging, office space or material storage). The Design-Builder is responsible to the landowner and the Design-Builder shall acquire the property rights, etc. prior to entering private land.

DB SECTION 108 PROSECUTION AND PROGRESS

DB 108-1 START AND PROGRESS OF WORK

DB 108-1.1 Progress Schedule

The Design-Builder shall provide and maintain a progress schedule using Oracle/Primavera scheduling software hosted on Authority network servers. This progress schedule shall be prepared using the critical-path method (CPM) and based on the principles in the latest edition of the Construction Planning and Scheduling Manual published by the Associated General Contractors of America, except where superseded by the Contract Documents. The Design-Builder and the Authority shall use this schedule to manage the Work, including the activities of Subcontractors, fabricators, the Authority, other involved Governmental Persons, other entities such as utilities and municipalities, and all other relevant parties.

Acceptance of a Progress Schedule by the Authority's Project Manager shall not be construed to imply approval of any particular method or sequence of construction or to relieve the Design-Builder of providing sufficient materials, equipment, and labor to guarantee completion of the Project in accordance with the Contract. Acceptance shall not be construed to modify or amend the agreement or the date(s) of completion therein.

Failure by the Design-Builder to include in the Progress Schedule any element of Work required for the performance of the Contract shall not excuse the Design-Builder from completing all Work required within the completion date(s) specified in the Contract, notwithstanding acceptance of the schedule by the Authority's Project Manager.

Float contained in the Progress Schedule is not for the exclusive use and benefit of either the Authority or the Design-Builder.

Events, actions, and progress that cause delays or gains to the Progress Schedule will be analyzed solely by the "Contemporaneous Period Analysis" method.

In developing the schedule, with respect to any submittals requiring a response from the Authority for which the Contract Documents do not specify a time for the Authority's response, the Design-Builder shall include a reasonable time for the Authority to provide a response.

All costs related to developing, updating, revising and submitting the Progress Schedule shall be solely the Design-Builder's obligation and will be at no additional cost to the Authority unless specifically provided for in other Contract provisions.

The purpose of the Progress Schedule is to ensure adequate design, planning and execution of the Work and to evaluate the progress of the Work.

DB 108-1.2 Compliance with the Schedule

The Design-Builder shall provide sufficient resources and prosecute the Work with such diligence as to ensure completion of the Project within the Contract Time. Any additional or unanticipated costs required to meet the schedule shall be solely the Design-Builder's obligation, unless addressed in other provisions of the Contract.

DB 108-1.2.1 Progress Schedule Submittals

The Design-Builder shall submit the Progress Schedule Submittals in accordance with Special Provision SP-3, including:

- A. Baseline Progress Schedule
- B. Final Baseline Progress Schedule
- C. Monthly, Bi-Weekly, or Weekly Progress Schedule
- D. As-Built Progress Schedule

In addition, the Design-Builder shall submit regularly Look-Ahead Schedules to Authority's Project Manager in accordance with Special Provision SP-3.

DB 108-1.2.2 Review of the Progress Schedule

The Authority's Project Manager will review the Progress Schedule submissions and then hold a discussion meeting with the Design-Builder after each submission. The Authority will endeavor to provide review comments within ten days for a Baseline Progress Schedule submission and five days for a regular Progress Schedule submission. Within two weeks of this meeting, the Design-Builder shall adjust the Progress Schedule to resolve any issues noted by the Authority's Project Manager. The Design-Builder shall submit for review the revised schedule materials as described above.

Upon completion of the final review by the Authority's Project Manager, the Design-Builder shall incorporate the final revisions and submit the Progress Schedule within one week of the Design-Builder's receipt of the Authority's comments.

Changes to the Progress Schedule: The Progress Schedule shall accurately reflect the manner in which the Design-Builder intends to proceed with the Project and shall incorporate the impact of delays and Orders on Contract when these factors can be accurately determined. All changes to the schedule, e.g., the addition of activities, changes in logic, or changes in activity durations, shall be identified in the monthly narrative report for review by the Authority's Project Manager.

DB 108-1.2.3 Progress Schedule Updates

The Design-Builder shall update the Progress Schedule, at a minimum, on a weekly basis. Each update shall show changes to the Progress Schedule that reflect the status of activities that have commenced or have been completed, including the following items: (a) Actual Start date and or Actual Finish date as appropriate; (b) Remaining Duration for activities commenced and not complete; and (c) Suspend or Resume dates for activities commenced and not complete.

The updated schedule data shall be submitted to the Authority's Project Manager electronically and on printed charts in the format specified by the Authority's Project Manager, along with a narrative report per DB §108-1.3.1.

The Authority's Project Manager will discuss schedule submissions and updates at the regularly scheduled progress meetings (see DB § 105). The Design-Builder's appropriate design, construction, and scheduling personnel shall attend.

DB 108-1.2.4 Progress Schedule Narrative

The Design-Builder shall submit, with each Progress Schedule submission, a Progress Schedule Narrative in Microsoft Word, or Adobe Acrobat format. The Progress Schedule Narrative shall summarize the following information, at a minimum:

- A) The contract D number, project name, project location, and name of the Design-Builder.
- B) Actual contract Award Date, current contract Completion Date, and scheduled completion of all project work.
- C) Any contract Interim Milestone dates (I/D, B-Clock, LD, etc), and scheduled Start and Finish dates for those Milestone activities.
- D) A list of all activities on the Critical Path (include Activity ID's and Activity Descriptions) where work is currently being delayed, and for each such activity provide detailed information including:
 - the events that caused the delay.
 - the party(s) responsible for the delay event(s).
 - the number of days the activity has been delayed (negative float).
 - the activities in the construction schedule affected by the events.
 - the reasonable steps needed to minimize the impact of the delay, and which party needs to take the action(s).
- E) A list of any other problems experienced during this Progress Schedule submission period, the party responsible for the problems, and the Design-Builder's intentions to resolve the problems.
- F) A list of all activities for procurement of long lead time materials that are behind schedule and the reason(s) why.
- G) For major work items describe the differences between the actual work performed and the work planned for the period as represented in the preceding Progress Schedule submission, including explanations for the deviations.
- H) For all suspended work activities that could otherwise logically be progressed, identify the responsible party prohibiting the progression of the work, as well as the detailed reasons why.
- I) Description of any changes to the Critical Path since the last Progress Schedule submission and the impacts of such changes.

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- J) A list of all added or deleted activities included in this Progress Schedule submission, and the reason(s) for and the impact(s) of such changes.
- K) A list of all changes in activity Original Durations, the justification for such change(s), and the impact(s) of such changes.
- L) A list of all changes in relationships between activities included in this Progress Schedule submission, and the reason(s) for and the impact(s) of such changes.
- M) A list of any addition or deletion of activity or project constraints, and the reason(s) for and the impact(s) of such changes.
- N) A list of all changes to the project calendars, and the reason(s) for and the impact(s) of such changes.
- O) The major work elements, as defined in the WBS, to be accomplished during the next monthly work period.
- P) Any potential problems that are anticipated for the next monthly work period and the proposed solutions to such problems. Identify potential problems or risks that either the Authority or Design-Builder may be potentially responsible for. Explain what action the responsible party (i.e. - Authority or Design-Builder) needs to take and the date by which time the action needs to be taken to avoid the problem.
- Q) Any planned acceleration of activities that the Design-Builder anticipates to undertake within the next work period that either the Authority directed, or that the Design-Builder believes is necessary.
- R) Quality Control efforts, including results of any Design Reviews and/or quality audits; and status of all design & construction NCR reports issued and outstanding status of NCR dispositions.
- S) Issues which may need the Authority's Project Manager's attention or action for the next month, including Design Reviews.
- T) If the Work falls behind the Progress Schedule such that the scheduled completion of the Work is beyond the Contract Time, the Design-Builder shall take such actions as necessary to improve its progress and shall indicate what measures it will take in the next 30 days to put the Work back on schedule so as to meet all milestone dates specified in the Contract. In preparing the revised schedule, the Design-Builder shall consider increasing its work force, construction plant and equipment, the number of work shifts, etc. If the Authority's Project Manager finds the proposed schedule not acceptable, he/she may require the Design-Builder to submit a new schedule.
- U) If the Design-Builder fails to submit a Progress Schedule within the time period described or any revision or update when required, the Authority's Project Manager may withhold approval of Contract payments pursuant to DB §109-5.4, *No Periodic Payment on Design-Builder's Non-Compliance* until such time as the Design-Builder submits the required schedule.

DB 108-1.3 Monthly Progress Report

The Design-Builder shall submit a monthly progress report with each payment request, consisting of the following:

- A) Quality Certifications (DB §108-1.3.1);
- B) A safety report (DB §107-7.13);
- C) A security report (DB §107-8.3), if required;
- D) A monthly Baseline Progress Schedule update (DB §108-1.2.1(C));
- E) An Order-on-Contract status report (DB §108-1.3.2);
- F) A monthly Subcontract report, including MWBE participation percentage achieved vs. project goals (DB §108-1.3.3);
- G) Form AAP 21c, Design-Builder Report of Contract Payments, for each Subcontractor;
- H) Form AC 2947, Prime Contractor's Certification;
- I) Quantity calculations for any unit priced items (DB §109-6.2);
- J) Updated Contract Submittals List (CSL) (DB §108-1.3.4);
- K) A summary of hazardous and contaminated substance activities (DB §108-1.3.5); and
- L) Statement of equipment, materials and labor used (DB §108-1.3.6).

DB 108-1.3.1 Quality Certifications

The Design-Builder shall submit monthly a certificate signed by the Design Quality Control Engineer and the Construction Quality Control Engineer certifying the following for the previous month:

- A) That all Work, including that of the Designer and all other designers, Subcontractors at all tiers, and vendors has been checked and/or inspected by the Design-Builder's QC staff, that all documentation regarding this QC effort is in place, and that all Work, except as specifically noted in the certification, conforms to the requirements of the Contract; and
- B) That the Quality Control Plan and all measures and procedures provided therein are functioning properly and are being followed, except as specifically noted in the certification.

DB 108-1.3.2 Order on Contract Status Report

The Design-Builder shall provide a report of outstanding Order on Contract requests containing the following:

- A) The Design-Builder's and Authority's Order on Contract identification numbers and/or coding;

- B) The issue title;
- C) A brief description of the change;
- D) Any outstanding issues to be resolved;
- E) The estimated cost and time implications; and
- F) The projected resolution date.

DB 108-1.3.3 Subcontract Report

As part of the monthly progress report, the Design-Builder shall submit a Subcontract report providing the Authority with an updated list of Subcontractors (design and construction, at all tiers, including labor only). The Design-Builder shall specifically identify MWBEs in the report. The location where the Subcontractors worked shall also be shown.

The Design-Builder shall also report the results of all procurements consummated in the previous month, including those procured competitively and by other means. The Design-Builder shall indicate the type of Work or product procured and size of the procurement (in dollars), and the name of the successful Subcontractor.

The report shall indicate the total number of Subcontractors and the total dollar value of all Subcontracts awarded to date. The report shall show the total number of Subcontracts and the total value of Subcontracts awarded to MWBE firms to date.

The report shall indicate, for each Subcontract, the following:

- A) The original Subcontract amount;
- B) The value of any modifications to date; and
- C) Payments made to date.

The monthly progress report shall also include a separate report relating to utilization of certified M/WBE firms and other small businesses, on a form approved by the Authority. The report shall identify each small business Subcontractor and Supplier (at all tiers) by name and function, state whether such Person is an MBE or WBE, state the original Subcontract amount and value of modifications to date, and state the payments made to each such Person for the current period and total cumulative payments to date.

DB 108-1.3.4 Contract Submittals List

Within 30 days of NTP, the Design-Builder shall prepare and submit to the Authority's Project Manager a contract submittals list in the format shown on Form CSL, covering all submittals required during the first six months of the Contract. Thereafter, the Design-Builder shall submit monthly updates to Form CSL with the Monthly Progress Report (DB §108-1.3). The updated Form CSL shall show the record of submittals made to date and shall show the Submittals due over the next three month period.

DB 108-1.3.5 Summary of Hazardous and Contaminated Substances Activity

The Design-Builder shall submit a monthly summary of activities related to hazardous and contaminated substances. If there is no activity, the report shall indicate such.

DB 108-1.4 Resumption of Work

If the prosecution of the Work is discontinued for any reason, the Design-Builder shall notify the Authority's Project Manager, in writing, at least 48 hours in advance of resuming operations.

DB 108-2 NOTICE TO PROCEED

The NTP will stipulate the date on which it is expected the Design-Builder will begin the design and construction and from which date the Contract Time will be charged. The NTP shall be issued within 30 days after Authority's award of the Contract unless otherwise agreed to by the parties.

DB 108-3 KEY PERSONNEL

The Key Personnel positions listed in Part 3, Project Requirements shall be the Design-Builder's Key Personnel for the Project. The Design-Builder shall provide personnel that meet these minimum requirements, as modified in accordance with agreement reached between the Authority and the Design-Builder in finalizing the Design-Builder's Proposal.

The Design-Builder's Project Manager shall be the Design-Builder's representative and single point of contact.

The Authority's Project Manager may designate other positions as Key Personnel or change the designation of some of the positions as needed at any time during the Contract.

DB 108-3.1 Directory

Within 15 days after NTP, the Design-Builder shall submit to the Authority's Project Manager a directory and organizational chart showing all of its Key Personnel. The directory shall be updated throughout the Contract as changes occur. The directory shall include the names, titles, areas of responsibility, office address and location, office telephone and fax numbers, and cellular and/or pager numbers of key personnel. The Design-Builder shall provide information sufficient for the Authority to contact any of the Key Personnel on a 24-hour basis for the duration of the Contract.

The Authority's Project Manager shall provide a directory of the Authority's Project staff to the Design-Builder.

DB 108-3.2 Availability of Key Personnel

Key Personnel shall be available to work on the Project for the duration of the Contract.

If any of the Key Personnel are to be unavailable from the Project for more than one week, the Design-Builder shall designate a deputy to represent the absent Key Personnel and inform the Authority's Project Manager accordingly.

DB 108-3.3 Changes in Key Personnel

The Design-Builder shall assign the Key Personnel identified in the Design-Builder's Proposal to this Project. Except in exceptional circumstances, as determined by the Authority's Project Manager, the Design-Builder shall submit the names and qualifications of proposed replacement Key Personnel to the Authority's Project Manager 30 days in advance of any replacement of any Key Personnel.

Requests for changes must be made using Form RFC, and shall be submitted along with a completed Form R – Summary of Individual's Experience and the information specified in the Form RFC for that Key Personnel position, including a narrative (max one page) justifying why the proposed Key Personnel change is being requested. In any event, the Design-Builder shall promptly notify the Authority's Project Manager if any Key Personnel leaves the Design-Build Team.

The Design-Builder may change Key Personnel only upon receipt of a written consent from the Authority's Project Manager. Replacement personnel must have equal or better qualifications than the Key Personnel identified in the Proposal. The Authority's Project Manager may require written justification from the Design-Builder explaining the replacement of any Key Personnel. The Authority's Project Manager shall be the sole judge as to whether replacement staff members are acceptable.

It is imperative that the Key Personnel identified in the Design-Builder's Proposal remain on the Project for the duration of the Project until Project Completion. Changes to the Key Personnel shall result in a Key Personnel Change Assessment Fee in the amount listed in the ITP for each Key Personnel position substitution, regardless of whether the Authority accepts the alternate personnel as equal or better.

DB 108-4 WORK REQUIRED TO MEET CONTRACT DEADLINES AND CLOSING

Unless an extended time for completion has been granted, all Work required to meet each of the Contract Deadlines shall be accomplished on or before applicable deadline, and the Work shall be completed on the intermediate phases as required to provide the number of open traffic lanes specified by the date(s) specified in the Agreement. In order to comply with this requirement, the Design-Builder must employ sufficient forces of labor, materials, and equipment to progress the Work in an expeditious manner. The Design-Builder's attention is directed to the fact that multi-shift operations may be required. Also, the Design-Builder may elect to work at night in order to complete Work by the specified phase or Project Completion dates. If night Work operations are requested, the Design-Builder shall seek the Authority's guidance. The cost of furnishing any or all labor, protective measures, lighting and equipment necessary to accomplish the nighttime Work operations to the satisfaction of the Authority's Project Manager is included in the Proposal Price and each Order on Contract.

DB 108-5 LIQUIDATED DAMAGES

Liquidated damages will be assessed against the Design-Builder under the circumstances specified in the *Agreement, Articles 2 and 19*, and in this Section. Liquidated damages will be assessed not as a penalty, but as liquidated damages; provided, however, that due account shall be taken of any adjustments of the Contract Time for completion of the Work as provided for elsewhere in DB §100.

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The Design-Builder shall pay liquidated damages to compensate the public for detriment experienced by the public as defined in Part 5 – Special Provisions and/or specified in this Section DB 108-5.

Liquidated damages shall be paid in the amounts specified in Table 108-1, Schedule of Liquidated Damages. The Design-Builder acknowledges and agrees that the liquidated damages are intended to constitute compensation solely for the Design-Builder’s failure to meet the deadlines and obligations described in clauses (A) and (B) of this Section, and shall not excuse the Design-Builder from liability for any other breach of Contract requirements, including any failure of the Work to conform to applicable requirements. It is understood and agreed by the Design-Builder that any liquidated damages payable in accordance with the Agreement and this Section are in the nature of liquidated damages and not a penalty and that such sums are reasonable under the circumstances existing as of the date of execution and delivery of this Contract.

The Authority shall have the right to deduct any amount owed by the Design-Builder to the Authority under the Contract Documents, including liquidated damages, from any amounts owed by the Authority to the Design-Builder. Liquidated damages, to the extent not paid as provided above, shall be payable by the Design-Builder to the Authority within 10 days after the Design-Builder’s receipt of an invoice therefore from the Authority.

In addition to other remedies, certain Project Requirements may stipulate that liquidated damages be deducted from any money due the Design-Builder, not as a penalty but as liquidated damages, until the violation or violations are corrected to the satisfaction of the Authority’s Project Manager.

Permitting the Design-Builder to continue and finish the work or any part of it after the time fixed for its completion or after the date to which the time for completion may have been extended, will in no way constitute a waiver on the part of the Authority of any of its rights under the Contract.

The Design-Builder is responsible and liable for said liquidated damages even in the event that the Design-Builder abandons the performance of the Contract or the Design-Builder’s employment is terminated pursuant to the provisions of this Contract.

TABLE 108-1 SCHEDULE OF LIQUIDATED DAMAGES		
Original Total Contract Price		Liquidated Damages per Calendar Day
From More Than	To and Including	
\$0	\$100,000	\$500
\$100,000	\$500,000	\$1,000
\$500,000	\$2,000,000	\$1,500
\$2,000,000	\$5,000,000	\$2,000
\$5,000,000	\$10,000,000	\$2,500
\$10,000,000	\$20,000,000	\$4,000
\$20,000,000	\$100,000,000	\$7,000
\$100,000,000	\$500,000,000	\$15,000

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\$500,000,000	-	\$25,000
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DB 108-6 EXTENSIONS OF CONTRACT TIME

If at any time prior to the expiration of the Contract Time as specified or as extended in accordance with the provisions of this Section, the Design-Builder finds it impossible for reasons beyond its control to complete the Work within said Contract Time, the Design-Builder may make a written request to the Authority's Project Manager for an extension of time setting forth therein the reasons which the Design-Builder believes will justify the granting of the request and meeting all requirements of DB §109-10, which notice shall be delivered within 10 work days after it first has knowledge or should have had knowledge of the event, matter or circumstance giving rise to the delay in completion, or within such shorter period as may be specified in the Contract with respect to specific types of events, matters and circumstances. If the Authority's Project Manager finds that a delay in the Critical Path has occurred that is directly attributable to any of the following events, the Authority's Project Manager may extend the Contract Time in such amount as the conditions justify, provided such event and the delay resulting from the event are beyond the control, and without the fault, of the Design-Builder:

- A) Authority-Caused Delays;
- B) Delays caused by third parties (including railroads but excluding utility owners) present on the Site or of other contractors or personnel employed by the Authority on the Site, excluding any delays that could reasonably be anticipated from the Contract Documents or that are ordinarily encountered or generally recognized as inherent in the Work;
- C) Delays due to the act, or failure to act, of any public or governmental body or railroad, transportation company or corporation (excluding utility owners), including delay in issuance of approvals or permits, or imposition of unanticipated restrictions in such approvals or permits, excluding any such delay that is attributable to the Design-Builder's ATCs or its means and methods of construction, and excluding any such delay arising from or related to any violation of a permit condition by the Design-Builder or its Subcontractors;
- D) Delays due to the existence of utility facilities for which an Order on Contract is allowed under DB §104-4.2, and Utility Delays as specified in DB §104-4.2.3, subject to the conditions and restrictions specified therein;
- E) Delays due to restraining orders, injunctions, or judgments issued by a court not caused by the Design-Builder's ATCs or its means and methods of construction;
- F) Delays due to any industry-wide labor boycotts, strikes, picketing, or similar situations, as differentiated from jurisdictional disputes or labor actions affecting a single or small group of Subcontractors or suppliers;
- G) Delays due to any industry-wide shortages of supplies or material required by the Contract, as differentiated from delays in delivery by a specific or small group of suppliers;

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- H) Delays and/or Damage by Occurrence as described in DB Section 107-26.2, other than heavy storms or climatic conditions which could generally be anticipated by the Design-Builder;
- I) The time required to restore the Work to its original state where damage to the Work occurred from causes beyond the control of the Design-Builder;
- J) Discovery of Hazardous Materials of a type, quantity or location that differs materially from the type, quantity or location of Hazardous Materials identified in the RFP or the Contract Documents as potentially present at the Site, to the extent allowed under DB §104-4.3 and for which the Design-Builder is not otherwise responsible under DB §§ 104-4.3 and 107-16;
- K) Discovery of Environmental Resources or Cultural Resources not identified in the RFP or the Contract Documents, to the extent allowed under DB §107-9.3;
- L) Differing site conditions, subject to the limitations specified in DB §104-5;
- M) Significant changes in the character of the Work, to the extent allowed under DB §104-3.2, and Necessary Basic Configuration Changes, to the extent allowed under DB §104-4.1.2;
- N) Changes in the scope of Work occurring as a result of a Change in Law, to the extent allowed under DB §104-4.5; or
- O) Any situation which was beyond the contemplation of the parties at the time of entering into the Contract.

The Contract Time, as extended for one or more of the reasons listed in DB §108-6(A) through DB §108-6(O), shall then be in full force and effect as though it were the original Contract Time. The notice, recordkeeping and other requirements of DB §§104-4, 104-5 and 104-6, as applicable, and DB §§104-7 and 109-10.1(H)(1)-(3), shall apply with respect to any request to adjust the Contract Time. The Authority will have no liability and no adjustment will be made for any damages which accrued more than 10 days prior to the filing of such a notice.

In all cases where an extension of time is warranted under this DB §108-6, the extension shall be negotiated and addressed in an Order on Contract. Delays incurred by seasonal and weather limitations, localized labor actions and shortages of supplies or materials, and other situations which should be anticipated are not eligible for extensions.

In cases where the Work has been unduly delayed by the Design-Builder because of unwarranted reasons, inefficient operation, or for any other reason for which the Authority determines the Design-Builder to be liable, the Authority may grant a time extension at its sole discretion. However, such time extension shall in no way relieve the Design-Builder from liability for Liquidated Damages in accordance with DB §108-5 or for charges for engineering charges associated with Quality Assurance of design and construction activities or other charges, and shall not serve to modify the Contract Time established in the Contract. Reasonable time necessary for Design Reviews, for changes or additions to the Work to meet field conditions which do not adversely affect the Design-Builder's ability to meet the Contract Deadlines, for delays incurred by seasonal and weather limitations, for localized labor actions and shortages of supplies or material, for utility relocations, and for other situations which

should be anticipated are neither compensatory nor eligible for extensions of any Contract Deadlines, except as expressly authorized hereunder. Design-Builder agrees to make no monetary request for, and has included in its Proposal Price, any extra/additional costs, any delays, inefficiencies or interferences in the performance of the Contract caused by or attributable to the reasons described in this paragraph.

The adjustment to the Contract Deadlines allowed under this DB §108-6 constitutes Design-Builder's sole and exclusive remedy for such delays, except for the compensation allowed for certain types of delays pursuant to DB §§109-10 or 109-15.1.

DB 108-7 SUBCONTRACTING OR ASSIGNING THE CONTRACT

Unless indicated otherwise in a Project Labor Agreement, the Design-Builder shall perform Work with a value of at least 51% of the Contract Price with its own forces. Work performed by any Principal Participant, including any of the Design-Builder's joint venture members, general partner(s), subconsultants, and their affiliates, is considered work with the Design-Builder's own force. However, the Design Services cost, the Construction Inspection cost, and the Materials Testing cost will be excluded from the calculation of the 51%.

At the pre-work conference, the Design-Builder shall submit a list of intended Subcontractors and vendors. In addition, the Design-Builder will be required to update the list of Subcontractors and vendors as the Work progresses so that the Authority will have, at all times, a current and accurate list of Subcontractors along with the Work that they perform and vendors along with the items that they supply. The required forms for the submission of Subcontractor information will be supplied by the Authority.

In the solicitation of Subcontractors and vendors to perform Work under this Contract, prior to entering into any commitments for subcontracting or for purchase or leasing of supplies, material or equipment, the Design-Builder shall refer to the following, then current publication to solicit participation of MWBEs, MBEs, or WBEs. The Design-Builder is required to consider Subcontractors from the list of certified MWBE firms that can be accessed via a link on the following Authority website: <https://www.dot.ny.gov/main/business-center/civil-rights/general-info/MWBE-certification>. The Design-Builder shall also consider subcontractors from the Directory of Minority and Women's Business Enterprises published by the New York State Authority of Economic Development. Requests for acceptance of Subcontractors shall be submitted to the Authority's Project Manager on the appropriate form. Subcontractors will not be approved by the Authority until such time as they are registered with the New York State Department of State.

Pursuant to 23 CFR Section 635.116, the Authority cannot impose minimum subcontracting requirements or goals other than those necessary to meet the self performance criteria or the MWBE program requirement, as found at DB §102-9.

The Design-Builder shall not enter into any Subcontract, nor allow any of its Subcontractors to enter into a Subcontract, without first notifying the Authority of the proposed Subcontractor and proposed scope of work to be performed by the Subcontractor, at least 10 days in advance of execution and delivery of the Subcontract. Each of the Subcontracts listed in the notice may be executed and delivered upon expiration of said 10-day period unless the Authority, during said period, delivered a written objection to the Design-Builder regarding that Subcontract. The Authority's failure to object to a Subcontract shall not be construed to relieve the Design-Builder or Surety of any responsibility for the fulfilling of all the requirements of the Contract.

Violations of the foregoing may result in no payment by the Authority for the related Work.

All Subcontracts, supply and equipment contracts shall incorporate the provisions of DB §109-10 – Dispute Resolution and Disputed Work Provisions. If such Subcontracts or supply or equipment contracts do not contain similar provisions, then the Authority's payments to the Design-Builder for such Subcontract or supply or equipment work shall be limited to only that which are provided by the provisions of this subsection as if it were in effect for such Subcontract or supply or equipment contract.

The Design-Builder shall incorporate by reference or otherwise include these General Provisions in every Subcontract and shall require that the same reference or inclusion be contained in every Subcontract entered into by any Subcontractors. Each Subcontract shall provide that, pursuant to terms in form and substance satisfactory to the Authority: (a) the Authority is a third-party beneficiary of the Subcontract and shall have the right to enforce all of the terms of the Subcontract for its own benefit; and (b) all guarantees and warranties, express or implied, shall inure to the benefit of the Authority and its successors and assigns as well as Design-Builder.

Design-Builder shall incorporate all of the provisions of Form FHWA-1273, *Required Contract Provisions Federal-Aid Construction Contracts* in all Subcontracts, supply and equipment contracts. The provisions of Form FHWA-1273 shall be directly incorporated into each such agreement, and may not be incorporated by reference.

The Design-Builder shall allow the Authority access to all Subcontracts, supply and equipment contracts at all tiers and records regarding the same, and shall provide copies of each such agreement to the Authority within 7 days of the request from the Authority.

The intent of this Section shall not be circumvented by the Design-Builder by placing a Subcontractor's employees directly on the Design-Builder's payroll. If a person or group of people generally operated as an independent contractor, the Authority will treat them as independent contractors for purposes of this Section.

The Design-Builder's and its Surety's liability under this Contract and the bonds shall not be waived or in any way diminished by subcontracting or other assignment of interest under the Contract.

The Design-Builder shall pay all Subcontractors their respective Subcontract amounts for undisputed acceptable Work within seven days of receiving payment from the Authority. Failure by the Design-Builder to pay any Subcontractor within seven days of receipt of payment from the Authority for Work performed that is accepted by the Authority could result in the withholding of future payments by the Authority. The Design-Builder shall maintain an accounting system acceptable to the Authority to track payments made by the Authority to the Design-Builder and payments made by the Design-Builder to each Subcontractor, manufacturer, fabricator or supplier by item and by date. The Design-Builder shall submit reports on payments made to Subcontractors as required by the Authority. If it is determined by the Authority that a Subcontractor has not received payment due and owing in accordance with this DB §108-7 and applicable law, the Authority may direct the Design-Builder to make such payment. Any such direction by the Authority is a lawful direction. While such direction is not complied with, the Design-Builder shall not be entitled to have any payment made on account of Work done. Within seven days of the receipt of payment from the Design-Builder, the Subcontractor shall pay each of its Subcontractors in the same manner as the Design-Builder has paid the

Subcontractor. Nothing provided herein shall create any obligation on the part of the Authority to pay or to see to the payment of any moneys to any Subcontractor from Design-Builder nor shall anything provided herein serve to create any relationship in contract or otherwise, implied or expressed, between the Subcontractor and the Authority.

DB 108-8 DEFAULT OF THE CONTRACT

The Design-Builder may be declared to be in default of the Contract if any of the following occurs:

- A) The Design-Builder fails to begin the Work under the Contract within the time specified in the NTP;
- B) The Design-Builder fails to perform the Work with sufficient resources (supervision, workers, equipment, and material) to assure the prompt completion of said Work;
- C) The Design-Builder performs the Work unsuitably or neglects or refuses to remove such material or to redo such Work as may be rejected as unacceptable and unsuitable;
- D) The Design-Builder discontinues the prosecution of the Work;
- E) The Design-Builder fails to resume Work which has been discontinued within a reasonable time after notice to do so;
- F) The Design-Builder becomes insolvent, is declared bankrupt, or commits any acts of bankruptcy or insolvency;
- G) An involuntary case is commenced against the Design-Builder seeking liquidation, reorganization, dissolution, winding up, a composition or arrangement with creditors, a readjustment of debts or other relief with respect to the Design-Builder or the Design-Builder's debts under any U.S. or foreign bankruptcy, insolvency or other similar law now or hereafter in effect; seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of the Design-Builder or any substantial part of the Design-Builder's assets; seeking the issuance of a writ of attachment, execution, or similar process; or seeking like relief, and such involuntary case shall not be contested by the Design-Builder in good faith or shall remain undismissed and unstayed for a period of 60 days;
- H) The Design-Builder allows a final judgment in a suit filed in connection with this Contract to stand against it unsatisfied for a period of 30 days;
- I) The Design-Builder makes an assignment for the benefit of creditors, without prior approval of the New York State Comptroller and the Authority;
- J) The Design-Builder fails to provide and maintain any performance or payment security or insurance as required hereunder;
- K) Any representation or warranty made by the Design-Builder in the Contract Documents (including representations in the SOQ or Proposal) or any certificate, schedule, instrument or other document delivered by the Design-Builder pursuant to the Contract Documents or ITP shall have been false or materially misleading when made, including any failure to discuss an organizational conflict of interest as required by the ITP;

- L) Design-Builder is a party to fraud; or
- M) For any other cause, except as provided in the Contract, the Design-Builder fails to carry on the Work in an acceptable manner.

The Design-Builder also may be declared in default of the Contract if any of the following occurs with respect to any Guarantor or any Principal Participant with an equity interest in the Design-Builder:

- N) Such Person becomes insolvent, is declared bankrupt, or commits any acts of bankruptcy or insolvency;
- O) Such Person makes an assignment for the benefit of creditors without prior approval of the New York State Comptroller and the Authority;
- P) An involuntary case is commenced against such Person seeking liquidation, reorganization, dissolution, winding up, a composition or arrangement with creditors, a readjustment of debts or other relief with respect to such Person or its debts under any U.S. or foreign bankruptcy, insolvency or other similar law now or hereafter in effect; seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of such Person or any substantial part of such Person's assets; seeking the issuance of a writ of attachment, execution, or similar process; or seeking like relief, and such involuntary case shall not be contested by such Person in good faith or shall remain undismissed and unstayed for a period of 60 days; or
- Q) Such Person revokes or attempts to revoke its obligations under the Guaranty or any statement of joint and several liability, or otherwise takes the position that such obligations are no longer in full force and effect or are unenforceable.

Items A – Q above are not, and are not intended to be, an exhaustive list of manners of default.

The Authority's Project Manager will give notice in writing to the Design-Builder and its Surety of such delay, neglect, or apparent default and will specify those provisions that have been violated and the corrective measure to be taken. With respect to any occurrences involving impaired creditworthiness of Design-Builder, Principal Participants and/or Guarantors, the Authority may require the Design-Builder to provide additional performance security satisfactory to the Authority in its sole discretion.

If the Design-Builder or its Surety, within a period of 15 days after such notice, does not proceed in accordance therewith, then the Authority shall, upon written notification from the Authority's Project Manager of the fact of such delay, neglect, or apparent default, and the Design-Builder's failure to comply with such notice, have full power and authority without violating the Contract to declare the Design-Builder in default and take the prosecution of the Work out of the hands of the Design-Builder and demand compliance by the Surety of the terms, conditions, and obligations contained in the Performance Bond executed by the Design-Builder and its Surety; provided, however, that if such breach by its nature cannot be cured within 15 days, Authority agrees not to declare the Design-Builder in default provided that Design-Builder commences such cure within such 15 day period and thereafter diligently prosecutes such cure to completion, further provided, however, that in no event will such cure period exceed 60 days in total. Notwithstanding the foregoing, no such notice and opportunity to cure is required for any breach which by its nature cannot be cured. Design-Builder hereby acknowledges and agrees

that the events described in DB §108-8(K) and (L) are not curable. With regard to the events described in DB §108-8(N) through (Q), Authority will not declare Design-Builder to be in default if, within the 15-day cure period, Design-Builder provides satisfactory assurance to Authority that such event will not adversely impact Design-Builder's performance of all of its obligations under the Contract Documents, including providing additional performance security acceptable to Authority in its sole discretion. The foregoing cure rights shall not affect the Authority's right to collect liquidated damages for failure meet a Contract Deadline.

Notwithstanding the foregoing, if Authority believes a condition affecting the Project poses an immediate and imminent danger to public health or safety, Authority may, without notice and without awaiting lapse of any cure period, rectify the condition at Design-Builder's cost, and so long as Authority undertakes such action in good faith, such action shall not expose Authority to liability to Design-Builder and shall not entitle Design-Builder to any other remedy, it being acknowledged that Authority has a paramount public interest in providing and maintaining safe public use of and access to the Project. Authority shall be deemed to have acted in good faith regarding the existence of such danger in the absence of clear and convincing evidence that the danger did not exist.

Upon the default of the Design-Builder as set forth above, the Surety shall take charge of said Work and complete the Contract at its own expense pursuant to the terms of this Contract, receiving, however, any balance of funds due and owing the Design-Builder under the Contract. In the event the Surety fails to so take charge of the Project upon the demand of the Authority to do so, the Authority may undertake to complete the Project with its own forces or may procure a competing Design-Builder to finish the Work. All costs and charges thereby incurred by the Authority, together with the cost of completing the Work under an alternative contract, will be deducted from the Contract funds which are due or may become due to the defaulting Design-Builder. If such expense exceeds the sum that would have been payable under the Contract, then the defaulting Design-Builder shall be liable for the amount of such excess expense, and the Surety shall be jointly and severally liable for the amount of such excess expense up to the stated maximum amount of the Performance Bond.

DB SECTION 109 PRICE, PROGRESS, AND PAYMENT

This DB §109 describes the pricing concept, specifies the means of determining the Work progress, and establishes the procedures for requesting and making payments. In addition, this DB §109 also describe Extra Work, Force Account Work, Record Keeping, Dispute Resolution, Acceptance and Substantial Completion, Final Payment, Change Conditions and Delay Provisions and Non-Compensable Delays.

DB 109-1 PRICING CONCEPT

This contract, with the exception of any Force Account Work, will have the work priced utilizing Lump Sum amounts for contract items and payments made based on a schedule for completion of portions of the item. The schedules identify defined portions of the items that when completed provide for a percentage of the lump Sum amount that will be paid. These schedules are shown in Contract Document, Part 3 – Project Requirements.

DB 109-1.1 Mobilization

Mobilization will be 4% of the price bid for the items of construction or the amount bid for mobilization by the Design-Builder in its Price Proposal, whichever is less. The items of construction will not include the amount bid for engineering services, construction inspection services or the services of the material testing firm or laboratory.

Mobilization will be payable to the Design-Builder with the first contract payment made for other contract work.

DB 109-2 MEASUREMENT/DETERMINING PROGRESS

Unless specified otherwise in the Contract Documents, there will be no measurement of quantities to determine payment due.

For Orders on Contract paid on a Force Account basis, the Design-Builder shall substantiate progress with submittal of statements specified in DB §109-9.2.

For Orders on Contract paid on a Unit Price basis, the Design-Builder shall substantiate progress with submittal of invoice documents specified in DB §109-9.2.1 through DB §109-9.2.3.

For all Work paid on a lump-sum basis, progress and payment shall be determined as follows:

DB 109-2.1 Construction Progress Payment

Except for payment of mobilization and any Force Account Work, payment will be made monthly for the portions of Work Items identified in Contract Document, Part 3 – Project Requirements, that have been completed that month. To be considered complete all the tests, certifications and approvals of that portion of the Work Item as required by the Contract and the Specifications shall have been performed, documented and accepted by the Authority's Construction Quality Assurance Engineer and the Authority's Project Manager. Any inspections or tests required to be performed by the Authority's Quality Assurance Engineer or other

Authority staff to verify the work has been completed in conformance with the contract requirements shall also have been completed and documented.

Where the Contract requires the submittal of a specified Plan or similar document prior to payments, the requirement is met when the Plan has been submitted and the Authority's Project Manager acknowledges in writing that the Plan or document meets Contract requirements.

Where the Contract requires an audit and/or update of a specified Plan prior to payments, the requirement is met when the report of the audit and/or Plan update is submitted to the Authority's Project Manager and the Authority's Project Manager acknowledges or Approves (if specified) in writing, after receipt of the report or update, that it meets the Contract requirements.

If the Design-Builder and the Authority's Project Manager cannot come to agreement on the percent complete of a Work Item or the amount due, the determination of the Authority's Project Manager shall be used as the basis of the request for periodic payment. The Authority's Project Manager shall submit a written statement to the Design-Builder outlining the rationale behind any substantial adjustment.

Payment will be based on the Price Proposal (which has been incorporated into the Contract – Design-Builder's Proposal, upon Award of the Contract).

DB 109-2.2 Payment for Engineering, Construction Inspection and Testing Services

Payment for Design Engineering Services shall be on a Lump Sum basis. The schedule for the payments shall be: 25% of the lump Sum amount paid the first month after the Notice to proceed. The remaining payments shall be structured as follows, provided the Design-Builder can establish equal percentage of design completion and it is verified by the Authority's Project Manager: 15% following the second month after Notice to Proceed; 10% following the third month after Notice to Proceed, and 5% of the Lump Sum amount paid upon the Final Acceptance of the Project which includes delivery of all engineering drawings, calculations, shop drawings, as-built drawings, quality control documents and all other design documents pertaining to the Project. The remaining 45% of the Lump Sum amount shall be paid in equal amounts per month over the established duration of the Contract. However, if the design drawings, specifications and calculations are completed and accepted by the Authority, sooner than the scheduled Project Completion Date, the unpaid portion of the remaining 45% of the Lump Sum amount shall be paid.

Payment for the Independent Professional Engineering Construction Inspection Services shall be on a Lump Sum Basis. The schedule for the payments shall be: 10% of the lump Sum amount paid the first month after Contractor mobilization and the beginning of construction work, and 10% of the Lump Sum amount paid upon the Final Acceptance of the Project which includes delivery of all engineering drawings, calculations, shop drawings, as-built drawings, quality control documents and all other construction inspection, MURK, and other required documents pertaining to the Project. The remaining 80% of the Lump Sum amount shall be paid in equal amounts per month, from Contractor mobilization and the beginning of construction work to the scheduled Project Completion Date. If the Final Acceptance occurs sooner than the scheduled Project Completion Date, all remaining payments shall be made upon Final Acceptance of the Project.

Payment for the Independent Quality Control Services Firm (Materials Testing / Laboratory Services Firm) shall be on a Lump Sum basis. The payments shall be made in equal amounts per month, following the time of first laboratory or field test performed by the Independent Quality Control Services Firm (Materials Testing / Laboratory Services Firm) to the scheduled Project Completion Date. If the Final Acceptance occurs sooner than the scheduled Project Completion Date, all remaining payments shall be made upon Final Acceptance of the Project.

DB 109-3 OVERTIME DISPENSATION REQUIREMENTS

All Proposers should base their Price Proposals and Work progression on the assumption that overtime dispensation pursuant to Article 8 of the New York State Labor Law for any Workers, laborers, and mechanics to Work more than eight hours in any one Calendar Day or more than five Days in any one week will not be granted for any operation for the duration of the Contract. Subsequent to Award, where the Request For Proposal (RFP) has imposed specific scheduling and/or phasing requirements or where it is determined by the Authority to be in the best interest of the public, the Authority may process, for approval by the New York State Department of Labor (NYSDOL), requests for overtime dispensation on certain specific operations and, in the event that NYSDOL approves such overtime dispensation, there shall be no adjustment in the Contract Price for such dispensation.

DB 109-4 CHANGES TO CONTRACT PRICE

The Contract Price shall be increased or decreased only by an Order on Contract issued in accordance with DB §104-3 and DB §109-9.

DB 109-5 CONTRACT PAYMENTS

Sections 70, 71, and 79-a, of the New York State Lien Law apply to funds received by a Design-Builder for a public improvement. These provisions declare that the funds received by the Design-Builder shall constitute trust funds in the hands of the Design-Builder and shall be applied first to the payment of certain claims.

In accordance with the Agreement, *Article 1 – Compensation*, payments to the Design-Builder for Work satisfactorily performed will be made monthly.

This Contract may be funded by monies from other governmental or non-governmental entities which may include municipalities, Counties, towns, villages, or authorities. If the Contract is funded by monies from the other entities, separate payment may be made by both the Authority and the other entities.

No certificate approving or authorizing the first partial payment or, in the event there shall be no first partial payment, no certificate approving or authorizing any final payment, shall be made to a foreign contractor unless such foreign contractor has furnished satisfactory proof that all taxes due by such foreign contractor under the provisions of Articles 9, 9A, 16, and 16A of the New York State Tax Law have been paid. The certificate of the State Tax Commission to the effect that all such taxes have been paid shall be conclusive proof of the payment of such taxes.

DB 109-5.1 Scope of Payment

The Design-Builder shall receive and accept compensation provided for in the Contract as full payment for furnishing all material and for performing all Work under the Contract in a complete

and acceptable manner and for all risk, loss, damage, or expense of whatever character arising out of the nature of the Work or the prosecution thereof.

Requirements relating to requests for payment for the Work are set forth in DB §109-7.

DB 109-5.2 Periodic Payments

As the Work progresses in accordance with this Contract and in a manner that is satisfactory to the State, the State hereby agrees to make payments to the Design-Builder for Work completed, based upon the Project Scope and Design-Builder's Proposal that are attached hereto and made a part hereof, as follows:

- A) The Design-Builder shall, upon such schedule or upon the completion of such work as may be fixed by the Design-Builder and the State, make a progress report of Work done and of Material which has actually been put in place in accordance with the terms and conditions of the Contract during the preceding period, and compute the value thereof in accordance with the Design-Build Contract documents and this DB §109.

- B) The State will pay to the Design-Builder the monies due as provided in subdivision 7 of Section 38 of the New York State Highway Law.

Timeliness of payment and any interest to be paid to the Design-Builder for late payment shall be governed by Article XI-A of the New York State Finance Law to the extent required by that law

DB 109-5.3 Progress Payments

Unless otherwise specified in the Contract, no payment will be made for Work that is not completed in accordance with the Contract requirements.

DB 109-5.4 No Payment on Design-Builder's Non-Compliance

So long as the Design-Builder does not comply with any lawful or proper direction concerning the Work or Material given by the Commissioner of Transportation, or his/her representative, the Design-Builder shall not be entitled to have any interim payment made for non-complying Work, nor shall any interim payment be rendered for Work done or Material furnished until such lawful or proper direction aforesaid has been fully and satisfactorily complied with.

No completed element of work will be included in the progress payment unless all required documentation for its installation is received in a timely fashion.

No direct payment will be made for any of the work described and specified under the caption "GENERAL NOTES" or for any work described and specified under the caption "SPECIAL NOTES" unless specifically stated in the note. The cost thereof shall be included in the prices developed for the various items of work.

DB 109-6 REQUESTS FOR PERIODIC PAYMENT

The Design-Builder shall submit all requests for periodic payment to the Authority's Project Manager with the monthly progress report (see DB §108-1.3) signed by the Design-Builder's Project Manager or Deputy Project Manager, except that the Final Invoice must be signed by

the Design-Builder's Project Manager. The Design-Builder shall submit the request by the fifth day of each month (if a holiday, the next work day) or other mutually agreed date.

The Design-Builder's Project Manager or Deputy Project Manager and the Design-Builder's Quality Manager shall sign the draft request for payment, which will have no effect until countersigned by the Authority's Project Manager pursuant to DB §109-7.

DB 109-6.1 Payment Requests with the Monthly Progress Report

Each application for Periodic Payment shall contain the following:

- A) The amount claimed to be payable, including amounts due under Force Account and/or Orders on Contract;
- B) Any other amount claimed to be payable or deducted pursuant to a determination of the Authority's Project Manager, identifying the relevant determination; and
- C) A certificate certifying progress reported and compliance with Contract requirements. The certification shall be signed by the Design-Builder's Project Manager/Deputy Project Manager, Quality Manager, and Design Manager.

DB 109-6.2 Unit Price Work

If any Work is performed on a Unit Price basis, the Design-Builder shall perform the Work in accordance with the requirements set forth in the Order on Contract for such Work.

DB 109-6.3 Partial Payment for Material Delivered to the Site

Upon application by the Design-Builder, and approval by the Authority's Project Manager, payments for the actual cost of certain material may be made to the Design-Builder prior to incorporation of such material in the permanent Work. To be eligible for partial payment, material must meet all of the following conditions:

- A) Be included on the List of Materials in this DB §109-6.3;
- B) Be material that will be incorporated into permanent Work;
- C) Be in a condition which is ready for on-site installation without further fabrication or processing;
- D) Be delivered and stored at the Site of the Work or at a site and in a manner approved by the Authority's Project Manager; and
- E) Be material which will be stored a minimum of 60 days.

With application for partial payments, the Design-Builder shall provide documentation as follows:

- A) Bill(s) of sale or vouchers indicating the actual dollar value paid by the Design-Builder for the material as stored;

- B) Certification showing that title to the material, without encumbrances, is in the name of the Design-Builder and that title is warranted to the Authority;
- C) Documented evidence of acceptability of the material; and
- D) If the material is stored on private property, a release and waiver covering such material, and providing access to the storage site, which release and waiver shall be executed by the property owner in favor of the Authority or its agents.

When applying for partial payment of products which are claimed to be in short supply or unique to an individual project, the Design-Builder shall include documentation supporting that claim, to the satisfaction of the Authority's Project Manager. The amount of partial payments shall not exceed the total invoice amount for stored material, nor shall the partial payment for material relating to any Contract Work item exceed 85% of the price for that item. The quantity of material for which payments are made shall not exceed the estimated quantity for that item. The making of partial payments shall not be deemed to be acceptance of material, nor shall it relieve the Design-Builder of responsibility for such material. The Design-Builder shall be responsible for assuring that only those materials which comply with the requirements of the Contract Documents are incorporated into the Project. All costs associated with handling, transportation, and storage of material, including any storage site rental, security, and weather protection, shall be borne by the Design-Builder and included in the prices proposed for the Contract Work. Any material, other than that which is determined by the Authority's Project Manager to be unique to the Project, which are not incorporated into the Work, shall remain the property of the Design-Builder.

Partial payments made for such unused material shall be withdrawn with no further obligation by the Authority.

DB 109-6.3.1 List of Materials

- A) Iron, steel, and aluminum products (including all metal components of railings and bridge superstructures);
- B) Precast and prestressed concrete products;
- C) Pipe and underdrain products;
- D) Concrete and stone curb or masonry products;
- E) Concrete, steel, and timber piles and appurtenances;
- F) Timber products;
- G) Traffic signal, traffic control, signing, and lighting components;
- H) Cable, wire, and conduit;
- I) Impact attenuator components;
- J) Material in short supply; or

- K) Material manufactured to meet specific, unique requirements of the Project (to be determined by the Authority's Project Manager).

DB 109-6.4 Equipment Used to Construct the Project

The Authority shall not pay for direct or indirect costs of equipment used to construct the Project. The Design-Builder shall allocate costs for equipment and operation of such equipment, whether new, used, or rented, as part of the activities with which the equipment is associated.

DB 109-7 REVIEW AND PROCESSING OF REQUESTS FOR PERIODIC PAYMENT

Upon receipt of a request for periodic payment, the Authority's Project Manager will proceed in accordance with this DB §109-7. Any adjustments by the Authority's Project Manager to a request for periodic payment shall be reasonable and in accordance with the Contract Documents.

Upon resolution of any problems with any request for periodic payment that resulted in an adjustment in the amount of a prior request for periodic payment, or upon satisfaction of any conditions that were the basis for such an adjustment, the Design-Builder may include the amount of the adjustment in the next request for periodic payment.

DB 109-7.1 Payment Limitations and Partial Suspension of Payments

- A) There will be no advance payments.
- B) The Authority will not pay for construction Work, including Work being paid on a Force Account basis, unless the following conditions are met:
- 1) The Work is being performed in accordance with the Contract Requirements;
 - 2) Design Plans and Project Specifications that have been released for construction per DB §111-11, are on site for the Work being constructed;
 - 3) Design Plans and Project Specifications have been checked and reviewed in accordance with DB §111-11 and design documentation maintained in accordance with DB §111-16;
 - 4) Construction Work has been inspected and sampling and testing conducted in accordance with DB §112;
 - 5) Items covered by Non-Conformance Reports issued by the Authority, the Design Quality Assurance Engineer or Construction Quality Assurance Engineer are corrected and/or resolved to the satisfaction of the Authority; and
 - 6) Construction documentation is completed and records and reports submitted and/or retained in accordance with DB §112.
- C) As a condition precedent to consideration by the Authority's Project Manager of any periodic payment for Work for the preceding month, the monthly progress report completed in accordance with DB §108-1.4 must accompany each such application;

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- D) As a condition precedent to consideration by the Authority's Project Manager of any periodic payment for Work for the preceding month, all certified payrolls of the Design-Builder and all Construction Subcontractors shall be up to date and submitted to the Authority;
- E) The Authority may suspend payment for Work for any period if the Design-Builder's performance during the period resulted in any of the following:
 - 1) Failure to provide WZTC in accordance with the Contract Documents and Manual of Uniform Traffic Control Devices;
 - 2) Serious disruptions to necessary WZTC and access through the Site;
 - 3) Serious disruptions to the Authority's access to the Site or use of facilities provided for the Authority's use;
 - 4) Unacceptable safety performance as evidenced by the Design-Builder's accident record;
 - 5) Non-compliance with environmental requirements that leads to citations, fines, and/or other penalties by environmental authorities;
 - 6) Serious disruptions to procedures and documentation required by the Quality Control Plan and/or specified in the Contract;
 - 7) Continued reports of blocked vehicular and/or pedestrian access to properties.
- F) No payment will be made under Orders on Contract being paid on a Force Account basis for design or construction Work necessitated to correct deficiencies noted on a non-conformance report. The Design-Builder shall clearly delineate in its records and on the Force Account report (see DB §109-9.3), personnel and equipment used on any corrective Force Account Work on such deficiencies.

DB 109-7.2 Payment Reductions & Liquidated Damages for WZTC Non-Conformance

For each calendar day during which there are substantial deficiencies in compliance with the WZTC requirements, no payment will be made for WZTC. The amount of such calendar day non-payment will be deducted from monies due the Design-Builder in accordance with the Table below, Basic Work Zone Traffic Control Non-Payment.

BASIC WORK ZONE TRAFFIC CONTROL NON-PAYMENT		
Original Contract Amount		Non-Payment Amount
From More Than	To and Including	
\$ 0	\$ 500,000	\$ 200
\$ 500,000	\$ 2,000,000	\$ 400
\$ 2,000,000	\$ 5,000,000	\$ 500
\$ 5,000,000	\$ 10,000,000	\$ 750
\$ 10,000,000	\$ 20,000,000	\$ 1,000

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\$ 20,000,000	\$ 50,000,000	\$ 3,000
\$ 50,000,000	\$250,000,000	\$ 5,000
\$250,000,000	\$500,000,000	\$10,000
\$500,000,000	-	\$20,000

In addition, if the Design-Builder fails to adequately correct substantial cited deficiencies in Work Zone Traffic Control within 24 hours of notification by the Authority, or those deficiencies reoccur on a subsequent, but not necessarily concurrent calendar day, liquidated damages will be assessed for each calendar day or part thereof in accordance with the Table 108-1, Table of Liquidated Damages, shown in DB §108-5 in addition to non-payment for deficiencies.

Where major non-conformance with the requirements of this specification is noted by the Authority, and prompt Design-Builder compliance is deemed not to be obtainable, the Authority may stop contract work.

Where major non-conformance with the requirements of this specification is noted by the Authority, and the Design-Builder fails to correct deficiencies for a period of 24 hours, the Authority may correct the adverse conditions by any means deemed appropriate, and will deduct the cost of the corrective work from any monies due the Design-Builder. The cost of this corrective work will be in addition to the non-payment for basic work zone traffic control, non-payment of any other items of work under this section and liquidated damages assessed.

DB 109-7.3 Payment by Authority

Within 30 days after receipt by the Authority of an acceptable request for periodic payment (such acceptability as determined by the Authority), the Authority will pay the Design-Builder the amount of the request approved for payment by the Authority's Project Manager, less any applicable retention, and less any amounts that the Authority is otherwise entitled to withhold.

DB 109-7.4 Adjustment for Cost of Fuel, Asphalt and Steel

There will be no payment adjustment for Cost of Fuel, Asphalt and Steel.

DB 109-7.5 Pay Adjustment for Non-Conforming Work

In accordance with DB §109-7.1(B)(4), a portion of the payment otherwise due for an item of Work may be withheld while a Non-Conformance Report is outstanding for that item.

The Authority may, at its sole discretion, agree to permit deficient Work to remain in place without requiring it to be fully corrected, in which case the Authority shall be entitled to reimbursement of a portion of the Contract Price in an amount equal to the greater of the amount deemed appropriate by the Authority to provide compensation for future maintenance and/or other costs relating to the deficient Work, or 100% of the Design-Builder's cost savings associated with its failure to perform the Work in accordance with the Contract requirements. Such reimbursement shall be payable to the Authority within 10 days after the Design-Builder's receipt of an invoice therefor. The Design-Builder acknowledges and agrees that the Authority shall have sole discretion in determining the amount payable in connection with the deficient Work. No agreement by the Authority to allow deficient Work to remain in place shall relieve the Design-Builder of its Warranty obligations under the Contract.

DB 109-8 [RESERVED]

DB 109-9 EXTRA WORK, FORCE ACCOUNT WORK, AND RECORD KEEPING

The Authority reserves the right to order changes in the scope of the Contract Work as is necessary to complete the Project, in accord with the intent of the Contract Documents. Adjustments to the Contract Price shall be based on negotiations between the Design-Builder and the Authority.

The Design-Builder will be compensated for Extra Work under existing unit prices, by agreed price in accordance with DB §109-9.1, Agreed Price Work, or by Force Account in accordance with DB §109-9.2, Force Account Work.

DB 109-9.1 Agreed Price Work

Agreed prices for new items of work or materials in accordance with one of the methods outlined below may be accepted by the Authority's Project Manager and incorporated into an order-on contract as the Authority may deem them to be just and fair and beneficial to the State. An order on-contract containing an agreed price not supported by one of the following may be subsequently rejected by the Authority or the Office of the State Comptroller

DB 109-9.1.1 Weighted Average Bid Price

Reference to the statewide or regional weighted average bid price for a minimum of 3 contracts for similar type, quantity, and/or location of work from the Weighted Average Item Price Report or other recent contracts, adjusted for documented increase or decrease in labor, materials, equipment, mobilization, and/or site conditions.

DB 109-9.1.2 Price Analysis

A price analysis shall be based on an estimated breakdown of charges listed in DB §109-9.2, Force Account Work, using the equipment and other rates in effect when the agreed price is developed by the Design-Builder. The analysis shall be based on crew composition, material prices, equipment production and overall production rates that are reasonable.

Equipment rates shall be used with no rate adjustment factor and no regional adjustment factor. An appropriate type and size of equipment similar to that available on the contract site, if present, shall be used.

Labor rates may be determined using 15% of wages and supplemental (fringe) benefits for FICA, Medicare, paid holidays, Federal unemployment tax, and State unemployment insurance in lieu of a detailed accounting. Overhead and profit will not be allowed on the labor markup.

Due to the cost and effort associated with development, a price analysis should generally be reserved for Extra Work under an individual contract pay item or a single price analysis, of more than \$1,000.

The Design-Builder shall provide a price analysis within 10 work days of request by the Authority's Project Manager. The Authority will accept or reject the Design-Builder's proposed agreed price within 10 work days of receipt of a complete price analysis.

DB 109-9.2 Force Account Work

Where there are no applicable unit prices for Extra Work and agreed prices cannot be readily established or substantiated, the Design-Builder will be paid by Force Account for the actual, reasonable and verifiable cost of the items listed below. The Design-Builder shall maintain and submit Force Account records in accordance with DB §109-9.3, Force Account Report.

DB 109-9.2.1 Design-Builder Charges

At the preconstruction meeting, the Design-Builder should provide the Authority's Project Manager with documentation supporting its Commercial General Liability Insurance rates for the current period, and provide updates within 30 days after the renewal date, to assist in timely preparation and review of Force Account reports.

- A) Labor: Necessary labor costs include wages, supplemental (fringe) benefits, payroll taxes, state unemployment insurance, workers compensation insurance and other such reasonable charges that are paid by the Design-Builder pursuant to existing written agreements with its employees and/or labor organizations. Each class of labor shall be billed separately at actual payroll rates, average rates based on different classes of labor will not be accepted. The wage rate for an individual worker may be up to 110% of the prevailing wage, provided the Design-Builder documents through certified payrolls that the worker has and continues to be paid more than the prevailing wage for contract work. No reimbursement will be made for travel, lodging, signing bonuses, or other similar payments made to workers. At the Design-Builder's option, a labor markup of 15% of all wages, not including supplemental (fringe benefits), for FICA, Medicare, paid holidays, Federal unemployment tax, and State unemployment insurance, may be utilized in lieu of a detailed accounting. Overhead and profit will not be paid on the labor markup. Workers compensation insurance rate will be the base rate and the territorial differential only established by the NYS Workers Compensation Insurance Rating Board, subject to the Construction Employment Limitation Program limits. No other additional charges or modifiers will be included. Insurance and other costs incurred or limited on a weekly basis will be reimbursed based on the percentage of the employees weekly gross wages paid under Force Account.

- B) Materials: Materials are necessary products incorporated in the temporary or permanent work, including transportation to the site. Transportation may be accounted for under materials as either a unit price for transportation or equipment/operator charges. Equipment charges for transportation of materials shall be accounted for as equipment in accordance with DB §109-9.2.1(C), Equipment, with no allowance for overhead and profit. Materials will be measured as quantities incorporated, with no reduction for required overlap, and appropriate waste due to construction and/or installation.

Oxygen, acetylene, propane, welding rods, grinding wheels, saw blades, hammer and drill bits, drill steel, and tooth-bits consumed in progressing the work are considered to be materials for which reimbursement will be made. Other materials which are consumed in progression of the work are considered to be included in overhead and no separate reimbursement will be made. Material acquired by direct purchase shall be documented by bills or acceptable invoices. All prices on used material incorporated in either temporary or permanent work shall be billed at a fair value, less than the original cost when new. A reasonable salvage credit will be determined by the Authority's Project Manager in coordination with the Design-Builder for substantial salvageable material recovered.

C) Equipment: Equipment, other than small tools, used by the Design-Builder shall be of suitable size and suitable capacity required for the work to be performed. If the Design-Builder elects to use equipment of a higher rate than the equipment suitable for the work, payment will be made at the rate applicable to the suitable equipment. The equipment actually used and the suitable equipment upon which the rate is based will be recorded as a part of the Force Account report. Usage will be recorded in hours to the nearest whole hour. The Authority's Project Manager will determine the suitability of the equipment. If there is a differential in the rate of pay of the operator of oversize or higher rate equipment, the rate paid for the operator will likewise be related to the suitable equipment.

1) Design-Builder Owned Equipment: The Design-Builder will be reimbursed for its ownership costs and for its operating costs for self owned equipment at the rates listed in the "Rental Rate Blue Book for Construction Equipment", published by Primedia Information, Inc. (hereafter referred to as the Blue Book) in effect at the time the work is performed.

a) Ownership Costs: The rates for ownership costs will reimburse the Design-Builder for all non-operating costs of owning equipment, including depreciation on the original purchase, major overhaul repairs, cost of facilities capital, normal risk insurance, property taxes, storage, licenses, record keeping costs, overhead, and profit. In the event that the Design-Builder does not have a needed type or piece of equipment on the contract site, the Design-Builder will be paid for the reasonable cost of moving the equipment onto and away from the contract site.

The hourly rate for the first 8 hour shift will be the Blue Book monthly rate divided by 176 multiplied by the rate adjustment factor and then multiplied by the regional adjustment factor. The hourly rate for subsequent shifts during the same day will be 75% of the first shift hourly rate. Equipment required to be present, but idle, will be paid at 50% of the first shift hourly rate. Reimbursement will be made for the product of the hours of actual use or hours it is required to be present, and not available for mobilization elsewhere, multiplied by the hourly rate.

b) Operating Costs: The rate for operating costs includes preventative and field maintenance, fuel, lubricants, and other operating expendables. Operating cost does not include the operator's wages. Reimbursement will be made for the product of the number of hours of actual use multiplied by the operating rate. The hourly rate will be paid for all hours of operation, including those during subsequent shifts on the same day.

c) No Established Rate: In the event that rates are not established in the Blue Book for a particular piece of equipment, the Design-Builder shall contact the Blue Book publisher to establish rates. If the publisher will not establish rates, the Authority will establish rates for ownership costs and operating costs for that piece of equipment consistent with its cost and expected life.

2) Rented Equipment: In the event that the Design-Builder does not own a specific type of equipment and must obtain it by rental, the Design-Builder will be paid for the time that the equipment is used to accomplish the work or is required to be present, plus the reasonable cost of moving the equipment onto and away from the contract site.

- a) Rental Costs: The Design-Builder will be paid the invoiced rental rate for the equipment, not to exceed the Blue Book ownership rate.
 - b) Operating Costs: The Design-Builder will be paid for the operating cost of the equipment in accordance with DB §109-9.2.1(C)(1)(b), unless reflected in the rental price.
 - c) Rates Including Operator: In the event that the Design-Builder rents equipment with an operator or fully fueled and/or maintained equipment such as cranes, concrete pumpers, trucks, etc. payment will be made on the basis of an invoice for the rental of the equipment and the costs of moving to and from the site, provided the total rate is substantiated by area practice. The rate including operator will not exceed the total of the ownership rate and the operating rate from the Blue Book, and the prevailing wage rate of an appropriate operator, if an operator is supplied.
- 3) Maximum Ownership/Rental Costs: The maximum amount paid for the ownership costs of Design-Builder owned or the rental costs of rented equipment, is limited to the original purchase price as listed in the "Green Guide for Construction Equipment" published by Primedia Information, Inc. If the ownership or rental reimbursement is limited by the original purchase price, the Design-Builder will be reimbursed for the operating cost per hour for each hour of actual use.
- D) Sales Taxes: Sales taxes, if any, required to be paid on rented equipment or materials not permanently incorporated into the work.
- E) Overhead: Overhead will be computed at ten percent (10%) of items in DB §109-9.2.1(A), Labor, (but not including the premium portion of overtime) and DB §109-9.2.1(B), Materials, and will be defined to include the following:
- 1) Additional premium on bond, additional premium for insurance required by the State other than Workers Compensation Insurance and Commercial General Liability Insurance;
 - 2) All salary and expenses of executive officers, supervising officers/ employees, superintendents, and clerical or administrative employees, including payroll taxes, unemployment insurance, workers compensation insurance, and charges that are paid by the Design-Builder to or on behalf of those employees pursuant to written agreement with its employee(s) and/or labor organizations;
 - 3) Minor equipment such as small tools, including shovels, picks, axes, saws, bars, sledges, lanterns, jacks, etc., and other miscellaneous supplies and services;
 - 4) Design-Builder's field office rental, utility charges, potable water, sanitation, cleaning, computers, CADD equipment, drafting equipment reproduction costs, etc.
- F) Profit: Profit will be computed at ten percent (10%) of items DB §109-9.2.1(A), Labor (but not including the premium portion of overtime) and DB §109-9.2.1(B), Materials.
- G) Commercial General Liability (CGL) Insurance: Commercial General Liability (CGL) insurance will be reimbursed at the rate paid by the Design-Builder in accordance with the method procured from its insurer.

- 1) Design-Builders that pay commercial general liability on the basis of a percentage of payroll will be paid that percentage of item DB §109-9.2.1(A), Labor.
- 2) Design-Builders that pay commercial general liability on the basis of a percentage of gross sales will be paid that percentage of items DB §109-9.2.1(A) through (F).

DB 109-9.2.2 Subcontractor Charges

When the work is performed by a Subcontractor (excluding, the Designer, Independent Construction Inspection Professional Engineering Firm and Materials Testing Firm or Laboratory), the Design-Builder will be paid the actual and reasonable cost of such subcontracted work as outlined above in DB §109-9.2.1(A) through (G), plus an additional overhead of five percent (5%) of the cost of items DB §109-9.2.1(A), Labor and DB §109-9.2.1(B), Materials.

DB 109-9.2.3 Service Charges

When work is performed by, and a fee is paid to, a service provider, the Design-Builder will be paid the actual cost of the service fee plus five percent (5%) for contract supervision, overhead and profit. This 5% will be applied once to the service fee regardless of the firm making direct payments to the service provider.

DB 109-9.3 Force Account Report

Payment for Force Account Work will be made on the basis of the following reports. Reports shall be submitted in a format acceptable to the Authority. Appropriate forms are available from the Authority.

If the Authority's Project Manager disagrees with the accuracy, applicability, or reasonableness of any portion of a Design-Builder's submission, he/she shall promptly notify the Design-Builder. The Authority's Project Manager will make any notations, remarks or comments on the records that may assist in final payments and then sign and date to indicate receipt, but not necessarily concurrence.

DB 109-9.3.1 Daily Summary

The Design-Builder shall deliver a daily summary of Force Account Work to the Authority's Project Manager not later than close of business on the work day following that for which the work is reported. This summary shall be dated and signed by the Design-Builder's authorized representative. The summary shall contain:

- A) The contract number, other contract information and the Design-Builder name/information.
- B) A brief description of the work performed and the work location for that day.
- C) A list of personnel by name, including the hours worked, and labor classification.
- D) A list of materials used indicating the quantity and nature. The cost shall be documented later by proper receipts.

E) A list of equipment used indicating the number of hours used and the type, manufacturer, model, model year, size of equipment, and any required attachments.

DB 109-9.3.2 Weekly Labor Summary

Within 5 calendar days after the end of each pay period, the Design-Builder should deliver to the Authority's Project Manager a Force Account Summary of Labor used on the work, which shall include the name, labor classification, hours worked, hourly rate of pay, supplemental (fringe) benefits, and/or other items as shown on the certified payroll. If the Design-Builder does not provide the Authority's Project Manager with Weekly Labor Summaries, no progress payments on that Force Account will be made.

DB 109-9.3.3 Force Account Report Submission

On completion of the specific Force Account Work, the Design-Builder shall deliver to the Authority's Project Manager a Force Account Report, wherein all labor, materials, equipment, and other charges are shown and totaled. The Force Account Report shall be dated and signed by the Design-Builder's authorized representative. When the Design-Builder and the Authority's Project Manager agree on the Force Account Report, the Authority's Project Manager will prepare and submit an order-on-contract containing the Force Account Report to the Regional Construction Authority's Project Manager for approval.

DB 109-9.3.4 Force Account Review

The Authority will review the Force Account Report and make any notations, remarks or comments on this form that may assist in final payments. The emphasis of this review will be on labor rates, payroll taxes, material costs, equipment rates, insurance rates, conformance with payment provisions of technical specifications, and overall documentation. The Regional Construction Authority's Project Manager will forward the order-on-contract to the Director, Office of Construction Division. The Authority, after review and approval, will forward the order-on-contract to the Office of the State Comptroller (OSC) for review and approval. Payment cannot be made prior to approval by the OSC.

DB 109-9.3.5 Late Submissions

In the event the Design-Builder fails to deliver the required Force Account documentation to the Authority's Project Manager in a timely manner, and as a result the order-on-contract for the Force Account Work is not fully approved at the date of Final Acceptance, the required final payment date will be extended by the number of calendar days between Final Acceptance and the issuance of this Force Account order-on-contract, attributable to the Design-Builder's late Force Account submissions.

DB 109-10 DISPUTE RESOLUTION AND DISPUTED WORK PROVISIONS

It is the goal of the Authority to resolve Disputes that may arise under the Contract in a timely, just, and fair manner consistent with the terms of the Contract. Towards this goal, the Authority is specifying these dispute resolution provisions and disputed Work provisions. The dispute resolution process may be undertaken at any time from the Contract award to the submission of the Final Invoice for payment by the Comptroller. The process recognizes and will take into consideration the risks and controls inherent in construction which the Design-Builder or the

Authority has agreed to assume pursuant to the terms of the Contract. The Design-Builder shall continue the work during the pendency of the Dispute.

Disputes of any nature shall be made in strict accordance with the Contract provisions, including the notice and recordkeeping provisions of DB §§104-7 and 109-9, 109-10 and 109-15, which are a condition precedent to any recovery, including those available in a court action or proceeding. If the Design-Builder fails to strictly comply with either the notice or the recordkeeping provisions, any claim of the Design-Builder with respect thereto shall be deemed waived, and the Authority shall not have to show prejudice to its interest before such denial is made. Timely notice and recordkeeping affords the Authority the opportunity to initiate measures, including modification of specifications or deletion of portions of the work, in order to mitigate damages to all parties and/or to agree to terms and conditions for timely payment for any eligible additional costs. The Design-Builder is encouraged, when initiating a Dispute, to provide information concerning measures that may be taken to mitigate the damages.

If the Design-Builder is of the opinion that any work directed by the Authority's Project Manager to be completed as Contract Work is Extra Work and not Contract Work, or that any order of the Authority's Project Manager exceeds the requirements of the provisions of the Contract, the Design-Builder shall provide the Authority written notice and maintain records in accordance with DB §104-7, Notice and Recordkeeping. After submitting the required notice, the Design-Builder shall complete its Dispute submission as soon as such information is ascertainable by the Design-Builder.

- A) **Determined to Be Contract Work.** If the Authority determines that the disputed work is Contract Work and not Extra Work, or that the direction given to the Design-Builder and protested was proper, the Authority will direct the Design-Builder to continue the disputed work and the Design-Builder shall promptly comply. The Design-Builder's rights to further pursue a Dispute for extra compensation or damages will not be affected in any way by the Design-Builder complying with the directions of the Authority to proceed with the work, provided the Design-Builder continues to keep and furnish the Authority with required records.

- B) **Determined to Be Extra Work.** If the Authority determines that the disputed work is Extra Work and not Contract Work, or that a direction given to the Design-Builder and protested was not proper, then a Contract adjustment will be made. Compensation will be made for such work in accordance with DB §109-9 Extra Work, Force Account and Recordkeeping. The Design-Builder shall continue to maintain Force Account records until receipt of the Order-on-Contract approved by the Office of the State Comptroller. Documented, additional, actual and reasonable costs incurred by the Design-Builder pursuant to following a written order to perform work (that was subsequently contained in an Order-on-Contract which was disapproved) will be considered reimbursable. Eligibility for additional compensation shall cease upon notification of the disapproval of an Order-on-Contract.

DB 109-10.1 Time Related Disputes

With respect to Time Related Disputes, the Design-Builder will only be eligible for extra compensation for expenses or costs which are identified as compensable under DB §109-15.1 Compensable Delays and Changed Conditions. In the event any legal action is instituted against the Authority by the Design-Builder due to any such dispute for additional compensation, whether due to time related dispute, delay, acceleration, breach of contract, or otherwise, the Authority's liability will be limited to those items which are specifically identified as

compensable under §109-10.2(A) Recoverable Contractor Costs. Nothing in this subsection is intended to create any liability of the Authority not existing at common law or pursuant to the terms of this contract or to prevent the Design-Builder from filing a claim in the New York State Court of Claims after the dispute resolution procedure enumerated in DB §109-10.4 has been complied with. The remedies contained herein are exclusive.

Whenever the Design-Builder believes that it is or will be entitled to additional compensation for Time Related Disputes, whether due to delay, Extra Work, disputed Work, breach of the Contract, or other causes, the Design-Builder shall follow the procedures set forth in this Section. All Subcontracts or supply or equipment contracts shall incorporate the provisions of this Section. If such Subcontracts or supply or equipment contracts do not have similar provisions, then the Authority payments to the Design-Builder for such Subcontract or supply or equipment shall be limited to only those payments that would be allowed under the provisions of this Section as if it were in effect for such Subcontract or supply or equipment contract.

- A) This Section is intended to cover all such events which include termination for convenience (DB §105-7), major deductions or increases in scope of Work, and suspension of Work (DB §105-1), as well as actions, forces, or factors, whether they be termed “delay,” “disruption,” “interference,” “inefficiencies,” “impedance,” “hindrance,” “acceleration,” or otherwise.
- B) Strict compliance with the notice provisions and the record keeping provisions of this Section shall be an essential condition precedent under the Contract to any recovery of time related damages by the Design-Builder whether it be under the Contract provisions, court actions and proceedings, or otherwise.
- C) Except for situations that come within the terms of DB §109-15, within 10 work days after the Design-Builder has knowledge or should have had knowledge of an event, matter, or occasion that will result in time related damages, the Design-Builder must provide the Authority’s Project Manager with written notice of a Dispute for time related damages.
- D) The Authority shall have no liability and no adjustment will be made for any time related damages which accrued more than 10 work days prior to the filing of such a notice with the Authority’s Project Manager. Failure of the Design-Builder to give such written notice in a timely fashion will be grounds for denial of the Dispute and the Authority does not have to show prejudice to its interest before such denial is made, in the event the Design-Builder fails to provide the required written notice within the 10 work day period. In the event the Design-Builder fails to maintain and submit such specified records, the Design-Builder hereby agrees to waive the Dispute for compensation, notwithstanding the fact that the Authority may have actual notice of the facts and circumstances which comprise such Dispute and is not prejudiced by said failure.
- E) The Design-Builder may not maintain a Dispute for costs associated with acceleration of the Work unless the Authority has given prior express written direction by the Authority’s Project Manager to the Design-Builder to accelerate its effort. The Design-Builder shall always have the basic obligation to complete the Work in the time frames set forth in the Contract. For purposes of this Section, lack of express written direction on the part of the Authority shall never be construed as assent. If the Design-Builder does accelerate its Work efforts pursuant to a written order or express written Approval by the Authority’s Project Manager, the Design-Builder shall be compensated for its effort in the same

manner and as limited by DB §109-10.2. Any claim for a “constructive acceleration” is subject to the requirements of this DB §109-10.1.

- F) As directed by the Authority’s Project Manager, the Work shall continue during the pendency of the Dispute.

- G) After giving the Authority notice of a Dispute for time related damages, the Design-Builder must keep daily records, certified by the Design-Builder’s Design Quality Control Engineer and/or the Construction Quality Control Engineer, of all labor, material, and equipment costs and hours incurred for the affected operations, including overhead costs. The daily records must identify each operation and the specific locations where Work is affected and must be provided to the Authority’s Project Manager for review and signature on a daily basis. Costs that are incurred on a monthly or other periodic basis, such as field office expense, shall be submitted within one week following the week of receipt of invoices pertaining thereto. On a weekly basis, beginning the week following the date of giving notice of a Dispute for time related damages, the Design-Builder shall meet with the Authority’s Project Manager and present the daily records for the preceding week. If the Authority’s Project Manager disagrees with the accuracy, applicability, or reasonableness of any portion of the Design-Builder’s submission, he/she shall promptly notify the Design-Builder who shall correct its records. If there is a Dispute as to records, the Design-Builder must follow the requirements of DB §109-10.4. Lack of compliance with the requirements to hold monthly meetings or present its records will constitute a waiver by the Design-Builder of said Dispute for time related damages.

- H) After giving notice of a Dispute for time related damages, the Design-Builder shall prepare and submit to the Authority’s Project Manager, weekly written reports until complete resolution of the Dispute, which shall be available at the next scheduled job meeting, providing the following information:
 - 1) Potential effect to the Design-Builder’s schedule caused by the Time Related Dispute;
 - 2) Identification of all operations that have been affected or delayed, or are or may be affected or delayed;
 - 3) Explanation of how the Authority’s act or omission affected or delayed each operation and estimation of how much more time is required to complete the Project;
 - 4) Itemization of all extra costs being incurred, including the following:
 - a) An explanation as to how those extra costs relate to the effect or delay and how they are being calculated and measured;
 - b) Identification of all Project employees for whom costs are being compiled; and
 - c) Identification of all manufacturers’ numbers of all items of equipment for which costs are being compiled.

- I) In addition, after submitting the required notice specified in this Section, the Design-Builder shall complete its Dispute submission by complying with DB §109-10.6, when such information is ascertainable by the Design-Builder, and DB §109-10.7.

- J) Following receipt of the materials described above, the Authority's Project Manager shall make the initial determination in writing on the Dispute.
- K) If the Design-Builder accepts the Project Manager's determination, including deemed acceptance due to failure to proceed in accordance with DB §109-10.4, the Authority's Project Manager will process an Order on Contract, as appropriate, to implements his or her determination. The Project Manager will notify the Design-Builder in writing of the date upon which the Authority has approved the Order on Contract.

See DB §§109-10.4 for the process to be followed in the event that the Design-Builder does not accept the determination made by the Project Manager. If the Design-Builder fails to proceed in accordance with DB §109-10.4, it shall be conclusively deemed to have accepted the determination made by the Authority's Project Manager.

DB 109-10.2 Time Related Dispute Compensation

- A) Recoverable Design-Builder Costs. Only the following elements will be recoverable by the Design-Builder as time related dispute compensation, and will only be recoverable provided that they are actual and reasonable. Any such adjustment will be made via Order on Contract. Escalated costs will include unanticipated higher or lower costs attributable, with appropriate credits, to the performance of Work or portions of Work in an extended time period due to extenuating circumstances beyond the control of the Design-Builder. Extra Work required due to a time related dispute shall be accounted for and reimbursed in accordance with DB §109-9.2 Force Account Charges, less any appropriate credit.
 - 1) Labor. Documented escalated labor costs determined in accordance with DB §109-9.2.1.A;
 - 2) Materials. Documented escalated material costs determined in accordance with DB §109-9.2.1.B;
 - 3) Equipment. Documented escalated equipment costs less appropriate credits, determined in accordance with DB §109-9.2.1.C. The ownership cost for idle equipment will be 50% of the rate set forth in §109-9.2.1.C. Idle time shall not exceed 8 hours per day, 40 hours per week, or the annual usage hours established in the "Blue Book." No operating costs will be paid for idle equipment;
 - 4) Field Office Costs. Fees paid to service provider(s) for required field office rental, utility charges, potable water, sanitation, cleaning, etc. The Design-Builder will be paid the actual cost of the service fee plus 5% for contract supervision, overhead and profit. This 5% will be applied once to the service fee regardless of the firm making direct payments to the service provider;
 - 5) Extended Contract Site Overhead. Documented additional or escalated contract site overhead costs during the extended period, including superintendent, office engineer and clerical staff, but not including working foremen;
 - 6) Home Office Overhead. Home office overhead equal to 10% of the total of items DB §109-9.2.1.A and DB §109-9.2.1.B;

- 7) Profit. Profit of 10% of the total of items (1), (2), and (4), above, except no profit or anticipated profits will be allowed when any of the following sections apply: (a) DB §104-3.2 Significant Changes in Character of the Work; (b) DB §104-4 Changes in Basic Project Configuration; Utility Relocations; Hazardous Materials; Environmental Mitigation; (c) DB §104-5 Differing Site Conditions; or (d) §109-15.2 Suspensions of Work Ordered by the Authority's Project Manager;
- 8) Insurance and Bond Costs. Documented additional or escalated premiums on bonds and insurance for the extended period;
- B) Recoverable Subcontractor Costs. When the Work is performed by a Subcontractor, the Design-Builder shall be paid the actual and reasonable cost of such subcontracted Work as outlined above in (1) through (7) and an additional overhead of 5% of the Subcontractor costs outlined in (1) through (3) above
- 1) Non-Recoverable Costs. The parties agree that, in any Dispute for time related damages, the Authority will have no liability for the following items and the Design-Builder further agrees it shall make no claim for the following items:
- A) Overhead in excess of that provided in DB §§109-10.2(A)(4), 109-10.2(A)(5), 109-10.2(A)(6) and 109-10.2(B);
- B) Profit, in excess of that provided in DB §§109-10.2(A)(4), 109-10.2(A)(7) and 109-10.2(B);
- C) Loss of anticipated or unanticipated profit;
- D) Labor inefficiencies and loss of productivity;
- E) Consequential damages, including interest which is paid on such monies; loss of bonding capacity, bidding opportunities, interest on investment; or any resultant insolvency;
- F) Indirect costs or expenses of any nature;
- G) Direct or indirect costs attributable to performance of the Work where the Design-Builder, because of situations or conditions within its control, has not progressed in a manner satisfactory to the Authority's Project Manager; and
- H) Attorney's fees and dispute or claims preparation expenses;
- I) Joint venture costs and expenses.
- C) Remedies Exclusive. With respect to Time Related Dispute compensation provisions, the parties agree that the Authority shall have no liability to the Design-Builder for expenses, costs, or items of damage other than those which are specifically identified as payable under DB §109-10.2. In the event any legal action is instituted against the Authority by the Design-Builder on account of any such dispute for additional compensation, whether on account of Time Related Dispute, delay, acceleration, breach of contract, or otherwise, the Design-Builder agrees that the Authority's liability will be limited to those items which are specifically identified as compensable under this DB §109-10.2. The Design-Builder further

agrees to make no claim for expenses other than those which are specifically identified as compensable under DB §109-10.2.A or B. Nothing in this Section is intended to create any liability of the Authority not existing at common law or pursuant to the terms of this Contract or to prevent the Design-Builder from filing a claim in the New York State Court of Claims after the dispute resolution procedure enumerated in DB §109-10.4 has been complied with.

DB 109-10.3 Reserved

DB 109-10.4 Disputed Work

If the Design-Builder is of the opinion that any Work ordered by the Authority's Project Manager to be done as Contract Work is Extra Work and not Contract Work, or that any order of the Authority's Project Manager exceeds the Work requirements of the provisions of the Contract, the Design-Builder shall promptly, within 10 work days of receipt of the order or direction, notify the Authority's Project Manager in writing of its contentions thereto. The Design-Builder must progress the Work as required and ordered. In addition, after submitting the required notice specified in this Section, the Design-Builder shall complete its Dispute submission by complying with DB §109-10.6, when such information is ascertainable by the Design-Builder, and DB §109-10.7. This Section shall cover all such applicable Extra Work under DB §109-15.

Step 1, Disputes submitted to the Project Manager:

Following receipt of such notification, the Project Manager shall determine whether such Work is Extra Work in accordance with DB §104-3. If the Project Manager determines that the Work in question is Contract Work and not Extra Work or that the order complained of is proper, he/she shall direct the Design-Builder to continue the disputed Work and the Design-Builder must promptly comply.

The Design-Builder's right to pursue a Dispute under this Section for extra compensation or damages will not be affected in any way by the Design-Builder's complying with the directions of the Authority to proceed with the Work, provided the Design-Builder continues to keep and furnish the Authority's Project Manager with Force Account reports as specified in DB §109-9.2.3.

If the Project Manager determines that such Work is Extra Work and not Contract Work or that the order complained of is not proper, then the Project Manager shall have prepared, if necessary, an Order on Contract covering such Work as soon as is practical after the determination is made. Payment will be made for such Work via agreed price or Force Account pursuant to DB §109-9.2.2. The Project Manager will notify the Design-Builder in writing of the date upon which the Authority has approved the Order on Contract. Performance of Work until receipt of the Order on Contract by the Design-Builder shall be considered disputed Work. The Design-Builder must progress the Work of the Contract, including the Work covered by any such Order on Contract, as directed by the Authority's Project Manager.

During the progress of any disputed Work, the Design-Builder shall keep daily records and make reports of all labor, material, and equipment used in connection with such Work and the cost thereof as specified in DB §109-9.2.2.

Adjustments to Contract items, adjustments to the time of performance, or the addition of new items to the Contract necessitated by such determination may be made up until the time the

Final Supplemental Agreement is submitted for payment to the Comptroller, provided that all the requirements of DB §§109-9 and 104-3 are complied with. In addition, documented, additional, actual, and reasonable costs incurred by the Design-Builder pursuant to following a written order to perform Work (that was subsequently contained in an Order on Contract which was disapproved) will be considered as reimbursable. This Work will be considered disputed Work for which the Design-Builder will be compensated. Eligibility for compensation shall cease upon notification of disapproval of the Order on Contract. Failure by the Design-Builder to promptly notify, in writing, the Authority's Project Manager, as provided in this Section, of its contentions relative to any Dispute, or any failure to maintain and furnish Force Account reports for disputed Work, shall constitute a waiver of the disputed Work.

See DB §§109-10.4, Step 2 for the process to be followed in the event that the Design-Builder does not accept the determination made by the Project Manager. If the Design-Builder fails to proceed in accordance with DB §109-10.4, Step 2, it shall be conclusively deemed to have accepted the determination made by the Authority's Project Manager.

Step 2, Appeals of the Project Manager's Determination:

If the Design-Builder considers a Dispute unresolved after receipt of the determination from the Authority's Project Manager under DB §109-10.1 or 109-10.4, the Design-Builder may notify the Authority's Regional Director in writing of its position relative to the Dispute, within 10 working days after receipt of the determination from the Authority's Project Manager. The Regional Director shall then make a determination in writing on the Dispute after consideration of all records pertaining to the Dispute and the decision of the Project Manager.

Step 3, Appeals of the Regional Director's Determination:

If the Design-Builder considers the issue still unresolved, it shall, within 10 work days after receipt of the determination from the Authority's Regional Director, notify the Authority's Chief Engineer in writing of its position relative to the Dispute. The Design-Builder shall also deliver copies to the Authority's Project Manager and Regional Director.

If no such notice is timely delivered, the Dispute shall be considered as conclusively resolved by the determination of the Authority's Regional Director. In such event, an Order on Contract will be issued, as appropriate, to implement the determination of the Regional Director, as soon as is practical after the determination is made. Payment will be made for such Work via agreed price or Force Account pursuant to DB §109-9.2.2. The Project Manager will notify the Design-Builder in writing of the date upon which the Authority has approved the Order on Contract. Performance of Work until receipt of the Order on Contract by the Design-Builder shall be considered disputed Work. The Design-Builder must progress the Work of the Contract, including the Work covered by any such Order on Contract, as directed by the Authority's Project Manager.

Step 4, Appeals of the Chief Engineer's Determination:

In the event that a Dispute is still unresolved following a determination by the Chief Engineer, the Design-Builder may bring the Dispute to the Commissioner for Authority determination by delivering a further written notice requesting same within 10 work days after receipt of the determination from the Authority's Chief Engineer. The unresolved disputes may be presented without delay, or if determined appropriate by the parties, may be presented at the end of the project at a dispute closeout meeting.

The Commissioner shall appoint his/her designee(s) to analyze and make a final determination of the dispute(s). The Commissioner's representative(s) may conduct meetings in order to hear the positions of the Authority and Design-Builder. At such meetings, both the Authority and Design-Builder shall have an equal opportunity to present their respective positions for consideration. The Authority and Design-Builder shall be represented by a/an authorized representative(s) and may have the opportunity to have experts participate.

If the Authority, on behalf of the Commissioner, makes a determination in favor of the Design-Builder, the decision will be considered binding as to entitlement, but his or her determination regarding the amount authorized will be considered non-binding and subject to the Authority's final review and audit of the Design-Builder's costs relating to the dispute.

Any subsequent Contract modification is subject to approval by the State Comptroller. The Design-Builder will be notified of the Authority's final and binding decision in writing.

The Design-Builder shall be required to exhaust its administrative remedies under this DB §109-10, including the steps enumerated in DB §§109-10.1, as well as obtaining a final and binding decision from the Authority under this DB §109-10.4, before commencing any court action or proceeding, and shall affirmatively plead compliance with this condition precedent in any complaint or petition.

DB 109-10.5 Auditing of Records

The Design-Builder must have the following records available for audit at any time following the filing of a Dispute, whether or not such Dispute is part of a suit pending in the courts of this State, and upon request shall provide a true and complete copy of any and all such records to the Authority. If a Dispute is filed on behalf of a Subcontractor or Supplier, such Subcontractor or Supplier must also have the following records available for audit any time following the filing of such Dispute, whether or not such Dispute is part of a suit pending in the courts of this State. The audit may be performed by employees of the Authority or by an independent auditor appointed by the Authority. The audit may begin on 10 work days' notice to the Design-Builder, Subcontractor, or Supplier as is appropriate. The Design-Builder, Subcontractor, or Supplier shall cooperate with the auditors. The Authority will maintain the audit, its backup, reports, schedules, and conclusions as confidential material. Failure of the Design-Builder, Subcontractor, or Supplier to maintain and retain sufficient records shall constitute a waiver of that portion of such Dispute that cannot be verified and shall bar recovery.

Without limiting the generality of the foregoing, the auditors shall have available to them, and the Design-Builder agrees to provide access to, the following documents:

- A) Daily time sheets, job superintendent diaries or log sheets, and foreman's daily reports.
- B) Union agreements and reports, if any.
- C) Insurance policies, welfare and benefits records, or plans for union and non-union personnel.
- D) Payroll register.
- E) Individual employee earnings records.

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- F) Payroll tax returns.
- G) Material invoices, purchase orders, and all material and supply acquisition contracts.
- H) Material cost distribution work sheet.
- I) Equipment records (list of company equipment, rates, depreciation schedules, daily equipment reports or logs, fueling logs or records, equipment lease/purchase agreements, and equipment purchase invoices).
- J) Vendor rental agreements and Subcontractor invoices, agreements, and back charge records.
- K) Subcontractor payment certificates.
- L) Canceled checks (payroll and vendors).
- M) Job cost ledger or report.
- N) Job payroll ledger, petty cash journal, and supporting vouchers.
- O) General ledger, general journal (if used), and all subsidiary ledgers and journals together with all supporting documentation pertinent to entries made in these ledgers and journals.
- P) Cash receipts, cash disbursements journal, and purchase journal.
- Q) Audited and unaudited financial statements for all years reflecting the operation on this Project.
- R) Depreciation records on all company equipment whether such records are maintained by the company involved, its accountant, or others.
- S) If a source other than depreciation records is used to develop costs for the Design-Builder's internal purposes in establishing the actual cost of owning and operating equipment, all such other source documents.
- T) All documents which reflect the Design-Builder's actual overhead during the years this Project was being performed.
- U) All documents related to the preparation of the Design-Builder's Proposal including the final calculations on which the Proposal was based.
- V) All documents related to each Dispute together with all documents which support the amount of damages as to each Dispute.
- W) Work sheets used to prepare the Dispute establishing the cost components for items of the Dispute including, labor, benefits and insurance, material, equipment, and Subcontractors and all documents which establish the time periods, the individuals involved, and the hours and rates for the individuals.

In the event the Design-Builder fails to substantially furnish the above required reports and accounting records, such failure shall constitute a waiver of the Dispute for additional payment.

DB 109-10.6 Required Content of Dispute Submission

All Disputes must be submitted in writing to the Authority's Project Manager, and must be in sufficient detail to enable the Authority's Project Manager to ascertain the basis and the amount of each Dispute. As a minimum, the following information must be provided when such information is ascertainable by the Design-Builder:

Time Related Dispute Submission:

- A) A description of the operations that were delayed, the reasons for the delay, and how they were delayed, including the report of all scheduling experts or other consultants, if any.
- B) An as-built chart, Critical Path method scheme meeting the requirements of the Contract scheduling requirements, and any other appropriate diagrams or charts depicting in graphic form how the operations were or are presumed to be adversely affected.
- C) The date on which actions resulting in the Dispute occurred or conditions resulting in the Dispute became evident.
- D) A copy of the notice of Dispute required per DB §109-10.1(C) for the specific Dispute by the Design-Builder.
- E) To the extent known, the name, function, and activity of each official, employee, or agent of the Authority involved in, or knowledgeable about, facts that gave rise to such Dispute.
- F) The name, function, and activity of each Design-Builder or Subcontractor official or employee involved in, or knowledgeable about, facts that gave rise to such Dispute.
- G) The identification of any pertinent documents, and the substance of any material oral communication relating to such Dispute.
- H) A statement as to whether the additional compensation or extension of time, if requested, is based on the provisions of the Contract or is an alleged breach of the Contract.
- I) The amount of additional compensation sought and a breakdown of that amount into the categories specified as payable under DB §109-10.2 above.
- J) If an extension of time is also requested, the specific days for which it is sought and the basis for such request as determined by an analysis of the Baseline Progress Schedule.

For Other Disputes Including Acceleration Disputes:

- A) A detailed factual statement of the Dispute providing all necessary dates, locations, and items of Work affected by the Dispute.
- B) The date on which actions resulting in the Dispute occurred or conditions resulting in the Dispute became evident.
- C) A copy of the notice of dispute required for the specific Dispute by the Contract pursuant to DB §109-10.4.

- D) The name, function, and activity of each official, employee, or agent of the Authority involved in, or knowledgeable about, facts that gave rise to such Dispute.
- E) The name, function, and activity of each Design-Builder or Subcontractor official, employee, or agent involved in or knowledgeable about facts that gave rise to such Dispute.
- F) The specific provisions of the Contract which support the Dispute and a statement of the reasons why such provisions support the Dispute.
- G) The identification of any pertinent documents and the substance of any material oral communications relating to such Dispute.
- H) A statement as to whether the additional compensation or extension of time requested is based on the provisions of the Contract or an alleged breach of the Contract.
- I) If an extension of time is also requested, the specific days for which it is sought and the basis for such request as determined by an analysis of the construction schedule.
- J) The amount of additional compensation sought and a breakdown of that amount shall conform to the requirements of DB §109-10.2.

DB 109-10.7 Required Certification of Disputes

When submitting any Dispute over \$50,000, the Design-Builder must certify in writing, under oath, and in accordance with the formalities required by the Contract, as to the following:

- A) That supporting data is accurate and complete to the Design-Builder's best knowledge and belief; and
- B) That the amount of the Dispute and the Dispute itself accurately reflects what the Design-Builder in good faith believes to be the Authority's liability.

If the Design-Builder is an individual, the certification shall be executed by that individual.

If the Design-Builder is not an individual, the certification shall be executed by the following:

- 1) A senior company official in charge at the Design-Builder's plant or location involved; or
- 2) An officer or general partner of the Design-Builder having overall responsibility for the conduct of the Design-Builder's affairs.

DB 109-11 PARTIAL ACCEPTANCE AND PROJECT COMPLETION

DB 109-11.1 Partial Acceptance of Units or Portions of the Project

If at any time during the prosecution of the Project the Design-Builder satisfactorily completes a unit or portion of the Project, the Design-Builder may request the Authority's Project Manager to make a detailed Inspection of that unit to determine whether it is substantially complete. A copy of the detailed Inspection list will be furnished to the Design-Builder. When this Inspection progresses over any length of time, copies of the list will be furnished as the Inspection progresses so that the Design-Builder may proceed with the required Work without delay. If the Authority's Project Manager finds upon Inspection that the unit has been satisfactorily

completed in compliance with the Contract, the Authority's Project Manager may issue a notice of Substantial Completion.

Following Substantial Completion of any unit, the Authority may accept that unit as being completed, and relieve the Design-Builder of maintenance responsibility with respect to such unit. Such agreement shall in no way void or alter the terms of this Contract. The Design-Builder will remain responsible for correction of any defects discovered prior to Project Completion of the Work, and will also remain responsible for Warranties with respect to such Work hereunder. Devices intended to be used for traffic safety and control that are permanently installed in their final position with all ancillary components and being used by the traveling public shall be accepted when installed in accordance with the Design Plans and Project Specifications, prior to completion of the remaining Work on the job.

Permanently installed items accepted on this basis are limited to guardrails, impact attenuators, traffic signal systems, signs, lighting, raised pavement markers, concrete wall barriers, concrete bridge parapets, bridge railings, guard cable, guardrail anchorages, permanent pavement markings, and fencing. All required performance tests and guarantees shall remain applicable.

The Design-Builder shall erect the items in a logical sequence and time frame within the life of the Project, and items constructed prematurely will not be accepted until such time in the life of the Project that the device becomes effective for its intended use.

If the Authority accepts any items for maintenance prior to Project Completion, and such items are thereafter damaged, stolen or vandalized by the public, such items will be repaired or replaced either by the Authority or by the Design-Builder pursuant to Order on Contract issued under DB §104-3. If the damage to such an item requires only partial repair or replacement and the Work is to be done by the Design-Builder, payment shall be made as provided in DB §109-9.2. Items damaged due to negligence of the Design-Builder shall be repaired or replaced at no cost to the Authority.

DB 109-11.2 [Reserved]

DB 109-11.3 Project Completion

Design-Builder shall notify Authority in writing when all physical Work on the Project has been completed, including:

- A) Substantial Completion of the Work;
- B) completion of all construction and demolition punch list Work;
- C) delivery of all special tools, equipment, furnishings and supplies purchased by and/or used by Design-Builder as provided in the Contract Documents, free and clear of Liens;
- D) Design-Builder has satisfied all conditions to acceptance and has obtained all design and construction approvals by local agencies, utility owners and other third parties with an ownership interest or having jurisdiction over facilities developed hereunder;
- E) removal of all of Design-Builder's and Subcontractors' personnel, supplies, equipment, waste materials, rubbish and temporary facilities from the Site, and restoration and repair of

all damage or injury arising from such removal to the satisfaction of the Authority, so that the Site is in good working order and condition; and

F) completion of final clean-up of the Site as required by the Contract Documents.

Upon receipt of the notice, the Authority will perform Final Inspection as described below. Should the Authority identify any defects or deficiencies in the Work, Design-Builder shall immediately remedy such defects or deficiencies at no additional cost. Upon full compliance with items (A) through (F) listed above, the Authority will give Design-Builder written notice of the date of Project Completion.

The Authority will not make the Final Inspection until the physical Work required by the Contract, including Final Cleanup and all Extra Work ordered by Authority, has been completed.

Items in the Contract will only be accepted, in place, at the time of the Final Inspection by the Authority, providing they were of satisfactory quality at the time of construction and are still of satisfactory quality at the time of Project Completion. The following inspections will be made as a condition to Project Completion:

A) **Final Inspection**: Final Inspection will be scheduled to inspect or review all portions of the Project to verify that all physical Work items have been completed.

Upon receipt of notice of Project Completion and verification that all required items have been submitted, the Design-Builder will be advised of the date and time of final inspection. A copy of the final inspection list containing all incomplete or unsatisfactory items and the time allowed to complete the Work will be furnished to the Design-Builder.

B) **Joint Inspection for Project Completion**: The joint inspection for Project Completion will be made by the Authority's Project Manager accompanied by the Design-Builder and the representatives from the Authority to verify completion of the exception items listed in the final inspection list.

DB 109-12 FINAL ACCEPTANCE AND FINAL AGREEMENT

The provisions of Article 2.4 Final Acceptance, this DB §109-12, and DB §109-13, Final Payment shall apply.

DB 109-12.1 Final Acceptance

Prior to the Final Acceptance of the work by the Commissioner or his/her designee, the contract work may be inspected, accepted and approved by other agencies and/or municipalities who will have jurisdiction of the work after Final Acceptance.

Promptly after Project Completion has occurred, the Design-Builder shall perform all remaining Work required hereunder and satisfy all of its other obligations under the Contract Documents, including:

A) Design Acceptance;

- B) Delivery of all Design Documents, right-of-way record maps, surveys, material certifications, test data and other deliverables required under the Contract Documents, including as-built plans, in electronic format on digital media and one reproducible hard copy set;
- C) Delivery of all certifications from Design-Builder's Design Manager, Project Manager and Quality Manager required under the Contract Documents;
- D) Delivery of all written warranties required under the Contract Documents;
- E) Delivery of all manuals required under the Contract Documents;
- F) All of Design-Builder's other obligations under the Contract Documents (other than obligations which by their nature are required to be performed after Final Acceptance as determined by the Authority) have been satisfied in full or waived in writing by the Authority; and
- G) Design-Builder has identified a single point of contact to address the Warranty requirements hereunder throughout the duration of the Warranty period.

DB 109-12.2 Final Agreement

The final agreement will not be drawn and finalized until all work required under the Contract has been satisfactorily completed, all disputes presented and all accounts for Extra Work and materials have been rendered, considered, and if agreed to, incorporated by order on contract or made a part of such final agreement. Work remaining to be accomplished under an Uncompleted Work Agreement shall be considered as completed work for the purpose of the final agreement, provided the Uncompleted Work Agreement has been executed in accordance with DB §109-17, Uncompleted Work Agreement. Work accomplished under a warranty agreement shall be considered as completed work for the purpose of the final agreement, provided the warranty agreement has been executed and any required bond deposited by the Design-Builder.

The Commissioner, or his/her designee, will approve a final agreement as prepared and approved by the Authority's Project Manager less any and all deductions authorized to be made by the Commissioner under the contract. Payment pursuant to such final agreement less any deductions authorized to be made by the Comptroller shall constitute the final payment to the Design-Builder.

In order to enable the Authority to process the final agreement properly and expeditiously, the Design-Builder shall submit the following documents, as may be appropriate, to enable the processing of the final payment as described above.

- A) Certified Payrolls;
- B) Final Labor Affidavits;
- C) Final Civil Rights Reports;
- D) Final Agreement;
- E) Release from any Outstanding Disputes;

- F) Final Survey Notes/Computations;
- G) Approved Reproducible Drawings;
- H) Approved As-Built Drawings Field Change Sheets (From VECP or other Design-Builder Proposals);
- I) Material Certifications;
- J) Tax Clearance for "Foreign" (out of State) Contractors, Corporations or Entities;
- K) Final documentation to support any outstanding claims and Disputes filed during the progress of the work;
- L) Extra Work Cost Accounts;
- M) Final Supplemental Agreement, with or without signature;
- N) MWBE Payment Report, Final Actual Utilization Plan for All Subcontractors.

The above list is general in nature, every item may not be applicable to the contract and other documents and submissions not shown above may be required to enable the processing of the final payment. Any time taken beyond the date of Final Acceptance to satisfy or furnish the above information shall extend the required payment date by an equal period of time.

DB 109-13 FINAL PAYMENT

Following the completion of all required work and a final inspection by the Authority, the Design-Builder shall be responsible for providing the following documents and submissions to the Authority's Project Manager. The Design-Builder shall have a period of 30 days to submit such documentation to the Authority's Project Manager:

- A) Final documentation to support any outstanding claims and Disputes filed during the progress of the work;
- B) Extra Work Cost Accounts;
- C) Final Supplemental Agreement, with or without signature;
- D) MWBE Payment Report, Final Actual Utilization Plan for All Subcontractors.

The above list is general and other documents and submissions may be required to properly process the Final Supplemental Agreement. Any time taken by the Design-Builder beyond the 30 day period after Final Inspection to satisfy or furnish the above information may delay the approval of the Final Supplemental Agreement and the subsequent Final Payment process. The Final Supplemental Agreement must be approved by the State Comptroller before the Final Payment process can begin.

Section 179 of the State Finance Law requires the Authority to make final payment on highway construction contracts within seventy-five (75) calendar days after Final Acceptance by the Commissioner. If the Authority unjustifiably fails to pay the final payment within the prescribed 75 calendar days, it may be required to pay interest for each day in excess of the 75 calendar

days. The Authority, in accordance with Section 179 of the State Finance Law, has determined that a thirty (30) calendar day inspection period after contract Final Acceptance is required for final payments, after which time the 75 day interest-free processing period will commence.

DB 109-14 ACCEPTANCE OF FINAL PAYMENT

The acceptance by the Design-Builder, or by anyone claiming by or through the Design-Builder, of the final payment shall constitute and operate as a release to the Authority from any and all claims of any liability to the Design-Builder for anything theretofore done or furnished for or relating to or arising out of the work done hereunder, and for any prior act, neglect, or default on the part of the Authority or any of its officers, agents, or employees unless the Design-Builder serves a detailed and verified statement of claim upon the Authority not later than 40 days after delivery of such final payment. Such statement shall specify the items and details upon which the claim will be based and any such claim shall be limited to such items. Should the Design-Builder refuse to accept the final payment, such refusal shall constitute a waiver of any right to interest thereon.

DB 109-15 CHANGED CONDITIONS AND DELAY PROVISIONS

DB 109-15.1 Compensable Delays and Changed Conditions

- A) The provisions of this Contract permit monetary compensation for delays and interference in certain defined instances. The Design-Builder agrees that the only claims it may make for extra compensation caused by delay or interference affecting the performance or the scheduling of Contract Work are for delays to the Critical Path directly attributable to one of the following:
- 1) Authority-Caused Delays;
 - 2) Differing site conditions, to the extent allowed under DB §104-5;
 - 3) Utility Delays, to the extent additional compensation is allowed for such delays under DB §104-4.2; or
 - 4) Significant changes in the character of the Work, to the extent allowed under DB §104-3.2, and Necessary Basic Configuration Changes, to the extent allowed under DB §104-4.1.2.
- B) Delays as described in DB §109-15.1(A) may also form the basis for Extra Work compensation pursuant to DB §109-9 and DB §109-10.
- C) Failure of the Design-Builder to adequately progress the completion of the Work will be considered in determining the primary causes of delay.
- D) Any claim for monetary compensation under this DB §109-15.1 or any Dispute relating to any such claim shall be promptly submitted to the Authority's Project Manager in writing, in accordance with the applicable notice provisions of the Contract and other provisions of DB §109-10. To the extent that a notice period is not otherwise expressly provided in the Contract with respect to any such event, matter or circumstance, the Design-Builder shall provide written notice to the Authority within 10 work days after the Design-Builder has knowledge or should have had knowledge of the relevant event, matter or circumstance.

For any claim asserted under this DB §109-15.1, the Design-Builder shall keep detailed written records of the costs and agrees to make them available to the Authority at any time for purposes of audit and review. Failure by the Design-Builder to notify the Authority's Project Manager in writing of any claim under this DB 109-15.1 or any Dispute relating thereto in accordance with the provisions of this Contract, or to maintain and furnish cost records of such claim or Dispute, shall constitute a waiver of the claim or Dispute, as applicable.

DB 109-15.2 Suspensions of Work Ordered by the Authority's Project Manager

- A) The Authority's Project Manager may stop by written order any Work or any part of the Work under the Contract if the methods or conditions are such that unsatisfactory Work might result (including progressing construction in the absence of Design Plans, Project Specifications, and/or Working Plans that have not been reviewed and released for construction per DB §111-12); if improper material or procedures are being used; if the Design-Builder fails to comply with any Contract requirement or with any provision of the Project Specifications, or any State or federal law or regulation; if the conditions of the Project are considered to be sufficiently deficient as to seriously affect the safety of the public or the persons employed for the construction of the Project; or if major non-conformance with the Work Zone Traffic Control Plan is causing serious disruptions to traffic operations. The Design-Builder shall not be entitled to any additional monetary compensation for such a work stoppage.
- B) If the performance of all or any portion of the Work is suspended or delayed by the Authority's Project Manager in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the design-build industry) and the Design-Builder believes that additional compensation and/or Contract Time is due as a result of such suspension or delay, the Design-Builder shall submit to the Authority's Project Manager in writing a request for adjustment within seven days of receipt of the notice to resume Work. The request shall set forth the reasons and support for such adjustment. The record keeping requirements of DB §§104-7, 105-5, 109-9, 109-10 and 109-15 must be complied with in connection with any requests for reimbursement.
- C) Upon receipt, the Authority's Project Manager will evaluate the Design-Builder's request. If the Authority's Project Manager agrees that the cost and/or time required for the performance of the Contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of, and not the fault of, the Design-Builder, its Suppliers, or Subcontractors at any approved tier, and not caused by weather, the Authority's Project Manager will make a cost and/or time adjustment (excluding profit) pursuant to an Order on Contract. The Design-Builder will be notified of the Authority's Project Manager's determination whether or not an Order on Contract is warranted.
- D) No Order on Contract will be issued unless the Design-Builder has submitted the request for adjustment within the time prescribed.
- E) No Order on Contract will be issued under this Section to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this Contract.
- F) This Section shall be governed by the notice provisions set forth above, and the record keeping and other requirements of DB §§104-7, 105-5, 109-9, 109-10 and 109-15.

Additional compensation via Orders on Contract shall be made for time-related costs, if any, pursuant to DB §109-10.2. For any increased costs of the Work resulting from a suspension of Work, payment shall be made pursuant to DB §109-9.2, but the equipment compensation shall be governed and controlled by the provisions of DB §109-10.2.

DB 109-16 NON-COMPENSABLE DELAYS

The Design-Builder agrees to make no monetary claim for, and has included in its prices for the Work under the Contract, any extra/additional costs attributable to any delays, inefficiencies, or interferences in the performance of the Contract caused by or attributable to items (A) through (L) set forth below.

- A) The work or the presence on the Project Site of any third party, including that of other contractors or personnel employed by the Authority, by other public bodies; by railroad, transportation or utility companies or corporations, or by private enterprises, or any delay in progressing such work by any third party as indicated or disclosed in the Contract Documents or ordinarily encountered or generally recognized as inherent in the Work.
- B) The existence of any facility or appurtenance owned, operated, or maintained by any third party, as indicated or disclosed in the Contract Documents or ordinarily encountered or generally recognized as inherent in the Work.
- C) The act, or failure to act, of any other public or governmental body or railroad, transportation or utility companies or corporations, including approvals, permits, restrictions, regulations, or ordinances attributable to the Design-Builder's design, submission, action or inaction, or the Design-Builder's means and method of construction.
- D) Restraining orders, injunctions, or judgments issued by a court which were caused by the Design-Builder's submissions, action or inaction, or means and method of construction.
- E) Any labor boycott, strike, picketing, or similar situation.
- F) Any shortages of supplies or material required by the Contract Work.
- G) Climatic conditions, storms, floods, droughts, tidal waves, fires, hurricanes, earthquakes, landslides, acts of terrorism, nuclear events, ionizing radiation causing direct physical damage or other catastrophes. However, payment may be made for repairing damage to the Work caused by an "occurrence" as provided in DB §107-26.2.
- H) Additional Contract Work, or Extra Work which does not delay the Critical Path or affect the overall completion of the Contract, delays in the review or issuance of Orders on Contract or field change sheets, or delays within the established time periods for consultation and written comment for Design Documents, Working Plans, other submittals and construction details, means and methods.
- I) Variations in soil moisture content from that represented in reports, borings, or tests conducted by the Authority and included in the Contract Documents.
- J) Correcting any materials or Work rejected either by the Design-Builder or the Authority, or Work unsatisfactory to the Authority for which payment has been withheld. Refer to DB §§ 109-15.2(A); 106-6; and 108-8(C).

K) Any other matters not caused by the Authority or beyond its control.

DB 109-17 UNCOMPLETED WORK AGREEMENTS

Whenever a contract shall, in the judgment of the Authority, be substantially completed, and keeping the contract open and maintaining the contract bonding, would be an injustice to the Design-Builder, the Authority may enter into an Uncompleted Work Agreement with the Design-Builder. Prior to entering into an Uncompleted Work Agreement, the essential items in the contract shall have been completed by the Design-Builder in accordance with the terms of the contract and the provisions of §109-12.2, Final Agreement, and certified by the Regional Director. The essential items in the contract shall include, but will not be limited to the completion of or the safe working order of all pavement, shoulders, guide rail, drainage, signs, and signals, so that the highway is safe for use by the traveling public without the use of any temporary or emergency devices.

The final contract account will include such uncompleted items and pay therefore at the item prices in the contract, upon execution of the Uncompleted Work Agreement. The Uncompleted Work Agreement will be based on an estimate of work remaining to be completed. If actual quantities are later found to vary from the estimate, no adjustment of quantities can be made under an Uncompleted Work Agreement.

The Design-Builder shall execute an Uncompleted Work Agreement upon depositing with the Authority a certified check drawn upon a legally incorporated bank or trust company, or securities as are listed in State Finance Law §139(3). The deposit shall be an amount equal to at least double the value of such uncompleted work, including those pay items that are uncompleted and such work that is required but not included as a contract pay item. When the cost to perform the work is not reflected by the unit prices bid, the Authority will estimate the value of uncompleted work. The deposit will be held by the Authority until the Authority certifies that all previously uncompleted work has been satisfactorily completed. When the Design-Builder satisfactorily completes the uncompleted portions of work, the deposit will be returned. No partial releases of funds from an Uncompleted Work Agreement will be made. If portions of uncompleted work will be completed at varying times, the Authority may consider the use of multiple Uncompleted Work Agreements.

**DB SECTION 110
RESERVED**

**DB SECTION 111
DESIGN MANAGEMENT
AND
DESIGN QUALITY ASSURANCE AND QUALITY CONTROL**

DB 111-1 GENERAL DESIGN-BUILDER RESPONSIBILITIES

The Work shall be performed in accordance with the details as shown in the Design Plans, Project Specifications, Work Plans and Quality Control Plan (QCP), as defined in DB §101, prepared by the Design-Builder, subject to Authority's Consultation and Written Comment.

It shall be the Design-Builder's sole responsibility to provide Design Plans, Project Specifications and Work Plans of such a nature to develop a finished product in accordance with the Contract requirements and the QCP developed by the Design-Builder. The Design-Builder shall verify pertinent dimensions in the field prior to the Authority's review of the Design Plans, Project Specifications and Work Plans. Review of the Design-Builder's Design Plans, Project Specifications and/or Work Plans by the Authority shall not relieve the Design-Builder of the responsibility for the satisfactory completion of the work.

Design Plans, Project Specifications and Work Plans shall be subject to the Authority's Consultation and Written Comments, and acceptance, per DB §111-12 before beginning construction Work covered by the Plans, and shall not be thereafter amended or altered without the prior approval of the Design-Builder's Designer and subsequent Consultation, Written Comment, and acceptance by the Authority. See also, DB Appendix 112C – Quality Assurance Plan Program Guide.

The Design-Builder shall do the following:

- A) Manage the design and design Quality Control (QC) of the Work;
- B) Coordinate with authorities having jurisdiction for temporary road diversions and detours, shutdowns, temporary diversions, Utility Relocations, work affecting waterways, work affecting railroads, temporary sidewalk closures, and pedestrian detours; and
- C) Ensure that the Designer properly checks the designs of the Project and that the Design QC Engineer certifies QC procedures have been completed in accordance with the Contract.

The procedures for the checking of design of permanent components also apply to design of major temporary components and construction sequences that affect the permanent components of the Project.

DB 111-2 DESIGN-BUILDER'S DESIGN ORGANIZATION AND OBLIGATIONS

DB 111-2.1 Designer

The Design-Builder shall appoint a suitably qualified and experienced Designer, which may be a consultant firm or an in-house design team, licensed to practice engineering in the state of New York, to undertake the design of the permanent components and the major temporary components of the Project.

DB 111-2.2 Completeness of Design

Design will be considered complete upon the Authority's Design Acceptance following submittal and review of the As-Built Plans.

DB 111-2.3 Design Manager

The Design-Builder shall designate and assign a Design Manager, who shall be a Professional Engineer licensed in the State of New York, to manage all Work performed by the Design-Builder's Designer. The Design Manager shall also manage design support during construction, design changes, and completion of As-Built Plans.

The Design Manager, and/or staff working under the direct supervision of the Design Manager, shall conduct an assessment and evaluation of design such that the Design Manager can certify to the Design-Builder and to the Authority that the design satisfies the Contract requirements, including the following requirements:

- A) Accuracy;
- B) Adequacy;
- C) Conformance to standards of practice;
- D) Compliance with codes and standards;
- E) Cost effectiveness;
- F) Quality;
- G) Fitness for purpose and/or function as specified and/or implied in the Contract; and
- H) Conformance with the standard practices and specifications of New York State Thruway Authority.

The Design Manager shall include such written certification for all Work being subjected to a Design Review per DB §111-12.

The Design Manager's activities shall include, as a minimum, assessment and evaluation of the following:

- A) Design reports;
- B) Analytical approach;
- C) Drawing details for conformity to Contract requirements;
- D) Project Specifications for conformity to Contract requirements;
- E) Design and Work Plans;
- F) Major temporary components' effect on permanent components;

- G) Field design changes;
- H) Design approvals for Materials and procedures; and
- I) As-Built Plans for conformity with final design and Contract requirements.

DB 111-2.4 Responsible Engineer

The Designer shall designate and assign a Responsible Engineer for each Design-Builder designated Design Unit. The Responsible Engineer(s) shall sign and seal design reports, Design and Work Plans, and Project Specifications for the assigned Design Unit(s). Responsible Engineers shall be New York-licensed Professional Engineers.

The Responsible Engineer shall attend all Design Reviews for the assigned Design Unit(s).

See DB §101 for the definition of Responsible Engineer.

DB 111-2.5 Design Quality Control Engineer

The Design-Builder shall assign a Design QC Engineer. The Design QC Engineer shall report to the Design-Builder's Quality Manager.

The Design QC Engineer shall be responsible for the Quality Control of all Work conducted by the Designer, including Quality Control related to design support during construction, design changes, and completion of As-Built Plans. The Design QC Engineer shall be a licensed Professional Engineer in the State of New York.

The Design-Builder's Design QC Engineer shall assess and evaluate the Design-Builder's design QC activities in order to be able to certify to the Design-Builder and to the Authority that the design Quality Control activities comply with the Quality Control Plan and Contract requirements.

The Design QC Engineer shall have Quality Control responsibilities related to the following:

- A) Design of permanent and major temporary components;
- B) Changes in design of permanent components; and
- C) As Built Plans

The Design QC Engineer shall also perform the following activities:

- A) Identify and report non-conformities/non-compliance;
- B) Track, monitor, and report on status of outstanding design-related non-conformance reports; and
- C) Supply monthly report (see DB §111-18.3.1).

These responsibilities are further specified in DB §111-12.

DB 111-2.6 Checks by the Designer

The requirement that the Design-Builder engage and use a Design QC Engineer shall not relieve the Designer from carrying out all the QC checks and reviews that a professional and prudent designer would normally carry out on the type of Work that is actually being designed.

DB 111-3 DESIGN UNITS

The Design-Builder shall package all calculations, designs and drawings for the Work into separate Design Units and, if necessary, sub-units. Each Design Unit shall comprise similar and coherent parts of the Project that can be checked and reviewed as a self contained package with due consideration for accommodating interfaces with other Project components.

Within 30 days of NTP, the Design-Builder shall provide a written report and schedule updating information submitted with the Design-Builder's Proposal and identifying each Design Unit. The written report shall include the following:

- A) Design Unit description, including scope of design Work within each Design Unit (including sub-units, if necessary), including limits and interface points;
- B) Planned review stages and dates, including specific information to be reviewed, planned review dates (measured from NTP date) and percent complete represented by each review;
- C) Responsible Engineer for the Design Unit; and
- D) Locations where design Work will be performed.

The Design-Builder shall submit any revisions to the information provided in response to this DB §111-3 in writing to the Authority concurrent with the monthly progress report.

DB 111-4 RELATIONSHIP OF EARLY CONSTRUCTION STARTS TO DESIGN DEVELOPMENT AND REVIEW

It is the intent of the Authority to allow construction of specific Design Units to begin prior to completing the final design of all Design Units. Construction of a specific Design Unit may begin at any time after the applicable design review and comment and acceptance by the Authority of the Release for Construction Design, provided that the design conforms to all applicable codes and Contract requirements, all safety measures are in place, equipment/material are ready and all the Authority's concerns have been addressed to the satisfaction of the Authority's Project Manager. Construction may progress in increments determined by the Design-Builder, at the Design-Builder's risk, provided each increment of construction is covered by calculations, drawings and specifications that have been reviewed by the Authority and meet the requirements for Release for Construction.

DB 111-5 SCHEDULE FOR DESIGN CHECKS, REVIEWS, AND SUBMISSION OF CHECKED DESIGN

The Design-Builder is responsible for scheduling and conducting Design Reviews to meet design and/or construction needs of the Baseline Progress Schedule. It is recognized and anticipated that the Design Review process and frequency, duration and intensity of Design Reviews may vary with the complexity of the individual Design Units and the associated

construction activities. The duration of Design Reviews shall be discussed and mutually agreed between the Authority and Design-Builder during the Design Workshop (DB §111-16) and verified and modified by mutual agreement during the course of the Project. The Design-Builder shall give written notice of scheduled Design-Reviews to the Design Quality Assurance Engineer at least one week prior to any review.

The Design-Builder shall include the agreed Design Review schedule for all Design Units as part of the Baseline Progress Schedule. The Design Review schedule shall be reviewed monthly. The Design-Builder shall not schedule more than two concurrent Design Reviews without the Authority's concurrence.

Except for As-Built Plans, Plans to be reviewed shall be in the form of sufficient copies of Design Plans and Project Specifications and supporting data and reports assembled for review to accommodate participants in the Design Review(s).

The Design-Builder shall make specified submittals of checked designs in accordance with DB §111-12. Submissions shall be complete for each Design Unit, but may be combined for multiple Design Units at any one time upon the Authority's concurrence. The Design-Builder shall submit each Design Unit for Consultation and Written Comment by the Design QA Engineer. The Design-Builder shall provide written responses to all comments provided by the Design QA Engineer.

For each Design Unit, the Design-Builder shall include design checks and Design Reviews as indicated in DB §111-9, and such additional reviews as may arise. The Design-Builder shall allow the time for the Authority's participation and input to any Design Review conducted by the Design-Builder's Design QC Engineer. The Design-Builder shall incorporate this schedule into Design-Builder's Baseline Progress Schedule and report progress and updates in the monthly updates. The Design-Builder shall keep the Authority up to date on exact timing of reviews and Release for construction Design Reviews through the scheduled progress meetings.

DB 111-6 REVISIONS TO DESIGN

The Design-Builder shall deal with any changes to design initiated by the Design-Builder as an entirely new design. The Design-Builder shall not be entitled to any increase in the Contract Price or extension of time in such circumstances.

DB 111-7 DESIGN REVIEW PLAN

The Design-Builder shall prepare and submit a written Design Review Plan within 10 days of NTP to the Authority. The plan shall describe the level of design that the Designer will accomplish for each of the planned stages of design development and provide a description and/or checklist for each Design Unit clearly identifying the design product that will be reviewed.

DB 111-8 STAGES OF DESIGN DEVELOPMENT

The Design-Builder shall make a single comprehensive design check and Design Review for each Design Unit at the stages of design development specified below:

- A) Definitive Design;
- B) Interim Design

- C) Release for construction Design;
- D) Final Design Set (compilation of all Design Units);
- E) Work Plans; and
- F) As-Built Plans.

The intent of each stage of design development and Design Review is the following:

- A) Verify that the design complies with the Contract requirements;
- B) Allow components of Design Units to be released for construction; and/or
- C) In the case of reviews of Work Plans, to allow construction to continue.

Design Reviews or design checks shall be completed as specified in DB §111-12, for each Design Unit at each stage of design development.

The Design-Builder shall time the Design Review to be consistent with the Baseline Progress Schedule.

DB 111-9 DESIGN REVIEWS

The Design-Builder shall invite the Authority to participate in Definitive, Release for construction, interim, and final Design Reviews. The Authority may invite other Project Stakeholders to participate. The Design-Builder shall address and/or resolve the Authority comments in consultation with the Authority.

DB 111-9.1 Definitive Design Review

The Design Review of Definitive Design shall be the first Design Review after Award and is intended to verify that the design concepts proposed by the Design-Builder meet Contract requirements. The Definitive Design Review may also serve as a Release for construction review. The Definitive Design Review shall verify the following:

- A) The design concepts, including conceptual construction phasing, governing future design development are defined consistent with Contract requirements;
- B) The final Basic Project Configuration, including any additional non-standard features not previously defined in the RFP Project Requirements;
- C) The design concepts are substantiated and justified by adequate Site investigation and analysis, including confirmation of the presence or non-presence of hazardous materials (asbestos, lead paint, contaminated soils in bridge approach areas);
- D) Final Rights-Of-Way requirements;
- E) The specific standards applicable to the proposed concepts are identified and appropriate;
- F) The proposed design concepts are constructible;

- G) The availability of required Materials/Equipment; and
- H) The design meets Project quality requirements and required design QC procedures have been followed.

If the Definitive Design is amended subsequent to the Definitive Design Review, the Design-Builder shall re-check and re-certify the design as an additional Definitive Design Review.

DB 111-9.2 Interim Design Reviews

The Design-Builder may submit for Design Quality Assurance review, one or more Interim Design submission(s), for each Design Unit, between the Definitive Design Review and completion of design for that Design Unit.

The Design-Builder and the Authority may use the interim Design Review(s) to verify that the concepts and parameters established and represented by Definitive Design are being followed and that Contract requirements continue to be met. The Design-Builder shall specifically highlight, check, and bring to the attention of the Authority any changes to information presented at Definitive Design. If the Design-Builder chooses to submit Interim Design Submissions, the Design-Builder shall submit the Interim Design for Consultation and Written Comment by the Authority's Design QA Engineer.

DB 111-9.3 Release for Construction Review

The Design-Builder and the Authority shall use the Design Review(s) of Release for Construction design to verify that the concepts and parameters established and represented by Definitive Design are being followed and that Contract requirements continue to be met. The Design-Builder shall specifically highlight, check, and bring to the attention of the Authority any changes to information presented at Definitive Design. The Design-Builder shall present the information for Release for construction review to the Authority for Consultation and Written Comment by the Authority's Design QA Engineer.

The Design-Builder shall not begin any demolition or construct any permanent components or major temporary components until the design checks, Design Reviews, and Design QC Engineer's certifications have been completed for the relevant Design Unit and the Authority's provided Consultation and Written Comment of the design have been resolved with the Design QA Engineer to his/her satisfaction and acceptance. The Design-Builder shall not commence any construction until any design-related Non-Conformance Reports have been addressed and resolved to the satisfaction of the Authority. The Release for Construction plans and specifications shall be stamped "Release for Construction" and signed by the Designer before being issued and the Design Quality Assurance Engineer shall initial the drawings to indicate that all the necessary reviews and acceptances have occurred.

DB 111-9.4 Final Design Review

The Design-Builder shall schedule and conduct a final design review when the Design Plans and Project Specifications for a Design Unit are 100% complete. The Design-Builder shall specifically highlight, check and bring to the attention of the Authority any changes to information presented at previous design reviews. The Design-Builder shall submit final design for Consultation and Written Comment by the Authority's Design QA Engineer.

DB 111-9.5 Design Quality Assurance Review Durations

It is intended that design review durations by the Design Quality Assurance Engineer be as short as possible. To make this possible the Design-Builder shall develop a design schedule that clearly shows the occurrence of design reviews (definitive designs for a set level of completion, interim designs, Release for Construction designs, etc.) so that the Design Quality Assurance Engineer can be prepared to receive the documents and set time aside to complete the review.

Also it is intended that the Design Quality Assurance Engineer will be at the designer's office as often as necessary to comment on the design and attend the designer's progress and quality review meetings so as to be fully aware what the details of the design are and to give early comments on the design. It would be expected that these informal "over the shoulder" reviews will allow the formal submission of designs to be reviewed quickly and with few if any comments.

Designs will be reviewed by the Design Quality Assurance Engineer and the formal reviews will be completed within the following time frames after the design documents are received.

- Definitive design review – 5 business days
- Interim design review – 10 business days
- Release for Construction design review – 5 business days
- Working Plan review – 5 business days

The Authority will attempt to expedite and shorten these review durations as resources permit.

As a prerequisite to ensuring that these review durations by the Design Quality Assurance Engineer are achieved, the Design-Builder shall provide documentation demonstrating that all the Designer's Quality Control activities have been completed for the plans, specifications, and necessary calculations in accordance with the Design-Builder's Quality Control Plan and the Contract Requirements.

DB 111-10 WORKING PLANS

Working Plans shall comprise the development and production of working drawings. The Design-Builder shall check, review, and certify working drawings in accordance with DB §111-12.1 through 12.3 and DB §111-14, prior to their being issued for construction.

The Design-Builder shall invite the Authority to participate in the review of Working Plans. The Authority may invite the Stakeholders to participate in reviews of Working Plans.

Working Plans include, but are not limited to, the following:

- A) Working drawings, as defined in DB §101;
- B) Material and product data from Manufacturers; and
- C) Calculations.

DB 111-11 AS-BUILT DESIGN

The Design-Builder shall submit the As-Built Plans, in electronic and print formats, for each Design Unit in accordance with DB §111-12.

See DB §111-12.1 for additional requirements relating to As-Built Plans and information.

DB 111-12 DESIGN CHECKS, CERTIFICATIONS, AND REVIEWS

The Designer's organization shall check all design documents (drawings, plans, specifications, calculations, and reports) produced by the Design-Builder's organization. The Design QC Engineer shall certify that these documents have been checked per Contract requirements and the Design-Builder's Quality Control Plan. The Design QC Engineer's written certification shall provide the certification specified in DB §111-12.2.

DB 111-12.1 Design Reviews

The Design-Builder's time and cost impacts of revisions arising from Authority's and Stakeholders' participation in Design Reviews and/or caused by Design-Builder's non-compliance with Contract requirements, including the Authority's and Stakeholder's time for reviewing revisions, shall be borne by the Design-Builder.

DB 111-12.1.1 Design Reviews Conducted by the Design-Builder's Design Quality Control Engineer

The Design-Builder shall notify and invite the Authority to participate in all Design Reviews conducted by the Design QC Engineer. The Authority may also invite Project Stakeholders and affected Utility Owners to participate. The Authority will provide Consultation and Written Comment (based on the Authority and Stakeholder participation) regarding these Design Reviews.

For Design Reviews conducted by the Design QC Engineer, the Design QC Engineer shall provide a Design Review report (a tabulation of comments and resolutions) for each Design Unit at the conclusion of each Design Review. The Design Review reports will identify any actions arising from the reviews. The report shall note items requiring corrective action on the Design Non-Conformance Report. The Design QC Engineer shall send the Design Non-Conformance Report to the Designer and a copy to the Authority.

The Design-Builder shall conduct Design Reviews in the offices of the Designer and/or Design-Builder. The Responsible Engineer and any specialists with significant input to the design or review shall be present. The Design-Builder shall make available all drawings, copies of calculations, reports, or other items pertinent to the Design Review.

DB 111-12.1.2 As-Built Review

As-Built Plans and Project Specifications shall incorporate complete information that defines the Work as constructed to meet the Contract requirements.

The Design-Builder shall submit As-Built Plans complete for each Design Unit to the Authority for review and Design Acceptance in accordance with DB §111-11. The Design-Builder shall submit As-Built Plans to the Authority's Project Manager within two weeks following completion

of all Work. The Authority review will be one of the processes to verify if the Project has been designed and constructed in accordance with Contract requirements and to determine if As-Built Plans comply with Contract requirements.

The Design-Builder shall make all corrections noted in the review of As-Built Plans and resubmit the corrected As-Built Plans to the Authority for review and Design Acceptance.

Design Acceptance by the Authority will not occur until the As-Built Plans are submitted, reviewed and corrected to the satisfaction of the Authority.

As-Built drawings shall be submitted in digital format and as paper copies.

DB 111-12.1.3 Design Review of Major Temporary Components

The Design QC Engineer shall conduct a Design Review of major temporary components that represent complex structures and that potentially can affect the safety, quality, and durability of the permanent components. The review shall include the effect of the major temporary components on the permanent components. The Design-Builder shall invite the Authority to participate in the review.

DB 111-12.1.4 Additional Reviews

All Project shop drawings shall be submitted to the Authority's Design Quality Assurance Engineer for review and comment prior to fabrication.

In addition, the Authority may conduct additional reviews as considered necessary to ensure a continued and uniform consistency in the quality and effective incorporation of revisions to designs. The Design-Builder may also conduct reviews necessary to facilitate early release of designs for construction.

DB 111-12.2 Release for Construction

The Design-Builder may start construction of any element of the permanent components only after all the following items have occurred:

- A) The Designer has conducted its design QC checks throughout the design process in compliance with the Quality Control Plan and certifies in writing that the design is complete to the appropriate level or stage of review, checked and ready to be released for construction;
- B) The Design QC Engineer has signed the title sheet for the drawings, certifying the following (the title sheet can be formatted to include the items of certification):
 - 1) Design checks have been completed;
 - 2) Work conforms to Contract requirements;
 - 3) Any deviations or design exceptions have been approved in writing by the Authority;
 - 4) Design QC activities are following the Design-Builder's Quality Control Plan; and

- 5) All outstanding issues or comments from Design Reviews have been resolved;
- C) The Responsible Engineer has signed all drawings prepared under his/her direction. For those drawings and documents included in the submittal that are prepared by a Manufacturer or Supplier or other Persons not under his/her direct supervision, the Responsible Engineer will affix a stamp that indicates the design shown on the sheet or document conforms to the overall design and Contract requirements;
- D) The Design Manager has signed the title sheet to the drawings certifying to the items contained in DB §111-2.3(A)-(H). (The title sheet can be formatted to include the items of certification);
- E) The Design-Builder has verified the following:
 - 1) The design has undergone constructability review and is constructible as represented;
 - 2) Work Plans, Project Specifications and related documents for the portion of the Project to be constructed are complete and checked in accordance with this DB §111-12;
 - 3) The design and drawings for WZTC and temporary erosion control and environmental measures applicable to the Work are complete;
 - 4) Adequate stakes, lines, and/or monuments necessary to control the Work have been established on the Site; and
 - 5) The Authority's Design Quality Assurance Engineer has provided Consultation and Written Comment regarding the design and has initialed the plans to verify that all the reviews are complete and that all comments have been resolved satisfactorily.

The Authority's Consultation and Written Comment will not constitute Approval or Design Acceptance of the design or subsequent construction.

Any Design Non-Conformance Reports issued by the Design QC Engineer or the Authority must be addressed and resolved by the Design-Builder to the satisfaction of the Authority prior to any design being released for construction.

DB 111-12.3 Comment Resolution

Authority comments from Design Reviews will be recorded and transmitted to the Design-Builder. The Design-Builder shall record its proposed disposition and response to each comment and meet with the Authority to resolve outstanding comments and dispositions.

If the design review reveals a non-conformance with the Contract requirements, the Authority will prepare a Design Non-Conformance Report and submit it to the Design-Builder for action. The Design-Builder shall note the Non-Conformance and resolution in the monthly report and provide written confirmation to the Authority when the Non-Conformance is corrected.

All Design Reviews shall include a comment and Non-Conformance report resolution process where unresolved comments and non-conformance reports are discussed and a written action plan and schedule for resolution of unresolved comments and Non-Conformance reports is developed. The Design QC Engineer will lead the process.

DB 111-13 DESIGN EXCEPTIONS

All deviations (design exceptions) from specified standards must be submitted to the Authority's Design QA Engineer for review and Approval. All requests for deviations and exceptions must be submitted with a justification report detailing the reasons to retain a non-standard or substandard feature or for providing an improvement that does not bring the feature up to standard. Requests for design deviations and exceptions must be submitted not later than the Definitive Design Review and Approval by the Authority in writing before the affected Design Units will be released for construction.

DB 111-14 DESIGN CHANGES BEFORE CONSTRUCTION

Design changes may occur prior to construction or may occur after final design, and may be initiated by the Design-Builder or the Authority.

For all design changes requiring calculations, the Designer and the Design QC Engineer shall conduct a documented check of all calculations. All design changes requiring alteration of design documents released for construction shall undergo all review procedures included for original design documents in the Design-Builder's Quality Control Plan and DB §111-12.

DB 111-15 DESIGN SUPPORT DURING CONSTRUCTION

The Designer shall verify during construction that the conditions actually encountered are consistent with the design and related Design Plans, Work Plans, and Project Specifications. The Designer shall prepare necessary adjustments in the Design Plans, Work Plans, and Project Specifications, and the Design-Builder shall obtain required Authority Consultation and Written Comment. The Designer and Design QC Engineer shall check any such changes in accordance with the Quality Control Plan. The Design QC Engineer shall certify the change in writing as meeting the Contract requirements. The Design-Builder shall incorporate the adjustments in the As-Built Plans. The Design-Builder shall retain copies of the Design QC Engineer's written certifications and submit the certifications to the Authority.

DB 111-16 DESIGN WORKSHOP

Within 10 days of NTP, the Design-Builder shall arrange a design workshop to familiarize the Designer's personnel and the Authority (and Stakeholders, if invited by the Authority) review personnel with the design concepts, issues, status, and review procedures. The agenda shall include developing agreements regarding time allowed for design reviews (see DB §111-5). The Authority and Design-Builder shall jointly develop the agenda of the workshop and how it will be organized (i.e., by Design Unit and engineering discipline). The intent of the workshop is to make the subsequent Design Reviews more effective and efficient for all parties.

All agreements, schedules, and understandings reached during the design workshop shall be documented in writing and signed off by the Design-Builder's Project Manager and the Authority.

DB 111-17 QUANTITY ESTIMATES

To facilitate determining sampling and testing requirements, the Design-Builder shall provide quantity estimates for the Work. The quantity estimates shall be in units that facilitate sampling and testing, i.e., the units shall be consistent with the units used to determine frequency of

sampling and testing. For example, if “X” numbers of compaction tests are specified to be taken for every “Y” cubic yards of embankment, the quantity estimate would need to be in cubic yards of embankment.

DB 111-18 DESIGN DOCUMENTATION

DB 111-18.1 Progress Tracking

The Design-Builder shall include engineering and design progress and changes in its Baseline Progress Schedule (including Work on any design change) in the monthly updates (DB §108-1).

DB 111-18.2 Design Quality Records

The Design QC Engineer shall prepare and submit monitoring reports to the Authority of all design issues and review comments resulting from the scheduled and additional checks and reviews, including “over-the-shoulder” reviews.

The Design-Builder shall also maintain an auditable record of all Quality Control Plan procedures. An independent auditor shall be able to determine by reviewing documentation if all procedures included in the Quality Control Plan have been followed.

The Design-Builder shall submit reports of checks and reviews within seven Calendar Days of the completion of the review.

The Design-Builder shall develop, implement, and maintain a log of design Non-Conformance Reports and/or notices indicating dates issued, reasons, status, or resolution and date of resolution.

DB 111-18.3 Design QC Engineer Reports

DB 111-18.3.1 Monthly Report to the Authority

The Design QC Engineer shall submit a monthly report directly to the Authority’s Project Manager by the third working day of the following month that includes the following:

- A) Summary of reviews conducted;
- B) Nonconforming Work and current status and/or disposition (based on design non-conformance log, DB §111-18.2); and
- C) Submission(s) from Design-Builder and status.

DB 111-18.3.2 Final Design Report

Upon completion of the final design for each Design Unit, including all its components and elements, the Design QC Engineer shall notify the Design-Builder, with a copy to the Authority, of any outstanding monitoring report issues or unresolved review comments.

DB 111-19 DESIGN PLANS, WORK PLANS, AND PROJECT SPECIFICATIONS

The Contract Price shall include the cost of furnishing all Design Plans, Project Specifications, Work Plans, and As-Built Plans.

The Contract Documents shall establish the minimum standards of quality and define the requirements that the design and construction must satisfy.

During the design process, the Design-Builder shall develop Project Specifications and Design Plans based on the Contract Documents that are applicable to the specific Materials, products, Equipment, procedures, and methods that the Design-Builder intends to use.

During the Design Reviews the Design Plans and Project Specifications will be evaluated by the Authority to determine if they meet the Contract requirements.

DB 111-19.1 Plans

The Work shall be performed in accordance with the details as shown on the Design Plans prepared by the Designer and those Work Plans prepared by the Design-Builder. It shall be solely the Design-Builder's responsibility to provide Work Plans of such a nature as to develop a finished product in accordance with Design Plans, Project Specifications, and Contract requirements. The Design-Builder shall verify pertinent dimensions in the field prior to conducting a Work Plans review. Participation in the review of the Design-Builder's Design Plans and/or Work Plans by the Authority (or Stakeholders, if invited by the Authority) shall not relieve the Design-Builder of the responsibility for the satisfactory completion of the Work.

All Release for Construction Design, Final Design and As-Built Plans shall be signed and stamped/sealed by the appropriate Responsible Engineer and shall include, on the title sheet for the plans, certification signatures of the Design Manager and the Design QC Engineer, (the title sheet can be formatted to cite the appropriate certification requirements of DB 111-2.3 and 111-12.2).

DB 111-19.2 Design and As-Built Plans Format and Organization

The Design-Builder shall organize and format Design and As-Built Plans per the Authority's/NYS DOT CADD Standards and Procedures, Highway Design Manual, Chapter 20.

DB 111-19.3 CADD Standards

CADD formatting for Design and As-Built Plans shall conform to the Authority's/NYS DOT CADD Standards and Procedures, Highway Design Manual, Chapter 20.

DB 111-19.4 Project Specifications

The Design-Builder shall prepare Project Specifications based on Contract requirements, including the Authority's Standard Specifications, Construction and Materials Section 200 through 700). The Design-Builder may perform the following activities:

- A) Use the Authority's Standard Specifications as supplemented by the Contract;
- B) Prepare supplements to the Standard Specifications; and/or
- C) Prepare new Specifications to cover Work not covered by the Standard Specifications.

Project Specifications, including the Sections 200 through 700 of the Authority's Standard Specifications, will be reviewed by the Design-Builder and the Authority during Design Reviews

to verify that the Project Specifications provide a level of quality that meets or exceeds the Contract requirements and are suitable and appropriate to control the Work. Development and implementation of Project Specifications will not require an Order on Contract provided that the Project Specifications are of equal or greater quality than the Specifications presented in Contract Documents. The Design-Builder shall be responsible for demonstrating that the Project Specifications meet or exceed the standard of quality established by the Specifications in the Contract Documents. Any deviation that results in lesser quality will require Authority approval and may require the execution of an Order-on-Contract. The Authority shall determine, at its sole discretion, if the Project Specifications meet the Contract Requirements.

Project Specifications shall define the type and frequency of QC sampling and testing to be conducted for the Work covered by a Project Specification. Use DB §112 and the latest version of the Authority's/NYSDOT Materials Inspection Manual in effect at time of submitting the Proposal to determine the type and frequency of QC sampling and testing.

**DB SECTION 112
CONSTRUCTION
QUALITY CONTROL AND QUALITY ASSURANCE**

DB 112-1 GENERAL

Per DB §113, the Design-Builder shall develop and implement a quality program for all phases of the Project, including design, construction, maintenance, safety and environmental compliance. The Design-Builder, through its Design-Build Quality Control Plan, shall have the responsibility for the quality of the Work, including all Work and products of Subcontractors, fabricators, Suppliers, and vendors. The Authority, in its oversight role through Quality Assurance (QA), reserves the right to and will conduct verification oversight inspections, audits, sampling and testing, and Independent Assurance (IA).

The Design-Builder shall be capable of ensuring that procurement, shipping, handling, fabrication, installation, cleaning, Inspection, construction, testing, storage, examination, repair, maintenance, and required modifications of all Materials, Equipment, and elements of the Work will comply with the requirements of the Contract Documents and that all Materials incorporated in the Work and all Equipment and all elements of the Work will perform satisfactorily for the purpose intended.

DB 112-1.1 Definitions

See DB §101 for definitions.

DB 112-2 QUALITY CONTROL – CONSTRUCTION INSPECTION – AND TESTING OF MATERIALS

The Design-Builder's Quality Control responsibilities during construction include Construction Inspection as well as sampling and testing of materials.

DB 112-2.1 Construction Inspection Quality Control

All construction processes, procedures, and workmanship shall be inspected by the Design-Builder's Construction Quality Control (QC) Inspectors. The QC Inspectors shall include the observations, measurements, and documentation specified in Appendix 112A, and/or included in the Design-Builder's Quality Control Plan. Inspection observations, measurement, results, non-conformances, and corrective actions shall be documented on the Design-Builder's forms acceptable to the Authority and/or on the appropriate MURK form or Authority reporting form. Inspection observation and documentation shall include description of the construction activity and location by Specification section.

The Design-Builder's Independent Construction Inspection Professional Engineering Firm shall provide all required oversight, direction, testing, reviews and inspections for the purpose of assuring that the construction and inspection activities are being performed in compliance with the Contract requirements, including, but not limited to, the Design Plans, Specifications and the Design-Builder's approved Quality Control Plan and the Authority's standards and practices. In addition, the Independent Construction Inspection Professional Engineering Firm shall have the responsibility to perform sufficient inspections and/or tests of the Design-Builder's Work to

determine that the Work performed by the Design-Builder and the inspections and/or tests performed by the Materials Testing Firm or Laboratory are in compliance with the Contract requirements (See Appendix 112A). This includes a determination that the Work is constructed to established lines and grades and that any required measurements for payments are performed to the prescribed accuracy. QC Inspections shall verify that the standards for methods of construction are followed by the Design-Builder. The Independent Construction Inspection Professional Engineering Firm's Resident Engineer shall also verify that all required Construction QC Inspection and testing occurs as specified, and that daily reports and other required Contract administration documents are prepared and provided as specified. The Independent Construction Inspection Professional Engineering Firm's Resident Engineer shall provide information to the Authority's Construction Quality Assurance Engineer regarding percentages of Work complete for monthly payment estimates and verify quantities of any unit-priced Work items.

In addition, the Resident Engineer shall prepare daily reports that describe the Construction QC activities performed each day, relevant conversations with the Construction QA Engineer, discussions with the Design-Builder, visits by agencies with regulatory responsibility and indications of acceptable or unacceptable work (as recorded by Non-Conformance Reports) by the construction inspectors, or others.

The Resident Engineer and their staff shall have the responsibility and authority to direct the Design-Builder to take the necessary corrective action if any deviations from the Contract requirements occur and, if necessary, order the Work to be suspended. The Quality Control activities that shall be performed by the Resident Engineer and their staff shall include, but not be limited to:

- A) Ensure that adequate staffing and supervision of appropriately qualified inspection staff is maintained at all times;
- B) Review the performance of the Materials Testing Laboratory for compliance;
- C) Review the Design-Builder's construction activities for compliance to the Authority's standards and specifications;
- D) Ensure that any construction is in conformance with plans and specifications that have been stamped and signed by the designer and initialed by the Authority's Design QA Engineer;
- E) Daily (twice or more for night time operations) review the Work Zone Traffic Control for all Work Sites to ensure that they comply with all Authority Standards and they are safe for the traveling public and workers;
- F) Review the overall safety of all Work Sites to ensure that they are safe for the workers, the inspection staff and the public;
- G) Review the Project records (including procurement documentation) to ensure they are compliant with MURK, CEEs Program Requirements (see DB §112-7.1), and NYSDOT practice;
- H) Perform inspections and tests to document acceptability of the work for payment;

- I) Review and approve the Design-Builder's invoices and recommend payment to the Authority's Construction Quality Assurance Engineer;
- J) Originate non-conformance reports for any material test failures or construction work effort, safety, or work-zone non-compliance;
- K) Maintain a log with the status of all non-conformance reports, with an emphasis on outstanding resolutions to non-conformances;
- L) Recommend corrective action to the Authority's Construction Quality Assurance Engineer if there are deficiencies found in the Work performed by the Design-Builder;
- M) Coordinate field inspection activities between the Design-Builder's Construction personnel, QC inspection staff, and Authority QA staff; and
- N) Recommend acceptance to the Authority's Construction Quality Assurance Engineer.

DB 112-2.2 Construction Quality Control Testing and Sampling

Materials shall be sampled and tested by the Construction QC Inspectors working for the Design-Builder's Professional Engineering Construction Inspection Firm or Materials Testing Firm or Laboratory in accordance with Appendix 112B. Copies of all test results shall be furnished to the Design-Builder's Project Manager, the Design-Builder's Quality Manager, and the Authority's Construction Quality Assurance Engineer within 24 hours of the test results.

References in the Authority's Contract to a New York State Thruway test method or a New York Department of Transportation test method or test designation of the American Association of State Highway and Transportation Officials (AASHTO.), the American Society for Testing and Materials (ASTM) or any other recognized national organization, shall mean the latest revision of that test method or Specification for the Work in effect on the Proposal Due Date unless otherwise noted. The Design-Builder shall comply with the latest modifications as published by the NYSDOT's Materials Bureau (see EB11-043). All Inspection, Sampling and Testing shall be in accordance with the procedural directives issued by the NYSDOT Materials Bureau.

DB 112-2.3 Quality Control Personnel – Certifications/Qualifications

The Design-Builder shall maintain a list of construction QC staff that describes what test certifications each person currently holds and the certification expiration date. The Design-Builder's QC staff will be allowed 30 Days from Award of the Contract to obtain the certifications.

QC Inspectors shall test and sample only those Materials for which they are certified to test. Reports of each test shall be recorded on the MURK form prescribed for that test. All tests that do not pass specified requirements will be added to a log of non-conformance reports for resolution and corrective action.

The minimum frequency of QC sampling and testing shall be consistent with Appendix 112A and the individual Project Specifications accepted by the Authority's Project Manager.

The Design-Builder's staffing levels for inspection and materials samplers shall be consistent with those for NYSDOT-inspected Projects.

All Design-Builder QC Inspectors are required to be certified, for the type of work they are inspecting, in accordance with NHI, NYSDOT Technician Certification Program, or the North East Transportation Technician Certification Program (NETTCP; www.nettcp.com) for the following technician roles: Concrete Inspector, HMA Paving Inspector, Soils and Aggregate Inspector, Drilled Shaft Inspector, Driven Pile Inspector, and Subsurface Inspector; and Concrete, HMA Plant, Soils and Aggregate Lab, and PG Asphalt Binder technicians. Technicians that perform field inspection of Portland cement concrete shall possess a current certification from the American Concrete Institute as Concrete Field-Testing Technician Grade I. NYSDOT's HMA Plant QC/QA Technician Certification Program is administered by the New York State Construction Materials Association; NYSDOT's Concrete Field Inspection certification is the American Concrete Institute (ACI) Level I; the HMA Density Monitoring Technician Certification Program is administered by NYS Chapter of Association of General Contractors, Albany, NY.

The Design-Builder's QC Inspector(s) designated as the responsible person in charge of Work Zone Traffic Control shall have sufficient classroom training, or a combination of classroom training and experience, to develop needed knowledge and skills. Acceptable training should consist of a formal course presented by a recognized training program which includes at least two full days of classroom training within the last 5 years. A minimum of two days classroom training is normally required, although one day of classroom training plus responsible experience may be considered. Recognized training providers include American Traffic Safety Services Assoc. (ATSSA), National Safety Council (NSC), Federal Highway Administration's National Highway Institute (FHWA-NHI), and accredited colleges and universities with advanced degree programs in Civil/Transportation/Traffic Engineering. Former DOT/Authority's employees may be considered on the basis of at least one day of formal classroom training combined with responsible M&PT experience within the last 5 years.

Courses considered acceptable include the following:

- A) FHWA – NHI 38003 – Design and Operation of Work Zone Traffic Control
- B) NSC – Work Zone Traffic/Traffic Control Zone
- C) ATSSA – Worksite Traffic Supervision
 - 1) Construction Zone Safety Inspector
 - 2) Traffic Control in Urban and Utility Work Areas
- D) DOT – M&PT for EIC's and Responsible Persons

DB 112-3 QUALITY ASSURANCE – VERIFICATION AND AUDITING, SAMPLING AND TESTING

DB 112-3.1 Quality Assurance Verification and Auditing

Construction Quality Assurance verification and auditing of the Design-Builder's work will be performed by the Authority's Construction Quality Assurance Engineer assigned to the Project as outlined in Appendix 112C – Quality Assurance Plan Program Guide. The Construction Quality Assurance Engineer may have additional staff to assist him/her in performing Construction Quality Assurance activities.

The Construction Quality Assurance Engineer and staff shall have access to all activities and records of the Design-Builder, the Independent Construction Inspection Professional Engineering Firm, and the Materials Testing Firm or Laboratory retained by the Design-Builder for the purpose of assuring that the construction and inspection activities are being performed in compliance with the Contract requirements, including, but not limited to, the Design Plans, Specifications and the Design-Builder's approved Quality Control Plan and the Authority's standards and practices.

In addition, the Authority's Construction QA Engineer and staff shall have the authority to perform sufficient inspections and/or tests of the Design-Builder's Work to verify that the Work performed by the Design-Builder and the inspections and/or tests performed by the Independent Construction Inspection Professional Engineering Firm and the Materials Testing Firm or Laboratory are in compliance with the Contract requirements (See Appendix 112A). This includes assurance that the Work is constructed to established lines and grades and that any required measurements for payments are performed to the prescribed accuracy. Periodic QA Inspections will verify that the standards for critical methods of construction are followed by the Design-Builder. The Authority's Construction QA Engineer and staff will also audit and verify that the Construction QC Inspection occurs as specified, including but not limited to all QC tasks outlined in DB §112-2, and that daily reports and other required Contract administration documents are prepared and provided as specified.

The Authority's Construction Quality Assurance Engineer may observe any testing performed by the QC Inspectors or the Materials and Testing Firm or Laboratory. If the Construction Quality Assurance Engineer observes a deviation from the specified sampling or testing procedures, the Construction Quality Assurance Engineer will verbally describe the observed deviation to the Design-Builder's Construction QC Engineer, followed by a written Non-Conformance Report covering the deviation to the Design-Builder's Construction QC Engineer and Design-Builder's Project Manager within twenty-four hours. See also DB §109-5.4.

Members of the Authority's Construction QA staff will be assigned responsibility for verifying and auditing the Quality Control Construction Inspection and materials sampling and testing activities of the Design-Builder. The methods employed for verification may include audits of items and processes defined in the Design-Builder's Quality Control Plan to ensure compliance with the plan. In addition, the Authority's Construction QA staff will conduct periodic reviews and audits of construction activities to verify that the methods and in-process and/or completed work elements meet the Contract specifications and standards. The Authority will perform sampling and testing for verification of the sampling and testing performed by the Design-Builder. The Authority may also direct the Design-Builder to perform sampling and testing of materials. At no point may the inspections performed through the Authority's Quality Assurance substitute for the Design-Builder's Quality Control requirements.

The verification and auditing performed by the Authority's Construction QA Engineer and staff will document the acceptance of the Work for payment purposes. Discrepancies (failures of QA test results, significant audit findings) will be documented in Non-Conformance Reports which the Design-Builder must address.

DB 112-3.2 Quality Assurance Sampling and Testing

Quality Assurance Sampling and Testing will be performed by the Authority or its designated representatives assigned to this Project. QA technicians will be certified in accordance with the

NYSDOT's Technician Certification Program. The Quality Assurance testing will be performed independently from the construction QC sampling and testing.

All Materials are subject to inspection, sampling, and testing at any time before Final Acceptance of the Work by the Authority's Construction Quality Assurance Engineer and their staff.

All sampling and testing for acceptance will be in conformance with 23 CFR 637 and approved Authority procedures using qualified, certified individuals and utilize qualified, accredited materials laboratories. When the Design-Builder's QC materials test results are used in the acceptance decision, the Authority will verify the QC data through independent QA sampling and testing.

At no time will QA testing be performed with the same sampling and testing devices as the QC testing. QA Sampling and Testing will be conducted randomly and independently to verify acceptance decisions on materials. QA Sampling and Testing will be performed as directed by the Authority's Construction Quality Assurance Engineer. The QA technicians will complete daily inspection records. The reports will detail the Work performed that Day clearly indicating pass/fail test results. All QA tests which do not conform to the Contract requirements will immediately trigger a Construction Non-Conformance Report for the Design-Builder's reconciliation. The QA technicians will be familiar with the Quality Control Plan and assure that construction QC samplers and testers adhere to that plan. A list of QA technicians will be maintained that indicates what test certifications each person currently holds and the certification expiration date.

DB 112-3.3 Independent Assurance

The Authority will conduct all Independent Assurance (IA) activities with a goal of conducting a minimum of one IA inspection annually on all inspection personnel whose data is used in the acceptance decisions on this Project. Results from the IA testing may not be used as part of the acceptance data.

DB 112-4 COMPETENCE

If a concern arises as to the competence of any certified individual conducting Construction Inspection or Quality Control activities, including the Resident Engineer, regardless of their specific role on the project, this concern must be documented in writing to the Design-Builder's Project Manager and the Authority's Project Manager. The concern will be investigated as deemed necessary by the Authority's Project Manager. If this investigation substantiates the concern, corrective action or decertification will follow the established technician certification processes and protocols.

DB 112-5 DESIGN-BUILDER'S CONSTRUCTION QUALITY CONTROL ORGANIZATION

The Quality Control Plan shall provide the information regarding the construction QC organization.

All QC sampling and testing staff and laboratories shall meet the qualification requirements of 23 CFR 637 and be subject to the Approval of the Authority.

DB 112-5.1 Independent Construction Inspection Professional Engineering Firm (Quality Control Engineering Firm)

The Design-Builder shall retain the services of an Independent Construction Inspection Professional Engineering Firm, to oversee, manage, certify and perform construction QC activities as specified in this DB §112, other Contract Documents and the Design-Builder's Quality Control Plan. The Independent Construction Inspection Professional Engineering Firm shall not be owned by or be an affiliate of the Design-Builder (see DB §101), any Principal Participant (see DB §101) or construction Subcontractor. The Independent Construction Inspection Professional Engineering Firm shall be responsible for management and scheduling all QC Inspection and quality control sampling and testing of all items of construction Work for this Contract, as well as inspection of its Work for conformance to the Contract requirements.

The Construction QC Engineer and all Construction QC Inspection Personnel and their support staff shall be employees of the QC Engineering firm or employees of firm(s) acting as subconsultants to the QC Engineering Firm. The QC Engineering Firm shall report directly to the Design-Builder's Quality Manager and shall not report to the Design-Builder's Project Manager.

DB 112-5.2 Construction Quality Control Engineer

The Design-Builder shall assign a full time on-site Construction QC Engineer, who may be the Resident Engineer working for the Independent Construction Inspection Professional Engineering Firm as described in DB §112-2.1. This individual shall meet the minimum qualifications as described in Part 3, Project Requirements, Section 2.2.

The Design-Builder's Construction QC Engineer shall be responsible for overall management and supervision of the Design-Builder's construction QC programs and shall be a New York-licensed professional engineer. The Design-Builder's Construction QC Engineer shall report directly to the Design-Builder's Quality Manager. The Design-Builder's Construction QC Engineer shall also maintain open and frequent communication with the Authority's Construction QA Engineer.

The Design-Builder's Construction QC Engineer, or his/her designees, shall be granted the authority to make needed improvements to the quality of Work, including the suspension of the Work if required.

The Design-Builder's Construction QC Engineer shall be responsible for coordinating the schedules of construction QC Inspectors with the Design-Builder's construction activities so as not to delay Design-Builder's operations due to Construction QC Inspection, sampling, and testing activities. Daily interaction between the Design-Builder's QC staff and the Authority's QA staff will be a critical element to avoid delay of the Design-Build operations and schedule.

DB 112-5.3 Staffing Levels

The actual size of the field/Site staff shall reflect the complexity, needs, shifts and composition of QC activities consistent with Work in progress. See DB 112-2.3 for staff qualifications and certifications required.

Minimum staff requirements are described in Contract Document, Part 3, Project Requirements.

The resumes of the staff shall be submitted to the Authority's Construction QA Engineer for review. Any QC staff not having the qualifications or certifications specified will be removed from the Project and replaced with a person qualified for that position (see DB §112-2.3).

At any time that any QC staff causes the Authority's QA Engineer to have concerns regarding their competency, the actions in DB §112-4 shall apply.

The Design-Builder shall obtain Authority approval before removal or dismissal of any construction QC staff.

The QC staffing schedule shall be updated as necessary throughout the Contract duration to reflect accurate forecasting of QC staffing requirements.

DB 112-5.4 Quality Control Laboratories

Laboratory QC testing shall be conducted by testing laboratories, retained by the Design-Builder or the QC Engineering firm under subcontract, that comply with the requirements for NYSDOT certification for applicable tests. Laboratories shall be accredited by the AASHTO Material Reference Laboratory (AMRL), the Concrete Cement Reference Laboratory (CCRL), the National Precast Concrete Association (NPCA) for precasters, and the Prestressed Concrete Institute (PCI), as appropriate for the work being constructed. NYSDOT certification shall be obtained for all AASHTO and ASTM test methods to be performed by the testing laboratory. Certification shall also be obtained for AASHTO and ASTM test methods that are modified or referenced by NYSDOT test methods.

Satellites (field laboratories) of these laboratories may be used where appropriate for the tests being conducted. The Equipment in the satellite laboratories shall be certified and calibrated at the start of Work and as required thereafter. Certification shall be the responsibility of the Design-Builder and will be audited by the Authority.

The laboratory shall have written policies and procedures to assure portable and satellite laboratories performing testing activities on the Project are capable of providing testing services in compliance with applicable test methods. The policy and procedures shall address Inspection and calibration of testing Equipment as well as a correlation testing program between the accredited laboratory and portable or satellite facilities.

The Authority reserves the right to evaluate testing Equipment for compliance with specified standards and to check testing procedures and techniques and equipment calibration dates.

The Authority also reserves the right to access the testing facilities of the testing laboratories, to witness the testing and verify compliance of the testing procedures, testing techniques, and test results.

The Authority's rights to check Equipment, procedures, and techniques and to access testing facilities shall also apply to the Federal Highway Administration (FHWA) for Federal-aid projects and to other Project Stakeholders when the Design-Builder is performing Work on their facilities.

DB 112-5.5 Asbestos

Asbestos Containing Materials (ACMs) and locations may have been preliminarily identified in the Project area. The Design-Builder shall be responsible for confirming and identifying any other materials or locations that contain asbestos that will be impacted as part of the work.

The Design Builder shall monitor the abatement of any ACM by licensed asbestos contractors for compliance with the Contract documents, applicable Federal EPA and OSHA regulations, Industrial Code Rule 56 and any specified regulatory variance of the code. This shall include review of all abatement contractor submittals, monitoring of on-site use of personal protective equipment, and enforcement of work area delineation and operation requirements as prescribed by the aforementioned laws. The Design Builder shall be responsible for any required project monitoring/compliance air sampling as required by subpart 56-17 of Industrial Code Rule 56 and/or any specified regulatory variance of the code. The Design Builder shall provide the Authority with an asbestos monitoring report, including daily contractor activity logs, work area inspection reports, final visual reports, compliance air sampling results, removed ACM quantities, and any other associated record keeping documentation maintained for the asbestos work. If additional suspected ACMs are encountered during construction, which require abatement, the Design-Builder shall immediately notify the Construction Quality Assurance Engineer and perform any needed material sampling and laboratory testing required. In addition, the Design-Builder shall advise the Construction Quality Assurance Engineer of any necessary project design modifications needed due to the additional ACM and perform such modifications.

Due to conflict of interest, the equity partners (i.e. the Design-Builder constructor and possibly others) cannot directly perform the abatement and/or monitoring component of the Asbestos work and shall be required to subcontract the abatement and monitoring work to qualified subcontractors that meet the regulatory requirements for performing such work.

Required Qualifications: These asbestos management services must be separate and independent from the abatement contractor and accomplished by a New York State Department of Labor (NYSDOL) licensed handler(s) that employ appropriately certified personnel for Project monitoring and compliance air sampling. Laboratory services for asbestos compliance air and material bulk samples must be appropriately accredited by the New York State Authority of Health (NYSDOH) under the Environmental Laboratory Approval Program (ELAP). The staff of the independent monitoring/compliance air sampling firm shall demonstrate previous project oversight/compliance monitoring work conducted in accordance with the rules and regulations of 12 NYCRR Part 56. Previous asbestos monitoring/compliance air sampling work shall demonstrate specification/regulatory enforcement during abatement, compliance air sampling and bulk sample collection/analysis, and project documentation preparation. While not mandatory, previous transportation-related asbestos experience is preferred.

DB 112-5.6 Documentation Required

- A) Current NYSDOL Handler License
- B) Current NYSDOL Staff Certifications
- C) Current NYSDOH ELAP accreditation of laboratory for respective analysis (bulk or air)

DB 112-6 DESIGN-BUILDER SCHEDULING AND NOTICE TO THE AUTHORITY

The Design-Builder shall notify the Authority in writing by Friday noon of each week of planned construction activities, including fabrication, for the following two weeks to allow the Authority to schedule its resources. The Design-Builder shall deliver this information at the weekly coordination meeting where related discussion will occur. For activities (such as, fabrication) occurring out of the immediate Project area or out of state (beyond 100 miles of the Project), the Design-Builder shall give the Authority at least 21 Calendar Days notice of planned Work.

DB 112-7 DOCUMENTATION

The Design-Builder shall collect and preserve each of the following types of data in written form concurrently during Design-Builder's performance of the Work, all of which shall be in a form acceptable to the Authority and in conformance with MURK.

A daily log for construction-related activities shall be maintained by Design-Builder's Project Manager or his/her designee(s), using Form MURK 2 or another form acceptable to the Authority's Project Manager. The Design-Builder's Project Manager shall record daily, in a narrative form, all significant occurrences on the Project, including unusual weather, asserted occurrences, events and conditions causing or threatening to cause any significant delay or disruption or interference with the progress of any of the Work, significant injuries to person or property and a listing of each activity depicted on the current monthly plan update which is being actively performed. Also, traffic accidents in the Project area shall be noted, as well as lane closures in effect at the time of the accident.

For Utility-related Work such data shall be maintained separately for each Utility facility.

For harmful/Hazardous Material remediation Work, such data shall be maintained separately for each site.

Records shall include the Contract Number, milepost location MP the specific Bridge BIN (where applicable) and document all QC operations, Inspections, activities, and tests performed, including the Work of Subcontractors. The Design-Builder may use the forms provided by the Authority or its own forms providing equivalent information. Such records shall include any delays encountered and Work noted that does not conform to the requirements of the Contract and design together with the corrective actions taken regarding such Work.

The Design-Builder shall complete and submit appropriate documentation at the following times and frequencies:

- A) **Monthly:** See DB §108;
- B) **Weekly:** The Design-Builder shall maintain and submit records that include factual evidence that required activities or tests to have been performed, including the following:
 - 1) Type, number, and results of QC and control activities, including reviews, Inspections, tests, audits, monitoring of Work performance, and Materials analysis;
 - 2) Closely-related data such as qualifications of personnel, procedures, and Equipment used;

- 3) The identity of the QC Inspector or data recorder, the type of test or observation employed, the results, and the acceptability of the Work, and action taken in connection with any deficiencies noted;
- 4) Nature of non-conforming Work and causes for rejection;
- 5) Proposed corrective action;
- 6) Corrective actions taken; and
- 7) Results of corrective actions.

DB 112-7.1 CEEs Software and Program

DB 112-7.2 Computer and Networking Requirements

Computer and Networking equipment described in Contract Document, Part 3 – Section 2.0, Project Requirements, shall be provided by the Design-Builder for the duration of the Project.

DB 112-8 MATERIAL CERTIFICATES OF COMPLIANCE

When the Design-Builder purchases materials from providers/suppliers on the NYSDOT's approved Materials or source list, the Design-Builder shall obtain and retain a certificate of compliance from the provider/supplier covering the Material and/or the source.

Documentary evidence that Material and Equipment conform to the procurement requirements shall be available at the job Site no less than 24 hours prior to installation or use of such Material and Equipment. This documentary evidence shall be retained at the job Site and shall be sufficient to identify the specific requirements, such as Contract Documents, codes, standards, or specifications, met by the purchased Material and Equipment. The effectiveness of the QC by the Design-Builder's own forces and Subcontractors shall be assessed by the Design-Builder and the QC engineering firm at intervals consistent with the importance, complexity, and quantity of the product or services.

The Authority reserves the right to inspect and review these documents at any time.

At the completion of the Project, the Design-Builder shall submit with the final invoice a certificate of compliance signed by the Design-Builder's Project Manager and the Construction QC Engineer indicating that all materials incorporated in the Project conform to the Contract requirements.

DB 112-9 FINAL ACCEPTANCE

The Authority has the responsibility and authority for Final Acceptance of all Work.

The Design-Builder shall complete all Work and provide all documents, certifications, and other information in accordance with the Contract Documents. Final Acceptance shall be based on QC testing verified by verification testing and the final Inspection. Any deviations from the sampling and testing methods and frequencies indicated in the individual Specifications shall require Authority Approval prior to the start of construction on any affected Work.

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Final Acceptance shall be based on certificates of compliance and/or Manufacturer's test results where specified in the individual specification.

Deficient Materials and products shall be brought into compliance with Specifications or replaced. The method of reconciliation shall be noted in the log of failed tests.

Upon Final Acceptance copies of all project records shall be transferred to the Authority.

DB SECTION 113 DESIGN-BUILDERS QUALITY CONTROL PLAN

DB 113-1 GENERAL REQUIREMENTS

The Design-Builder shall submit a Quality Control Plan, updated as necessary, to the Authority for approval.

The Quality Control Plan shall address the topics contained in this DB §113 and shall follow the format presented in the Quality Control Plan Outline included in Appendix DB 113A and shall meet the specified requirements of this DB §113.

The Quality Control Plan shall set up a “quality system team” which shall be distinct and separate from the design and construction production organization. The quality system team shall report directly to the Design-Builder’s management through the Design-Builder’s Quality Manager. The Quality Control Plan shall describe the quality system to be implemented at all levels of the Design-Builder’s organization, to include Sub-Design-Builders (design and construction) at all levels.

When developing and conducting its construction Quality Control procedures, the Design-Builder shall provide a level of inspection and documentation consistent with those indicated in the Authority’s Contract Administration Manual, Materials Inspection Manual and Construction Inspection Manual. The Design-Builder can obtain additional information regarding Authority approved procedures at:

<https://www.dot.ny.gov/main/business-center/contractors/construction-division>.

DB 113-1.1 Quality Control Plan Submittal

The Design-Builder shall submit its Quality Control Plan, updated as necessary from that submitted in the Design-Builder’s Proposal, in accordance with the requirements of Part 3 – Project Requirements.

DB 113-1.2 Quality Control Plan Reviews and Updates

The Design-Builder shall conduct management reviews of its quality system as specified in this DB §113.

As work progresses, the Design-Builder shall update the Quality Control Plan to reflect current conditions. The Design-Builder and/or the Authority’s Project Manager may identify the need for revisions to the Quality Control Plan. The Design-Builder shall submit any revisions or updates to the Quality Control Plan to the Authority’s Project Manager for approval within 30 days of the identification of the need for a revision.

DB 113-1.3 Environmental Mitigation

In developing its Quality Control Plan, the Design-Builder shall establish appropriate controls in its management, design, construction /installation and documentation procedures to ensure that environmental mitigation requirements are met and documented.

NEPA environmental approval for the subject project has been granted based on analysis and documentation of potential environmental impacts of the identified preferred alternative. This analysis is summarized along with any identified environmental commitments and depicted in the Design Report/Environmental Document for the subject project. If during detailed design and/or construction the Design-Builder introduces design elements, variations, or methodologies that potentially induce environmental impacts that differ from those identified in the approved Design Report/Environmental Document or is unable to comply with established environmental commitments then the NEPA process for this project will need to be re-evaluated prior to proceeding with construction. This requirement also applies to proposed variations which may affect resources covered under Section 106, Section 4(f), Executive Order 11990 (wetlands), and other applicable federal and state environmental regulations. The need to re-evaluate the NEPA process may impact the overall project schedule.

DB 113-1.4 Organizational Requirements

The Design-Builder shall designate a Quality Manager (QM) (who shall be identified as one of the Design-Builder's Key Personnel) who shall be responsible for overseeing the overall quality program and the preparation, implementation and update of the Quality Control Plan for the Design-Builder, including management, design and construction. The Quality Manager shall not report to the Design-Builder's Project Manager, but shall be directly responsible to and report to a joint venture board, senior management or similar level of the Design-Builder's organization not directly responsible for design or construction.

The Quality Manager shall be present and available for consultation with the Authority's Project Manager and other Authority staff on an on-call basis throughout the duration of the Project. The Quality Manager shall attend the scheduled progress meetings as a minimum and such other meetings as the Authority's Project Manager may request, including individual meetings between the Quality Manager and Authority staff.

The Quality Manager shall be the primary point of contact to the Authority for all issues relating to the Design-Builder's Quality Control Plan (preparation, review, implementation and updates).

The Proposer's Design QC Engineer and Construction QC Engineer and their respective staffs shall report directly to the Quality Manager.

See DB §112 for responsibilities and qualification requirements of construction QC staff. See DB §111 for responsibilities and qualification requirements of Design QC staff.

DB 113-2 QUALITY SYSTEM REQUIREMENTS

DB 113-2.1 Management Responsibility

DB 113-2.1.1 Quality Policy

The Design-Builder's executive management shall define and document its policy for quality, including objectives for quality and its commitment to quality. (In the context of this DB §113, "executive management" shall mean those persons to whom the Design-Builder's Project Manager reports and who has overall responsibility for the Design-Builder's performance.) The quality policy shall be relevant to the Design-Builder's organizational goals and the expectations and needs of the Authority. The Design-Builder shall ensure that this policy is understood, implemented and maintained at all levels of the organization.

The Design-Builder shall have a published statement of its commitment to quality and the organization's quality objectives signed by its responsible executive(s). It shall explain the commitment in terms of the services provided to the Authority, and the responsibilities assumed by the Design-Builder to discharge its contracted accountabilities relative to the Authority's overall responsibility to Stakeholders and the public-at-large, for assuring quality in the constructed facility. The statement shall be made known to and understood by all staff and be included in the Quality Control Plan.

Executive management's commitment to quality shall be demonstrated by the quality policy being signed by the responsible executive(s) and management's direct involvement in verifying the implementation and understanding of the quality policy.

All employees shall be made aware of the Design-Builder's quality policy. The indoctrination on quality policy may be formal and can be accomplished by various means depending on the size of the Project, the structure of the Design-Builder's management staff and number of employees.

DB 113-2.1.2 Organization

A) Responsibility and Authority

- 1) Executive management shall have the responsibility to plan and determine the overall direction of the Design-Builder and its relationship to the quality efforts. Executive management shall ensure the quality policy is documented and understood by all employees and management shall further ensure the implementation of the quality policy by everyone in the organization.
- 2) The quality system shall be an integral part of the overall management system and as such shall be supported and implemented from the top down. On a Design-Build project most employees are involved in either managing, performing or verifying work that affects quality. It shall not be the sole domain of the design checkers, quality control (QC) inspectors or QC personnel. All workers, including design and construction production personnel (including those of subcontractors) shall be aware of the quality system requirements that govern their respective work.
- 3) A description of the organizational arrangements (such as a chart) shall be available and be maintained up to date. All key roles and persons, and lines of communication and authority between the Design-Builder and the Authority and their representative(s), and with other organizations involved shall be identified.
- 4) The responsibility, authority and the interrelation of personnel who manage, perform and verify work affecting quality shall be defined and documented, particularly for personnel who need the organizational freedom and authority to:
 - a) Initiate action to prevent the occurrence of any nonconformities relating to the product, process and quality system;
 - b) Identify and record any problems relating to the product, process and quality system;
 - c) Initiate, recommend or provide solutions through designated channels. It shall be everyone's responsibility to report any and all quality and safety problems;

- d) Verify the implementation of the solutions to quality problems in a timely manner. The verification shall also investigate if the solution to the identified problem created another quality problem; and
- e) Establish controls, including stopping work, if necessary, once a significant quality problem is identified until the cause of the problem can be identified and the required corrective action can be implemented.

B) Resources

- 1) The Design-Builder shall identify resource requirements and provide adequate resources, including the assignment of trained personnel, for management, performance of work and verification activities including internal quality audits.
- 2) The Design-Builder shall have a system for assuring that projects are adequately staffed and that resources are provided adequate training to perform such activities as design reviews (DB §113-3.5), verification activities, receiving, in-process and final inspections (DB §113-2.9) and internal quality audits (DB §113-2.16).
- 3) The Quality Control Plan shall outline quality personnel staffing levels for the duration of the project and identify the source of staffing (management, professional, technical, and labor) and shall deal with the integration of resources into the specific Contract requirements.
- 4) Other resources shall also be addressed such as computers, craft tools, equipment and facilities.

C) Design-Builder's Quality Manager

- 1) The Design-Builder's executive management shall appoint a Quality Manager who, irrespective of other responsibilities, shall have a defined authority for:
 - a) Ensuring that a quality system is established, implemented and maintained; and
 - b) Reporting on the performance of the quality system to the Design-Builder's management for review and as a basis for improvement of the quality system.
- 2) The Quality Manager shall have direct access to executive management to report on the performance of the quality system and shall not work under the Design-Builder's Project Manager or anyone else responsible for design or construction production.

DB 113-2.1.3 Management Review

The Design-Builder's executive management shall review the quality system at defined intervals sufficient to ensure its continuing suitability and effectiveness in satisfying the requirements of this standard and the Design-Builder's stated quality policy and objectives (see DB §113-2.1.1). Management reviews shall be held at least at 3-month intervals.

Records of such reviews shall be maintained (see DB §113-2.16). Minutes shall be taken of the review meetings and these minutes shall be maintained as quality records. Copies of minutes shall be provided to the Authority's Project Manager on request.

DB 113-2.2 Quality System

DB 113-2.2.1 General

The Design-Builder shall establish, document and maintain a quality system as a means of ensuring that product conforms to specified requirements. The Design-Builder shall prepare a Quality Control Plan covering the requirements of this specification. The Quality Control Plan shall include or make reference to the quality-system procedures and outline the structure of the documentation used in the quality system.

The Quality Control Plan shall cover temporary and permanent components, the Design-Builder, all Principal Participants and all Subcontractors, suppliers and vendors (design, construction and materials) at all tiers.

The Quality Control Plan shall either contain or reference the procedures and documentation structure outline critical to quality.

The Quality Control Plan shall also establish or reference the procedures that make up the quality system. Should the plan only reference the procedures, it shall also detail the levels of the documented system, its contents and the interrelationship of the document types.

There shall be a “road map” within the Quality Control Plan that is lined up to the applicable element that describes the quality system. This roadmap may be a cross-reference, narrative, chart, index or some similar method.

The plan shall detail the role of the Design-Builder, each Principal Participant, the Designer, the Design and Construction QC Engineers, and other team members having a significant quality role. In addition, the Quality Control Plan shall detail how the Design-Builder intends to engage the Authority’s Design Quality Assurance Engineer and Construction Quality Assurance Engineer during all activities described in the Quality Control Plan.

The Quality Plan shall define policies, goals and objectives of the organization and organizational interfaces

DB 113-2.2.2 Quality-System Procedures

The Design-Builder shall prepare documented procedures consistent with the requirements of this specification and the Design-Builder’s stated quality policy.

The Design-Builder shall document standard work methods in procedures (see DB §113-2.2.1) and enforce the implementation of these “Best Practices”. However, it is inevitable that situations will arise which require a departure from the norm. These conditions shall be anticipated in the procedures and shall allow for control of these activities.

The plan shall define the liaison and interface between the quality organization and the design and construction arms of the Design-Builder.

The quality procedures shall, as a primary objective, be written with the intent of gaining employee understanding of the system.

It is the Design-Builder's responsibility to describe to the Authority the rationale for the procedures selected and, if the procedures do not address every provision of this DB §113, to explain why the standard is not applicable in their particular situation. The following common pitfalls should be avoided:

- A) Too much emphasis placed on creating multiple tiered documents when a simple Quality Control Plan will suffice;
- B) Procedures which are too restrictive;
- C) Procedures which are inconsistent;
- D) Inordinate emphasis on documentation requirements; and
- E) Over commitment to procedures which provide little or no information to assist employees.

The following list of procedures (Items A through U) shall serve as the starting point for defining the Design-Builder's Quality Management System:

- A) Procedure for preparation, control and distribution of Project Quality Control Plan;
- B) Scope;
- C) Key personnel;
- D) Organizational/technical interfaces;
- E) Design input requirements;
- F) Design output requirements (deliverables);
- G) Design reviews;
- H) Authority participation;
- I) Levels of responsibility and authority for:
 - 1) On-site staff;
 - 2) Other local office staff;
 - 3) Executive management; and
 - 4) Quality Manager;
- J) Procedure to control, verify and validate the design;
- K) Procedure for document issue, approval and revision (document configuration control);
- L) Procedure for verification, storage and maintenance the Authority Supplied Materials or Equipment;

- M) Procedure for the identification of (and where required by Contract, the traceability of) deliverable items, such as Design Plans, Project Specifications, Work Plans, and As-Built Plans;
- N) Procedure for verification and control of computer programs used in design;
- O) Procedures for inspecting, testing, and calibrating equipment, laboratory equipment, and inspector certification;
- P) Procedures for handling nonconformance's;
- Q) Procedures for corrective/preventive actions;
- R) Procedures for handling storing, packaging and delivering Contract deliverables;
- S) Training processes;
- T) Procedures for Internal Quality Audits; and
- U) Procedure for Management Review.

The Design-Builder shall identify its standard procedures applicable to the Project. Design-Builder shall develop Project-specific procedures for all elements of the Project that are important to Quality for the Project, but are not addressed adequately by its standard procedures. Both types of procedures shall be included in the Project Quality Control Plan.

The Design-Builder shall effectively implement the quality system and its documented procedures. Implementation shall be demonstrated by internal quality audit reports, trending of nonconformances, records of root cause analysis, records of corrective and preventive actions, and/or records of the Authority complaint handling.

For the purposes of this Section, the range and detail of the procedures that form part of the quality system depend on the complexity of the Work, the methods used, and the skills and training needed by personnel involved in carrying out the activity. The procedures shall accurately reflect the work that is to be accomplished.

Documented procedures may make reference to specifications that define how an activity is performed. Procedures shall describe the process steps of "what" needs to be done and work instructions shall prescribe "how" it is to be done.

DB 113-2.2.3 Quality Planning

A specific Project Quality Control Plan is required. There shall be evidence of quality planning that ensures specific Contract/Project requirements have been identified and incorporated into the documented quality system. The Authority's requirements represent the minimum requirements. The Design-Builder shall develop a comprehensive plan.

The Design-Builder shall define and document how the requirements for quality will be met. Quality planning shall be consistent with all other requirements of a Design-Builder's quality system and shall be documented in a format to suit the Design-Builder's methods of operation.

The Design-Builder shall give consideration to the following activities, as appropriate, in meeting the specified requirements for the Project:

- A) Preparing the Quality Control Plan;
- B) If the Design-Builder already has a quality management system, blending the unique Project requirements into the quality system:
 - 1) State the Project objectives to be obtained;
 - 2) Identify responsibilities, authorities, interfaces (both internal and external);
 - 3) Identify specific procedures, methods, and instructions to be used (standard and Project specific);
 - 4) Identify inspections, tests, audits, surveillances to be used;
 - 5) Control modifications and change; and
 - 6) Incorporate into the standard documents.
- C) Identifying and acquiring of any controls, processes, equipment (including inspection and test equipment), resources, skills, and technician certifications that may be needed to achieve the required quality;
- D) Ensuring the compatibility of the design, the production process, installation, servicing, inspection and test procedures and the applicable documentation. The Design-Builder shall have significant interface obligations and shall describe in its Quality Control Plan how these obligations shall be met;
- E) Updating, as necessary, of quality control, inspection and testing techniques;
- F) Identifying suitable verification at appropriate stages;
- G) Clarifying standards of acceptability for all features and requirements, including those which contain a subjective element; and
- H) Identifying and preparing quality records. Quality records comprise such documents as audit inspection reports, approved designs, specifications, plans, calculations, purchase orders, design review records, vendor evaluation reports, cumulative progress reports and audit reports.

DB 113-2.3 Design Control

DB 113-2.3.1 General

The Design-Builder shall establish and maintain documented procedures to control and verify the design of the product in order to ensure that the specified requirements are met.

Design control shall be applied to computer programs, design tables and other products that provide analytical results which are used to develop or check designs.

The plan shall detail the roles of the:

- A) Designer;
- B) Design Manager;
- C) Design QC Engineer; and
- D) Responsible Engineer(s).

DB 113-2.3.2 Design and Development Planning

The Design-Builder shall prepare plans for each design and development activity. The plans shall describe or reference these activities, and define responsibility for their implementation. The design and development activities shall be assigned to qualified personnel equipped with adequate resources. The plans shall be updated, as the design evolves.

The Project design control procedures shall define the technical interfaces among the different groups which provide input to the design process or receive output. The necessary information shall be documented, transmitted and regularly reviewed. If not defined in these procedures, a separate description shall be required.

DB 113-2.3.3 Design Input

Design-input requirements relating to the product, including applicable statutory and regulatory requirements shall be identified, documented and their selection reviewed by the Design-Builder for adequacy. Incomplete, ambiguous or conflicting requirements shall be resolved with those responsible for imposing these requirements.

The essence of this sub-element is that the Design-Builder determines what information is needed and the available sources for information, reviews all pertinent available data, assures itself that there is sufficient information to carry out its assignment, and resolves with the Authority and other appropriate authorities any actual or apparent conflicts or inconsistencies in the information so gathered. The information, sources, and decisions taken shall be documented and treated as a Quality record (DB §113-2.15).

DB 113-2.3.4 Design Output

The Design-Builder shall document design output and express output in terms that can be verified against design-input requirements and validated (see DB §113-2.3.7).

Design outputs shall be captured in plans, reports and specifications prepared in accordance with all applicable Authority design requirements. The control of these outputs is an integral part of the Design-Builder's document control process.

Design output shall:

- A) Meet the design-input requirements;
- B) Contain or make reference to acceptance criteria; and

- C) Identify those characteristics of the design that are crucial to the safe and proper functioning of the product (e.g., requirements for operating, storing, handling, maintaining and disposing).

Design-output documents shall be reviewed before release.

DB 113-2.3.5 Design Review

At appropriate stages of design, documented reviews of the design results shall be planned and conducted (see DB §111-9). Participants at each design review shall include representatives of all functions concerned with the design stage being reviewed, as well as other specialist personnel, as required. Records of such reviews shall be maintained (see DB §113-2.15).

This element reinforces the principle of qualified staff to perform verification functions. The purpose here is to ensure an unbiased look at the work output being produced, to verify with a “fresh set of eyes” that the Authority's contractual requirements and needs are being met fully. Reviews shall include consideration of the Project's usability, reliability, maintainability and availability, operability, along with safety, cost, and aesthetics. In reviews it is prudent to address environmental impacts, community impacts, and similar concerns. Note that design reviews shall be recorded and retained as quality records. Any computer software that is not fully approved for use on Authority projects that the Design-Builder chooses to use to perform alternative calculations or verify clearances through use of CADD techniques shall be validated before use for the application made, and the validation documented in accordance with DB §113-2.15 (quality records).

In addition to conducting design reviews, design verification may include activities such as:

- A) Performing alternative independent calculations,
- B) Comparing the new design with a similar proven design, if available,
- C) Undertaking tests and demonstrations, and
- D) Reviewing the design-stage documents before release.

DB 113-2.3.6 Design Verification

Design verification is the process of ensuring that specified requirements have been met.

At each stage of design development (DB §111-8) the Design-Builder shall verify that the design stage output meets the design stage input requirements. The design verification measures shall be recorded (see DB §113-2.15).

The Design-Builder shall establish and the Quality Control Plan shall include procedures for verifying and documenting that the design output meets the design input requirements. Verification shall include independent checks, tests and/or reviews.

Verification shall be performed under the direction of the Design QC Engineer.

Designs provided by subconsultants shall be independently verified and documented under the direction of the Design QC Engineer prior to its acceptance and incorporation into the work of others

DB 113-2.3.7 Design Validation

The Design-Builder shall perform design validation to ensure that, after completion of the Work, the bridge(s), if any, is/are able to carry the loading as shown in Part 3, Project Requirements, and that other Project elements meet current design standards.

DB 113-2.3.8 Design Changes

After a design is complete and the Work is ready to be executed, or is being executed, or is complete, all subsequent design changes and modifications shall be identified, documented, reviewed and approved by authorized personnel before their implementation.

The Design-Builder shall establish and include in the Quality Control Plan procedures on how design changes are initiated, reviewed, approved, implemented and recorded in order to maintain configuration control. Changes may originate from the Authority's request, internal and external design organization, site or field personnel.

The persons authorized to approve design changes shall be identified in the procedures. The mechanism for changes in the design can be detailed as part of the procedure for the original work or addressed in a specific design change procedure(s). It is important that any proposed changes should be reviewed and approved by the Responsible Engineer that produced the original work. The degree and nature of control on design changes shall be at least equivalent to that under which the original work was accomplished. Changes shall be responsive to the design input, shall be verified and approved. An administrative system shall be in place to ensure that approved changes are documented and provided to holders of the original material in a timely manner. Also, there shall be a documented process that ensures that superseded information is removed from use when the updated document or record is received.

A master list of currently effective documents shall be maintained to reflect design changes approved. A listing of the design changes shall be communicated to the construction site on a timely basis consistent with the progress of construction activities. Under no circumstances shall work be performed without current knowledge of the approved design changes to be incorporated into the work product.

DB 113-2.4 Document and Data Control

DB 113-2.4.1 General

The Design-Builder shall establish and maintain documented procedures to control all documents and data that relate to the requirements of this Section DB §113-2.5 including, to the extent applicable, documents of external origin such as standards and the Authority plans.

The Design-Builder shall be responsible for the establishment and implementation of documented procedures for ensuring all documents essential to the quality of the delivered product or service are properly controlled. This shall include, but is not limited to, contracts, plans, specifications, master drawing lists or equivalent documents, critical procedures and work

instructions, Quality System manuals, Project Quality Control Plans and data (e.g., computer data bases, computer files).

Procedures should recognize that there is a finite life to electronic storage media. Consideration should be made for those “documents” which only exist in the electronic media.

DB 113-2.4.2 Document and Data Approval and Issue

The Design-Builder shall be responsible to see that the documents and data are reviewed and approved for adequacy by authorized personnel prior to issue. A master list or equivalent document-control procedure identifying the current revision status of documents shall be established and be readily available to preclude the use of invalid and/or obsolete documents.

The Design-Builder shall be responsible for establishing, documenting, maintaining, and, implementing a procedure which clearly defines the process for document review, resolution of comments and approval authority.

Quality Management System documentation shall also be controlled to ensure its proper authorization and distribution.

No construction work activities shall be accomplished using unreleased, unauthorized or outdated design documents.

This control shall ensure that:

- A) The pertinent issues of appropriate documents are available at all locations where operations essential to the effective functioning of the quality system are performed; and
- B) Invalid and/or obsolete documents are promptly removed from all points of issue or use, or otherwise assured against unintended use:
 - 1) Superseded, revised and voided documents shall be removed from all work areas and the employees whose work is governed by those documents shall be informed of the changes to ensure compliance to the new or revised requirements;
 - 2) A master document list, or equivalent, shall be maintained to identify the status and current revision of all controlled documents. The Master List, or equivalent, shall be controlled and be available to all holders of controlled documents; and
 - 3) Any obsolete documents retained for legal and/or knowledge-preservation purposes are suitably identified. Superseded, revised and voided documents can be maintained for legal and/or historic information. However, the documented procedure must describe the method of identifying and storing these documents in a manner that ensures they are not inadvertently used by an unknowing individual. There shall also be a record retention plan for the Design-Builder.

DB 113-2.4.3 Document and Data Changes

The Design-Builder shall identify and include in the Quality Control Plan, the process for the initiation, review and approval of all document changes prior to issuance of those changes.

Changes to documents and data shall be reviewed and approved by the same functions/organizations that performed the original review and approval, unless specifically designated otherwise. If this is not possible then the designated approval authority shall have adequate background and experience upon which to base the decision. The designated functions/organizations shall have access to pertinent background information upon which to base their review and approval.

Where practical, the nature of the change shall be identified in the document or the appropriate attachments.

DB 113-2.5 Procurement and Purchasing

DB 113-2.5.1 General

The Design-Builder shall establish and maintain documented procedures to ensure that purchased services and products conform to Authority requirements.

The Design-Builder shall be responsible for establishing, documenting and maintaining procedures for the evaluation and selection of suppliers, vendors and subcontractors. The procedures shall detail the requirements for all important activities, such as preparation of purchase orders, contracts for services, bid lists and vendor quality requirements, including pre-award audits, in-process inspections and product acceptance.

DB 113-2.5.2 Evaluation of Subcontractors, Suppliers and Vendors

The Design-Builder shall:

- A) Evaluate and select subcontractors on the basis of their ability to meet subcontract requirements including the quality system and any specific quality-control requirements;
- B) Control the evaluation and selection of suppliers, vendors and subcontractors. Procedures, rather than just a statement of policy in the Quality Control Plan, shall be used;
- C) Describe the evaluation and selection process for suppliers, vendors and subcontractors of all tiers and describe the priority of quality in the evaluation and selection criteria in the Quality Control Plan;
- D) Define the type and extent of control exercised by the Design-Builder over subcontractors. This shall be dependent upon the type of services or products, the impact of subcontracted Work on the quality of final product and, where applicable, on the quality audit reports and/or quality records of the previously demonstrated capability and performance of subcontractors; and
- E) Establish and maintain quality records of acceptable subcontractors (see DB §113-2.16). Records shall be maintained to document the selection, control exercised over, performance, delivery, quality, etc. of all contractors (subconsultants, vendors) and subcontractors.

The methods the Design-Builder elects to use to control the delivery of the contracted service or product may include, but are not limited to:

- A) Design reviews;
- B) Shop inspection;
- C) Receiving inspection;
- D) Witnessed inspection hold points;
- E) Issuance of a certificate of compliance or analysis;
- F) Testing and approval of a prototype or sample;
- G) Provision and approval of a Quality Control Plan prior to contract award; and
- H) Quality system audits.

The procedures shall detail how subcontractors (including consultants) will be presented to the Authority for approval (DB §108-7).

DB 113-2.5.3 Procurement and Purchasing Data

Procurement and purchasing documents shall contain data clearly describing the service or product ordered, including where applicable:

- A) The type, class, grade or other precise identification. For steel products purchase documentation shall include mill certifications which indicate domestic steel origin-Buy America;
- B) The title or other positive identification, and applicable issues of specifications, plans, process requirements, inspection instructions and other relevant technical data, including requirements for approval or qualification of product, procedures, process equipment and personnel; and
- C) The title, number and issue of the quality-system standard to be applied.

The Design-Builder shall review and approve procurement/purchasing documents for adequacy of the specified requirements prior to release.

The documented procedure shall identify how and by whom procurement and purchasing documents are reviewed, how comments are resolved and who in the organization has the authorization for final approval of the document.

DB 113-2.5.4 Verification of Purchased Service or Product

- A) Design-Builder Verification at Subcontractor's Premises
 - 1) Where the Design-Builder proposes to verify purchased product or service at the subcontractor's premises, the Design-Builder shall specify verification arrangements and the method of product release in the procurement/purchasing documents.
 - 2) The procurement/purchasing document shall include any requirement for the organization performing verification at its subcontractor's facilities. The method of

verification and release of the product or service shall be specified in advance. This may also mean the purchase order or specifications carry specific instructions on how the process verification will be performed to assure the final product will meet all of the procurement/purchasing requirements.

B) The Authority Verification of Subcontracted Product or Service

- 1) The Design-Builder or the Authority's representative shall be afforded the right to verify at the subcontractor's premises and the Design-Builder's premises that subcontracted product or service conforms to specified requirements. Such verification shall not be used by the Design-Builder as evidence of effective control of quality by the subcontractor.
- 2) The Authority shall have the right of access to the Design-Builder and/or subcontractor facility to inspect, audit or otherwise verify the specified procurement/purchasing requirements are being fulfilled. The right of access may be extended to authorized personnel and contracted third parties. The Design-Builder is obligated to perform verification actions, regardless of what the Authority does. The Authority's verification may not be substituted for the Design-Builder's actions.
- 3) Verification by the Authority shall not absolve the Design-Builder of the responsibility to provide acceptable product or service, nor shall it preclude subsequent rejection by the Authority.
- 4) The subcontractors shall be responsible for fulfilling all of the specified procurement requirements regardless if the Authority, Design-Builder or agent performed any tests or inspections. The Design-Builder shall provide the Authority an acceptable product or service, regardless of the extent of the Authority's verification. Even if the Authority has performed verification actions at the Design-Builder's facilities, the product may still be rejected if it is not acceptable.

DB 113-2.6 Control of Authority Supplied Items

The Design-Builder shall establish and maintain documented procedures for the control of verification, storage and maintenance of the Authority-supplied items provided for incorporation into the supplies or for related activities. Any such item that is lost, damaged or is otherwise unsuitable for use shall be recorded and reported to the Authority (see DB §113-2.15).

One of the most significant products provided to the Design-Builder by the Authority is design information in the form of plans and specifications, as well as proprietary information, and these items shall be protected with the same vigilance as any hardware items supplied. Any apparent deficiency or ambiguity shall be identified to the Authority for its necessary action.

The technical characterizations of the site, such as the boring log or soil report data supplied by the Authority for consideration in designing the structural system for the product are examples of the Authority supplied products for the structural consultant.

When such items are encountered, documented procedures shall exist which detail the receipt/acceptance, storage and maintenance (preservation) of these items.

When items are considered inadequate for the task required, documented procedures shall detail the process used to report such deficiencies to the Authority.

DB 113-2.7 Product Identification and Traceability

Where appropriate, the Design-Builder shall establish and maintain documented procedures for identifying the product by suitable means from receipt and during all stages of production, delivery and installation.

This means that the Design-Builder shall establish and maintain documented procedures whereby items of work for which records are to be kept shall be identifiable. Examples of this on a construction site include the numbering of concrete pours in a structure or the establishment of a grid matrix for identifying columns.

The Design-Builder shall include document title, a unique document number, the Contract Number, the Bridge BIN (when applicable), the Authority's name, the Design-Builder's name, the preparer's name, the date and revision number on all Project deliverables.

The filing and retrieval of operating manuals, certificates of compliance and/or analysis, heat numbers, inspection status and nonconforming product shall be traceable to the items. Records shall be kept that identify the installed location of the equipment/materials.

Where and to the extent that traceability is a specified requirement, the Design-Builder shall establish and maintain documented procedures for unique identification of individual product or batches. This identification shall be recorded (see DB §113-2.1).

The intent of this Section DB §113-2.8 is to ensure the Design-Builder can effectively identify the root cause of a problem and to implement effective corrective and preventive actions to resolve and prevent future occurrences of the problem.

DB 113-2.8 Process Control

The Design-Builder shall plan and control the work and when necessary, shall prepare a documented process plan defining how work is to be carried out. Documentation may be in the form of a narrative, flow chart or control points.

The Design-Builder shall identify and plan the production, installation and servicing processes which directly affect quality and shall ensure that these processes are carried out under controlled conditions. Controlled conditions shall include the following:

- A) Documented procedures defining the manner of production, installation and servicing, where the absence of such procedures could adversely affect quality. This requirement deals with the planning and control of all work processes, other than design control processes, that are critical to the adequacy of the delivered Project;
- B) Establishment and documentation of the method(s) for scheduling, monitoring, and reporting on the status of each significant aspect of the design or other Project tasks. The methods shall be consistent with the size and complexity of the effort. Such schedules shall identify required inputs from others and submittals to the Authority and to relevant government authorities.

- C) An assessment by the Design-Builder of this requirement is essential to ensure compliance. The key phrase of this requirement is “where the absence of such procedures could adversely affect quality”;
- D) Use of suitable production, installation and servicing equipment, and a suitable working environment;
- E) Compliance with reference standards/ codes, Quality Control Plans and/or documented procedures. Referenced standards shall be available to the people of the location where the work is to be performed to ensure compliance to the specified requirements;
- F) Monitoring and control of suitable process parameters and product characteristics;
- G) The approval of processes and equipment, as appropriate. Procedures shall identify who has the responsibility, authority and expertise for the approval of various processes to ensure their adequacy;
- H) Criteria for workmanship, which shall be stipulated in the clearest practical manner (e.g., written standards, representative samples or illustrations); and
- I) Suitable maintenance of equipment to ensure continuing process capability.

DB 113-2.9 Inspection and Testing

DB 113-2.9.1 General

The Design-Builder shall establish and maintain documented procedures for inspection and testing activities in order to verify that the specified requirements for the Project are met. The required inspection and testing, and the records to be established, shall be detailed in the Quality Control Plan or documented procedures.

This section shall address inspection/testing methodology, methods of control, documentation, acceptance and distribution of results.

Written procedures are required. In general, QC inspections shall be performed to written criteria with specified levels of acceptability based on clearly defined accept/reject criteria. Reports shall be signed and dated by QC inspection personnel and results clearly indicated.

The Design-Builder shall establish, document and maintain procedures for inspection and testing activities.

QC Inspection and testing shall be performed in accordance with written procedures developed by the Design-Builder, or the proper issue of test procedures issued by industry, government and/or code bodies available to test personnel.

Verification of compliance with specifications and/or requirements by means of inspection and testing is required:

- A) On receipt of materials;
- B) At intermediate stages; and

C) When work is completed.

The criteria for compliance are defined in the contract specification, as are appropriate sampling and testing requirements.

Checkpoints and hold points (Work that must be inspected and approved by the assigned QC Inspector before Work can proceed), shall be clearly established and identified on the Project execution schedule or other suitable means. QC Inspection procedures, logistics and reporting of results shall be clearly defined, developed and implemented.

DB 113-2.9.2 Incoming Product Inspection and Testing

The Design-Builder shall ensure that incoming product is not used or processed (except in the circumstances described in DB §113-2.10.2.3) until it has been inspected or otherwise verified as conforming to specified requirements. Verification of the specified requirements shall be in accordance with the Quality Control Plan and/or documented procedures.

The Plan shall include incoming product inspection that shall include but not be limited to:

- A) Documentation review;
- B) Physical inspection of materials and/or equipment;
- C) Identification of items per the purchase order and shipping list, tag number or marking;
- D) Verification of quantity and size;
- E) Dimensional checks, when applicable;
- F) Verification of protective coatings if applicable; and
- G) Examination of item(s) for condition and shipping damage.

The Design-Builder shall maintain an adequate checking and approving procedure to ensure that all its work, including the monitoring, testing and approving of such work at the head office and on-site meets the Authority's requirements and the Contract specifications.

In determining the amount and nature of receiving inspection, the Design-Builder shall consider the amount of control exercised at the subcontractor's premises and the recorded evidence of conformance provided.

DB 113-2.9.3 In-Process Inspection and Testing

The Design-Builder shall:

- A) Inspect and test the product as required by the Quality Control Plan and/or documented procedures; and
- B) Hold product until the required inspection and tests have been completed or necessary reports have been received and verified.

DB 113-2.9.4 Final Inspection and Testing

The Design-Builder shall jointly conduct all final inspection and testing with the Authority in accordance with the Contract requirements and the Quality Control Plan and/or documented procedures to complete the evidence of conformance of the finished Project to the specified requirements.

The Design-Builder shall have documented procedures to ensure that the final observation and testing where applicable have been completed.

Records of final inspection and test are required to verify compliance to specified requirements has been achieved (see DB §113-2.16).

The Quality Control Plan and/or documented procedures for final inspection and testing shall require that all specified inspection and tests, including those specified either on receipt of product or in-process, have been carried out and that the results meet specified requirements.

DB 113-2.9.5 Inspection and Test Records

The Design-Builder shall establish and maintain records which provide evidence that the product has been inspected and/or tested. These records shall show clearly whether the product has passed or failed the inspections and/or tests according to defined acceptance criteria. Where the product fails to pass any inspection and/or test, the procedures for control of nonconforming product shall apply (see DB §113-2.13).

Inspection and test records for inspections and tests performed by Design-Builder, the Authority and/or third party shall show whether the product has passed or failed according to defined acceptance criteria. Product that fails inspection becomes nonconforming product. Also, the records shall identify the inspection authority responsible.

DB 113-2.10 Control of Inspection, Measuring and Test Equipment

DB 113-2.10.1 General

The Design-Builder shall establish and maintain documented procedures to control, calibrate and maintain inspection, measuring and test equipment (including test software) used by the Design-Builder to demonstrate the conformance of product to the specified requirements. Inspection, measuring and test equipment shall be used in a manner which ensures that the measurement uncertainty is known and is consistent with the required measurement capability.

Where test software or comparative references such as test hardware are used as suitable forms of inspection, they shall be checked to prove that they are capable of verifying the acceptability of product, prior to release for use during production, installation or servicing, and shall be rechecked at prescribed intervals. The Design-Builder shall establish the extent and frequency of such checks and shall maintain records as evidence of control (see DB §113-2.16).

Where the availability of technical data pertaining to the measuring equipment is a specified requirement, such data shall be made available, when required by the Authority for verification that the measuring equipment is functionally adequate.

Effective test procedures shall contain comprehensive listings of required equipment, tools, and apparatus to successfully and conclusively perform the test. Matters of “repeatability” and “reproducibility” shall also be addressed together with precision of measured results and calibration thresholds of measuring devices.

Comprehensive operations, maintenance, setup, and dimensional arrangements for the measuring, testing devices and equipment shall also be included in order to allow for their practical layout and installation at the measuring location. The Design-Builder’s QC Engineering Firm shall establish, document, and maintain procedures for the control of inspection, measuring, and test equipment. It shall be the Design-Builder's responsibility through the Quality Manager, to assess the subcontractor (see DB §113-2.6.2) to ensure the required procedures exist and are implemented.

The Design-Builder and the QC Engineering Firm shall be responsible for ensuring applicable requirements of this section are addressed.

This Section DB §113-2.11 applies to inspection or testing and surveying equipment. The Quality Control Plan shall address:

- A) Definition of the responsibility and authority for the inspection, measuring and test equipment;
- B) Procedures for selecting measurements, determining accuracy and precision required, and obtaining equipment which meets those requirements;
- C) Disposition of nonconforming equipment;
- D) Procedures for identification, maintenance, and storage of measuring equipment;
- E) Record keeping;
- F) Calibration frequency;
- G) Calibration status including indicators;
- H) Disposition of items checked with equipment found to be out of calibration; and
- I) Traceability of primary and secondary calibration standards.

DB 113-2.10.2 Control Procedure

The Design-Builder, through the QC Engineering Firm, shall:

- A) Determine the measurements to be made and the accuracy required, and select the appropriate inspection, measuring and test equipment that is capable of the necessary accuracy and precision;
- B) Identify all inspection, measuring and test equipment that can affect product quality, and calibrate and adjust them at prescribed intervals, or prior to use, against certified equipment having a known valid relationship to internationally or nationally recognized standards. Where no such standards exist, document the basis used for calibration;

- C) Develop a master calibration listing indicating the inspection and test equipment that is used. The log shall include as a minimum, the identification number, item description, and the required frequency of calibration and accuracy requirements. It is not intended that calibration is required for non-precision tools and instruments such as measuring tapes, concrete slump cones, rulers, weld radius gauges, etc.;
- D) Define the process employed for the calibration of inspection, measuring and test equipment, including details of equipment type, unique identification, location, frequency of checks, check method, acceptance criteria and the action to be taken when results are unsatisfactory;
- E) Identify inspection, measuring and test equipment with a suitable indicator or approved identification record to show the calibration status;
- F) Maintain calibration records for inspection, measuring and test equipment (see DB §113-2.16);
- G) Assess and document the validity of previous inspection and test results when inspection, measuring or test equipment is found to be out of calibration;
- H) Ensure that the environmental conditions are suitable for the calibrations, inspections, measurements and tests being carried out;
- I) Ensure that the handling, preservation and storage of inspection, measuring and test equipment is such that the accuracy and fitness for use are maintained; and
- J) Safeguard inspection, measuring and test facilities, including both test hardware and test software, from adjustments which would invalidate the calibration setting.

DB 113-2.11 Inspection and Test Status

The inspection and test status of product shall be identified by suitable means, which indicate the conformance or nonconformance of product with regard to inspection and test performed. The identification of inspection and test status shall be maintained, as defined in the Quality Control Plan and/or documented procedures, throughout production, installation, and servicing of the product to ensure that only product that has passed the required inspections and tests is dispatched, used or installed.

The Design-Builder shall establish, document, implement and maintain an effective system for identifying and implementing the inspection and test status of Project products and services. The system shall utilize a method to identify conforming, nonconforming, indeterminate, downgraded, scrap, and rejected material.

Lack of nonconformance identification shall not be an indication of acceptance.

DB 113-2.12 Control of Nonconforming Product

DB 113-2.12.1 General

The Design-Builder shall establish and maintain documented procedures to ensure that product that does not conform to specified requirements is prevented from unintended use or

installation. This control shall provide for identification, documentation, evaluation, segregation (when practical), disposition of nonconforming product, and for notification to the functions concerned.

There shall be documented procedures to assess nonconformance in the Design-Builder's work and in the work provided by other contractors, including the Authority. The procedures shall safeguard against use of inaccurate or otherwise inappropriate information or data.

The procedures shall identify the individual(s) responsible for verifying the nonconformance, documenting it, processing the documentation in accordance with the procedures, and determining the effective corrective action/preventive action (see DB §113-2.14) to resolve the nonconformance.

Procedures shall also cover nonconformances which arise during construction. They shall address the situation where it is discovered that work does not conform to the requirements after the work item has previously been subjected to the established checking and approval process. The procedures shall also address work that is discovered or suspected to contain errors or omissions after delivery to the Authority.

Work shall be immediately brought under control to limit the impact it could have on associated work, where it may have been used as input. Procedures shall include methods to inform those to whom the nonconforming material had been provided as valid information and to retrieve and isolate from use known copies of the material until a determination can be made about how to proceed. Nonconformances might be manifested as incorrect plans, errors in calculation (numerical or procedural), survey data that might be based on an incorrect benchmark or route, or even a correct design based on superseded specifications.

DB 113-2.12.2 Review and Disposition of Nonconforming Product

The Design-Builder shall define the responsibility for review and authority for the disposition of nonconforming product.

A nonconformance shall be defined as any condition in equipment, materials, or processes which does not comply with required plans, specifications, codes, standards, documentation, records, procedures, or contract requirements which cause the acceptability of equipment, materials, or processes to be unacceptable or indeterminate.

Nonconforming product shall be reviewed in accordance with documented procedures. It may be:

- A) Reworked to meet the specified requirements;
- B) Required that further engineering evaluation be performed to determine if the non-conformance effects design intent/contract compliance;
- C) Accepted with or without repair by consent of the Authority;
- D) Regarded for alternative applications; or
- E) Rejected or scrapped.

The procedures shall also address the disposition of nonconforming items and the steps necessary to verify that the nonconformances have been adequately addressed and that the item then be characterized as conforming.

Where required by the Contract, the proposed use or repair of product which does not conform to specified requirements shall be reported for consent by the Authority. The description of the nonconformity that has been accepted, and repairs shall be recorded to denote the actual condition (see DB §113-2.16).

The Design-Builder shall keep and maintain records of nonconforming findings (see DB §113-2.16). Also, each nonconformance record shall contain all deliberations, retesting, and resolution activities, findings, and decisions.

Repaired and/or reworked product shall be re-inspected in accordance with the Quality Control Plan and/or documented procedures.

Repair shall require the involvement of the Authority, the Designer, and/or an authorized third party to review the condition and determine that although it does not meet the specified requirements, the overall impact is such that the resulting condition is acceptable.

DB 113-2.13 Corrective and Preventive Action

DB 113-2.13.1 General

The Design-Builder shall establish and maintain documented procedures for implementing corrective and preventive action.

This Section DB §113-2.14 encompasses two aspects of dealing with nonconformities. The first is implementation and effectiveness of previously implemented corrective actions.

The second is preventive action (P/A) which plays a major role in this requirement. Most procedures addressing corrective action (C/A) need to include preventive action. The investigation of nonconformances needs to look into three possible causes. They are the product, the process, and the quality system.

These nonconformances may be identified by either internal or external audits or during regular inspections or design reviews. The appropriate authority to implement, verify, and review the effectiveness of both preventive and corrective actions shall be identified. Written procedures shall be prepared and implemented to determine the root causes of nonconformances and to revise existing procedures and work instructions or to establish new ones to prevent the identified situations that cause or allow nonconformances to develop.

Any corrective or preventive action taken to eliminate the causes of actual or potential nonconformities shall be to a degree appropriate to the magnitude of problems and commensurate with the risks encountered.

The Design-Builder shall implement and record any changes to the documented procedures resulting from corrective and preventive action.

DB 113-2.13.2 Corrective Action

The Design-Builder shall maintain and document a procedure for dealing with complaints, ensuring the recording, investigating and determining the appropriate corrective action, if any, that shall be taken.

The procedures for corrective action shall include:

- A) The effective handling of complaints and reports of product nonconformities;
- B) Investigation of the cause of nonconformities relating to product, process and quality system, and recording the results of the investigation (see DB §113-2.16);
- C) Determination of the corrective action needed to eliminate the cause of nonconformities;
- D) Application of controls to ensure that corrective action is taken and that it is effective; and
- E) The tracking of complaints and identified nonconformance, and the actions taken to resolve them is an indicator of the effectiveness of the quality system.

Determination and implementation of an effective corrective action requires knowing the root cause of the problem and planning the most effective method of resolving the problem.

Follow-up action shall investigate to see if the corrective action resolved the identified problem, and also to ensure the corrective action did not have an undesirable effect on another element of the quality system.

DB 113-2.13.3 Preventive Action

The Design-Builder shall establish, document, and maintain procedures for implementing preventive actions.

The procedures for preventive action shall include:

- A) The use of appropriate sources of information such as processes and work operations which affect product quality, concessions, audit results, quality records, service reports and the complaints to detect, analyze, and eliminate potential causes of nonconformities;
- B) Determination of the steps needed to deal with any problems requiring preventive action;
- C) Initiation of preventive action and application of controls to ensure that it is effective; and
- D) Confirmation that relevant information on actions taken is submitted for management review (see DB §113-2.1.3).

DB 113-2.14 Handling, Storage, Packaging, Preservation, and Delivery

DB 113-2.14.1 General

The Design-Builder shall establish and maintain documented procedures for handling, storage, packaging, preservation and delivery (HSPPD) of product.

The procedures which shall be developed apply to all parties involved on a Project, beginning with the Design-Builder writing the specifications all the way through to the personnel responsible for the start-up and turn over of the facility to the Authority. The specific application of the requirements is determined by the function performed: Design-Builder, manufacturer, distributor, vendor, warehousing, equipment operators, and installer.

The engineer writing the specifications shall be responsible for identifying any special HSPPD requirements and assuring the requirements are identified in the appropriate Project documents. Procurement shall be responsible for assuring the vendor, distributor and/or subcontractors are aware of the requirements and are also aware of their responsibilities to identify all requirements to their subcontractors.

Procedures shall be developed and implemented for designating which items require special handling, storage or maintenance. Development of the HSPPD procedures and work instructions are affected by the other elements of this Appendix DB §113 and therefore should be reviewed for applicability and requirement inclusion.

DB 113-2.14.2 Handling

The Design-Builder shall provide methods of handling products that prevent damage or deterioration.

Handling is any physical or electronic movement. Project materials are usually handled numerous times from producer to installation and start-up. Procedures appropriate to the circumstances shall be developed and implemented to assure handling is done in a manner that prevents damage or deterioration of the material/equipment. There shall be assurances that handling requirements are documented and understood.

The procedures shall cover special handling by people and/or machines. Requirements for maintenance of identification and traceability shall be identified.

Special handling clothing and precautions shall be identified for all hazardous materials with assurances that only qualified and trained personnel handle the material. The handling procedures shall include instructions to follow for decontamination and notification of authorities and responsible parties in the event of an accident.

DB 113-2.14.3 Storage

The Design-Builder shall use designated storage areas or stock rooms to prevent damage or deterioration of product, pending use or delivery. Appropriate methods for authorizing receipt to and dispatch from such areas shall be stipulated.

In order to detect deterioration, the condition of product in stock shall be assessed at appropriate intervals.

Items requiring protection shall be identified and protected as necessary to prevent loss, damage deterioration or loss of identification.

Special storage requirements shall be clearly defined for materials and equipment which is received on the Project; this includes plans, records and operating manuals. A master list shall be maintained indicating applicable purchase orders, including quantity, product identification,

documentation and records required, receiving inspection requirements and items requiring special storage or maintenance.

Materials shall be segregated to prevent cross contamination or environmental contamination.

Material with limited shelf life shall be identified and procedures developed and implemented to identify means of assuring usage of material prior to expiration date. The procedures shall also identify the disposal of materials that may be toxic, hazardous or might otherwise have an adverse effect on the environment or on unsuspecting humans.

DB 113-2.14.4 Packaging

The Design-Builder shall control packing, packaging, and marking processes (including materials used) to the extent necessary to ensure conformance to specified requirements.

Engineering or procurement documents shall specify applicable packaging requirements to ensure no damage, contamination or deterioration occurs in the course of packaging and transporting the material and equipment. Procedures/work instructions shall clearly define all special packing and packaging and marking process requirements (i.e., export crating, moisture barrier, regulatory requirements, climate control, identification, and all contract requirements).

Labeling of hazardous materials, special handling instructions and notification of authorities and Design-Builder shall be clearly and plainly identified on the packaging.

DB 113-2.14.5 Preservation

The Design-Builder shall apply appropriate methods for preservation and segregation of product when the product is under the Design-Builder's control.

Procedures shall include special unpacking instructions, controlled conditions necessary to prevent or deter deterioration of material or equipment, prevention of corrosion and/or contamination, and required servicing.

DB 113-2.14.6 Delivery

The Design-Builder shall arrange for the protection of the quality of product after final inspection and test. Where contractually specified, this protection shall be extended to include delivery to destination.

When delivery of equipment and/or materials to the job site is the responsibility of the Design-Builder, they shall develop procedures or reference appropriate standards to protect the items during delivery.

DB 113-2.15 Control of Quality Records

The Design-Builder shall establish and maintain documented procedures for identification, collection, indexing, access, filing, storage, maintenance, and disposition of quality records.

Quality records shall be maintained to demonstrate conformance to specified requirements and the effective operation of the quality system. Pertinent quality records from the subcontractor shall be an element of these data.

Records shall be kept of documents which serve as evidence that quality is achieved in work on a Project. Records shall be adequately identified, filed, and stored. Retention periods and the storage medium of such records shall be established in accordance with Contract requirements.

All quality records shall be legible and shall be stored and retained in such a way that they are readily retrievable in facilities that provide a suitable environment to prevent damage or deterioration and to prevent loss. Quality records shall be made available for evaluation by the Authority per Contract requirements.

The Design-Builder shall develop and implement procedures to store, retrieve, and dispose of the documents required by the quality management system, including but not limited to correspondence, certifications, design calculations, plans, reports of design reviews, and audit reports. In storage, whether active Project files or long term archives, documents that are designated as records shall be originals or reproducible copies and shall be legible, accurate, identified, and indexed so they can be associated with specific Projects. They shall be retrievable in a timely manner. Storage criteria shall be set to specify allowable storage media and ensure physical protection from damage or loss, which could involve duplicate storage facilities for some types of records.

Management shall identify records necessary to provide objective evidence of contract review, procedure compliance, design review (when applicable), training, and completion and acceptance of inspection and testing, or to provide traceability of equipment or items to documentation.

A list of Project-required records shall be developed, retained and/or turned over to the Authority prior to completing the Work.

DB 113-2.16 Internal Quality Audits

The Design-Builder shall establish and maintain documented procedures for planning and implementing internal quality audits to verify whether quality activities and related results comply with planned arrangements and to determine the effectiveness of the quality system.

Internal quality audits shall be conducted in accordance with sound auditing principles. The frequency of the audits shall be appropriate to the importance and complexity of a Project or corporate operation, but shall at least be on a quarterly basis. Audits shall be initiated early enough in the life of a Project to assure effective quality control during all phases. The audits shall include Project management as well as technical work activities.

Internal quality audits shall be carried out by personnel independent of those having direct responsibility for the activity being audited.

The internal quality audit program shall provide verification that the quality system is operating and being implemented as planned. Audits should be conducted on a planned and scheduled basis, consistent with the importance of the activities being performed.

The results of the audits shall be recorded (see DB §113-2.16) and brought to the attention of the personnel having responsibility in the area audited. The management personnel responsible for the area shall take timely corrective action on deficiencies found during the audit.

Follow-up audit activities shall verify and record the implementation and effectiveness of the corrective action taken (see DB §113-2.16).

The results of internal quality audits shall be reviewed in management review meetings. In accomplishing management review the results of internal audits and their attendant C/A status shall be reviewed for adequacy and effectiveness.

Auditor qualifications shall be established and documented by the Design-Builder. Staff assigned auditing tasks shall be qualified accordingly, with qualification records maintained as quality records. Auditing need not be a full time assignment, but staff assigned auditing tasks shall have no direct responsibilities for the function or work they audit.

Audits shall be carefully planned and executed to avoid or minimize disruption of the audited activity. Results shall be provided promptly to personnel responsible for the audited activity and their management. Corrective action shall be developed to identify the root causes and to institute measures to prevent the types of deficiencies identified in the audit. Corrective actions shall be monitored through review of documents, surveillance, or follow-up audits. These actions should be conducted in a timely manner to determine the effectiveness of corrective action that is implemented. Records of corrective actions should be kept together with the respective audit records.

Records of internal audits shall be maintained by the Design-Builder.

DB 113-2.17 Training

The Design-Builder shall establish and maintain documented procedures for identifying training needs and provide for the training of all personnel performing activities affecting quality. Personnel performing specific assigned tasks shall be qualified on the basis of appropriate education, training and/or experience, as required. Appropriate records of training shall be maintained (see DB §113-2.16).

The Design-Builder shall establish documented procedures and records to ensure that the skills and professional judgment of their personnel are developed appropriately for their intended roles, through training and/or the recorded accumulation of experience; with systematic reviews of their competence at determined levels, and before any deployment of new roles.

Training shall focus on improving competency and skill for those performing activities that materially impact quality.

Procedures established shall include:

- A) Position descriptions defining the requirements of the various positions required in conducting activities affecting quality;
- B) Personnel records documenting each person's experience and current education and training accomplished, both formal and informal, relative to current or projected position assignments;
- C) Documented evaluation of that experience and training, including a determination of what training is required to become fully qualified for the activities to which the person is intended to be assigned;

- D) A documented plan to accomplish the training deficiency;
- E) Records documenting accomplishment of that training; and
- F) Education, experience and licensure used as a basis for qualifications of individuals should be verified.

All qualification and training records are quality records and shall be maintained accordingly (DB §113-2.16).

Project personnel shall be trained in all the special Project procedures applicable to their work.

Craft journeymen with special skills need not be trained but their competency shall be verified and a record maintained of the verification.

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**SYRACUSE DIVISION
BUNDLED BRIDGES**

TAS 17-37B, Contract D800001

**DB CONTRACT DOCUMENTS
PART 2**

**APPENDIX 112A
CONSTRUCTION QUALITY CONTROL
INSPECTION**

Final, October 12, 2017

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The Design-Builder shall use Table 1 as a guide for development of a Quality Control Plan, as a minimum level of Quality Control (QC) activities, as defined in DB Section 113. The Quality Control Plan shall provide for materials quality control and construction Inspection (CI) practices oversight. In general, the Design-Builder shall employ an independent Construction Inspection Professional Engineering Firm and a Materials and Testing Firm or Laboratory that will be responsible to assure compliance of materials and construction inspection activities to all Authority standards.

The frequency of QC activities shall be at least equal to current Authority practices as established in the Specifications, Materials Methods and Procedures, Granular Control Procedures, and other Authority standards. The Quality Control Plan shall specifically and clearly define all QC activities to be performed by the Design-Builder, documentation and records to be managed, including forms that will be used, and frequencies of sampling and testing.

The Design-Builder shall provide in the Quality Control Plan all the various materials planned for use and the specific certifications and/or sampling and testing to be progressed for QC purposes to assure durability of the material. For development of the Quality Control Plan, the Design-Builder should be aware of the following materials considerations:

- All domestic off-site materials sampling and testing for QC/QA operations will be performed by the Authority. This includes but is not limited to earthwork and gravel borrow sources, Hot Mix Asphalt materials and production, Concrete materials and concrete production, steel, precast products, masonry, structural steel paints – shop applied, bridge railing, guiderail, traffic control materials, sign structures, frames and grates, and any other materials deemed necessary to assure product quality. The Design-Builder shall perform QC of off-site manufactured/fabricated materials as deemed appropriate by the Design-Builder.
- Bearing production at manufacturer’s locations will be observed by the Authority however, the Design-Builder shall be responsible for hiring an independent testing firm or laboratory to perform all bearing testing. The Design-Builder shall receive from the independent lab a certification that all bearings are in conformance with specification requirements. The Authority will perform sampling and testing for verification purposes.

Use of Approved List materials is expected for commonly available products. Use of materials that are not on the Approved List, but for which an Approved List category exists, shall require the Design-Builder to provide appropriate evaluation and test results, conforming to current NYSDOT procedures for product evaluation, to prove durability of the material for the planned use, to the satisfaction of the Authority. Such product evaluation shall typically consist of lab testing per AASHTO, ASTM, or Authority requirements, performed by an independent certified laboratory. Upon verification of product acceptability by the Authority, the product(s) will be included on the Approved List of Materials. Products that have not been accepted by the Authority will not be included on the Authority’s Approved List of Materials.

Use of materials for which there is not an Approved List category shall require, in the Quality Control Plan, those tests and evaluations to be performed to prove the durability of those materials before use in the Project. In many cases, physical testing should be performed by an independent laboratory. The frequency of sampling and testing, commensurate with the level of risk of the product proposed for use, shall be provided in the Quality Control Plan.

The forms listed in the column “Documentation Form(s)” are those that the Authority presently uses. The Design-Builder may use their own forms, provided that their forms record the same

information documented by the Authority's forms.

The Authority will use Random Independent materials sampling and testing for both acceptance and/or verification of QC sampling and test data. In addition, the Authority will verify compliance to the policies and processes of the Construction Inspection Professional Engineering Firm, the Materials Testing Firm and Material Testing Laboratories, as defined in the Construction Quality Control Plan to ensure conformance with the Contract Documents.

Quality Assurance acceptance decisions that incorporate the use of the Design-Builder's QC data and activities will be progressed as described in Appendix 112C – Attachment 1. The level of risk for various items will determine the frequency at which the Authority will perform Quality Assurance / verification sampling and testing. Statistical methods may be considered for use by the Authority to evaluate the effectiveness of sampling and testing results from QC for use as acceptance. The QA Actions and Testing column defines those actions and the frequency thereof that the Authority expects to take to provide Quality Assurance of materials and construction inspection activities. Final determination of these actions and frequencies will be developed specific to the Quality Control Plan provided by the Design-Builder.

QA of Construction Inspection operations will typically consist of verifying that the Design-Builder, Construction Inspection Professional Engineering Firm, the Materials Testing Firm and Materials Testing Laboratories are meeting Contract Requirements. The Authority shall have the authority to perform sufficient inspections and/or tests of the Design-Builder's Work to verify that the inspections and/or tests performed by the independent Construction Inspection Professional Engineering Firm and the Materials Testing Firm or Laboratory are in compliance with the Contract, the design and specifications, the Design-Builder's approved Quality Control Plan, as well as the Authority's standards and practices.

The Authority will have access to all activities and records of the Design-Builder, the Construction Inspection Professional Engineering Firm and the Materials Testing Firm or Laboratory retained by the Design-Builder for the purpose of assuring that the construction and inspection activities are being conducted in compliance with the Contract, the design and specifications, the Design-Builder's approved Quality Control Plan, as well as the Authority's standards and practices.

All verified QC and QA activities are used in the acceptance decision that will provide assurance that when Final Acceptance of the Project is requested, the Authority is confident that all material incorporated into the Project and the associated workmanship conform to plans, specifications, standards and contract requirements. These verifications will document the acceptance of the Work for payment purposes and assure all non-conformances have been satisfactorily addressed.

The Authority shall have the authority to stop Work specific to Work Zone Traffic Control for all work sites and for the overall safety of the Work site to ensure that it is safe for the workers, the inspection staff and the public.

Nothing in the scope of the Authority's QA role shall be construed to relieve the Design-Builder, the Construction Inspection Professional Engineering Firm and the Materials Testing Firm or Laboratory of their responsibilities for full time construction inspection and compliance with the Contract, the design and specifications, the Design-Builder's approved Quality Control Plan, as well as the Authority's standards and practices.

TABLE – 1: Quality Control Inspection Requirements

Specification Section	QC Inspection Requirements	Documentation Form(s)
All - General	<ul style="list-style-type: none"> ▪ Location and type of Work ▪ Personnel and Equipment ▪ Weather and Site conditions ▪ Checks for Compliance with Design Plans and Project Specifications ▪ Extent of Work ▪ Problems encountered 	MURK 1d (DB CQC), MURK 2b (DB-CQC), Design-Builder's Daily QC Project Diary
201 – Clearing and Grubbing	<ul style="list-style-type: none"> ▪ Clearing and grubbing limits ▪ Disposal ▪ Salvage of marketable timber ▪ Protection and restoration 	MURK 1d (DB CQC)
202 – Removal of Structures and Obstructions	<ul style="list-style-type: none"> ▪ Safety ▪ Engineering survey ▪ Utilities (capping and protection) ▪ Unauthorized entry ▪ Hazardous Materials occurrence ▪ Exterminations ▪ Dust control ▪ WZTC ▪ Disposal of Materials ▪ Salvage 	MURK 1d (DB CQC)
203 – Excavation and Embankment	General Requirements: Stated in the Standard Specifications, CIM and MURK Part 1B.	General: IR's GEB Manuals
	Select Materials	Forms are found in the appropriate GEB manual. Also refer to MURK-1 (DB CQC), Inspector's Daily Report
	Expanded Polystyrene Fill	Forms are found in the appropriate GEB manuals including GTP-7 and GEM-24. Also refer to MURK-1 (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
	Drilling and blasting operations	Form GE-469 (DB), Blasting Report Geotechnical Engineering Manual GEM-22 Procedures for Blasting
	Settlement measurement	Form GE-435, Settlement Report – Manometer Gage Form GE-436, Settlement Report – Rod Gage Form GE-437, Settlement Report – Pipe Gage
	Pore water pressures	Form GE-264, Pore Pressure Report/Vibrating Wire Piezometer
	Slope movements	Form GE-422, Slope Indicator Data Sheet
204 - Controlled Low Strength Material (CLSM)	<ul style="list-style-type: none"> ▪ Materials: Flow test, Cylinder breaks ▪ Placement 	MURK 1d (DB CQC)
206 - Trench, Culvert and Structure Excavation	<ul style="list-style-type: none"> ▪ Safety ▪ Support and protective systems ▪ Test pits ▪ Trench and Culvert excavation ▪ Disposal of excavated Material 	MURK 1d (DB CQC)
207 - Geosynthetics	Brand name and type	MURK-1 (DB CQC), Inspector's Daily Report MURK 14
208 – Stormwater Management Facilities	Conformance to special specification and environmental permit requirements	MURK-1 (DB CQC), Inspector's Daily Report and forms required by regulations
209 - Soil Erosion and Sediment Control	Checks, tests, and activity relating to mulching, temporary seeding, check dams, straw bales, haybales, sediment traps, turbidity curtains, silt fences, and fence removal	MURK-1 (DB CQC), Inspector's Daily Report
210 - Removal and Disposal of Asbestos-Containing Material (Buildings, Bridges, and Highways)	<ul style="list-style-type: none"> ▪ Compliance with regulatory standards ▪ Air quality monitoring ▪ Disposal 	MURK 1d (DB CQC) and forms as required by regulations

Specification Section	QC Inspection Requirements	Documentation Form(s)
211 - Internally Stabilized Cut Structures	<ul style="list-style-type: none"> ▪ Materials ▪ Certified Mill Test Results ▪ Certified Mix Design for grout and shotcrete ▪ Jack and Pressure Gauge Calibration ▪ Geotextile Approved List ▪ Gout Cube Tests ▪ Nail Tests ▪ Shotcrete 	Soil Nail Tendon Installation: GEM-21 Grouted Tieback Installation: GEM-17
212 - Rock Slope Reinforcement and Catchment Systems	<ul style="list-style-type: none"> ▪ Materials ▪ Certified Mill Test Results ▪ Test Results demonstrating capability ▪ Approved List ▪ Grout Cube Tests ▪ Anchor Proof Tests ▪ Rock Bolt Tensioning ▪ Gradation Test for Cushion Sand 	MURK 1d (DB CQC), Inspector's Daily Report
302 -, Bituminous Stabilized Course	<ul style="list-style-type: none"> ▪ Results of stockpile sampling and testing ▪ Bituminous materials and stabilized course ▪ Pugmill calibration ▪ Additional Inspection/documentation ▪ Approved Material incorporated, including source and stockpile ▪ Weather and time of year restrictions met ▪ Placement and compaction 	Form GE-454, Granular Material Documentation Form Form GEB-352b (DB), Project Inspection Report- Bituminous Stabilized Course Form BEB-423b (DB), Bituminous Pugmill Calibration Form MURK-1d (DB CQC), Inspector's Daily Report
303 – Optional Flexible Shoulder	Inspect and document the following dependent on material type: <ul style="list-style-type: none"> ▪ HMA items per 402 ▪ PCC items per 502 	MURK 1d (DB CQC), Inspector's Daily Report Per <ul style="list-style-type: none"> ▪ §402 and MP 402-2 for HMA ▪ MURK 3, Concrete Pavement Daily Field Inspection Report for PCC

Specification Section	QC Inspection Requirements	Documentation Form(s)
401 - Plant Production	<p>Materials</p> <ul style="list-style-type: none"> ▪ HMA design ▪ Aggregates ▪ Aggregate source ▪ Mineral filler ▪ PG binder ▪ Recycled asphalt pavement ▪ ▪ Construction ▪ Determination of lots and sublots ▪ Mixing and holding time ▪ Production control ▪ Production quantities ▪ Plant and Equipment, including Inspection facilities 	MURK 1d (DB CQC) Form BR-162, Bituminous Materials Certified Shipment Notice Per §401 and MP 401
402 – Hot Mix Asphalt (HMA) Pavements	<p>Inspect and document the following:</p> <ul style="list-style-type: none"> ▪ Composition of mixtures ▪ Weather and seasonal limitations ▪ Type and grade of bituminous Material ▪ Equipment, including hauling Equipment ▪ Paver and Equipment cleaning ▪ Condition of existing surface ▪ Spreading and finishing ▪ Compaction/pavement density ▪ Joints ▪ Surface and thickness tolerances 	MURK 1d (DB CQC), Inspector's Daily Report Per §402 and MP 402-2
407 - Tack Coat	<p>Inspect and document:</p> <ul style="list-style-type: none"> ▪ Bituminous material ▪ Randomly sample and test 1 sample per 5000 gal, minimum once per project. ▪ Preparation of tack coat ▪ Time to paving (curing/breaking) ▪ Maintenance of traffic ▪ Application 	Form BR-162c 9DB), Bituminous Material Certified Shipment Notice Form BR-170 (DB), Bitumen or Mix Sample MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
410 - Bituminous Surface Treatment - Single Course	Inspect and document: <ul style="list-style-type: none"> ▪ Bituminous material ▪ ▪ ▪ Aggregate compatibility with bitumen ▪ Compliance with weather and seasonal limitations ▪ Surface preparation ▪ Application ▪ Bitumen ▪ Cover aggregate ▪ Cleanup 	Form BR-162c 9DB), Bituminous Material Certified Shipment Notice Form BR-170 (DB), Bitumen or Mix Sample MURK 1d (DB CQC), Inspector's Daily Report
490 - Cold Milling	Inspect and Document: <ul style="list-style-type: none"> ▪ Controls ▪ Equipment ▪ Cleaning ▪ Milling 	MURK 1d (DB CQC), Inspector's Daily Report
501 - Portland Cement Concrete - General	Inspect and document: <ul style="list-style-type: none"> ▪ Plant ▪ ▪ ▪ ▪ ▪ Materials ▪ ▪ ▪ ▪ For Structural Concrete, information required on MURK 5d (DB CQC) 	<ul style="list-style-type: none"> ▪ BR 316a, Daily Concrete Batch Plant Report (on- and off-site plants) with Materials Acceptance Records ▪ Plant Inspector's Diary ▪ Copy of mix design or Form BR-329, Concrete Mix Design Sheet ▪ Cement shipment certifications or cement shipment authorization and cement sample logs ▪ BR 342, Materials certification (certified batches only) ▪ Delivery tickets ▪ MURK 5d (DB CQC), Design-Builder's Structural Concrete Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
502 - Portland Cement Concrete Pavement	Inspect and document information required on specified form, including: <ul style="list-style-type: none"> ▪ High & low ambient temperature during placement ▪ Mixer type ▪ Slump ▪ Air content ▪ Concrete specifications ▪ BR 316 Report number ▪ Concrete Mixing, Transporting & Discharging checks five (5) times each production day: <ul style="list-style-type: none"> ▪ Central Mix – Time, End of discharge ▪ Truck mix – time, begin and end of mixing, end of discharge and mixing revolutions ▪ Transit Mix – Time, begin and end of discharge and mixing revolutions ▪ Thickness Tolerance ▪ Compliance with weather and seasonal limitations ▪ Equipment ▪ Forms ▪ Preparation of subbase ▪ Placing and spreading concrete ▪ Finishing and texturing ▪ Joints ▪ Curing ▪ Removing Forms (fixed form paving) ▪ Protection of pavement ▪ Surface test ▪ Sealing joints 	MURK 3, Concrete Pavement Daily Field Inspection Report
503 - Portland Cement Concrete Foundation for Pavement	Inspect and Document: <ul style="list-style-type: none"> ▪ Materials – See 501 ▪ Surface tolerance ▪ Texturing ▪ Curing 	MURK 3, Concrete Pavement Daily Field Inspection Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
551 - Piles and Pile Driving Equipment	<ul style="list-style-type: none"> ▪ Inspect equipment and prepare Form BD 138M, Pile and Pile Driving Equipment Data ▪ Pile material deliveries ▪ Complete Pile Driving Record ▪ ▪ Inspect and document: <ul style="list-style-type: none"> ▪ Storage and handling of piles ▪ Preparation of piles ▪ Shoes ▪ Splices ▪ Driving method(s) ▪ Length of piles ▪ Variation in pile alignment ▪ Cutting off piles and pile casings ▪ Painting exposed piles ▪ Reject defective piles and document reason and disposition 	Form BD 138M, Pile and Pile Driving Equipment MURK 1d (DB CQC), Inspector's Daily Report Form BD-25M, Pile Driving Record Form BD-26M, Pile Driving Record Daily Summary MURK 1d (DB CQC), Inspector's Daily Report
Drilled Shafts	<ul style="list-style-type: none"> ▪ Drilling ▪ Concreting ▪ Integrity Testing ▪ Shaft Plumbness ▪ Shaft Soil Field Log ▪ Rebar Cage (Centralizers, Access Tubes) ▪ Load Testing 	Drilled Shafts: GEM-18 Static Pile Load Test: GCP-18
Micropiles	<ul style="list-style-type: none"> ▪ Drilling ▪ Grouting ▪ Reinforcement ▪ Load Testing 	Micropiles: GEM-25 Static Pile Load Test: GCP-18

Specification Section	QC Inspection Requirements	Documentation Form(s)
552 – Externally Stabilized Cut Structures	<ul style="list-style-type: none"> ▪ Materials ▪ Safety ▪ Permanent Sheeting ▪ Temporary sheeting ▪ Interim sheeting ▪ Excavation protective systems 	MURK 1d (DB CQC), Inspector’s Daily Report
553 – Cofferdams and Waterway Diversion Structures	<ul style="list-style-type: none"> ▪ Materials ▪ Cofferdams ▪ Structure ▪ Dewatering Equipment ▪ Sediment removal areas ▪ Temporary water diversion structure ▪ Removal 	MURK 1d (DB CQC), Inspector’s Daily Report
554 – Fill Type Retaining Walls	<ul style="list-style-type: none"> ▪ Materials ▪ Construction ▪ Placement area ▪ Facing units ▪ Structure erection ▪ Methods & Equipment ▪ Leveling pad ▪ Backfill ▪ Reinforcing <p>Approved List</p> <ul style="list-style-type: none"> Materials Methods Foundation Area Erection Tolerances Backfill Material Reinforcing Elements Equipment Movements Subsurface Drainage System Identification Markers Coping Units Aesthetic Treatment ▪ 	Backfill sampling and testing is addressed under GCP-17.

Specification Section	QC Inspection Requirements	Documentation Form(s)
555 - Structural Concrete	Inspect and document: <ul style="list-style-type: none"> ▪ Reinforcing bars: (See also 556) ▪ Handling and storage ▪ Installation ▪ Plan clearances ▪ Forming operations ▪ Form support ▪ Joints ▪ Wall layout for waterstops ▪ Construction joints ▪ Concrete operations ▪ Prior to placing ▪ Placing sequence ▪ Adequacy of personnel and equipment ▪ Concrete supply ▪ Conveyance system ▪ Forms ▪ Curing materials ▪ Admixtures ▪ Prewetting ▪ Placing ▪ Finishing ▪ Curing ▪ Mass concrete operations – special provisions ▪ Cold weather concreting ▪ Verify permission ▪ Ambient temperature ▪ Maintaining temperature ▪ Safety/ventilation ▪ Insulation ▪ External heat and enclosures ▪ Hot weather concreting ▪ Underwater concrete placements 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
556 - Reinforcing Steel for Concrete Structures	Inspect and document: <ul style="list-style-type: none"> ▪ Storing and handling ▪ Placing and fastening ▪ Field bending ▪ Field repair ▪ Splices ▪ Placement in structural slabs ▪ Stud shear connectors for bridges 	MURK 1d (DB CQC), Inspector's Daily Report
557 – Superstructure Slabs, Sidewalks on Bridges, and Structural Approach Slabs	Inspect and document: <ul style="list-style-type: none"> ▪ Compliance with specified restrictions ▪ Forming ▪ Forms ▪ Support Systems ▪ Haunch depths ▪ Permanent corrugated metal forms ▪ Joints ▪ Drainage ▪ Placing and fastening reinforcing steel ▪ Concreting Operations (see 555) ▪ Finishing Integral Wearing Surfaces 	MURK 1d (DB CQC), Inspector's Daily Report
558 - Longitudinal Sawcut Grooving of Structural Slab Surface	Inspect and document: <ul style="list-style-type: none"> ▪ Grooving layout ▪ Grooving geometry ▪ Grooving operations 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
560 - Masonry	Inspect and document: <ul style="list-style-type: none"> ▪ Materials ▪ Dimension stone masonry ▪ Split face concrete masonry ▪ Stone masonry ▪ Rubble stone masonry ▪ Precast concrete coping ▪ Mortar ▪ Compliance with weather limitations ▪ Construction (See Section 560, Part IX) ▪ Dimension stone masonry ▪ Split face concrete masonry ▪ Stone masonry ▪ Rubble stone masonry ▪ Rubble stone masonry laid dry ▪ Precast concrete coping 	MURK 1d (DB CQC), Inspector's Daily Report
563 – Prestressed Concrete Units (Structural)	Inspect and document: <ul style="list-style-type: none"> ▪ When receiving units: ▪ Inspector's stamp of approval ▪ Units against Report of Acceptance of Structural Concrete ▪ Damage during shipment ▪ Camber ▪ Dimensional tolerance ▪ Visual defects ▪ Erection ▪ Repair 	MURK 1d (DB CQC), Inspector's Daily Report
564 - Structural Steel	Inspect and Document: <ul style="list-style-type: none"> ▪ Materials ▪ Field Fabrication ▪ Field Welding ▪ Repairs ▪ Erection ▪ Site storage & handling 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
565 - Bridge Bearings	<ul style="list-style-type: none"> ▪ Materials ▪ Fabrication ▪ Protective coatings ▪ Bearing surface preparation ▪ Anchor bolts ▪ Pad installation ▪ Welding ▪ Grouting 	MURK 1d (DB CQC), Inspector's Daily Report
566 – Modular Expansion Joint Systems	<ul style="list-style-type: none"> ▪ Materials-System ▪ Fabrication ▪ Installation 	MURK 1d (DB CQC), Inspector's Daily Report
567 – Bridge Joint Systems	<ul style="list-style-type: none"> ▪ Materials ▪ Fabrication ▪ Cleaning ▪ Assembly ▪ Installation ▪ Preparation ▪ Handling and Storage 	MURK 1d (DB CQC), Inspector's Daily Report
568 – Bridge Railing	<ul style="list-style-type: none"> ▪ Materials ▪ Erection ▪ Cement Mortar Pads 	MURK 1d (DB CQC), Inspector's Daily Report
569 – Permanent Concrete Traffic Barrier for Structures	<ul style="list-style-type: none"> ▪ Materials ▪ Fabrication ▪ Tolerances ▪ Precast ▪ Cast-in-Place 	MURK 1d (DB CQC), Inspector's Daily Report
570 – Paint Removal Operations	<ul style="list-style-type: none"> ▪ Materials ▪ Ground Protection ▪ Waste materials ▪ Air filtering ▪ Removal and disposal of waste ▪ Waterway Protection ▪ Collections ▪ Floating waste containment & disposal 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
571 - Treatment and Disposal of Paint Removal Waste	<ul style="list-style-type: none"> ▪ Containers ▪ Labeling ▪ Documentation Preparation ▪ Waste Composition ▪ Stabilization 	MURK 1d (DB CQC), Inspector's Daily Report
572 – Structural Steel Painting: Shop Applied	<ul style="list-style-type: none"> ▪ Materials ▪ Abrasive ▪ Paint ▪ Paint Inspection Equipment ▪ Cleaning ▪ Painting – General ▪ Painting – Application Methods ▪ Shop Painting ▪ Field Painting 	MURK 1d (DB CQC), Inspector's Daily Report
576 - Bridge Drainage System	<ul style="list-style-type: none"> ▪ Materials ▪ Fabrication ▪ Erection 	MURK 1d (DB CQC), Inspector's Daily Report
578 - Bonded Concrete Overlay for Structural Slabs	<ul style="list-style-type: none"> ▪ Materials ▪ Blast cleaning ▪ Preplacement wetting ▪ Bonding grout placement ▪ Handling and placing concrete ▪ Finishing and curing slab reconstruction concrete ▪ Finishing bonded concrete overlay ▪ Curing bonded concrete overlay 	MURK 1d (DB CQC), Inspector's Daily Report See also documentation for Section 501

Specification Section	QC Inspection Requirements	Documentation Form(s)
579 - Structural Slab Reconstruction Preparation	<ul style="list-style-type: none"> ▪ Materials ▪ Equipment ▪ Scarification ▪ Reinforcing Bar Exposure ▪ Full Depth Patches ▪ Hydro-demolition Equipment ▪ Water filtration and disposal ▪ Water retention ▪ Debris removal 	MURK 1d (DB CQC), Inspector's Daily Report
582 - Removal and Replacement of Structural Concrete	<ul style="list-style-type: none"> ▪ Materials ▪ Removal of Unsound Concrete ▪ Preparation of Surface ▪ Placement ▪ Form Removal ▪ Curing 	MURK 1d (DB CQC), Inspector's Daily Report
583 - Shotcrete	<ul style="list-style-type: none"> ▪ Materials ▪ Equipment ▪ Qualification Test ▪ Preparation of Surfaces ▪ Preparation of Materials ▪ Placement ▪ Weather ▪ Quality Control ▪ Test Panels ▪ Coring ▪ Finishing ▪ Curing 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
584 - Specialized Overlays for Structural Slabs	<ul style="list-style-type: none"> ▪ Materials ▪ Manufacture of Class DP Concrete ▪ Manufacture of Microsilica Concrete ▪ Equipment ▪ Limitations of Operations ▪ Blast Cleaning ▪ Preplacement Wetting ▪ Bonding Grout Placement ▪ Handling and Placing Concrete ▪ Finishing and Curing ▪ Construction Joints ▪ Defective or Damaged Concrete 	MURK 1d (DB CQC), Inspector's Daily Report See also documentation for Section 501
585 - Structural Lifting Operations	<ul style="list-style-type: none"> ▪ Lifting Equipment ▪ Lifting Operations 	MURK 1d (DB CQC), Inspector's Daily Report
587 - Bridge Railing Reconstruction	<ul style="list-style-type: none"> ▪ Materials ▪ Bridge Railing Removal ▪ Bridge railing Storage ▪ Bridge Railing Installation (see Section 568) ▪ Thrie Beam Installation ▪ Direct Attachment ▪ Separate Post Installation 	MURK 1d (DB CQC), Inspector's Daily Report
589 - Removal of Existing Steel	<ul style="list-style-type: none"> ▪ Work Plan ▪ Paint Removal ▪ Cutting ▪ Fastener Removal ▪ Disassembly of Welded Connections 	MURK 1d (DB CQC), Inspector's Daily Report
590 - Adjustment of Bridge Appurtenances	<ul style="list-style-type: none"> ▪ Materials ▪ Galvanized Parts and Repairs ▪ Welding 	MURK 1d (DB CQC), Inspector's Daily Report
594 - Timber and Lumber	<ul style="list-style-type: none"> ▪ Materials ▪ Erection ▪ Treatment after Fabrication ▪ Permits 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
596 - Open Steel Floor	<ul style="list-style-type: none"> ▪ Materials ▪ Fabrication ▪ Shop Painting ▪ Placement ▪ Field Welding ▪ Field Painting 	MURK 1d (DB CQC), Inspector's Daily Report
597 - Timber Bridge Railing and Transitions	<ul style="list-style-type: none"> ▪ Materials ▪ Fabrication ▪ Galvanizing ▪ Railing ▪ Field Repair ▪ Installation/Erection 	MURK 1d (DB CQC), Inspector's Daily Report
602 - Rehabilitation of Culvert and Storm Drain Pipe	<ul style="list-style-type: none"> ▪ Materials ▪ Existing Pipe Preparation ▪ Handling and Installing Relining Materials ▪ Installation ▪ Curing ▪ Workmanship ▪ Lateral Connections ▪ Damaged Pipe and Repairs 	MURK 1d (DB CQC), Inspector's Daily Report
603 - Culverts and Storm Drains	<ul style="list-style-type: none"> ▪ Materials ▪ Excavation ▪ Laying Pipe ▪ Bedding and Backfill ▪ Damaged Pipe and Repairs ▪ Field Strutting of Corrugated Structural Plate Pipe ▪ Joints ▪ Concrete Paving for Corrugated Structural Plate Pipe ▪ Relaying Pipe ▪ Anchor Bolts 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
604 - Drainage Structures	<ul style="list-style-type: none"> ▪ Materials ▪ Excavation ▪ Installation ▪ Backfill – See GCP-17 	MURK 1d (DB CQC), Inspector’s Daily Report
605 - Underdrains	<ul style="list-style-type: none"> ▪ Materials ▪ Bed Preparation ▪ Placement ▪ Pipe Installation ▪ Backfill and Compaction – see GCP-17 	MURK 1d (DB CQC), Inspector’s Daily Report
606 - Guide Railing	<ul style="list-style-type: none"> ▪ Materials ▪ Equipment ▪ Rail Elements ▪ Field Repair ▪ Field Welding ▪ Erection/Installation ▪ Anchor Units ▪ End Terminals and Assemblies ▪ Concrete ▪ Dimensional Tolerances ▪ Joints ▪ Concrete Placement ▪ Form Removal and Finishing ▪ Curing ▪ Reinforcement ▪ Defects ▪ Repair 	MURK 1d (DB CQC), Inspector’s Daily Report
607 - Fences	<ul style="list-style-type: none"> ▪ Materials ▪ Clearing and Grubbing ▪ Grounding (where required) ▪ Post Placement and Spacing ▪ Post Foundations ▪ Installation/Erection 	MURK 1d (DB CQC), Inspector’s Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
608 – Sidewalks, Driveways, Bicycle Paths, and Vegetation Control Strips	<ul style="list-style-type: none"> ▪ Concrete (see 501 and 502) ▪ Wire Reinforcement ▪ Construction Joints ▪ Finishing ▪ Asphalt (see 402) ▪ Brick, Stone and Concrete Block ▪ Paving Pattern ▪ Installation ▪ Curing 	MURK 1d (DB CQC), Inspector’s Daily Report
609 - Curb and Curb & Gutter	<ul style="list-style-type: none"> ▪ Materials ▪ Alignment and Grade ▪ Preparation of Mixture ▪ Preparation of Surface ▪ Placing ▪ Curing 	MURK 1d (DB CQC), Inspector’s Daily Report
610 – Ground Vegetation – Preparation, Establishment and Management	<ul style="list-style-type: none"> ▪ Materials ▪ Application of Soil Amendments ▪ Rates ▪ Limitations ▪ Seed Inoculation ▪ Ground Preparation and Seeding ▪ Mulching ▪ Care during Construction 	MURK 1d (DB CQC), Inspector’s Daily Report
611 – Planting, Transplanting and Post-Planting Care	<ul style="list-style-type: none"> ▪ Materials ▪ Location ▪ Delivery ▪ Storage ▪ Ground Preparation ▪ Setting Plants ▪ Restoration ▪ Care of Plantings 	MURK 1d (DB CQC), Inspector’s Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
613 – Wildlife and Ecology	Protection, preservation, restoration and management of terrestrial habitat, aquatic habitat and wetlands per special specifications. <ul style="list-style-type: none"> ▪ Materials ▪ Location ▪ Delivery ▪ Storage ▪ Installation ▪ Restoration 	MURK 1d (DB CQC), Inspector’s Daily Report and any forms required by regulations
614 – Pruning, Improving and Removing Existing Vegetation	<ul style="list-style-type: none"> ▪ Materials ▪ Care of Trees ▪ Equipment ▪ Pruning ▪ Fertilizing ▪ Cleanup and Disposal ▪ Selective Thinning ▪ Tree Removal ▪ Procedures ▪ Disposal of Wood 	MURK 1d (DB CQC), Inspector’s Daily Report
615 - Landscape Appetences	Per Special Specification requirements <ul style="list-style-type: none"> ▪ Materials ▪ Location ▪ Delivery ▪ Storage ▪ Installation ▪ Restoration 	MURK 1d (DB CQC), Inspector’s Daily Report
616 – Soil Bioengineering	Per Special Specification requirements <ul style="list-style-type: none"> ▪ Materials ▪ Location ▪ Procedures ▪ Care during Construction 	MURK 1d (DB CQC), Inspector’s Daily Report and any forms required by regulations

Specification Section	QC Inspection Requirements	Documentation Form(s)
617 - Invasive Species Management	Per Special Specification requirements <ul style="list-style-type: none"> ▪ Materials ▪ Location ▪ Procedures ▪ Care during Construction 	MURK 1d (DB CQC), Inspector's Daily Report and any forms required by regulations
619 - Work Zone Traffic Control (WZTC)	<ul style="list-style-type: none"> ▪ Materials ▪ Surface Condition ▪ Drainage ▪ Bus Stops ▪ Protection and maintenance of Pedestrian Traffic ▪ Intersecting Traffic ▪ Dust Control and Spillages ▪ Flaggers ▪ Repairs ▪ Snow and Ice Control ▪ Delineation and Guiding Devices ▪ Project Site Patrol ▪ Shadow and Barrier Vehicles ▪ Construction Signs, Temporary Barriers, Temporary barrier end treatments, Construction Barricades and Lighting ▪ Temporary Structures and Approaches ▪ Interim Pavement Markings ▪ Temporary Pavement markings ▪ Temporary Traffic Signals ▪ Railroad Protection ▪ Mailboxes ▪ Maintenance of Traffic Signal Equipment ▪ Flashing Arrow Board ▪ WZTC during Nighttime Operations ▪ Cleaning ▪ Dust Control 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
619 - Work Zone Traffic Control (WZTC) (Cont.)	<ul style="list-style-type: none"> ▪ Signs and Sign Covers ▪ Existing Pavement Markings ▪ Exposed Guide Railing, Median Barriers and Rail Ends ▪ Maintain access to abutting property, business signs ▪ Portable Variable Message signs ▪ Traffic Control Supervisor 	MURK 1d (DB CQC), Inspector's Daily Report
620 - Bank and Channel Protection	<ul style="list-style-type: none"> ▪ Materials ▪ Ground Surface Preparation ▪ Bedding Material ▪ Stone Filling ▪ Riprap (Plain and Grouted) ▪ Concrete Block Paving ▪ Gabions 	MURK 1d (DB CQC), Inspector's Daily Report
622 – Buildings and Miscellaneous Structures	<ul style="list-style-type: none"> ▪ Materials ▪ Equipment ▪ Procedures ▪ certifications ▪ Compliance with local building codes ▪ Permits 	MURK 1d (DB CQC), Inspector's Daily Report and any forms required by regulations, local building codes, and per OGS permit requirements
623 - Screened Gravel, Crushed Gravel, Crushed Stone, Crushed Slag	<ul style="list-style-type: none"> ▪ Materials ▪ Placement ▪ Material is on Approved List 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
624 - Paved Gutters	<ul style="list-style-type: none"> ▪ Materials ▪ AC Gutters ▪ Preparation of Bed ▪ Placing ▪ Sealing ▪ Conventional Formed Concrete Gutters ▪ Forming and Placement ▪ Construction Joints ▪ Curing ▪ Machine-Formed Gutter (see 609) ▪ Precast Gutters (see 609) ▪ Cobble Gutters ▪ Construction ▪ Joints 	MURK 1d (DB CQC), Inspector's Daily Report
630 - Barricades	<ul style="list-style-type: none"> ▪ Materials ▪ Excavation ▪ Erection ▪ Backfill 	MURK 1d (DB CQC), Inspector's Daily Report
633 – Conditioning Existing Pavement Prior to Hot Mix Asphalt (HMA) Overlay	<ul style="list-style-type: none"> ▪ Materials ▪ Cleaning Pavement and Shoulders ▪ Cleaning, Sealing and Filling Joints and Cracks 	MURK 1d (DB CQC), Inspector's Daily Report
635 - Cleaning and Preparation of Pavement Surfaces for Pavement Markings	<ul style="list-style-type: none"> ▪ Materials ▪ WZTC and Safety ▪ Cleaning Method ▪ Dust Control ▪ Protection of Pavements and Seals ▪ Limits of Work ▪ Cleaning Concrete Curing Compounds ▪ Cleaning Existing Pavement Markings ▪ Replacement of Pavement Markings 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
638 - White Synthetic Resin Binder Concrete	<ul style="list-style-type: none"> ▪ Materials ▪ Weather Limitations ▪ Preparation of Mixture ▪ Preparation of Surface ▪ Paving ▪ Compaction 	MURK 1d (DB CQC), Inspector's Daily Report
640 - Reflectorized Pavement Marking Paints	<ul style="list-style-type: none"> ▪ Materials ▪ WZTC ▪ Preparation ▪ Application 	MURK 1d (DB CQC), Inspector's Daily Report
643 – Noise Barrier	<ul style="list-style-type: none"> ▪ Materials ▪ Equipment ▪ Procedures 	MURK 1d (DB CQC), Inspector's Daily Report
644 – Overhead Sign Structures	<ul style="list-style-type: none"> ▪ Materials ▪ Fabrication ▪ Transportation ▪ Excavation ▪ Foundations ▪ Erection 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
645 - Signs	<ul style="list-style-type: none"> ▪ Materials ▪ Fabrication ▪ Sign Face Construction ▪ Work Sequence ▪ Location ▪ Erection ▪ Transportation, Handling and Storage ▪ Foundations ▪ Sign Posts ▪ Breakaway Bases and Hinge Assemblies ▪ Sign Panels and retroreflective sheeting ▪ Illumination Systems ▪ Insulation ▪ Grounding ▪ Functionality ▪ Sign Coverings 	MURK 1d (DB CQC), Inspector's Daily Report
646 - Delineators, Reference Markers and Snowplowing Markers	<ul style="list-style-type: none"> ▪ Materials ▪ Fabrication ▪ Location ▪ Erection ▪ Damage ▪ Marker Relocation 	MURK 1d (DB CQC), Inspector's Daily Report
647 - Removing, Storing and Relocating Signs	<ul style="list-style-type: none"> ▪ Materials ▪ Removal ▪ Storage of Signs ▪ Removal of Concrete Footings ▪ Relocation of Signs 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
650 – Trenchless Installation of Casing	<ul style="list-style-type: none"> ▪ Materials ▪ Jacking Procedures Subcontractor Qualifications Designed Drill Path CODE 753 Clearance Ticket Equipment List Installation Method Design of Entrance and Exit Pits Thrust Block Design Monitoring Plan Method of Grouting; Certified Mix Design Spread Diameter Field Test Results Cylinder Break Test Results MSDS ▪ Steering and Tracking Equipment 	MURK 1d (DB CQC), Inspector’s Daily Report
652 - Furnishing and Applying Salts	<ul style="list-style-type: none"> ▪ Materials ▪ Stabilized Gravel Surface Course ▪ Dust Control 	MURK 1d (DB CQC), Inspector’s Daily Report
654 – Impact Attenuators - Permanent	<ul style="list-style-type: none"> ▪ Materials ▪ Traffic Protection ▪ Foundations ▪ Excavation ▪ Foundation Slab ▪ Pavement Restoration ▪ Anchorage ▪ Installation ▪ Removal and Disposal ▪ Removal and Storage ▪ Relocation ▪ Refurbishing 	MURK 1d (DB CQC), Inspector’s Daily Report
655 - Frames, Grates and Covers	<ul style="list-style-type: none"> ▪ Materials ▪ Installation ▪ Field Repairs 	MURK 1d (DB CQC), Inspector’s Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
656 - Miscellaneous Metals	<ul style="list-style-type: none"> ▪ Materials ▪ Welding ▪ Galvanizing ▪ Painting 	MURK 1d (DB CQC), Inspector's Daily Report
659 - Telecommunication Utilities	<ul style="list-style-type: none"> ▪ Materials ▪ Installation and Testing ▪ Schedule ▪ Excavation ▪ Backfill 	MURK 1d (DB CQC), Inspector's Daily Report
660 - Utilities	<ul style="list-style-type: none"> ▪ Materials ▪ Installation and Testing ▪ Schedule ▪ Excavation ▪ Backfill 	MURK 1d (DB CQC), Inspector's Daily Report
661 - Electric Utilities	<ul style="list-style-type: none"> ▪ Materials ▪ Installation and Testing ▪ Schedule ▪ Excavation ▪ Backfill 	MURK 1d (DB CQC), Inspector's Daily Report
662 - Gas, Oil & Steam Utilities	<ul style="list-style-type: none"> ▪ Materials ▪ Installation and Testing ▪ Schedule ▪ Excavation ▪ Backfill 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
663 - Water Supply Utilities	<ul style="list-style-type: none"> ▪ Materials ▪ Permits ▪ Notifications ▪ Removals ▪ Asbestos Containing Materials (Special Requirements) ▪ Shut Downs/Approvals ▪ Temporary Water Supplies ▪ Excavation and Backfill ▪ Thrust Restraints ▪ Pipe Installation ▪ Polyethylene Encasement Installation ▪ Valves and Valve Boxes ▪ Hydrants ▪ Fittings ▪ Water Service Connections ▪ Water Meter Pits ▪ Adjusting Valve Box Elevations ▪ Disconnect and Cut Water Mains ▪ Hydrostatic Testing ▪ Disinfection 	MURK 1d (DB CQC), Inspector's Daily Report
664 - Sanitary Sewer Utilities	<ul style="list-style-type: none"> ▪ Materials ▪ Installation and Testing ▪ Schedule ▪ Excavation ▪ Backfill 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
670 - Highway Lighting System	<ul style="list-style-type: none"> ▪ Materials ▪ Excavation and Miscellaneous Work ▪ Foundations ▪ Grounding ▪ Light Standards, Breakaway Transformer Bases and Arms ▪ Conduit ▪ Pull Boxes ▪ Junction Boxes ▪ Luminaries ▪ Photoelectric Control ▪ Cable ▪ Ground Cable ▪ Tests ▪ Removal and Disposal or Storage of Lighting Equipment ▪ Relocation of Lighting Equipment ▪ High Mast Poles ▪ Portable Power Drives for High Mast Poles 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
680 - Traffic Signals	<ul style="list-style-type: none"> ▪ Materials ▪ Underground Facilities ▪ Test Holes ▪ Schedule ▪ Excavation ▪ Pole Excavation and Concrete Foundations ▪ Poles ▪ Grounding ▪ Conduit and Direct Burial Cable ▪ Pull Boxes ▪ Signal Control Cable & Shielded Communications Cable ▪ Cable Splices ▪ Span Wire Assemblies ▪ Messenger Assemblies ▪ Guy Assemblies ▪ Riser Assemblies ▪ Signal Heads ▪ Wiring Color Code ▪ Pedestrian Push Button and Sign ▪ Fire Pre-Emption Tell-Tale Light ▪ Flashing Beacon Sign Assembly ▪ Inductance Loop Installation ▪ Concrete Base for Controller Assembly ▪ Power Meter Base ▪ Overhead Traffic Signs ▪ Filed Galvanizing ▪ Cast Iron Junction Boxes ▪ Tests ▪ Fiber optic Pedestrian Signal Heads ▪ Pedestrian countdown timers ▪ Fiber optic Dual Indication Arrow ▪ Strobing Signal Section ▪ LED Traffic & Pedestrian Signal Modules 	MURK 1d (DB CQC), Inspector's Daily Report

Specification Section	QC Inspection Requirements	Documentation Form(s)
685 - Epoxy ReflectORIZED Pavement Markings	<ul style="list-style-type: none"> ▪ Materials ▪ General Requirements ▪ Atmospheric Conditions ▪ Surface Preparation ▪ Epoxy Application Equipment ▪ Application of Pavement Markings ▪ Defective Pavement Markings 	MURK 1d (DB CQC), Inspector's Daily Report
687 - Thermoplastic ReflectORIZED Pavement Markings	<ul style="list-style-type: none"> ▪ Materials ▪ Equipment ▪ Application ▪ Atmospheric Conditions ▪ Materials Application Requirements ▪ Surface Cleaning and Preparation of Pavement ▪ Application of Thermoplastic Pavement Markings 	MURK 1d (DB CQC), Inspector's Daily Report
688 - Preformed ReflectORIZED Pavement Markings	<ul style="list-style-type: none"> ▪ Materials ▪ General Requirements ▪ Methods ▪ Weather and Seasonal Limitations ▪ Equipment ▪ Rollers ▪ Primer Requirements ▪ Surface Cleaning and Preparation of Pavement Surfaces ▪ Application of Markings 	MURK 1d (DB CQC), Inspector's Daily Report

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**SYRACUSE DIVISION
BUNDLED BRIDGES**

TAS 17-37B, CONTRACT D800001

**DB CONTRACT DOCUMENTS
PART 2**

**DB SECTION 112
CONSTRUCTION QUALITY CONTROL AND
QUALITY ASSURANCE**

**APPENDIX 112B
CONSTRUCTION QUALITY CONTROL
TESTING**

Final, October 12, 2017

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The Design-Builder (DB) shall use this Appendix DB 112B as a guide for development of a Quality Control Plan as defined in DB Section 113. The Quality Control Plan shall provide for materials Quality Control (QC) and Construction Inspection (CI) practices oversight. In general, the DB shall employ an independent Construction Inspection Professional Engineering Firm and a Materials Testing Firm or Laboratory that will be responsible to assure compliance of materials and construction inspection activities to all Authority standards.

The DB shall provide in the Quality Control Plan all the various materials planned for use and the specific certifications and/or sampling and testing to be progressed for QC purposes to assure durability of the material. For development of the Quality Control Plan, the DB should be aware that the fundamental principle behind the approach is to assign the appropriate level of resources to monitor and evaluate each analysis category based on the Authority’s residual risk after the DB has completed construction. In general, the higher the residual risk for the performance of the material the higher the level of monitoring and verification. The stronger the relationship between the material property being tested and the material’s performance, the higher the level of monitoring and verification required.

The Construction Inspection Professional Engineering Firm’s frequency of QC operations shall be at least equal to current Authority practices as established in Specifications, Materials Methods and Procedures, Granular Control Procedures, and other Authority documents. This Appendix DB 112B provides a list of these documents that define current NYSDOT sampling and testing practices.

The Documents listed below in effect on the proposal due date (as shown in the RFP Instructions to Proposers, Section 1.6.1) execution shall be applicable to the Project.

NYSDOT – Materials Various Reference Documents

TITLE	REMARKS
Standard Specifications for Construction and Materials	Available on Department website
MURK Part 1B Construction Inspection Manual	Available on Department website
MURK Part 2A Materials Inspection Manual	Available on Department website
Independent Assurance Sampling and Testing Manual	Available on NYSDOT Materials Bureau website
Materials Inspection Manual	Available on NYSDOT Materials Bureau website
Steel Construction Manual & Prestressed Concrete Construction Manual	Available on Department website

NYSDOT – Materials Methods (MM)

MM #	TITLE
1	Quality Assurance Procedure for Concrete Pipe Items
2	Inspection of Steel Reinforcing Bars
2.1	Inspection, Sampling, and Testing of Grade 60 Steel Reinforcing Bars
3	Sampling and Stock Lot Control of Preformed Elastic Joint Sealers
4	Sampling and Control of Wire Fabric Reinforcing for Use in all Items Other than Concrete Pipe
5	Plant Inspector's Manual for Bituminous Concrete Production
5.16	Superpave Hot Mix Asphalt Mixture Design and Mixture Verification Procedures

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	(Interim)
6	Approval and Quality Assurance of Class 1 and Class 2 Structural Steel Paints
6.2	Sampling and Control of Traffic Zone Paint
8.1	Quality Assurance Procedure for Paving Asphalt Cement
8.2	Asphalt Emulsion - Quality Assurance
8.3	Asphalt Cutbacks, Asphalt Fillers, Asphalt Subsealers and Tars - Quality Assurance
8.4M	Calibrating Micro-Surfacing Mix Units
9.0	Proportioning of Portland Cement Concrete
9.1	Plant Inspection of Portland Cement Concrete
9.2	Field Inspection of Portland Cement Concrete
9.4	Calibration of Mobile-Mixers (Concrete-Mobiles) to Produce Portland Cement Concrete
10	Inspection, Sampling, and Testing of Portland Cement
12	Corrugated Metal Pipe and Corrugated Structural Plate for Pipe
13	Sampling Calcium Chloride
14	Quality Assurance Program for Steel Guide Railing, Mall and Median Barrier
15	Sampling and Stock Lot Control of Epoxy Resin and Polyester Resin Products
17	Sampling and Stock Lot Control of Polyvinyl Chloride Extruded Shape and Sheet Materials
18.1	Forms Instruction - Sample and Acceptance Transmittal BR-240
18.2	Forms Instruction - Sample and Acceptance Transmittal BR-195
22	Quality Assurance Procedures for Sodium Chloride Crushed Rock Salt and Solar Salt - Type A
23M	Quality Assurance Program for Plain, Steel Laminated, Fabric Laminated, and Sliding Elastomeric Bridge Bearings
24	Portland Cement Concrete Pavements, Profilograph Operations
24.1	Inertial Profiler Calibration and Verification (Interim)
25	Materials Details for Selected Approved List Materials
26	Sampling and Stock Lot Control of Two Component Epoxy Pavement Markings
27	Plant Equipment Inspection Manual
28	Friction Aggregate Control and Test Procedures
29	Aggregate Source Acceptance Procedures
30	Quality Assurance Procedure for Smooth Interior Corrugated Pipe, Perforated Corrugated Polyethylene Underdrain Tubing, and Corrugated Interior Polyethylene Pipe Manufactured under the ESC Program

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NYSDOT – Materials Procedures (MP)

MP #	TITLE
84-02	Quality Assurance Inspection Procedure for 716.6.01, Pot-Design Structural Bridge Bearings
88-02	Item 15619.19, Removable Reflectorized Pavement Markings
90-01	Procedure for Sampling Microsilica Admixture
95-01M	Safety Procedure Manual for use with Nuclear Gauges
95-02	Instructions for taking High Friction Aggregate Petrographic Samples of Coarse Aggregate from Bituminous Batch and Drum Mix Plants
95-02M	Instructions for taking High Friction Aggregate Petrographic Samples of Coarse Aggregate from Bituminous Batch and Drum Mix Plants
95-03	Instructions for taking Petrographic Samples of Fine and Coarse Aggregate from IAST Program
95-03M	Instructions for taking Petrographic Samples of Fine and Coarse Aggregate from IAST Program
96-08	Pavement Density Monitoring of Hot Mix Asphalt with Ice Retardant Additive
98-01M	Testing Pavement Cores and Loose Mix Samples taken in accordance with Hot Mix Asphalt Specifications
00-01	Procedures for Achieving & Maintaining Precast Concrete Manual - Approved List Status
01-01	Scale & Meter Accuracy
01-02	Pavement Marking Material Guidelines
02-01	Calcium Nitrite Corrosion Inhibitors Sampling & Testing
02-02	NYSDOT Concrete Field Testing Tech Training Program
02-03	TM for Cat 1 (UL tier 5) pull boxes
04-001	Approval Process for Polyester Formed In Place Liner (706-06)
05-01	Procedure for Testing Holding Bins for HMA
05-02	Quality Assurance Procedure for Standard Specifications, Construction and Materials Section 700- Materials and Manufacturing
05-04	Preparing and Processing Fabrication Drawings for Precast Concrete Products
06-01	Procedure for Obtaining Approved List Acceptance – 726-01 & 726-02 – Detectable Warning Units.
08-02	Procedure for Obtaining Approved List Acceptance - §729-15 Arrow Panels and §729-16 Portable Variable-Message Signs (PVMS)
09-01	Micro-Surfacing and Slurry Guidelines
09-02	Precast Concrete QC/QA Procedures
09-03	Concrete Masonry Unit QC/QA Procedures
401	Quality Control and Quality Assurance Procedures for Hot Mix Asphalt(HMA)

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	Production
402-01	Warranty Requirements For Hot Mix Asphalt (HMA) Top Course
402-02	Hot Mix Asphalt (HMA) Pavement Density Determination
11-01	NYSDOT Portland Cement Concrete Batch Plant Inspection Training Program

NYSDOT – Geotechnical Design Procedures (GDP)

GDP #	TITLE
GDP-8	Design, Construction, and Maintenance of Recharge Basins
GDP-9	Liquefaction Potential of Cohesionless Soils
GDP-10	Bank and Channel Protective Lining Design Procedures
GDP-11	Geotechnical Design Procedure for Flexible Wall Systems
GDP-12	Design Consultant Agreements – Soil Related Task Assignments
GDP-13	Preparing Rock Slope Recommendations
GDP-14	Design Procedure for Launched Soil Nail Shallow Slough Treatment

NYSDOT – Geotechnical Engineering Manuals

MANUAL #	TITLE
SEM-3	Infinite Slope Analysis
SEM-6	Stability Curves for Embankments on Soft Soils
SEM-7	Distribution of Vertical Pressure Under Embankments
GEM-8	Techniques to Improve Undisturbed Sampling
GEM-10	Safety Procedure Manual for use with Nuclear Moisture- Density Gauges
GEM-11	Charts to Facilitate Computation of Skin Friction on Driven Non-Tapered Piles in Cohesionless Soil
GEM-12	Guidelines for Embankment Construction
GEM-15	Rock Slope Rating Procedure
GEM-16	Mechanically Stabilized Earth System Inspection Manual
GEM-17	Ground Anchor Inspector's Manual
GEM-18	Drilled Shaft Inspector's Guidelines
GEM-19	Guidelines for Preparing Drilling Contracts
GEM-20	Guidelines for Project Selection, Design & Construction of Tire Shreds in Embankments
GEM-21	Design & Construction Guidelines for the use of the Special Specification for a Soil Nail Wall System
GEM-22	Procedures for Blasting
GEM-23	Rock Core Evaluation Manual
GEM-24	Guidelines for Project Selection, Design, and Construction of Expanded Polystyrene Fill as a Lightweight Soil Replacement

New York State Thruway Authority

GEM-25	Micropile Inspector Guidelines
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NYSDOT – Geotechnical Test Methods (GTM)

GTM #	TITLE
GTM-6	Test Method for Rapid Earthwork Compaction Control
GTM-7	Test Method for Liquid Limit, Plastic Limit and Plasticity Index
GTM-9	Test Method for Earthwork Compaction Control by Sand Cone or Volumeter Apparatus
GTM-10	Test Method for Earthwork Compaction Control by Nuclear Gauge
GTM-13	Test Method and Discussion for the Particle Size Analysis of Soils by Hydrometer Method
GTM-14	Test Method for the Determination of the Apparent Specific Gravity of Soils
GTM-20	Test Method for the Grain-Size Analysis of Granular Soil Materials
GTM-21	Test Method for Magnesium Sulfate Soundness of Granular Materials
GTM-22	Test Method for the Grain-Size Analysis of Topsoils
GTM-24	Test Method for the Determination of pH Value of Water or Soil by pH Meter

NYSDOT – Geotechnical Test Procedures (GTD)

GTP #	TITLE
GTP-2	An Engineering Description of Soils Visual-Manual Procedure
GTP-5	Test Procedure for Specific Surface Analysis
GTP-6	Soil Mechanics Laboratory Test Procedures
GTP-7	Expanded Polystyrene Fill Sampling and Specimen Preparation Procedure

NYSDOT – Geotechnical Control Procedures (GCP)

GCP #	TITLE
GCP-14	Procedure for Control of Stone Filling and Rip-Rap Items
GCP-15	Settlement Gages and Settlement Rods
GCP-16	Procedure for Determining Application Rates, Calibration and Inspection for Soil Stabilization Plants
GCP-17	Procedure for the Control of Granular Materials
GCP-18	Static Pile Load Test Manual
GCP-19	Sampling and Testing of Tire Shreds
GCP-20	Procedure for Taking Random samples of Backfill Material for Mechanically Stabilized Earth Systems

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**SYRACUSE DIVISION
BUNDLED BRIDGES**

TAS 17-37B, D800001

**CONTRACT DOCUMENTS
PART 2**

DB APPENDIX 112C

**QUALITY ASSURANCE PLAN
PROGRAM GUIDE**

Final, October 12, 2017

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Quality Assurance Plan Program Guide

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SECTION 1 OVERVIEW

The primary objectives of this guide are to:

- Provide consistency and practical guidance in the Design-Build Quality Assurance Program implementation processes on NYSDOT Design-Build projects;
- Outline the processes for reviewing and accepting the Design-Builder's Quality Control Plan for control of design and construction activities; and
- Define expected Authority oversight staffing and resources needs as well as define the specific roles, responsibilities and procedures for design and construction oversight; inclusive of Design Reviews, Construction Inspection, Material Acceptance that incorporates Authority QA actions, verification sampling and testing, dispute resolution, and Independent Assurance Sampling and Testing requirements progressed during construction to aid in the final acceptance process of the project.

This Quality Assurance Plan Program Guide is intended to outline the Authority's roles and responsibilities to provide stewardship and Design/Construction oversight for all sizes and types of Design-Build Projects. This Guide, is meant to dovetail with the Design-Builder's Quality Control Plan (ref. DB §113). Taken together, they form the Quality Control/Assurance Program for the Project. Once the Design-Builder's QC Plan is approved the Authority may develop a more tailored Project Specific Quality Assurance Plan; thereby, clearly assigning appropriate levels of Authority Oversight.

In conforming to these minimum requirements, the Design-Builder shall satisfy both State and Federal design and construction quality requirements (Ref. 23CFR637).

This Guide's primary purpose is to define the Authority's Project level oversight for design and construction. The Guide should provide further insight into the Authority's Oversight and Verification activities that will aid the Design-Builder in the preparation of an acceptable QC Plan (reference: DB §111, §112, and §113). The Design Builder's Quality Control Plan should define a series of business processes that articulate the Design-Builder's approach to design and construction quality management, quality procedures, records keeping and document management and control that the Design-Builder shall adhere to throughout the duration of the Project. The QC Plan should describe the reporting and documentation processes and should outline appropriate responsibilities of the Design-Builder's organization that will implement the QC Plan. The QC Plan should integrate Design QC and Construction QC procedures and processes.

1.1 BACKGROUND

On traditional NYSDOT Design-Bid-Build (DBB) projects, the acceptance decision strictly utilizes the Authority's (QA)sampling and testing results based upon various specification requirements, Material Methods, Material Procedures, the Material Inspection Manual (MIM), Control of Granular Materials Procedures, the Construction Inspection Manual (CIM), Manual of Uniform Record Keeping (MURK), and other Authority requirements. This method of acceptance encompasses all of traditional DBB projects; whereby, the Authority, or its agents, performs QA sampling and testing to form the final material acceptance. Since all the data that went into the acceptance decision was solely the Authority's (QA) data, and did not incorporate

Contractor's QC data, there was no need for verification sampling and testing of the QC data. On Design-Build Projects, however, the Authority has chosen to incorporate the Design-Builders Quality Control (QC) sampling and testing data into the acceptance decision; thereby, transferring more responsibility onto the Design Builders QC program. Since the Design-Builder's QC sampling and testing is used as part of the acceptance decision, the Code of Federal Regulations (CFR) requires verification of the Design-Builder's sampling and testing results by the Authority, or its agents. The use of Design-Builder test results as part of the acceptance decision should be carefully evaluated for each project because a significant Authority owner verification program is instrumental to the project's success.

1.2 FHWA REQUIREMENTS

FHWA's sampling and testing regulation titled "Quality Assurance Procedures for Construction" was published on June 29, 1995 as Title 23, Code of Federal Regulations, Part 637, (henceforth referred to as the CFR). This regulation permits the use of Design-Builder test results in the acceptance decision, "provided that adequate checks and balances are in place to protect the public investment." The purpose of the CFR is, "to prescribe policies, procedures, and guidelines to ensure the quality of materials and construction in all federally-aided highway projects on the National Highway System." FHWA provided guidance and recommendations for the use and validation of Design-Build test results in the acceptance decision, recommended quality measures, and identified Design-Builder / Authority risks in FHWA Technical Advisory T 6120.3, issued on August 9, 2004. FHWA later issued a non-regulatory supplement, NS 23 CFR 637B, on July 19, 2006 to provide additional guidance. Lastly, FHWA issues Technical Advisory HRT-12-039, in April of 2012, to further explain QC and QA requirements.

The four documents cited above are available at the following links:

- 23 CFR 637B: http://www.access.gpo.gov/nara/cfr/waisidx_03/23cfr637_03.html;
- TA T 6120.3: <http://www.fhwa.dot.gov/construction/t61203.cfm>;
- NS 23 CFR 637B: <http://www.fhwa.dot.gov/legsregs/directives/fapq/0637bsup.htm>; and
- HRT-12-039: <http://www.fhwa.dot.gov/publications/research/infrastructure/12039/12039.pdf>

The following are key points from the CFR, technical advisory, and non-regulatory supplement as it pertains to the use of Design-Builder test results in the acceptance decision.

1. Quality Assurance Program. Each State Highway Agency (SHA) must develop a quality assurance program that will assure materials and workmanship incorporated into each federally-aided highway construction project on the national highway system is in conformity with the requirements of the approved plans and specifications, including approved changes. The program must meet the criteria in 23 CFR 637.207 and be approved by FHWA. Each SHA's quality assurance program shall provide for an acceptance program and an independent assurance (IA) program.

2. Independent Assurance Program. The Design-Builder's QC Material Testing Technicians and the owner verification sampling and testing Material Testing Inspectors are evaluated by an independent assurance (IA) program. The program is focused on evaluating Material Acceptance Technicians/Inspectors sampling and testing procedural techniques and proper use and calibration of testing equipment to insure that it complies with accepted test methods. The

program is administered by the Authority, with a goal of conducting one IA inspection per material acceptance inspection technician per year. The IA inspection may cover a variety of test methods used in the acceptance decision.

3. Acceptance Program. The Design Builders' Quality Control sampling and testing results may be used as part of the acceptance decision provided that:

- The sampling and testing has been performed by qualified laboratories, using qualified sampling and testing personnel.
- The quality of the material has been validated by verification of the testing and sampling. The verification sampling will be performed on samples taken independently of the quality acceptance samples.
- An IA program will evaluate the quality control sampling and testing.

4. Verification Sampling and Testing. The verification sampling and testing are to be performed using random independent test samples taken by qualified testing personnel employed by the SHA or its designated agent, excluding the Design-Builder and vendor.

5. Dispute Resolution System. If the results from the quality control (QC) sampling and testing are used in the acceptance program, the SHA must establish a dispute resolution system. The dispute resolution system provides a process to resolve discrepancies occurring between the Authority's QA verification sampling and testing and the Design Builders quality control acceptance sampling and testing. The dispute resolution system may be administered entirely within the SHA, or by a third party.

6. Random Samples. All results used for QA, verification sampling, and testing must be obtained from random samples.

Information contained in FHWA Technical Advisory T 6120.3 (link shown above) supersedes earlier FHWA direction and stands as the most current guidance on this subject matter. The advisory discusses the use of Design-Builder tests results for acceptance purposes, the requirements for verification sampling and testing, and statistical validation procedures on random-independent samples. In the discussion on validation procedures performed on independent samples, the Technical Advisory recommends the use of the statistical tools such as the F-test and t-test because, "they have more power to detect actual differences." More information on statistical procedures can be found in course material for National Highway Institute (NHI) Course No. 134042, other FHWA publications, or regular statistics textbooks or handbooks. A review of current state construction Design-Build QA programs can be found in NCHRP Synthesis 346.

1.3 GENERAL APPROACH TO QUALITY

In accordance with DB §113, the Design-Builder must develop and submit a Quality Control Plan for Authority approval within 30 days of Notice to Proceed. This Plan encompasses QC activities and procedures for both design and construction operations. Included in the Quality Control Plan are all the personnel, management, organizational functions and responsibilities, documentation control, and records that will be used to control and ensure the appropriate project quality. This plan further addresses the specific design QC and construction QC oversight as required in DB §111 and §112 respectively. Tied to the QC operations established

by the Design-Builder and approved by the Authority, are the design and construction oversight actions of this Guide that define the Authority's roles, responsibilities and procedures.

Under Design-Build, the Contract places the responsibility and liability for the design and construction of the Project with the Design-Builder. The Design-Builder must follow the terms of the Contract documents and fulfil its responsibilities as outlined therein for the design and construction of the Project. The Authority does not need – and is not obligated – to review all Project documents or construction operations to ensure that the Design-Builder is meeting its contractual obligations because the Design-Builder is responsible for following the terms of the Contract, conducting QC, monitoring and inspecting all the Work, and producing the agreed-upon deliverables according to the schedule and cost outlined in the executed Contract. The Design-Build approach is very different from traditional design-bid-build (DBB) method of project delivery, whereby the Authority pays a contractor to build an asset, and the owner retains a significant role in controlling and approving the means, methods and materials used by the DBB contractor, approving design changes, inspecting the project during construction, performing QC and QA, and accepting the work at the end of construction. For a Design-Build Project, it is important that the Authority's staff are aware of the Design-Builder's and the Authority's respective roles and responsibilities. This Guide is intended to assist them in this regard.

The spirit of a Design-Build methodology is that the Authority provides the Design-Builder flexibility to determine the best means and methods by which to comply with the requirements of the Contract Documents. The Authority's responsibility in formulating acceptance decisions, is to conduct audits and inspections, as necessary, to determine whether the Design-Builder is following the processes defined, whether the Contract requirements have been met or not, and to communicate to the Design-Builder instances of non-compliance. The Authority, however, is not obliged to suggest/direct and should refrain from suggesting/directing to the Design-Builder any approach to achieve compliance with the requirements of the Contract Documents.

It is important for the directing to follow the established Contract processes when providing oversight and to perform oversight without prescribing the means and methods by which the Design-Builder is to produce the deliverables. Authority staff should refrain from directing the Design-Builder's operations, unless it is a matter of safety, or providing an "acceptance or rejection" and simply audit the Work and offer comments. When necessary the Authority should issue Non-conformance Reports.

The Quality Assurance Program (QAP) for Design-Build projects consists of the use of Qualified/Certified Inspection Technicians, Qualified Material Testing Laboratories, the Design-Builder's Quality Control (QC) program, the Authority's Acceptance (QA program) that is based upon either random independent sampling and testing and/or the incorporation of QC sampling and test data once verified, and the Independent Assurance Sampling and Testing Program (IA).

The purpose of this guide is to provide statewide consistency and a programmatic approach to Design and Construction Oversight for Design-Build projects. It addresses Design Review procedures as well as materials and construction procedures for QA oversight including when and where the Design-Builder's test results are used in the acceptance decision, regardless of how the project is funded. It clarifies federal requirements relating to QA and verification procedures related to owner verification. Any modification to the QAPPG requires review and approval by the Authority.

For Construction Material Acceptance, when the Design Builder's QC test data is used in the acceptance decision, as inspected per the recommended frequency established DB 100, Appendix 112C – Attachment 1, the Authority is required to perform verification testing to verify and sometimes statistically validate the test data used by the Design-Builder.

To avoid the appearance of a conflict of interest, any (non-State DOT) qualified laboratory will perform only one of the following types of testing on the same project:

- QC testing,
- QA testing,
- Verification testing for the owner,
- IA testing, or
- Referee testing.

SECTION 2 QUALITY SYSTEM / QUALITY CONTROL PLAN REQUIREMENTS

The Design-Builder is required to develop a Quality Control Plan for the Project and submit it to the Authority for approval in accordance with DB §113. The Design-Builder's Quality Control Plan is required to describe in detail the Quality System to be implemented by the Design-Builder's organisation at all levels, and describe all QC processes and procedures. Essentially, the Quality Control Plan will cover all aspects of all services rendered by the Design-Builder, materials supplied, design and construction activities, environmental compliance, health and safety, and all other works performed, including temporary works and materials which might influence the quality of the permanent works.

The Contract requirements stipulate that the Design-Builder is required to employ an independent Professional Engineering Firm to undertake QC Construction Inspection of the Design-Builder's construction of the project (see DB §111-1.6).

The Design-Builder is required, in accordance with DB §113-1, to submit its Quality Control Plan to the Authority for approval within 30 days of Notice-To-Proceed. The Design-Builder's Quality Control Plan shall be developed in accordance with the requirements of DB §113 and shall describe the Quality System to be implemented at all levels of the Design-Builder's organization, (including design and construction Subcontractors), and shall describe all QC processes and procedures. The Authority's required format for the Quality Control Plan, describing various sections / heading and descriptions of details for each section will be provided to the Design-Builder so that every Quality Control Plan is consistent and easier for Authority staff to review and understand.

As per the requirements of DB §113-1, the Quality Control Plan is required to be developed that reflects a minimum level of inspection and documentation consistent with sampling and testing frequencies found in NYSDOT Manuals (*Contract Administration Manual, Materials Inspection Manual and Construction Inspection Manual*).

The Authority will review, and approve the Design-Builder's Quality Control Plan. Thereafter, the Authority will audit the procedures outlined in the Quality Control Plan and conduct oversight activities to ensure the Design-Builder's design and construction work and/ or other activities are in compliance with the defined Quality Control Plan procedures and the Contract Requirements.

The Authority's Project Manager will direct a member or members of the Authority's staff to be responsible for reviewing the Design-Builder's Quality Control Plan and all revisions to same as the work progresses. The review may require consultation with multiple disciplines within the Authority to insure that proper procedures and processes are being proposed. The responsible reviewer should make a recommendation to the Authority's Project Manager to approve the DB Quality Control Plan as is, or provide recommended improvements. The Authority's Project Manager will formally relay the approval/comments back to the Design-Builder in a timely fashion. Unless otherwise stated in the contract documents, the maximum turnaround time for this review is 28 calendar days from the date of receipt of the Quality Control Plan.

On receipt of the Design-Builder's Quality Control Plan, the Authority's responsible person(s) appointed by the Authority's Project Manager shall review the Quality Control Plan to ensure that:

- It is developed from, and consistent with, the Initial Quality Control Plan that was submitted as part of the Design-Builder's Technical Proposal at RFP stage.

- The Quality Control Plan follows a prescribed Authority outline.
- The Quality Control Plan clearly articulates the processes and procedures the Design-Builder's staff will follow in executing an activity.
- The Quality Control Plan for the Design and Construction Phase is consistent with the Initial Quality Control Plan and expanded accordingly in accordance with the Contract Requirements, and in particular the requirements as outlined in DB §113.
- The Quality Control procedures for Design and Construction are coordinated and compatible with each other.
- It adheres to the requirements as outlined in DB §113.

The Design-Builder is required to update the Quality Control Plan throughout the Project duration to reflect current or changed conditions as the Works progress. Each such revision is required to be submitted to the Authority's Project Manager for approval within 30 days of the identification of a need for a revision (DB §113-1.2). Each revision of the Quality Control Plan may be similarly reviewed by the Authority. The responsible people performing reviews will preferably include staff with Design and Construction experience.

SECTION 3 DESIGN MANAGEMENT AND DESIGN QUALITY ASSURANCE

The Authority's representative, the Design Quality Assurance Engineer (DQAE), will provide continuous design oversight throughout the Project. See Sections 3.1 through 3.6 for a discussion of the Authority's design oversight activities.

Design will not be considered complete until all As-built Plans have been reviewed and approved by the Authority.

The Authority and the Design-Builder will meet and mutually agree on the schedule and duration of Design Reviews. The initial schedule will be verified and modified by mutual consent during the course of the Contract. The Design-Builder is required to give the DQAE at least one week's notice prior to any Design Review.

3.1 GENERAL

The contractual requirements for design management and Design QC are the primary responsibility of the Design-Builder rather than the Authority and are presented in DB §111. The following sections, based on DB §111, highlight the Authority's Design QA activities.

The Design-Builder is required to identify Design Units, those components of the Project that will be produced as an integral, but independent, component of the Project. A Design Unit will have a single "responsible engineer" who will direct and sign off on the final design of that component. Within 30 days of NTP, the Design Builder shall provide a written report indentifying each Design Unit. The report shall include the Design Unit description and the planned review stages and dates, including specific information to be reviewed. (Ref. DB §111-3 Design Units)

For example, a Design Unit may be any of the following:

- A bridge;
- A section of roadway;
- A retaining structure;
- Certain Utility Relocations; or
- Work Zone Traffic Control.

The identification of Design Units is intended to facilitate scheduling of Authority participation in the design and Design Review processes.

The stages of design development are designated as follows:

- Definitive Design - The stage of design development where design concepts and parameters are established that will be followed through to completion of the Project;

- Release for Construction - The stage of design development after Final Design where the Design Plans and Project Specifications for a Design Unit or a component thereof are 100% complete and satisfy the requirements of DB §111-11.6;
- Interim design - The stage of design development after Definitive Design where the Design Plans and Project Specifications for a Design Unit are at the 60% to 80% stage of completion;
- Final design - The stage of design development, after Interim Design, at which time the Design Plans and Project Specifications for a Design Unit are 100% complete;
- Working Plans, which includes working drawings, shop drawings, fabrication drawings, and similar documents that provide more specific construction detail; and
- As-built design, the plans and specifications that actually represent the as-constructed project.

Typically “Design Acceptance” by the Authority will not take place until the As-built Plans have been reviewed and approved; however, the Authority has a responsibility to review and comment on the proposed design.

During the course of the Authority’s participation in design reviews, Authority representatives will be careful about offering, suggesting, or ordering solutions to design problems. The Authority may offer or suggest possible solutions to the Design-Builder with the express provision that the Design-Builder is not bound to accept the suggestion. Authority comments during the review process should focus on whether or not the proposed solution or process meets the contract requirements as specified.

3.2 DESIGN WORKSHOP

As noted in Section DB §111-16, within 10 days of NTP, the Design-Builder will arrange a design workshop to familiarize the Designer’s personnel and the Authority (and Stakeholders, if invited by the Authority) review personnel with the design concepts, issues, status, and review procedures.

The Authority and Design-Builder will jointly develop the agenda of the workshop and how it will be organized (i.e., by Design Unit and engineering discipline). The intent of the workshop is to make the subsequent Design Reviews more effective and efficient for all parties. The workshop will focus on a review of the critical design elements and criteria and on how the Designer plans to organize its design and conduct the reviews.

The Design-Builder is responsible for scheduling and conducting Design Reviews with the Authority to meet design and/or construction needs of the Baseline Project Schedule. The Design Review process and frequency, duration, and intensity of Design Reviews will vary with the complexity of the individual Design Units and the associated construction activities. The Design-Builder shall include the agreed Design Review schedule for all Design Units as part of the Baseline Project Schedule. The agenda will include developing agreements regarding time for design reviews (see DB §111-5). The duration of Design Reviews will be discussed and mutually agreed between the Authority and Design-Builder during the Design Workshop and verified and modified by mutual agreement during the course of the Project. The Design-Builder

will give written notice of scheduled Design-Reviews to the DQAE at least one week prior to any review.

Authority participation in design task force or discipline meetings should be discussed to facilitate the “over-the-shoulder” (Oversight) Design Review process. The roles and relationships of the Designer and Authority staffs should be discussed and documented, including desired lines of communication (Reference DB §111).

The interaction between Designer and Authority staff will be continuous throughout the design process through the “over-the-shoulder” reviews that typically would consist of activities, such as:

- Participating in design meetings;
- Responding to design requests for information or clarification; and/or
- Auditing the design QC process and records.

Designer/Authority contact will not be limited to Design Review periods as success of the DB project may be jeopardized.

Design Plan and Project Specification reviews and reviews of other Design documents will take place as scheduled by the Design-Builder to meet its design and construction schedule.

All agreements and understandings reached during the design workshop will be documented in writing and agreed to by the Design-Builder’s Project Manager and the Authority’s Project Manager.

3.3 AUTHORITY’S ROLE AND DESIGN QUALITY ASSURANCE

The Authority’s project staff oversight role during design and Design Review will consist of monitoring and auditing design progress, interpreting contract requirements, and verifying design compliance with Contract requirements.

The Authority’s oversight roles and activities relating to design will include, but not be limited to, the following:

- Assisting in providing interpretation and answers regarding Contract requirements on a “real time” basis, often on a daily basis (such involvement is often referred to as “over-the-shoulder” review). By having continuous contact during the design process, the Authority staff should face no “surprises” during the Design Reviews. Authority staff should know how the design is progressing and be fully informed of the issues;
- Providing input and participation in the review process as agreed during the design workshop;
- Verifying that the design meets the overall Contract requirements, inclusive of any environmental mitigation commitments as defined during the NEPA process/SEQRA and included in the overall Contract requirements. The Authority’s participation in Design Reviews will not usually involve detailed checks of plans and calculations, except in special cases;

- Verifying through audits of design QC process and associated records that the Design-Builder's Design Quality Control Engineer (DQCE) is fulfilling his/her responsibilities and that the design quality procedures contained in the Quality Control Plan are being followed. An audit may include detailed checks of plans and calculations in some cases;
- Verifying Design-Builder's progress for payment purposes; and
- Providing consultation and written comment at the successful completion of each Design Review.

The DQAE and other participants in design reviews will record their comments on Form DR (Design Review Comments).

The DQAE should record daily activities and observations on Form MURK 2b (DB-DQAE) (Exhibit V – Forms for Department Use).

During the design process, the Authority's Oversight consists of two distinct elements:

- Auditing the Design-Builder's Quality Control Plan Processes and Procedures; and
- Participation in the Design Review Process.

Categorization of Levels of Review

The level of review undertaken by the Authority personnel will be tailored to the complexity, importance and level of risk of the Design Unit in question and will therefore be based on the Design Builder's Design Unit Schedule as submitted with his proposal and finalized within 30 days of NTP.

Appropriate levels of review will be determined by the DQAE after a review of the Design-Builder's Design Unit Listing.

In addition to the design "over the shoulder" review the following oversight approach will be followed:

Level 1 Review. Design packages of particular importance/complexity and risk – (Work Zone Traffic Control, Bridge Foundations, etc) shall be subject to a Level 1 Review. Initially, a minimum of 10% sample rate frequency of important and/or complex design packages submitted shall be applied potentially reducing to a 5 % sample rate when satisfactory compliance has been demonstrated. Conversely, should compliance not be demonstrated satisfactorily, the sample rate will be increased. A 20% sample rate is proposed for a number of design elements with potential increase in sample rate.

For Level 1 Reviews:

- Check all items as required under a Level 3 review; and
- Also conduct a full detailed review (inclusive of independent calculations, assumptions, etc) of the design to be carried out to examine full compliance with the Contract.

Level 2 Review. These reviews involve design submissions that involve aspects that could involve public safety or public perception significance (e.g. bridge main span, rail interface, general road alignment, junction layouts, etc.) will be subject to a Level 2 review.

For Level 2 Reviews:

- Check all items as required under Level 3 review, and:
- Provide a focused review on just those identified limited number of critical public safety/public perception design elements

Level 3 Review. All design submission shall be subject to Level 3 Review.

For Level 3 Reviews:

- Check that all documents are provided;
- Check all certificates have been signed;
- Check the concepts appear correct and is consistent with the Definitive Design
- On a page/drawing turn basis, check if the design appears to comply with the Contract Requirements; and
- Check for obvious deficiencies.

On completing a review of Design documents, the Authority may respond using one of two forms: Form DR (for comments) or Form NC-D (for non-conformances). The Design Builder is obligated to address these comments in consultation with the Authority (DB111-11). The resolution of all comments and NC-D is tracked through the Design Builder's Quality System.

3.4 DESIGN REVIEWS

Design Reviews will be conducted at each of the following stages of design development:

- Working Plans
- Definitive Design
- Interim Design
- Final Design
- Release for Construction
- Design Changes
- As-built Plans

The Design-Builder's DQCE is responsible for conducting the Design Reviews with Authority and possibly Stakeholder participation, except for the As-built reviews. The review of As-built

Plans will be performed by the Authority with Design-Builder participation. FHWA participation can be expected in all Federal Aid funded projects “as-built” design reviews. Design Reviews are also required for all design changes that occur during design and/or construction.

Design Reviews are normally conducted in the offices of the Designer or Design-Builder. Design Reviews do not consist of packaging formal submittal documents and sending them off to Authority offices for formal written reviews. If assistance from the Authority’s main office, or Stakeholder staff is required for a review, the Authority project staff will invite them to participate in the review.

The Authority may wish to participate in the review of Working Plans, but will not actually review and approve them.

The Authority’s DQAE may provide Consultation and Written Comment on the design product before the design is released for construction. This Consultation and Written Comment does not constitute approval of the design. Design acceptance will not be given until the end of the Project after all As-built Plans have been reviewed and accepted.

3.5 NEGOTIATION OF ORDERS-ON-CONTRACT THAT INCLUDE DESIGN

The Authority’s DQAE will be involved in the negotiation of Orders-on-Contract that include design work. Design costs must be negotiated separately.

3.6 DESIGN FORCE ACCOUNT WORK

The DQAE will be responsible for verifying the work involved in design Force Account Work and for signing-off on the Design-Builder’s design Force Account records on a daily basis. The actual mechanics of how this will be done will be covered in the initial design workshop or as part of the negotiation for extra work. Force Account records for design will be kept separate from construction Force Account records because different criteria apply.

Relative to the Design firm’s overhead, it is eligible to be included in the cost of Design. However, the design firm’s overhead shall be current in order to be used. The Authority or NYSDOT shall have current and approved overhead costs otherwise the overhead rate will default to 125%.

SECTION 4 CONSTRUCTION MANAGEMENT AND CONSTRUCTION QUALITY ASSURANCE

4.1 GENERAL

As described above, Quality Assurance consists of those actions performed by the Authority to verify the Design-Builder's Quality Control Plan is being adhered to, that the Contract requirements are met and that all Authority standards are met. On Design-Build projects the Authority representatives are conducting two functions; one is to ensure that the Design-Builder is following the QC Plan procedures, and the second is to verify workmanship and the Design Builder's QC material testing data.

The Design-Builder is responsible through the Construction Quality Control Engineer to determine acceptability of materials for use and that proper construction practices are employed. Typically, adherence to NYSDOT/Authority approved materials requirements with appropriate sampling and testing methods and frequencies following Authority procedures is expected. The Construction QC Engineer should also perform inspection of construction operations and progress documentation following MURK procedures, unless defined otherwise in the Quality Control Plan.

The Authority's QA process confirms both the Design-Builders adherence to the Quality Control Plan and bases material acceptance through verification of QC data, so that when the project is complete, final acceptance can be made with reasonable assurance that materials are acceptable and that construction procedures were progressed in a manner to assure the long term durability and performance of the project.

The following listing of activities is an overview of the Authority's Design Quality Assurance Engineer's oversight roles and activities relating to construction Quality Assurance of the Project. Refer to DB Sections 111 and 112 and DB Appendix 112 C – Attachment 1 for more details regarding the Authority's role in Construction Quality Assurance.

- Verifying that current stamped and signed Design Plans and Project Specifications are on-site;
- Confirming that the Design-Builder's Construction QC staff:
 - 1) have the specified qualifications, licenses, and/or certifications;
 - 2) are present to observe and control the work;
 - 3) are performing their duties in accordance with contract requirements, specifically those specified in DB §112; and
 - 4) are conducting sampling and testing of materials at the proper frequencies.
- Confirming if differing site conditions and/or significant changes in the character of the work occur;
- Verifying progress, reviewing and approving payment requests;

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- Auditing the Design-Builder's construction QC records to verify that the Design-Builder is maintaining quality and is performing its QC responsibilities, and , if necessary, issuing Non-Conformance Reports for the Design-Builder to conform to the Quality Control Plan and to make corrections and preventive actions;
- Verifying records of Force Account Work. The Design-Builder will be responsible for maintaining the Force Account records, but the Authority's staff will spot-check the labor, equipment, and materials being used;
- Spot-checking measurements of any work paid on the basis of quantities and Unit Prices;
- Auditing safety and security records and checking of the qualifications of safety and security personnel;
- Spot-checking for compliance with Design Plans and Project Specifications, conducting verification (QA) sampling and testing and comparing Authority's CQAE records with the Design-Builder's construction QC Inspection results;
- Reviewing and spot-checking Design-Builder's Work Zone Traffic Control activities and installations;
- Participating in release for construction Design Reviews and reviews of Work Plans;
- Participating in the reviews of As-built Plans;
- Ensuring the Design-Builder is complying with the QC plan processes and procedures;
- Assisting the Design-Builder in coordinating with appropriate State or federal agencies should unknown, unidentified Hazardous Materials be encountered;
- Spot-checking the Design-Builder's QC Inspectors' records for the remediation of Hazardous Materials;
- Performing Construction QA and testing of materials to verify the Design-Builder's QC materials test data
- Coordinate with NYSDOT Staff to ensure that appropriate project staff get IA inspected;
- Monitoring Design-Builder's Utility Relocations and installations; and
- Verifying qualifications of Design-Builder's environmental staff, spot-checking of Design-Builder's compliance with environmental requirements; and, auditing of Design-Builder's environmental monitoring records.

The level of effort of verification by the Authority both for materials and construction practices is dependent on risk. Risk is informally evaluated for impacts to long-term performance, impacts to operational and maintenance cost over the service life of the project, and public safety and perception regarding premature distresses and/or failures of the construction materials in question. The Design-Builder assumes the risk and progresses work accordingly. This risk can be managed by utilizing NYSDOT/Authority Approved materials and sources lists, and appropriate QC testing methods. It is the Authority's role to verify materials acceptability and

test results, assure compliance with construction procedure requirements and resultant workmanship, and perform IAST to assure testing is performed correctly.

On Design-Build projects the Authority is still responsible for the acceptance; however, the risk is shifted towards the Design-Builder as the Authority incorporates verified QC data and processes into the acceptance decision. Verification is the process of assuring specific products incorporated into this Project and procedures used are acceptable. Material acceptance that incorporates the Design-Builder's QC data requires a higher frequency of QC testing and an abbreviated frequency of QA verification testing than traditional Design-Bid-Build Projects. The frequency of Verification (QA) testing is categorized by the Authority into one of three risk factors that is dependent upon the long-term performance risk associated with the material and its use.

The fundamental principle behind using a three-tiered approach is to assign the appropriate level of resources to monitor and evaluate each item of work based on the Authority's risk. In general, the higher the risk associated with the long-term performance of the material and the higher usage on a project the greater frequency level of inspection and verification used in the acceptance decision.

Detailed descriptions of each risk factor level are defined in §112, Appendix 112C and specific details for each item's QA practices are provided. The 3 risk factor levels are described in general below.

4.2 MATERIAL SAMPLING, VERIFICATION TESTING & INSPECTION:

The recommended risk factor verification levels, specific test criteria, and frequency of testing are defined in §112, Appendix 112C – Attachment 1. These are default values for Standard Specification items. For other materials, or where quantities may be significant, the CQAE should assign or revise the appropriate risk factor verification level during the development of the Project Specific Quality Assurance Plan to provide an accurate level of verification.

4.2.1 Risk Factor 1 (RF-1)

RF-1 provides continuous analysis using statistically based (F & t-testing) for those categories of materials and associated test methods that are strong indicators of long-term performance. These are typically considered high-risk, high-volume type materials incorporated into a Design-Build project. Examples include compressive strength for hydraulic or PCC concrete, percent soil compaction for embankment, and percent asphalt content for Hot Mix Asphalt Concrete. The Design-Builder's QC testing frequency is in compliance with various Authority documents and the Authority's Verification sampling and testing frequencies should be a minimum of 25% of the QC testing frequency. Acceptance is based upon both validation of statistical analysis of complimentary QC test data population and QA verification test data populations and both test results meeting acceptable material acceptance limits as defined in the contract documents.

Repeat failing test results should trigger a higher frequency of Verification testing and for those materials/test methods that have demonstrated high levels of repeated successful validation/specification compliance should be considered for reduced RF-1 inspection not to go below 10% of QC testing frequency.

When smaller quantities of high risk type materials are used, consideration for random sampling and test, independent from Design-Builder sampling and testing, may be appropriate at 25% of

the QC testing frequency. Statistical comparison and/or validation methods may not be appropriate in these situations.

4.2.2 Risk Factor 2 (RF-2)

In addition to checking that all QC test results are within specification limits, the RF-2 verification provides independent verification of those materials and associated test methods that are secondary indicators of material performance. Verification testing, in the form of independent verification sampling with the QC test, that the test results fall within specification limits is typically appropriate. These materials/material tests are considered a reduced risk from RF-1. An example is the slump test for concrete. Approved list products that require more than manufacturer's certification of compliance to assure quality are covered under this level of verification. The QA verification sampling and testing frequency should be a minimum of 10% of QC testing frequency. Acceptance is based upon verification test method results meeting the specification limits. No statistical validation is required.

4.2.3 Risk Factor 3 (RF-3)

RF-3 provides observation verification for those materials that only require very few QA tests for compliance with various Authority documents or where materials are accepted based on the inclusion in the Authority's Approved List of Materials. For these materials, risk of failure does not affect the long-term performance of the facility. The Design-Builder is should still perform QC testing as required. Under RF-3 approach, the Authority oversight does not perform and tests but observes any QC test performance for equipment and procedural compliance. Examples are an audit of project procurement records to verify inclusion on the Authority's Approved List, Certification of Compliance on record, Buy America Certification, etc. The frequency of this testing is a minimum of once per calendar year per test method and/or product, or random frequency as determined by the Authority's Project Manager.

In critical situations, Authority verification will include hold or witness points to assure quality for those materials or procedures that, once used or completed, can't be checked or removal is extremely difficult should deficiencies be discovered.

4.3 VERIFICATION SAMPLING & TESTING

The Authority shall use a statistically sound process to compare the Design-Builder's QC test results with those obtained by the Authority, and then decide whether the results are statistically valid. The specific verification procedures will vary by material but the following is an abbreviated step by step procedure to familiarize the reader with the process:

1. The objective of the verification testing process is to validate and confirm if the Design Builder's QC data came from the same population as the Authority's Verification test data. The statistical process can help to identify discrepancies in the overall material, process, sampling, and testing processes. Verification testing should be conducted using random independent samples.
2. Verification testing will be undertaken using sampling and testing equipment that was not used for QC testing.
3. It is anticipated that the results of the verification testing will be made available to the Design Builder.

4. The results of the Design Builder's QC test results and the Authority's QA verification tests are compared. A statistical hypothesis test is carried out to analyze whether the Design Builder's test and the Authority's tests are from the same population; i.e. the means of the two data sets are equal and the variances are also equal. The F-test provides a method for comparing the variances (standard deviation squared) of two sets of data. The calculated F-value is then compared to the critical value (F_{crit}) obtained from a table of F-values at a chosen level of significance (α).
5. The t-test provides a method for comparing the means of two independent data sets and is used to assess the degree of differences in the means. If it is determined that the variances are assumed equal ($F=F_{crit}$), then the t-test is conducted based on the two sample sets using a pooled estimate for the variance and pooled degrees of freedom. If the sample variances are determined to be different (either $F \neq F_{crit}$), then the t-test is conducted using the individual sample variances, the individual sample sizes, and the effective degrees of freedom. The calculated t-value is compared to the critical value (t_{crit}) obtained from a table of t-values at a specified level of significance.
6. If the t-test does not indicate similarity, a continuous analysis is relied upon. The p-values (from F- and t-tests) are reported for each analysis and tracked over time. This approach enables the efficient monitoring of the validation status on a daily basis and allows for more timely action to address non-validation. When using F and t-test for validation, the objective is to maximize verification sample size so as to have a sufficiently powerful analysis, while capping the maximum verification sample size so as to limit the detection of materially insignificant statistical differences. In the continuous analysis approach, the verification sample population increases as additional QC and QA verification test results are reported, up to a recommended maximum of 25 QA verification test or a maximum time period of 90 days. This approach allows the trending of whether F and test p-values verify the quality control test results at the specified level of significance. Thus the verification team can identify whether there is a positive validation trend (increasing confidence in validation) or a negative validation trend (decreasing confidence in validation).
7. It is highly encouraged, prior to starting production, that material testing laboratory test method specific correlation be conducted, as well as technician sampling and testing procedures be compared and correlated. Statistical Validation will identify, through investigations, subtle and allowable within the limits of the recognize test methods. For example, sulfur capping of concrete cylinders versus the use of neoprene rubber capping, both acceptable test method procedures used to prepare concrete cylinders for determining concrete compressive strength, yet if one method is employed by the QC laboratory and another is employed by the QA laboratory, assuming all data is within specification limits, the statistical analysis will probably not validate due to the subtle differences in test procedures.

4.4 MATERIALS OVERSIGHT

Materials shall conform to the Contract requirements. The Authority will perform sampling and testing of materials to assure that the Design-Builder's QC actions are effective. Use of Approved List materials is expected for commonly available products. The Design-Builder will provide the required evidence of acceptability / manufacturers certifications as required by specifications. Other items will require QC evaluation prior to use as defined in DB §112, Appendix 112A.

Products and materials will have appropriate identification provided by the Design-Builder, from receipt and storage through installation. When materials arrive at the project site, receiving personnel will document receipt of the material in accordance with the appropriate procedure. The CQCE will check material for conformance to Project requirements. Any damage or deficiency will be noted. The materials will be used or stored as appropriate for the material.

The CQAE will verify and document products and materials conformance to specifications of the project. Packing slips, mill certificates, or other documents from the Design-Builder showing conformance to requirements should be randomly reviewed by the CQAE and retained in project files by the Design-Builder.

Products or materials not immediately used will be stored in accordance with manufacturer's directions and verified as such by the CQAE. Some products and materials will require special measures to protect them from degradation. The manufacturers or supplier's requirements will be followed in providing the proper environment for the products and materials. The CQAE will provide QA of the Design-Builder's management of stored materials under proper conditions.

In general, the role of the Authority's CQAE is to monitor, in a timely manner, the performance of materials sampling and testing commitments of the Design-Builder's CQCE. The CQAE will perform sampling and testing of materials at frequencies defined in DB §112, Appendix 112C – Attachment 1, consistent with the levels of risk and respective levels of verification testing for each specific item. All sampling and testing practices will conform to Authority procedures and verification will be to show compliance with Authority specifications or specific project requirements. The CQAE will document all sampling and testing performed, results, and retain samples as necessary.

Examples of materials sampling and testing might consist of:

- Sampling and testing of concrete for RF-1 conformance to specifications. Analysis of contractor test data using F- and T- statistical analysis as compared to Authority test results would be performed
- Independent sample testing of tack coat for RF-2 conformance to specifications to verify that the tack coat properties are within specification limits.
- Review of project records for materials certifications for soil and erosion control materials under RF-3, for products appearing on the Department's Approved List of Materials. Cross check certifications to materials on site.

When sampling and testing are in compliance with Contract requirements, results should be reported in a timely manner to the Design-Builder. No further action is typically required.

If materials sampling or testing results do not meet the Contract requirements, the CQAE will prepare a non-conformance report in a timely manner. It is the Design-Builder's responsibility to review the findings of the QA sampling and testing, and take appropriate actions. Non-conformance findings will be reported and corrective action taken as appropriate for the work at hand. Actions could consist of but are not limited to remove and replace, remediate in place, remain in place without remediation, and/or consideration of price adjustments.

Unless stated differently in the Contract or the RFP the Authority will perform quality control tests and inspections during the production of the materials produced off-site such as at PCC

Plants, Asphalt Plants, Precast Concrete Plants, etc. On -site QA tests and inspections will be performed by the Authority after QC sampling and testing has confirmed acceptability of materials, and the frequency of any such testing will be as defined in DB §112, Appendix 112C – Attachment 1.

4.4.1 Standard off-site manufactured materials / Approved List items

Because certain material production and/or locations are not conducive to QC by the Design-Builder, the Authority will perform sampling and testing of various items for inclusion into the Authority's Approved List of Materials, adhering to standard evaluation requirements for materials. The requirements and procedures for Approved List testing can be found at <https://www.dot.ny.gov/divisions/engineering/technical-services/materials-bureau>.

4.4.2 Off-site manufactured / fabricated materials

All domestic off-site materials sampling and testing for QC/QA operations will be performed by the Authority in a manner similar to what is done for traditional Design-Bid-Build projects, and in accordance with NYSDOT/Authority Specifications. Depending on sampling and testing procedures and the applicable risk factor, statistical evaluations may be performed. The Design-Builder shall perform QC of off-site manufactured/fabricated materials as deemed appropriate by the Design-Builder and shall hold the Authority harmless for liabilities associated with schedule delays and/or impacts to contracted supplier-subcontractor business relationships.

Off-site manufactured items subject to Authority QA materials acceptance include:

- Prestressed Concrete Structural Elements (beams, girders (AASHTO and bulb-T), and piles
- Metal Traffic Signal and Light Poles and Arms
- Structural Steel Elements (beams and girders)
- Precast Concrete Materials Elements
- Pipe (concrete, steel, aluminum and high density polyethylene) for culverts, storm drains and underdrains
- Hot Mix Asphalt Concrete production – QC/QA program
- Portland Cement Concrete production
- Aggregate CMA QA program District Materials Section
- Masonry
- Structural Steel Paints
- Bridge Railing and Guide Rail
- Traffic Control Materials
- Sign Structures
- Frames and Grates

Note: Where shop drawings are required for material production, the Authority's QA responsibility is to verify production in conformance with specific shop drawings. Shop drawing reviews, when appropriate, should be addressed following Design QA requirements.

Refer to Part 5 – Special Provisions for Design-Builder Quality Assurance Requirements related to Bridge Bearings.

4.4.3 On-site fabricated materials / project produced materials

The Authority will perform sampling and testing of on-site fabricated materials for use of proper raw materials, handling, placement, and /or storage until time of use. Various materials tests will be used dependent upon the material under evaluation. The type and amount of testing will be defined in DB §112, Appendix 112C – Attachment 1. Critical items will require sampling and testing at greater frequencies, typically considered RF-1 as described earlier. Other items will be evaluated as RF-2 or RF-3 as appropriate. All sampling and testing performed by the Authority will be after the Design-Builder's QC has progressed.

4.5 CONSTRUCTION QA - GENERAL

Construction practices used by the Design-Builder shall be as defined in the Contract documents. During construction operations, the CQAE will check various operations and compare them to the requirements set forth in Project documents and standard specifications. These checks will be performed following the appropriate procedure and documented by the CQAE. The Authority shall have the right to audit, monitor, inspect and test the work as it progresses and the Design-Builder shall accommodate this process. Routine review of the records produced by the Design-Builder's QC staff should be performed to verify accurate recording of work activities, testing results, etc... are being progressed by the Design-Builder. DB §112, Appendix 112C – Attachment 1 defines the construction QA oversight of items used in the Work. Authority Construction Quality Assurance Engineers will document audits of construction operations on a daily work report or similar type record. The CQAE will maintain a daily Diary of the construction operations.

When construction operations are in compliance with Contract requirements, results should be reported in a timely manner to the Design-Builder. No further action is typically required.

If construction operations are not performed to the Contract requirements, the CQAE shall prepare a non-conformance report in a timely manner. It is the Design-Builder's responsibility to review the findings of the QA observations, and take appropriate actions to maintain quality. Non-conformance findings will be reported and corrective action taken as appropriate for the work at hand. Actions could consist of but are not limited to remove and replace, remediate in place, remain in place without remediation, and/or consideration of price adjustments.

Depending on the size of the project, there may be multiple categories of Authority Inspectors, or an Authority Inspector may be required to fulfill more than one role. The intent is not to duplicate inspection of the work provided by QC team but to verify QC data and documentation of the QC inspections.

Additionally, the Authority will perform Independent Assurance Sampling and Testing (IAST), observations and oversight to assure adherence to the QC Plan developed for the project. All Design-Builder staff performing QC and the CQCE's staff whose test data is used in the acceptance decision will be subject to IAST inspections by the Authority.

4.6 WITNESS AND HOLD POINTS

Witness and Hold Points shall be established where notification of the Authority and/or the Design-Builder's design team (for elements of a project that require design team members certification prior to continuation of Work), where applicable, is required for observing or visually examining a specific work operation or test. Witness Points are points identified within the Construction QC Plan and CPM schedule which require notification of the Authority and/or design team, where applicable. Work may proceed beyond a Witness Point with or without participation by the Authority provided proper notification has been given. However,

Work shall not proceed until certification from the required design team member is obtained. Hold Points are mandatory verification points identified within the Construction QC Plan and CPM schedule beyond which work cannot proceed until mandatory verification is performed. Witness and Hold Points shall be identified in the Construction QC Plan, and/or the CPM schedule where critical characteristics are to be measured and maintained, and at points where it is nearly impossible to determine the adequacy of either materials or workmanship once work proceeds past this point.

For Witness and Hold points where the Authority's involvement is required, the Authority's CQAE will handle responses to the Design-Builder with written reports or releases. The time necessary to respond to the notification for inspection at Witness and Hold Points shall be stated in the Construction QC Plan, mutually agreed to by the Design-Builder and the Authority and incorporated in the Design-Builder's CPM schedule.

The Authority shall have the right to stop work if the Design-Builder does not adhere to witness or hold points.

4.7 LABORATORIES FOR QUALITY ASSURANCE

All sampling and testing shall be performed by a laboratory that is accredited in the applicable AASHTO procedures by the AASHTO Accreditation Program (AAP). For test methods not accredited by AAP, the laboratory must comply with AASHTO R18 (most current Edition) and must be approved by the Authority at its sole discretion. NYSDOT test methods will be provided when deemed appropriate.

All equipment used, whether at an established laboratory or satellite (field) laboratory, has to be calibrated/verified. The labs have uniform policies and procedures per AASHTO R-18 to ensure that they are providing testing services in compliance with applicable test methods. The policies and procedures address inspection and calibration of testing equipment, as well as a correlation-testing program between the laboratory and portable or satellite facilities.

The Authority QA laboratories will not under any circumstances perform QC testing whatsoever.

4.8 VERIFICATION

Verification sampling, testing, observations, or other procedures will be performed by qualified sampling and testing personnel employed by the Authority or its designated agent, reporting to the CQAE.

The Authority shall hold final authority for determining the acceptable quality of materials and workmanship incorporated into the Project. QA decisions will consider:

- Results of Design-Builder QC sampling and testing at specified frequencies and locations;
- The Authority's QA and Verification sampling and testing results;
- The Authority's Independent Assurance Sampling and Testing (IAST) at specified frequencies and locations;
- Inspection by the Authority of the attributes and processes that may affect the quality of the finished product; and
- Any dispute resolution procedures to resolve non-validation discrepancies between the Authority's Verification Sampling and Testing and the Design-Builder's Sampling and Testing.

Individual materials and/or construction operations will not be accepted or rejected specifically except as noted for off-site locations. Materials and procedures that are in conformance with project requirements will be noted as such and reported to the Design-Builder. Materials, testing, or construction operations that are not in conformance to project requirements will be noted as non-conformances, reported to the Design-Builder, and actions taken as necessary by the Design-Builder to address the NCR's.

Verification frequencies shall follow the requirements of DB §112, Appendix 112C – Attachment 1 for standard materials and methods adhering to contract specifications. The verification methods and frequencies for unique products shall be as determined by the Authority on a project by project basis.

4.9 NON-CONFORMANCE

The Design-Builder's QC staff and QC Engineer are responsible for identifying non-conforming Work. The Authority may also identify non-conforming Work to the Design-Builder for corrective action. Any completed work not meeting the plans, specifications and Contract requirements is to be deemed non-conforming. A Non-Conformance Report (NCR) must detail the area of problem and cite from plans or specifications, how or why the work does not conform. The NCR will be submitted to the CQCE in writing within 24 hours of identification. Outstanding reports will be discussed in a review of the NCR log at weekly meetings. The Authority will verify that all NCR's are addressed in a timely manner per the QC Plan. The resolution of a NCR may potentially include removal and replacement, reworking, or repair.

The Authority's CQAE can raise a NCR (see DB §105-4) when he/she identifies material, or a finished product in which the material is used, is not in conformity with the Contract Requirements. With respect to Verification Sampling and Testing NCR's, in accordance with DB §112-3, the Design-Builder's QC Engineer, is required to evaluate and assess the material in question and provide the Authority with a written explanation why the non-conformance occurred, what corrective action is being put in place to avoid future non-conformances, and information regarding a clearly defensible plan for disposition (using good engineering judgment) of the existing non-conforming material which may potentially include removal and replacement, reworking or repair. Where reasonably acceptable work has been produced, the Authority's Project Manager can make a determination if the work may remain in place, and in such an event is required to document the basis of his/her determination (see DB §105-4). As such any determination should only be made where the Design-Builder's written explanation documents sufficient engineering judgment to support the case for the work to remain in place.

It is important that both the Design-Builder and the Authority's staff fully appreciate the reasons for raising a NCR. Often there is reluctance on the Design-Builder's part, perhaps as a result of normal human reluctance to admit error, or previous experience on other contracts where a misinformed or negative managerial attitude was taken towards NCRs. The Authority's Project Manager should actively encourage the issue of NCRs and point out, to the Design-Builder's team the benefits, from a cost and time point of view, of reacting openly to non-conformance reporting in accordance with the process outlined above, in order to minimize the need to remove and replace works (see DB §105-4).

4.9.1 Non-Conformance Log

The Design Builder shall maintain a log for reported non-conformance materials or procedures according to the requirements of DB § 111-18.2 and DB § 112-2.1.

4.9.2 Engineering Judgment

Material test results or workmanship that are in reasonable conformance with specifications and project requirements, but do not meet the specification requirements specifically, may be adequate for their intended use. As such, where, based on sound engineering judgment, reasonably acceptable work has been produced, the Design-Builder may choose to leave the work in place as is. Such determination must provide for the material or work to perform as originally intended. The Authority's Project Manager can make a determination if the work may remain in place, and in such an event is required to document the basis of his/her determination (see DB §105-4). Each such occurrence must be properly documented and a project log of engineering judgments maintained by the Project Manager. Documentation shall include the location, specification requirement, recorded test results or observed procedures non-conformance, and the engineering judgment applied to deem the situation suitable for incorporation into the project.

4.10 INDEPENDENT ASSURANCE SAMPLING AND TESTING

The Independent Assurance Sampling and Testing (IAST) program as implemented by NYSDOT/Authority, or its designee, to evaluate all sampling and testing procedures, personnel, equipment, and laboratories that will be used as part of the acceptance decision. This program provides uniform procedures to verify that tests are performed by qualified personnel and that laboratory facilities and equipment are adequate to perform the required sampling and testing methods.

With most Design-Build projects, the pace of construction is extremely quick. Manpower curves are normally established to bring construction inspectors and testing technicians to the project at optimal periods based on the volume of anticipated work. Careful administration of the IAST program is essential to the success of the overall project so that unnecessary delays are not encountered and testing technicians and laboratories are evaluated in a timely manner.

Implementation of the IAST Program is performed usually by NYSDOT personnel; however, NYSDOT/Authority has the option of designating an independent laboratory to administer the IAST program on its behalf. When this option is utilized, personnel from the independent laboratory must be qualified to meet NYSDOT/Authority requirements.

SECTION 5 DISPUTE RESOLUTION

Non-conformance of observed practices are usually easily discernible, such as the size and spacing of reinforcing steel. Through the life of a project, there may be differences in material test results or statistical sample populations between the Design-Builder's QC and the Authority.

In an effort to be as efficient and timely as possible, it is recommended that the Design-Builder, QC Engineer, Authority's Project Manager and CQAE develop a plan to resolve disputes as near to the operational level as possible. Time limits can be established for how long an agreement can be worked out at a particular level before it should be addressed at the next level. Time critical disputes may, however, ascend to the highest level within a day.

If a discrepancy in the test results occurs, a cooperative effort by the Authority and the Design-Builder to identify the cause of the non-specification material or the discrepancy in the test results will include the following actions:

- Check of test data, calculations and results;
- Observation of the Design-Builder's sampling and testing by the Authority's Project Manager; and
- Check of test equipment by the CQAE.

The first level of sample testing for dispute resolution will be performed at the NYSDOT's Main Office, or utilizing an independent laboratory when specific test capabilities do not exist within the NYSDOT's Main Office. If resolution cannot be made at this level then a referee laboratory will be used as specified in DB §112-4.

5.1 NON-VALIDATION AND STATUS OF MATERIALS

It is important for the reader to understand that for RF-1 verification process to have a positive outcome, the material test results must first be within specification limits, and secondly the statistical comparison of QC and QA test results must validate. For discrepancies where evaluation uses RF-1 with statistical verification methods, dispute resolution needs to consider if the material actually fails to meet contract specification limits or if the statistical comparison does not validate. When QA verification test do not statistically validate the Design Builder's QC test results, the Authority and the Design-Builder's CQCE shall jointly investigate the source of non-validation. If the non-validation persists over five consecutive RF-1 F- and t-test analyses, a Non-Conformance Report shall be issued to formally document and seek resolution to the non-validation. In addition to the need to investigate the non-validation, the material in question has to be immediately evaluated to determine if it can be left in place or has to be removed, reworked, or repaired. If material is to remain incorporated into the Project, the material in question will be evaluated using the process described in this section. The appropriate party (CQAE or CQCE) may exercise Engineering Judgment to determine that the material will perform its intended purpose.

For RF-1 defined materials requiring statistical verification, the Authority will perform continuous F- and t-test analysis with the testing frequency as defined in DB §112, Appendix 112C – Attachment 1. The continuous analysis will be run daily with new verification test results being added to the sample population as older verification test results are removed (up to 25 day

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maximum limit). The analysis will be performed against the corresponding QC sample population.

The level of significance (α) used for statistical analysis will be as provided below unless otherwise approved by the Authority.

Material	Level Of Significance (α)
Earthwork: compaction	0.01
Concrete, structural: air content, 28 day compressive strength	0.025
Concrete, non structural 28 day compressive strength	0.01
Hot Mix Asphalt items	Per existing QC/QA program
Other materials (TBD)	0.01

There are four possible combinations of passing and failing results between the QC and QA (verification) test results.

1. Both the QC and QA test results pass specification limits: Although statistical validation has not occurred, both the QC and QA test results are passing the established specification limits; thus, material quality in question is considered acceptable.
2. QC test results fail and QA test results pass specification limits: Material may be left in place if the QC Engineer determines that engineering judgment may be used to accept the material or if the material is accepted through the non-conformance resolution process.
3. Both the QC and QA test results fail the specification limits: Material may be left in place if the QC Engineer determines that engineering judgment may be used to accept the material or if the material is accepted through the non-conformance resolution process. The acceptance of material is subject to one of the two scenarios below.
 - a. QA test result indicates reasonable conformance with specification requirements, and the Authority exercises engineering judgment to concur with acceptance of material based on the QC Engineer’s judgment or through the non-conformance resolution process.
 - b. QA test result does not indicate reasonable conformance with specification requirement, and the QC Engineer must perform an additional fixed test at the QA failed test location. Based on the results of QC Engineer test result and subsequent investigation discussions between the Authority and the Design-Builder, a determination is made and documented on whether the material may be left in place.
4. QC test results pass but QA test results fail specification limits: Material may be left in place if the QC Engineer determines that engineering judgment may be used to accept the material or if the material is accepted through the non-conformance resolution process. This is subject to the Authority’s response in the two scenarios below.
 - a. QA test result indicates reasonable conformance with specification requirements, and the Authority exercises engineering judgment to concur with acceptance of material based on the QC Engineer’s judgment or through the non-conformance resolution process.

- b. QA test result does not indicate reasonable conformance with specification requirement, and the QC Engineer must perform an additional fixed test at the QA failed test location. Based on the results of QC Engineer test result and subsequent investigation discussions between the Authority and the Design-Builder, a determination is made and documented on whether the material may be left in place.

5.2 SPLIT SAMPLE DISCREPANCIES

For dispute resolution where non-statistical methods are being used, a split sample shall be obtained and tested. Sample testing for dispute resolution will be performed at the NYSDOT’s Main Office or utilizing an independent laboratory. A comparison of tolerances which will trigger the referee and disputes processes is summarized in the table below. Comparison tolerance for testing shall be:

The Authority’s Project Manager will determine allowable actions to address discrepancies or failures as determined below, following the non-conformance resolution process. Actions could consist of but are not limited to remove and replace, remediate in place, remain in place without remediation, and/or consideration of price adjustments.

Test	Comparison Tolerance	Source
Soil/ Aggregate Wet Density using Nuclear gauge in Direct Transmission ¹	Soil – 2.1 pcf Aggregate Base – 3.0 pcf	Values adjusted from AASHTO T-310
Soil/Aggregate Density using Sand Cone ¹	2.0 pcf	Values adjusted from ASTM D1556
Soil/Aggregate Moisture using Nuclear gauge (backscatter) ¹	Soil – 2.1 pcf	Values adjusted from AASHTO T-310
Soil/Aggregate Moisture determined by oven dry	14% difference ²	ASTM D2216
One Point Proctor – density Lab Proctor – density	5.0 pcf	AASHTO T-99
One Point Proctor – moisture	15% difference ²	AASHTO T-99
Gradation	> No. 4 sieve: ± 5% ≤ No. 4 sieve: ± 3%	AASHTO T27 / T/11
Concrete Air	± 1%	ASTM C231 ASTM C173
Concrete Strength	15 % difference on the average of 2 cylinders	Values adjusted from ASTM C39
Asphalt Bulk Specific Gravity Identical plug/core Plug/core –split sample (close proximity)	Less than 0.015 Less than 0.030	Values adjusted from AASHTO T-166

¹ Referee testing in the field using a third party

² Percent difference calculation shall be $\% \text{ diff} \leq \left(\frac{\text{absolute value}[W1-W2]}{(1/2) * (W1+W2)} \right) * 100$

SECTION 6 PROJECT SPECIFIC QUALITY ASSURANCE PLAN

As mentioned in the introduction of this Guide, the contents of this Program Guide are generic in nature and should be applicable to all types and sizes of Design-Build Projects. It is the Project Manager and the CQAE and DQAE responsibility to apply this program guidance at the Project Level.



**SYRACUSE DIVISION
BUNDLED BRIDGES**

TAS 17-37B, CONTRACT D800001

**CONTRACT DOCUMENTS
PART 2**

**DB SECTION 112
CONSTRUCTION QUALITY CONTROL AND
QUALITY ASSURANCE**

**APPENDIX 112C - ATTACHMENT 1
SCHEDULE OF CONSTRUCTION QUALITY
ASSURANCE AND VERIFICATION
INSPECTION**

Final, October 12, 2017

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The Design Builder (DB) shall use this Appendix 112C – Attachment 1 to aid in development of a Quality Control (QC) Plan as defined in DB Section 113. The Authority will perform Quality Assurance (QA) for materials acceptance to verify that the Design and Construction QC Plan is controlling DB operations in conformance with Authority standards. This Appendix 112C – Attachment 1 describes the expected testing procedures and frequencies to assure product and process quality, and verification of the DB QC Plan.

Quality Assurance on the Design Builder's QC process may be progressed according to values defined in the "QA Actions and Testing" column of the following table. The Risk Factor for various items will determine the frequency at which the Authority will conduct quality assurance / verification sampling and testing. Statistical methods may be considered for use by the Authority to evaluate the effectiveness of sampling and testing results from QC for use as acceptance. The QA Actions and Testing column defines those actions and the frequency thereof that the Authority expects to minimally take to provide quality assurance of materials and construction inspection activities. Final determination of these actions and frequencies will be developed specific to the QC plan provided by the DB.

The level of effort of verification by the Authority both for materials and construction practices is dependent on risk. The Design-Builder assumes most of the risk and progresses work accordingly. This risk is managed by providing appropriate QC to limit failures of materials or non-conformance to acceptable construction procedures. Therefore, the Authority's role is to verify materials acceptability and testing results, assure compliance with construction procedure requirements, and perform IAST to assure testing is performed correctly.

The Authority's QA considers the material application and construction procedures to determine the overall risk associated with using a particular material or process. The risk is then defined as one of three Risk Factor levels, each addressing the expected QA needs. Detailed description of each Risk Factor level is defined in the table below and specific details for each item's QA practices are provided. The three Risk Factor levels are described in general below.

Risk Factor 1 (RF-1)

RF-1 provides continuous analysis using statistically based (F & t-testing) for those categories of materials and associated test methods that are strong indicators of long-term performance. These are typically considered high-risk, high-volume type materials incorporated into a Design-Build project. Examples include compressive strength for hydraulic or Portland Cement Concrete, percent soil compaction for embankment, and percent asphalt content for Hot Mix Asphalt Concrete. The Design-Builder's QC testing frequency is in compliance with various Authority documents and the Authority's Verification sampling and testing frequencies should be a minimum of 25% of the QC testing frequency. Acceptance is based upon both validation of statistical analysis of complimentary QC test data population and QA verification test data populations and both test results meeting acceptable material acceptance limits as defined in the contract documents.

- Repeat failing test results should trigger a higher frequency of Verification testing and for those materials/test methods that have demonstrated high levels of repeated successful validation/specification compliance should be considered for reduced frequency of inspection not to go below 10% of QC testing frequency.
- When smaller quantities of high risk type materials are used, consideration for random sampling and test, independent from Design-Builder sampling and testing, may be

appropriate at 25% of the QC testing frequency. Statistical comparison and/or validation methods may not be appropriate in these situations.

Risk Factor 2 (RF-2)

In addition to checking that all QC test results are within specification limits, RF-2 verification provides independent verification of those materials and associated test methods that are secondary indicators of material performance. Verification testing, in the form of independent verification sampling or split sampling with the QC test, that the test results fall within specification limits is typically appropriate. These materials/material tests are considered a reduced risk from RF-1. An example is the slump test for concrete. Approved list products that require more than manufacturer's certification of compliance to assure quality are covered under this level of verification. The QA verification sampling and testing frequency should be a minimum of 10% of QC testing frequency. Acceptance is based upon verification test method results meeting the specification limits. No statistical validation is required.

Risk Factor 3 (RF-3)

RF-3 provides observation verification for those materials that only require very few QA tests for compliance with various Authority documents or where materials are accepted based on the inclusion in the NYSDOT's/Authority's Approved List of materials. For these materials, risk of failure does not affect the long-term performance of the facility produced approved products are used. The Design-Builder is should still perform QC testing as required. Under RF-3 approach, the Authority oversight does not perform any tests but observes any QC test performance for equipment and procedural compliance for a product, and/or perform an audit of project procurement records to verify compliance with NYSDOT's/Authority's Approved List, Certification of Compliance on record, Buy America, etc. The frequency of this testing is a minimum of once per calendar year per test method and/or product, or random frequency as determined by the Authority's Project Manager.

Some domestic off-site materials sampling and testing for QA operations may be performed by the Authority as indicated elsewhere in the RFP. When Authority QA is used for acceptance / rejection of materials, the Risk Factors are not applicable since no Design-Builder data is used for acceptance. The Design-Builder may perform QC as deemed appropriate or desired at off site locations and should include any such oversight in the QC Plan. If Design-Builder sampling and testing is desired for acceptance, this should be outlined in the QC Plan and Risk Factors will apply.

Use of materials for which there is not an Approved List category will require, in the Design-Build Quality Control Plan, those tests and evaluations to prove the durability of unique materials before use in the project. In many cases, physical testing should be performed by an independent laboratory. A planned frequency of sampling and testing, commensurate with the level of risk of the product proposed for use, must be provided in the DB Quality Control Plan for acceptance by the Authority's Project Manager.

Authority QA of Construction Inspection operations will typically consist of verifying the CQCE is performing and assuring all construction operations adhere to Authority Specifications and Standards and/or the DB Quality Control Plan. The Authority shall have the authority to perform sufficient inspections and/or tests of the DBs work to verify that the inspections and /or tests performed by the CQCE are in compliance with the contract, the design and specifications, the Design-Builder's approved Quality Control Plan, as well as the Authority's standards and practices. The frequency of construction inspection will depend on the critical nature of the construction operation.

Certain critical items of work will require witness or hold points to assure acceptability and/or verification testing prior to progression of work. The DB should include in the QC Plan specific hold points as desired by the DB or as required by the Authority.

Witness and Hold Points shall be established where notification of the Authority and/or Design-Builder's design team (for elements of a project that require design team members certification prior to continuation of Work), where applicable, is required for observing or visually examining a specific work operation or test. Witness Points are points identified within the Construction QC Plan which require notification of the Authority and/or design team, where applicable. Work may proceed beyond a Witness Point with or without participation by the Authority provided proper notification has been given. However, work shall not proceed until certification from the required design team member is obtained. Hold Points are mandatory verification points identified within the Construction QC Plan beyond which work cannot proceed until mandatory verification is performed. Witness and Hold Points shall be identified in the Construction QC Plan where critical characteristics are to be measured and maintained, and at points where it is nearly impossible to determine the adequacy of either materials or workmanship once work proceeds past this point.

The CQAE shall designate a primary point of contact for notifications for inspection at Hold Points and Witness Points. An alternate individual may be designated to function in this capacity in his/her absence. For Witness and Hold points where the Authority's involvement is required, the Authority's CQAE will be designated to handle responses to the Concessionaire/Design-Builder with written reports or releases. The time necessary to respond to the notification for inspection at Witness and Hold Points shall be stated in the Construction QC Plan, mutually agreed to by both the Design-Builder and the Authority.

The Authority will have access to all activities and records of the DB, CQCM, and materials testing firm/laboratory retained by the DB for the purpose of assuring that the construction and inspection activities are being conducted in compliance with the contract, the design and specifications, the DB's approved Quality Control Plan, as well as the Authority's standards and practices.

All QA activities of the Authority will provide assurance that materials and methods are such that, when final acceptance of the project is requested, the Authority is confident that all materials and work conforms to plans, specifications, and standards. These verifications will document the acceptance of the work for payment purposes and assure all non-conformances have been satisfactorily addressed.

The Authority shall have the authority to stop work specific to Work Zone Traffic Control non-conformance issues that impact safety of the traveling public. The DB shall ensure the overall safety for the workers, the inspection staff and the public at all times.

Nothing in the scope of the Authority's QA role shall be construed to relieve the DB and their CI and QC firms of their responsibilities for full time construction inspection and compliance with the contract, the design and specifications, the Design-Builder's approved Quality Control Plan, as well as the Authority's standards and practices.

Tolerances for Statistical and Comparison evaluations shall be per the below tables to be deemed valid or acceptable. Any discrepancies shall be handled according to the Appendix 112C, Quality Assurance Plan Program Guide, Section 5.

The level of significance (α) used for statistical analysis will be as provided below unless otherwise approved by the Authority.

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Material	Level- Of Significance (α)
Earthwork: compaction	0.01
Concrete, structural: air content, 28 day compressive strength	0.025
Concrete, non structural: 28 day compressive strength	0.01
Hot Mix Asphalt items	Per existing QC/QA program
Other materials (TBD)	0.01

Comparison tolerance for testing shall be:

Split Sample Comparison Tolerances

Test	Comparison Tolerance	Source
Soil/ Aggregate Wet Density using Nuclear gauge in Direct Transmission	Soil – 2.1 pcf Subbase – 3.0 pcf Aggregate Base – 3.0 pcf	Values adjusted from AASHTO T-310
Soil/Aggregate Density using Sand Cone	2.0 pcf	Values adjusted from ASTM D1556
Soil/Aggregate Moisture using Nuclear gauge (backscatter)	Soil – 2.1 pcf Subbase – 3.0 pcf	Values adjusted from AASHTO T-310
Soil/Aggregate Moisture determined by oven dry	14% difference*	ASTM D2216
One Point Proctor – density Lab Proctor – density	4.5 pcf 4.5 pcf	AASHTO T-99
One Point Proctor - moisture	15% difference*	AASHTO T-99
Concrete Air	+/- 1%	ASTM C231 ASTM C173
Concrete Strength	15 % difference on the average of 2 cylinders	Values adjusted from ASTM C39
Asphalt Bulk Specific Gravity Identical plug/core Plug/core –split sample (close proximity)	Less than 0.015 Less than 0.030	Values adjusted from AASHTO T-166
Percent difference calculation shall be $\% \text{ diff} \leq \left(\frac{\text{absolute value}[W1-W2]}{(1/2) * (W1+W2)} \right) * 100$		

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
All - General	<ul style="list-style-type: none"> ▪ RF as described per item. ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes at off-site locations. 	<p>Materials QA: as described per item. CI QA: as described per item.</p>
201 – Clearing and Grubbing	<ul style="list-style-type: none"> ▪ RF-3 – all work 	<p>Materials QA: N/A CI QA: random verification of QC records for work documented as progressed, verify adherence to work limits, and compliance with planned / required protection / restoration.</p>
202 – Removal of Structures and Obstructions	<ul style="list-style-type: none"> ▪ RF-3 – all work 	<p>Materials QA: N/A CI QA: random verification of QC records for work progressed, adherence to safety requirements, and adherence to WZTC per 619 requirements as appropriate.</p>
203 – Excavation and Embankment	<ul style="list-style-type: none"> ▪ Select Material- RF-2 ▪ Embankment Material where structural elements will be constructed- RF-2 ▪ Embankment Material all other areas- RF-3 ▪ Unclassified excavation- RF-3 ▪ Hold point for stockpile evaluation where required 	<p>Materials QA: Verify initial source of proposed material and that GEB Manual requirements are being met. Random verification of subsequent sources. Observe sampling of initial stockpile and 10% of subsequent stockpiles. Sample and test material as defined in specifications and GCP-17 at a frequency of 10% of that required by QC plan. Statistical analysis not required for gradation testing. CI QA: Perform side by side compaction testing at 10% of tests required by QC plan. Random visual observation of construction operations for compliance with specifications.</p>
	<ul style="list-style-type: none"> ▪ Expanded Polystyrene Fill: RF-2 	<p>Material QA: Random review of material certification and third party test results for specification compliance. CI QA: Sample and test for specification compliance 10% of the blocks required for testing by the QC plan per GTP-7. Random visual observation of construction for compliance with specifications.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
	<ul style="list-style-type: none"> ▪ Drilling and blasting operations- RF-3 ▪ Hold point to review blasting plan prior to start of any work. 	<p>Materials QA: N/A</p> <p>CI QA: Participate in the pre-blast meeting. Verify that the QC consultant completed all the steps needed for blasting, including reviewing the blast plan, and conducting the pre-blast meeting. Refer to GEM-22 for guidance.</p>
	<ul style="list-style-type: none"> ▪ Settlement measurement- RF-3 ▪ Measurements taken of actively moving landslides or structures. Hold point for implementation of solution. Measurements taken for fills/structures undergoing waiting periods. Witness point for removal of surcharge/termination of waiting period. ▪ Routine monitoring. 	<p>Materials QA: Check the documentation required by specification and the QC plan to verify that the proposed equipment has been calibrated as required.</p> <p>CI QA: Observe the first installation of each type of monitoring device, and 25% of any subsequent installations. Take side by side readings at 10% of those taken by DB. See GCP-15</p>
	<ul style="list-style-type: none"> ▪ Pore water pressures- RF-3 ▪ Measurements taken of actively moving landslides or structures 	<p>Materials QA: Check the documentation required by specification and the QC plan to verify that the proposed equipment has been calibrated as required.</p> <p>CI QA: Observe the first installation of each type of monitoring device, and 25% of any subsequent installations. Take side by side readings at 10% of those taken by DB. See GEB Manual requirements</p>
	<ul style="list-style-type: none"> ▪ Slope movements- RF-3 ▪ Measurements taken of actively moving landslides or structures. Hold point for implementation of solution. 	<p>Materials QA: Check the documentation required by specification and the QC plan to verify that the proposed equipment has been calibrated as required.</p> <p>CI QA: Observe the first installation of each type of monitoring device, and 25% of any subsequent installations. Take side by side readings at 10% of those taken by DB. See GEB Manual requirements</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
204, Controlled Low Strength Material (CLSM)	<ul style="list-style-type: none"> ▪ RF-2 – all load bearing applications ▪ RF-3 – non-load bearing applications (i.e. filling an empty vault). 	<p>Materials QA: Review each mix design to verify compliance with the specification and use of approved materials.</p> <p>CI QA: Observe flow tests for 10% of the flow tests required by QC plan following ASTM D6103. Observe placement operations for 10% of the volume placed.</p> <p>Perform cylinder breaks on 10% of the number required in the QC plan for load bearing applications only, using cylinders cast per MM9.2 and meeting requirements of 733-01.</p>
206 - Trench, Culvert and Structure Excavation	<ul style="list-style-type: none"> ▪ RF-3 ▪ Witness point to verify sheeting or lag wall design. 	<p>Materials QA: N/A</p> <p>CI QA: Check the design completed for temporary sheeting or lag wall to verify that the method and parameters are appropriate. Backfill to meet QA requirements for Section 203.</p>
207, Geotextile	RF-3	<p>Materials QA: Verify that material is on Approved List, for each material to be used.</p> <p>CI QA: Verify that the QC inspector check that the material used on the project is the same as that shown to be used on the plans. Random observation for specification compliance.</p>
208 – Stormwater Management Facilities	<ul style="list-style-type: none"> ▪ RF-2 ▪ Witness point for laboratory testing when required. 	<p>Materials QA: Check documentation required by specifications and environmental permits to verify compliance. Certified copies of laboratory test results supplied by DB</p> <p>CI QA: Verification of materials acceptability. Observe the first installation of each type of facility, and 20% of any subsequent installations. For precast verify that QC review of drawings performed properly and certifications provided. Assure field testing performed per specification.</p>
209, Soil Erosion and Sediment Control	<ul style="list-style-type: none"> ▪ RF-3 ▪ Hold point for compliance with environmental permit requirements 	<p>Materials QA: Verify products on Approved List or materials meet the appropriate 700 requirements and that certifications are provided when required. Verify compliance with environmental permit requirements.</p> <p>CI QA: Perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the specifications</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
210 - Removal and Disposal of Asbestos-Containing Material (Buildings, Bridges, and Highways)	<ul style="list-style-type: none"> ▪ RF-3 ▪ Witness point for safety of operation, verify license 	<p>Materials QA: N/A</p> <p>CI QA: Verify asbestos handling license. Review daily logs provided per 210-3. Review certification for disposal.</p>
211 - Internally Stabilized Cut Structures	<ul style="list-style-type: none"> ▪ RF-1 for permanent walls ▪ RF-2 for temporary walls 	<p>Materials QA: Review material documentation. Verify strength of grout and shotcrete for various designs.</p> <p>CI QA: Observe 25% (10% for RF-2) of the soil nail/grouted tieback testing required in the QC plan. See GEM-21 and GEM-17.</p> <p>Perform grout cube testing on 25% (10% for RF-2) of testing required in QC plan per 701-19E.</p> <p>Perform shotcrete testing on 25% (10% for RF-2) of testing required in QC plan per 583.</p>
212 - Rock Slope Reinforcement and Catchment Systems	<ul style="list-style-type: none"> ▪ RF-2 ▪ Witness point of proof load testing 	<p>Materials QA: Review material documentation.</p> <p>CI QA: Observe 10% of the anchor proof tests/rock bolt tensioning required in the QC plan per GEB Manual requirements.</p> <p>Perform grout cube testing on 10% of testing required in QC plan per 701-19E.</p>
302 - Bituminous Stabilized Course	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify proposed materials meet specification requirements.</p> <p>CI QA: Random observation for specification compliance.</p>
303 – Optional Flexible Shoulder	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify proposed materials meet specification requirements.</p> <p>CI QA: Random observation for specification compliance.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
304 - Subbase Course	<ul style="list-style-type: none"> ▪ RF-2 – all subbase for permanent roadway facilities ▪ RF-2 – subbase for permanent parking lots, sidewalks, bike and pedestrian trails 	<p>Materials QA: Verify initial source of proposed material and that GCP-17 requirements are met. Random verification of subsequent sources.</p> <p>CI QA: Observe stockpile sampling procedures for the first stockpile, and for 25% (10% for RF-2) of the subsequent stockpiles.</p> <p>Perform stockpile sampling and testing per the specification on the first and on 25% (10% for RF-2) of the subsequent stockpiles. Statistical Analysis not required for gradation testing. Visually inspect 25% (10% for RF-2) of the stockpiles.</p> <p>Random observation for specification compliance.</p>
307 - Hydrated Lime Stabilized Subgrade	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify materials are on the Approved List and manufacturer certifications received / on file as appropriate.</p> <p>CI QA: Random observation for specification compliance of proper depth of mixing, mixing operations, and compaction.</p>
308 - Soil Cement Course	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify materials are on the Approved List and manufacturer certifications received / on file as appropriate.</p> <p>CI QA: Random observation for specification compliance of proper depth of mixing, mixing operations, and compaction.</p>
401, Plant Production	<ul style="list-style-type: none"> ▪ RF-2 when DB is responsible for plant operations ▪ The Authority anticipates having staff in HMA plants and providing materials inspection during production. If the DB will provide plant responsibility equal to or greater than the Authority QC/QA procedures, it shall be defined in the QC plan and QA will be modified accordingly. 	<p>Materials QA: Maintain current QC/QA practices per 401 and MP 401 except for incentive payments.</p> <p>CI QA: See appropriate specification item</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
402 – Hot Mix Asphalt (HMA) Pavements	<ul style="list-style-type: none"> ▪ RF-2 	<p>Materials QA: See 401, Plant Production.</p> <p>CI QA: Observation and document review per 402 and MP 402. For each days placement cores are taken, one core and the plant QA mixture maximum theoretical density will be used for verification. 50 Series placements accepted per MP 98-01.</p>
407 - Tack Coat	<ul style="list-style-type: none"> ▪ RF-2 	<p>Materials QA: Verify suppliers for emulsions on Approved List and certification received / on file. Sample and lab testing per 702.</p> <p>CI QA: observation, documentation review and random checks to verify quantity and ensure requirements are being followed and met. Observe calibration of bituminous spray equipment</p>
410 - Bituminous Surface Treatment - Single Course	<ul style="list-style-type: none"> ▪ RF-2 	<p>Materials QA: Verify suppliers for aggregate and emulsions on Approved List and certification received / on file. Sample and lab testing per 702 of emulsion, aggregate sampling and testing per 410.</p> <p>CI QA: observation, documentation review and random checks to verify quantity and ensure requirements are being followed and met. Observe calibration of bituminous distributor and aggregate spreader equipment.</p>
490 - Cold Milling	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Not applicable</p> <p>CI QA: Verify removal limits are being properly met.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
501 - Portland Cement Concrete - General	<ul style="list-style-type: none"> ▪ RF-2 when DB is responsible for plant operations ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes. 	<p>Materials QA: Inspection per MM9.1. For quantities less than 50 cy, materials acceptance may be via certification.</p> <p>For projects producing large quantities for a given placement or where there is a project specific batch plant, the DB may be required to perform plant sampling and testing. Such sampling and testing may be used for acceptance purposes following RF-2, per MM 9.1, verified quarterly by IAST testing. The Authority to perform testing per MM 9.1 at 10% frequency to verify fine aggregate gradation of minus 200 material and moisture content for production.</p> <p>Additional testing may be required dependent upon Design-Builders QC plan requirements and any special testing outlined to assure durability (i.e. corrosion protection, permeability, f/t, scaling, etc...)</p> <p>CI QA: NA</p>
502 - Portland Cement Concrete Pavement	<ul style="list-style-type: none"> ▪ For cumulative project quantities over 1000 CY. ▪ RF-1 for entrained air content ▪ RF-2 for temperature and unit weight ▪ For cumulative project quantities 1000 CY or less. ▪ RF-2 for entrained air content, slump, temperature and unit weight 	<p>Materials QA: Plant inspection per requirements of 501 for concrete production.</p> <p>CI QA: Observe DB concrete sampling and testing of concrete for entrained air content, temperature and unit weight at frequencies per MM9.2. Authority to perform air content and unit weight testing, frequency dependent on volume used on the project.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
503 - Portland Cement Concrete Foundation for Pavement	<ul style="list-style-type: none"> ▪ For cumulative project quantities over 1000 CY. ▪ RF-1 for entrained air content ▪ RF-2 for temperature and unit weight ▪ For cumulative project quantities 1000 CY or less. ▪ RF-2 for entrained air content, slump, temperature and unit weight 	<p>Materials QA: Plant inspection per requirements of 501 for concrete production.</p> <p>CI QA: Observe DB concrete sampling and testing of concrete for entrained air content, temperature and unit weight at frequencies per MM9.2. Authority to perform air content and unit weight testing, frequency dependent on volume used on the project.</p>
551 - Piles and Pile Driving Equipment	<ul style="list-style-type: none"> ▪ RF-1 for concrete ▪ RF-2 for all other materials / operations 	<p>Materials QA: Review material documentation, verify compliance per 551 requirements. Plant inspection per requirements of 501 for concrete production. Perform 28 day compressive strength per MM9.2, per concrete mixture for 25% of QC frequency.</p> <p>CI QA: Review construction practices per GEM-26 or as defined in Design-builders QC plan. Review pile plumbness on 25% of the number required in the QC plan. Review 25% of the pile driving logs.</p> <p>Observe 25% of the load testing required in the QC plan per GCP-18.</p>
Drilled Shafts	<ul style="list-style-type: none"> ▪ RF-1 for concrete ▪ RF-2 for all other materials / operations 	<p>Materials QA: Review material documentation. Plant inspection per requirements of 501 for concrete production. Verification for 28 day compressive strength per MM9.2, per concrete mixture.</p> <p>CI QA: Review construction practices per GEM-18 or as defined in Design-builders QC plan. Review pile plumbness on 25% of the number required in the QC plan. Review 25% of the pile driving logs.</p> <p>Observe 25% of the load testing required in the QC plan per GCP-18.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
Micropiles	<ul style="list-style-type: none"> ▪ RF-1 for concrete and grout ▪ RF-2 for all other materials / operations 	<p>Materials QA: Review material documentation. Plant inspection per requirements of 501 for concrete or grout production. Grout testing per 701-19E for 10% of placements, testing for grout setting time, expansion/contraction, compressive strength, bleed water, fluidity, chloride and sulfate content and permeability.</p> <p>CI QA: Verify construction practices and Design-Builder QC per GEM-25 or as defined in Design-Builders QC plan. Review grouting pressure on 25% of the number required in the QA plan. Observe 25% of the load testing required in the QA plan per GCP-18.</p>
552 – Externally Stabilized Cut Structures	<ul style="list-style-type: none"> ▪ RF-2 ▪ Hold point for design review 	<p>Materials QA: Review material documentation prior to use. Plant inspection per requirements of 501 for concrete production. Perform 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency.</p> <p>CI QA: Review structural and geotechnical design. See GDP-11</p>
553 – Cofferdams and Waterway Diversion Structures	<ul style="list-style-type: none"> ▪ RF-3 ▪ Hold point for design review 	<p>Materials QA: Verify material requirements of 553-2</p> <p>CI QA: Verify review of submittal documents by QC.</p>
554 – Fill Type Retaining Walls	<ul style="list-style-type: none"> ▪ RF- 2 	<p>Materials QA: Verify that wall units are from the Approved List. Perform materials testing per the specification on the first stockpile and on 10% of the subsequent stockpiles. Statistical analysis not required for gradation testing. Backfill sampling per GCP-20.</p> <p>CI QA: Observe random sampling on backfill from behind the wall, on 10% of the random samples taken. Perform random sampling and testing on material from behind the wall on 10% of the required samples. Statistical analysis not required for gradation testing.</p> <p>Perform compaction testing at 10% of frequency required by QC plan. See inspection requirements of GEM-16.</p>

Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
<p>555, Structural Concrete</p>	<ul style="list-style-type: none"> ▪ For cumulative project quantities over 1000 CY <ul style="list-style-type: none"> ○ RF-1 for air content and strength ○ RF-2 for slump, unit weight and temperature ▪ For cumulative project quantities 1000 CY or less. <ul style="list-style-type: none"> ○ RF-2 for strength, air content, slump, unit weight and temperature ○ RF-3 for various appurtenances and raw materials. Witness points for all structural applications prior to concrete placement, to verify cover, rebar quantity and spacing, and verify proper placement of appurtenances as necessary. ▪ Hold point for concrete placement until materials certifications received. 	<p>Materials QA: Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength, slump, unit weight, and temperature per MM9.2, per concrete mixture at frequency dependant on volume used on the project as follows:</p> <p>For cumulative project quantities over 1000 CY:</p> <ul style="list-style-type: none"> • RF-1: 25% of QC testing frequency • RF-2: 10% of QC testing frequency <p>For cumulative project quantities 1000 CY or less:</p> <ul style="list-style-type: none"> • RF-2: 10% of QC testing frequency <p>CI QA: Observe QC Inspection progressing per standard specifications or QC Plan. Observe DB concrete sampling and testing of concrete for air and slump at frequencies per MM9.2. Review materials certifications for various supplied items. Observe QC checks performed such that design is met for characteristics such as thickness, reinforcing spacing, cover, and grade. Verify acceptable curing materials on hand prior to placement.</p> <p>Additional testing may be required dependant upon Design-Builders QC plan requirements and any special testing outlined to assure durability (i.e. corrosion protection, permeability, f/t, scaling, etc...)</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
556, Reinforcing Steel for Concrete Structures	<ul style="list-style-type: none"> ▪ RF-2 for Stainless Steel products ▪ RF-3 for all other reinforcing materials 	<p>Materials QA: Verify all manufacturers on Approved List and/or material certification received / on file per the following:</p> <ul style="list-style-type: none"> • Black bar: mill must appear on Approved List. • Epoxy Bar: mill, fabricator, and powder must all appear on Approved Lists. • Galvanized Bar: Approved list for mill, certification for the galvanizing. • Stainless Steel Bar reinforcement per 709-13 and Stainless Clad bar Reinforcement per Special Specification: Acceptance testing per each bar size and heat for tensile strength, chemistry, nominal weight, and deformation height. <p>CI QA: Verify proper handling of reinforcing per specification 556</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
557 – Superstructure Slabs, Sidewalks on Bridges, and Structural Approach Slabs	<ul style="list-style-type: none"> ▪ For cumulative project quantities over 1000 CY <ul style="list-style-type: none"> ○ RF-1 for air content and strength ○ RF-2 for slump, unit weight and temperature ▪ For cumulative project quantities 1000 CY or less. <ul style="list-style-type: none"> ○ RF-2 for strength, air content, slump, unit weight and temperature ○ RF-3 for various appurtenances and raw materials. Witness points for all structural applications prior to concrete placement, to verify cover, rebar quantity and spacing, and verify proper placement of appurtenances as necessary. ▪ Hold point for concrete placement until materials certifications received. 	<p>Materials QA: Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength, slump, unit weight, and temperature per MM9.2, per concrete mixture at frequency dependant on volume used on the project as follows:</p> <p>For cumulative project quantities over 1000 CY:</p> <ul style="list-style-type: none"> • RF-1: 25% of QC testing frequency • RF-2: 10% of QC testing frequency <p>For cumulative project quantities 1000 CY or less:</p> <ul style="list-style-type: none"> • RF-2: 10% of QC testing frequency <p>CI QA: Observe QC Inspection progressing per standard specifications or QC Plan. Observe DB concrete sampling and testing of concrete for air and slump at frequencies per MM9.2. Review materials certifications for various supplied items. Observe QC checks performed such that design is met for characteristics such as thickness, reinforcing spacing, cover, and grade. Verify acceptable curing materials on hand prior to placement. Additional testing may be required dependant upon Design-Builders QC plan requirements and any special testing outlined to assure durability (i.e. corrosion protection, permeability, f/t, scaling, etc...)</p>
558 - Longitudinal Sawcut Grooving of Structural Slab Surface	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: N/A</p> <p>CI QA: Verify grooving dimensions per specification for each day of work. Measure groove spacing.</p>
560 - Masonry	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: plant QC/QA program per Materials Procedure 09-03 for block items. Verify masonry cement type is correct, and approved</p> <p>CI QA: Random verification of adherence to all specification construction requirements. Verify dovetail anchor locations / spacing for every 1000 sf wall placed.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
563 – Prestressed Concrete Units (Structural)	<ul style="list-style-type: none"> ▪ RF-2 when DB is responsible for plant operations. ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes at off-site fabrication sites. 	<p>Materials QA: Precast production off-site per the PCCM. The Design-Builder will progress any necessary shop drawings and perform QC and QA as defined in the PCCM. The Authority will perform the requirements of the PCCM at 25% of the defined QA requirements to verify conformance with specifications.</p> <p>CI QA: Verify erection per PCCM.</p>
564, Structural Steel	<ul style="list-style-type: none"> ▪ RF-2 when DB is responsible for plant operations. ▪ RF does not apply when performs materials sampling and testing for acceptance purposes at off-site fabrication sites. 	<p>Materials QA: Steel fabrication off-site per the SCM. The Design-Builder will progress any necessary shop drawings and perform QC and QA as defined in the SCM. The Authority will perform the requirements of the SCM at 25% of the defined QA requirements to verify conformance with specifications. Other materials conformance per various 700 section requirements.</p> <p>CI QA: Verify erection per SCM. Observe field repairs to paint damaged during erection performed according to Section 572.</p>
565, Bridge Bearings	<ul style="list-style-type: none"> ▪ RF-2 for projects where Design Builder performs oversight of production ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes. ▪ Hold point: Installation shall only progress after receipt of BR-195. 	<p>Materials QA: Verify Bearing manufacturer on Approved List. Authority observation of manufacturing and witness of manufacturers sampling and testing. 10% of the produced lots will be sampled and tested by the Authority for verification per sections 716-06, 716-07, 716-11, 716-12 or Special Specification requirements.</p> <p>CI QA: Verify BR-195 and inspection stamps inspected at jobsite.</p>
566 – Modular Expansion Joint Systems	<ul style="list-style-type: none"> ▪ RF-3 ▪ Hold point: Installation shall only progress after receipt of manufacturer's certification. 	<p>Materials QA: Verify use of systems on the Authority's Approved List and receipt of manufacturers certifications received / on file.</p> <p>CI QA: Assure shop drawing reviewed by DB and receipt of manufacturer's certification report prior to installation. Verify adherence to manufacturer's installation requirements. Observe watertight integrity test.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
567 – Bridge Joint Systems	<ul style="list-style-type: none"> ▪ RF-3 ▪ Hold point: Installation shall only progress after receipt of manufacturer's certification. 	<p>Materials QA: Verify use of systems on the Authority's Approved List and receipt of manufacturers certifications received / on file.</p> <p>CI QA: Assure any shop drawing reviewed by DB and receipt of manufacturer's certification report prior to installation. Verify adherence to manufacturer's installation requirements. Observe watertight integrity test.</p>
568 – Bridge Railing	<ul style="list-style-type: none"> ▪ RF-3 for projects where Design Builder performs oversight of production ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes at off-site fabrication sites. 	<p>Materials QA: Verify manufacturer's certification with test results received / on file. Drop Weight Tear Test each heat of bridge rail as outlined in NYSDOT/Authority specification 710-23.</p> <p>CI QA: Verify installation progressed per 568-3. Random testing of connections requiring tightening to specified torque.</p>
569 – Permanent Concrete Traffic Barrier for Structures	<ul style="list-style-type: none"> ▪ RF-2 	<p>Materials QA: Plant inspection per requirements of 501 for concrete production for cast-in-place (CIP) construction. Verify precast products provided from approved Precaster listed on the Dept Approved List and produced under QC/QA program. Perform all sampling and testing of concrete per MM9.2. Samples taken at a frequency once for every 200 cy of concrete placed. Acceptance based on compressive strength and air content. For precast verify that QC review of drawings performed properly and certifications provided.</p> <p>CI QA: for CIP verify all field items per QC Inspection requirements prior to concrete placement. Review materials certifications for reinforcing. Observe QC checks performed such that design is met for items such as thickness, reinforcing spacing, and grade and cross slope as determined by dry run. Verify acceptable curing materials on hand prior to placement.</p>
570 – Paint Removal Operations	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify HEPA filters meet specification requirements.</p> <p>CI QA: Performance of the containment system during paint removal operations shall be in accordance with the relevant parts of 570.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
571 - Treatment and Disposal of Paint Removal Waste	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: NA CI QA: Verify waste disposal progressed in accordance with 571.</p>
572 – Structural Steel Painting: Shop Applied	<ul style="list-style-type: none"> ▪ RF-3 ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes. 	<p>Materials QA: Paints must appear on Approved List for Class 1 Paints. Abrasive must meet requirements set forth by 572, inspected in the field. Paint systems on A.L. sampled annually at random sites for chemical relevance to NTPEP tests on same system according to Materials Method 6. CI QA: Verify paint has been applied in accordance with 572.</p>
576, Bridge Drainage System	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify materials conform to 576-2 through review of certifications. CI QA: Verify DB receipt of appropriate certifications. Installation per plans or shop drawings. Adherence to Steel Construction Manual for any metallic product installation. Assure field testing performed per specification.</p>
578 - Bonded Concrete Overlay for Structural Slabs	<ul style="list-style-type: none"> ▪ RF-2 ▪ Witness point prior to placement of bonded overlay for surface preparation, reinforcing condition, and formwork. 	<p>Materials QA: Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency. CI QA: Observe QC Inspection progressing per standard specifications or QC Plan. Observe DB concrete sampling and testing of concrete for air and slump at frequencies per MM9.2. Review materials certifications for various supplied items. Observe QC checks performed such that design is met for characteristics such as thickness, reinforcing spacing, cover, and grade. Verify acceptable curing materials on hand prior to placement.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
579 - Structural Slab Reconstruction Preparation	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Concrete, if required, per 501. Verify acceptability of QC tests for plastic air content and 28 day compressive strength per MM9.2, per concrete mixture.</p> <p>CI QA: Verify removal limits and surfaces prepared properly per specification requirements. Verify concrete repairs progressed per 555.</p>
582 - Removal and Replacement of Structural Concrete	<ul style="list-style-type: none"> ▪ RF-2 ▪ Witness point for all structural applications prior to concrete placement, to verify cover, rebar quantity and spacing, and verify proper placement of appurtenances as necessary. 	<p>Materials QA: Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency.</p> <p>CI QA: Observe QC Inspection progressing per standard specifications or QC Plan. Observe DB concrete sampling and testing of concrete for air and slump at frequencies per MM9.2. Review materials certifications for various supplied items. Observe QC checks performed such that design is met for characteristics such as thickness, reinforcing spacing, cover, and grade. Verify acceptable curing materials on hand prior to placement.</p>
583 - Shotcrete	<ul style="list-style-type: none"> ▪ RF-2 ▪ Witness point for qualification panel ▪ Witness point for all structural applications prior to concrete placement, to verify cover, rebar quantity and spacing, and verify proper placement of appurtenances as necessary. 	<p>Materials QA: Qualification panels should be observed by Authority staff, verification using test panels taken every 1000 sf for compressive strength.</p> <p>CI QA: OV review documentation of all materials components from AL. All cores for reinforcement encasement be retained for OV evaluation</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
584 - Specialized Overlays for Structural Slabs	<ul style="list-style-type: none"> ▪ RF-2 ▪ ▪ Witness point for all structural applications prior to concrete placement, to verify cover, rebar quantity and spacing, and verify proper placement of appurtenances as necessary 	<p>Materials QA: Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556.</p> <p>Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency.</p> <p>CI QA: Observe QC Inspection progressing per standard specifications or QC Plan. Observe DB concrete sampling and testing of concrete for air and slump at frequencies per MM9.2. Review materials certifications for various supplied items. Observe QC checks performed such that design is met for characteristics such as thickness, reinforcing spacing, cover, and grade. Verify acceptable curing materials on hand prior to placement.</p>
585 - Structural Lifting Operations	<ul style="list-style-type: none"> ▪ RF-3 ▪ Witness point for DCES review of working drawings 	<p>Materials QA: N/A</p> <p>CI QA: Verify lifting progressed via working drawings developed by DB.</p>
587 - Bridge Railing Reconstruction	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify manufacturer's certification with test results received / on file. Drop Weight Tear Test each heat of bridge rail as outlined in NYSDOT specification 710-23 for any new materials.</p> <p>CI QA: verify construction progressed per specifications</p>
589 - Removal of Existing Steel	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: N/A</p> <p>CI QA: Verify work progressed per SCM and QC plan</p>
590 - Adjustment of Bridge Appurtenances	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify materials meet specification requirements, approved list as appropriate, and certifications received / on file.</p> <p>CI QA: verify construction progressed per specifications</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
594 - Timber and Lumber	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify materials meet specification requirements, Approved List as appropriate, and certifications received / on file.</p> <p>CI QA: perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the contract documents.</p>
596 - Open Steel Floor	<ul style="list-style-type: none"> ▪ RF-2 when DB is responsible for plant operations. ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes at off-site fabrication sites. 	<p>Materials QA: Steel fabrication off-site per the SCM. The Design-Builder will progress any necessary shop drawings and perform QC and QA as defined in the SCM. The Authority will perform the requirements of the SCM at 10% of the defined QA requirements to verify conformance with specifications.</p> <p>CI QA: Verify erection per SCM. Observe field repairs to paint damaged during erection performed according to Section 572.</p>
597 - Timber Bridge Railing and Transitions	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify materials meet specification requirements, Approved List as appropriate, and certifications received / on file. The Design-Builder will progress any necessary shop drawings and perform QC and QA as defined in the SCM.</p> <p>CI QA: perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the contract documents. Assure any shop drawing reviewed by DB.</p>
602, Rehabilitation of Culvert and Storm Drain Pipe	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Materials acceptance based on appearing on the NYSDOT/Authority Approved List as per 602 requirements and manufacturer's cert that the material conforms to requirements of the 602 spec.</p> <p>CI QA: Verification of materials acceptability. Observe conformance with manufacturers QC / Installation Plan on file with Director, Materials Bureau.</p>
603, Culverts and Storm Drains	<ul style="list-style-type: none"> ▪ RF-3. 	<p>Materials QA: Verify manufacturer on Approved List and certifications received / on file. Verify earthwork materials per 203.</p> <p>CI QA: Observe materials installation per 603. Observe earthwork compaction testing per 203.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
604, Drainage Structures	<ul style="list-style-type: none"> ▪ RF-2 - cast-in-place products ▪ RF-3 - precast products produced per Materials QC/QA program requirements from approved list manufacturer. 	<p>Materials QA: Plant inspection per requirements of 501 for concrete production for cast-in-place (CIP) construction. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% frequency of QC. Verify precast products provided from approved Precaster listed on the Dept Approved List. Verify earthwork materials per 203.</p> <p>CI QA: for CIP, verify all field items per QC Inspection requirements prior to concrete placement. Review materials certifications for reinforcing. Observe QC checks performed such that design is met for items such as thickness, reinforcing spacing, cover, etc... Verify acceptable curing materials on hand prior to placement. Perform all sampling and testing of concrete per MM9.2. For precast verify that QC review of drawings performed properly and certifications provided. Observe earthwork compaction testing per 203</p>
605, Underdrains	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify Approved List materials and certifications received / on file per appropriate 700 sections</p> <p>CI QA: Observe installation to proper depth and use of acceptable filter material.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
606, Guide Railing	<ul style="list-style-type: none"> ▪ RF-2 for concrete ▪ RF-3 for all other materials ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes at off-site fabrication sites. 	<p>Materials QA: Verify Box Beam Guide Rail producers on Approved List. Verify manufacturer's certification with test results received / on file. NYSDOT/Authority to perform Drop Weight Tear Test each heat of box beam guide rail as outlined in 710-21 and Materials Method 14.</p> <p>CIP concrete barrier and end assemblies – Verify plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% frequency of QC.</p> <p>Precast concrete barrier – Verify material production per 704-03 and precast manufacturers certification received / on file.</p> <p>Corrugated Guide Rail and Cable Guide Rail – Verify material certification received / on file.</p> <p>CI QA: Verify specific guiderail type installation per appropriate 606. Observe QC concrete inspection per MM9.2</p>
607, Fences	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify materials certifications received / on file.</p> <p>CI QA: Assure any shop drawing reviewed by DB. Perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the contract documents.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
608 – Sidewalks, Driveways, Bicycle Paths, and Vegetation Control Strips	<ul style="list-style-type: none"> ▪ RF-2 for concrete ▪ RF-3 for other materials 	<p>Materials QA: Sample WWF, Brick and Pavers as per Materials Procedure 05-02. See 401, Plant Production for HMA. Plant inspection per requirements of 501 for concrete production. Perform plastic air content per MM9.2, per concrete mixture at 10% of QC. Miscellaneous materials conformance per various 700 section requirements.</p> <p>CI QA: observation, documentation review random checks to verify quantity and ensure requirements are being followed and met. Observe QC concrete inspection per MM 9.2.</p>
609, Curb and Curb & Gutter	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Approved List for 714-01 Stone and Granite curb. For HMA, review documentation with random observation of HMA production. MP 401 allows producer to certify HMA used for 609 items with allowable QA testing, if desired. Plant inspection per requirements of 501 for concrete production. Observe plastic air content per MM9.2, per concrete mixture. Verify miscellaneous materials conformance per various 700 section requirements.</p> <p>CI QA: observation, documentation review and random checks to verify quantity and ensure requirements are being followed and met. Observe QC concrete inspection per MM 9.2.</p>
610 - Ground Vegetation – Preparation, Establishment and Management	<ul style="list-style-type: none"> ▪ RF-3 ▪ Hold point for topsoil placement until material testing results are received. ▪ Hold point for compost with biosolids until material certification received. 	<p>Materials QA: Check documentation required by specifications to verify compliance</p> <p>CI QA: perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the specifications. Verify appropriately licensed applicator for chemical weed control methods.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
611 – Planting, Transplanting and Post-Planting Care	<ul style="list-style-type: none"> ▪ RF-3 ▪ Hold point on installation of Specimen plants until material approval. ▪ Witness point on first instance of transplanting operation. ▪ Witness point on inspection of first delivery of each plant type. 	<p>Materials QA: Observe the inspection of the first delivery of each plant material type (e.g.: deciduous tree, coniferous shrub). Verify certifications required by specification. Verify that the material used on the project is the same as that specified in the contract documents, at a rate of 10% of the QA frequency.</p> <p>CI QA: perform random check of areas that have been inspected, to determine they meet the criteria, including placement locations, called for in the contract documents as follows: 10% of roadside, 15% of streetscape and 20% of planting for environmental permit requirements</p>
613 – Wildlife and Ecology	<ul style="list-style-type: none"> ▪ RF-2 for any materials or performance testing required by environmental permit ▪ RF-3 for all other non-environmental permit work ▪ Witness point the start of any permit-related ecological treatment (e.g.: stream restoration). 	<p>Materials QA: Review documentation required by specifications and environmental permits to verify material or testing compliance. Perform any required testing at 10% of QC requirements or per direct environmental requirements</p> <p>CI QA: perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the specifications. Assure any field testing is performed per specification.</p>
614 – Pruning, Improving and Removing Existing Vegetation	<ul style="list-style-type: none"> ▪ RF-3 ▪ Witness point for verification of trees to be pruned or removed prior to work start in streetscape or areas subject to permit 	<p>Materials QA: Check documentation required by specifications to verify compliance.</p> <p>CI QA: perform random check of the areas that have been inspected to determine they meet the criteria called for in the contract documents as follows: 10% of roadside 15% of streetscape 20% of areas subject to permit (e.g.: NYC parks, forest preserves)</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
615 – Landscape Appurtenances	<ul style="list-style-type: none"> ▪ RF-3 ▪ Witness point for verification that approved equal meets the ▪ Hold point for field layout of one-of-a-kind site design (e.g. play equipment, art installation) 	<p>Materials QA: Check documentation required by specifications to verify compliance</p> <p>CI QA: Assure any shop drawing reviewed by DB. Observe the first installation of each type of appurtenance, and 20% of any subsequent installation, including placement location.</p>
616 – Soil Bioengineering	<ul style="list-style-type: none"> ▪ RF-3 ▪ Witness point on inspection of first delivery of each plant type. ▪ Witness point for location of any material in streambed. 	<p>Materials QA: Check documentation required by specifications and environmental permits to verify compliance. Certified copies of laboratory test results supplied by DB.</p> <p>CI QA: Verification of materials acceptability. Observe the first installation of each type of facility, and 20% of any subsequent installations. Secure placement of materials to provide protection from erosion.</p>
617 - Invasive Species Management	<ul style="list-style-type: none"> ▪ RF-3 ▪ Witness point on layout of proposed treatment area. ▪ Witness point for location and operation of equipment washing station. 	<p>Materials QA: Check documentation required by specifications and environmental permits to verify compliance.</p> <p>CI QA: perform random check of 10% of the areas that have been inspected to determine they meet the criteria called for in the specifications. Verify appropriately licensed applicator for chemical weed control methods.</p>
619, Work Zone Traffic Control (WZTC)	<ul style="list-style-type: none"> ▪ RF-3 for materials. No physical testing expected but requires verification of adherence to specifications and standards of application on daily basis. ▪ Witness point of all traffic control / safety operations. 	<p>Materials QA: verify products on Approved List or conforms to requirements of 619-2 references as appropriate.</p> <p>CI QA: Assure DB personnel competency for safety oversight of WZTC and that all operations are compliant with 619, safety plan, and MUTCD requirements.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
620, Bank and Channel Protection	<ul style="list-style-type: none"> ▪ RF-2 only if soundness testing deemed necessary and performed by Design Builder. ▪ RF-3 for any Authority accepted stockpiles / materials 	<p>Materials QA: Stockpile material, soundness testing if necessary, based on geologic source report data. Visual examination of materials for size and gradation. Block pavers per certification and Approved List of 704-04. Gabions per 712-15</p> <p>CI QA: random visual inspection of materials used and practices followed for installation. Secure placement of stone materials to provide protection from erosion. See GCP 14.</p>
622 – Buildings and Miscellaneous Structures	<ul style="list-style-type: none"> ▪ RF-1 for new building erections and structural alterations where materials testing can be performed by Design-Builder and verification testing possible (i.e. concrete, earthwork items, etc...). ▪ RF-2 for non structural alterations ▪ RF-3 for non-testable products or materials accepted on Approved List. ▪ Hold point for OGS Construction permit ▪ Hold point for foundation strength ▪ Additional Witness and Hold point per applicable Material Sections referenced in contract documents. 	<p>Materials QA: Check documentation required by specifications to verify compliance. Certified copies of laboratory test results supplied by DB. Review “Commissioning” and any testing of systems (i.e. ITS, fire suppression, elevators, etc...) for compliance with building design.</p> <p>CI QA: Review of CPM schedule by DB. DB informs Authority of achievement/adjustment of project milestones. Assure any shop drawing reviewed by DB. Verify building trade inspections completed. Perform random check of 20% of the areas that have been inspected to determine they meet the criteria called for in the specifications.</p>
623 - Screened Gravel, Crushed Gravel, Crushed Stone, Crushed Slag	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: verify materials meet 703-02</p> <p>CI QA: Review calculations for quantities used if in-place measure. Verify quantities if measured by weight.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
624 - Paved Gutters	<ul style="list-style-type: none"> ▪ RF-3. 	<p>Materials QA: See 401 for HMA production requirements. Small quantities accepted based on certification per 401. See 501 for concrete production. Quantities less than 50 CY accepted on certification. Observe concrete air content QC testing per MM9.2.</p> <p>CI QA: observation, documentation review and random checks to verify quantity and ensure placement requirements are being followed.</p>
630 - Barricades	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Corrugated Guide Rail – Verify material certifications received / on file. Verify materials on Approved List as appropriate</p> <p>CI QA: Verify completed installation per plans.</p>
633 – Conditioning Existing Pavement Prior to Hot Mix Asphalt (HMA) Overlay	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: See 401 for HMA production requirements. Small quantities accepted based on certification per 401</p> <p>CI QA: Observation, documentation review and random checks to verify quantity to ensure placement requirements are being followed and met.</p>
635 - Cleaning and Preparation of Pavement Surfaces for Pavement Markings	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: N/A</p> <p>CI QA: Verify cleaning operations do not damage pavements to remain in place and are progressed in a safe manner to protect traffic. Timely replacement of pavement markings per Dept requirements for safety.</p>
638 - White Synthetic Resin Binder Concrete	<ul style="list-style-type: none"> ▪ RF-2 	<p>Materials QA: See 401 for HMA production requirements. Small quantities accepted based on certification per 401</p> <p>CI QA: Observation, documentation review and random checks to verify quantity and ensure requirements are being followed and met.</p>
640, Reflective Pavement Marking Paints	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify product appears on the Approved List.</p> <p>CI QA: Random verification of placement in conformance with the MUTCD.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
643 – Noise Barriers	<ul style="list-style-type: none"> ▪ RF-3 ▪ Hold point for foundation strength 	<p>Materials QA: verify materials used meet requirements for the type of barrier installed. Certifications for testing as appropriate. See 501 for concrete production. Quantities less than 50 CY accepted on certification. Verify DB test results for foundation concrete compressive strength meets barrier design requirements. Observe concrete air content testing per MM9.2. CI QA: Verify completed installation per plans.</p>
644 – Overhead Sign Structures	<ul style="list-style-type: none"> ▪ RF-2 for CIP concrete sampling and testing ▪ RF-3 for other components and precast concrete ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes at off-site fabrication sites. ▪ Hold point for foundation strength prior to setting any overhead structures or poles. ▪ Witness point for pole installation and any bolt tightening. 	<p>Materials QA: Item 644 may require the use of stainless steel hardware. SS hardware stock lot sampled, tested and approved according to 715-16 prior to use. Exception is grade B8 bolts less than 3/8” in diameter, which are accepted based on chemistry only. Plant inspection per requirements of 501 for concrete production. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency. Verify materials on Approved List as appropriate. Refer to Special Specification Item# 645.03XXXX11 for sheeting.</p> <p>CI QA: Verify excavation per 206, select structural fill per 203. Verify concrete installation per 555.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
645, Signs	<ul style="list-style-type: none"> ▪ RF-3 ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes at off-site fabrication sites. ▪ Hold point for foundation strength prior to setting structures or poles. ▪ Witness point for pole installation and any bolt tightening. 	<p>Materials QA: Verify SS hardware stock lot sampled, tested and approved according to 715-16 prior to use (exception is grade B8 bolts less than 3/8" in diameter, which are approved based on chemistry only). See 501 for concrete production. Quantities less than 50 CY accepted on certification. Observe concrete air content testing per MM9.2. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements. Verify materials on Approved List as appropriate. Verify sign panel compliance with 730. Refer to Special Specification Item# 645.03XXXX11 for sheeting.</p> <p>CI QA: Verify conformance with plans, Standard sheets, Materials Detail sheets and Approved Lists. Verify placement locations, erection conforming to standard sheets, and visual applicability for safety.</p>
646 - Delineators, Reference Markers and Snowplowing Markers	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify conformance with Standard Sheets and product appearing on the Approved List</p> <p>CI QA: verify placement locations, erection conforming to standard sheets, and visual applicability for safety.</p>
647 - Removing, Storing and Relocating Signs	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify new / replacement materials conform to 645.</p> <p>CI QA: Verify conformance with plans, Standard sheets, Materials Detail sheets, and Approved Lists. Verify placement locations, erection conforming to standard sheets, and visual applicability for safety.</p>
650 – Trenchless Installation of Casing	<ul style="list-style-type: none"> ▪ RF-2 	<p>Materials QA: Review material documentation.</p> <p>Perform grout cube breaks on 10% of the number required in the QA plan.</p> <p>CI QA: Observe steering and tracking procedures for the first installation, and 10% of the subsequent installations. Observe monitoring plan for the first installation, and for 10% of the subsequent installations</p>
652 - Furnishing and Applying Salts	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: verify materials meet 712-02 or 712-03</p> <p>CI QA: review documents that application rates are adhered to and that treatments are effective</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
654 – Impact Attenuators - Permanent	<ul style="list-style-type: none"> ▪ RF-2 for concrete or grout compressive strength ▪ RF-3 for other components ▪ Hold point for foundation strength prior to setting attenuators 	<p>Materials QA: See 501 for concrete production. Quantities less than 50 CY accepted on certification. Perform plastic air content and 28 day compressive strength per MM9.2, per concrete mixture at 10% of QC frequency. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements and certifications as appropriate. Verify materials on Approved List as appropriate.</p> <p>CI QA: Verify conformance with manufacturer’s drawings, plans, Standard sheets, Materials Detail sheets, and Approved Lists.</p>
655, Frames, Grates and Covers	<ul style="list-style-type: none"> ▪ RF-3 ▪ RF does not apply when the Authority performs materials sampling and testing for acceptance purposes at off-site fabrication sites. 	<p>Materials QA: review certification stating that castings (frames, grates and covers) meet the NYS Standard Sheets for castings, meet Buy America clause. Verify iron castings with “Proof Loaded” designs appear on Approved List for Proof Loaded Castings.</p> <p>CI QA: verify placement true to line and grade and proper bearing on underlying surface.</p>
656, Miscellaneous Metals	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: verify materials requirements of 715 and 725 as appropriate. Galvanizing performed per 719-01. Review certifications as appropriate. Random sampling when deemed necessary.</p> <p>CI QA: Verify work progresses per the Steel Construction Manual.</p>
659 - Telecommunication Utilities	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify compliance with special provisions of local municipality and/or respective utility company</p> <p>CI QA: Verify earthwork progressed per section 206 requirements as appropriate. Verify DB coordination with local utility</p>
660, Utilities	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify compliance with special provisions of local municipality and/or respective utility company</p> <p>CI QA: Verify earthwork progressed per section 206 requirements.</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
661, Electric Utilities	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify compliance with special provisions of local municipality and/or respective utility company</p> <p>CI QA: Verify earthwork progressed per section 206 requirements as appropriate. Verify DB coordination with local utility</p>
662, Gas, Oil and Steam Utilities	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify compliance with special provisions of local municipality and/or respective utility company</p> <p>CI QA: Verify earthwork progressed per section 206 requirements as appropriate. Verify DB coordination with local utility</p>
663, Water Supply Utilities	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify compliance with special provisions of local municipality and/or respective utility company. Materials compliance per 663-2. Concrete production per 501, with exceptions as noted in 663. Review / verify DB test results for concrete compressive strength meets design requirements. Observe concrete air content testing per MM9.2. at 10% of QC frequency</p> <p>CI QA: Verify earthwork progressed per section 206 requirements as appropriate. Verify DB coordination with local utility.</p>
664, Sanitary Sewer Utilities	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Compliance with special provisions of local municipality and/or respective utility company</p> <p>CI QA: Verify earthwork progressed per section 206 requirements as appropriate. Verify DB coordination with local utility</p>

New York State Thruway Authority

Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
670 - Highway Lighting System	<ul style="list-style-type: none"> ▪ RF-3 ▪ Hold point for foundation strength prior to setting structures or poles. ▪ Witness point for pole installation and any bolt tightening. ▪ Hold point for all testing of systems prior to placing into service. 	<p>Materials QA: See 501 for concrete mixture requirements. Concrete production accepted on certification. Observe plastic air content performed per MM9.2 procedures and frequency. Rebar acceptance per 556. Miscellaneous materials conformance per various 700 section requirements and certifications as appropriate. Verify materials on Approved List as appropriate.</p> <p>CI QA: Verify shop drawing reviews completed by DB prior to material delivery. Random review of installation per standard specifications. Test of system prior to service</p>
680, Traffic Signals	<ul style="list-style-type: none"> ▪ RF-2 for concrete ▪ RF-3 for all other materials ▪ Hold point for achieving concrete strength prior to loading / installing poles. ▪ Hold point for all testing of systems prior to placing into service. 	<p>Materials QA: See 501 for concrete mixture requirements. Concrete production accepted on certification. Perform plastic air content and 28 day compressive strength per specification following MM9.2, at 10% of QC frequency. Rebar acceptance per 556. Verify precast components conform to 723-45. Miscellaneous materials conformance per various 700 section requirements and certifications as appropriate. Verify materials on Approved List as appropriate. Verify certification from manufacturer for compliance with 724 requirements.</p> <p>CI QA: Verify excavation per 206, select structural fill per 203. Verify concrete strengths achieved prior to any loading. Pole erection per standard sheets and compliance with any MUTCD requirements. Verify appropriate testing of signal systems are completed prior to placement into service. Verify coordination with utilities and agency maintaining the signals as appropriate.</p>
685, Epoxy ReflectORIZED Pavement Markings	<ul style="list-style-type: none"> ▪ RF-3 	<p>Materials QA: Verify product appears on the Approved List</p> <p>CI QA: Verify placement per plans, Standard sheets and MUTCD on clean / prepared surfaces, under acceptable atmospheric conditions, and using proper WZTC. Verify retro-reflectivity</p>

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Specification Section	Risk Factor, applications, and hold points	Quality Assurance Actions and Testing
687, Thermoplastic ReflectORIZED Pavement Markings	<ul style="list-style-type: none">▪ RF-3	Materials QA: Verify product appears on the Approved List CI QA: Verify placement per plans, Standard sheets and MUTCD on clean / prepared surfaces, under acceptable atmospheric conditions, and using proper WZTC. Verify retro-reflectivity
688, Preformed ReflectORIZED Pavement Markings	<ul style="list-style-type: none">▪ RF-3	Materials QA: Verify product appears on the Approved List CI QA: Verify placement per plans and MUTCD on clean / prepared surfaces, under acceptable atmospheric conditions, and using proper WZTC.

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SYRACUSE DIVISION BUNDLED BRIDGES

TAS 17-37B, Contract D800001

DB CONTRACT DOCUMENTS PART 2

APPENDIX 113A DESIGN AND CONSTRUCTION QUALITY CONTROL PLAN TEMPLATE

Final, October 12, 2017

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Design and Construction Quality Control Plan Template

Design-Build Program

This document provides an outline of the format, minimum expectations and content of the quality plan expected from the design-build contractor. Each contractor shall update and modify this manual on each project. The contractor shall update any standards, procedures, and processes within this template to reflect the most recent NYSDOT standards and provisions outlined in the RFP.

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QP 100: Quality Control Plan Overview

Rev _____, Date _____

100.1 GENERAL

This section shall summarize the overall purpose of the Plan.

It is intended that this Plan is a supplement to the Quality System requirements in DB Section 100 of the Contract Documents.

The Quality Control Plan shall describe in detail the Design Builder's approach to achieving high quality work, their specific Quality Control Plan for this project and how the Design-Builder will engage the Authority's Design Quality Assurance Engineer and the Construction Quality Assurance Engineer in all activities described in the Quality Control Plan.

100.2 RESPONSIBILITIES

This section shall describe what entities (firms) and individuals are responsible for performing the various specific Quality Control and Quality Assurance tasks.

(Note: The following sections are to be included in the Plan. Specific detailed requirements are listed in the respective chapters of this Template. The overview section (QP 100) shall only provide a brief summary).

100.3 DESIGN

100.3.1 Design and Development Inputs

This section shall describe in general terms how design data is obtained and is managed and controlled so that all disciplines have the necessary current and correct data. It shall also list and describe all software that is intended to be used.

100.3.2 Design and Development Outputs

This section shall describe in general terms how intermediate submittals are scheduled and processed. It shall also describe how Release for Construction documents are developed from the concept designs and how they are handled in the QC/QA process.

100.3.3 Design and Development Review

The design and review process shall be presented in this section in graphical form in the form of a flowchart. Time duration for reviews shall be included in the flowchart.

Detailed Checking

This section shall list all documents that will be checked in detail. This list shall include as a minimum:

- Checking of calculations
- Checking of computer program input
- Checking of plans
- Checking of specifications and/or special provisions

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- Checking of structural design plans and calculations
- Review of studies, reports, other design documents

Design Reviews

This section shall describe in general terms the ongoing checking and review process and procedures as the design progresses. To the extent possible individuals or titles of those persons responsible for the reviews shall be identified.

This section shall also describe the following procedures:

Discipline Coordination Reviews (DCR):

This section shall list the anticipated disciplines involved and shall describe in general terms how the design is coordinated between disciplines.

Independent Technical Reviews (ITR):

This section shall describe in general terms when and how independent reviews are to be performed. The level of design completion when reviews are to be completed, the number of ITR's and the expected durations shall be described.

Constructability Reviews (CR):

This section shall describe in general terms how constructability reviews are to be performed. The level of design completion at the CR shall be described. The comment resolution process shall be described in detail as well as the documentation of the resolution of comments.

Authority Reviews

This section shall describe in general terms how the DB team will obtain, manage and address Authority review comments during the design process.

Quality Assurance Audits

This section shall describe in general terms the frequency and the method in which audits are performed by the Design Builder.

Other Stakeholder Reviews

This section shall describe in general terms how the DB team will manage and address stakeholder review comments during the design process and how the documentation of the review process will be maintained.

Comment Resolution Meetings

This section shall describe in general terms the nature and frequency of comment resolution meetings between the Authority and designers. The documentation of the meetings and the comments shall be described.

100.3.4 Design and Development Verification

This section shall describe in general terms the procedures to ensure that the design packages have incorporated all applicable requirements and have satisfied all design standards.

100.3.5 Control of Design and Development Changes

This section shall describe in general terms how design changes over the course of the Project are coordinated, documented and processed in reference to QA/QC.

100.4 CONSTRUCTION

100.4.1 Introduction

The following topics shall be included and discussed in this section in sufficient detail to introduce Construction Quality aspects of the Plan.

- a. Identification of work that will be subject to QC.
- b. Description of the procedures and methods of performing construction quality activities
- c. Description of the general role of the Quality Manager
- d. Include a listing of what Construction and Inspection Quality activities are included in the Plan and what activities (if any) are not included.
- e. The means and methods of communicating between the design group and the construction group to ensure a coordinated and consistent quality in the finished product.

All Testing, Quality Control, Inspection and approval procedures must meet current NYSDOT Standards.

100.5 DEFINITIONS

Include the definition of all key terms that are used in the Quality Control Plan.

QP 101: Key Project Roles and Disciplines

Rev _____, Date _____

101.1 SCOPE

This section shall identify key staffing positions, their responsibilities and the major and minor disciplines and support services required to complete this project.

101.2 RESPONSIBILITIES – DESIGN AND CONSTRUCTION

Project specific and functional titles (with specific names of individuals and their affiliation) for key staff and their specific function on the project shall be presented in this section. Every discipline shall be represented in the staffing. An organizational chart that shows the relationships to each other and reporting responsibilities shall also be included.

101.3 RELATIONSHIP BETWEEN FIRMS

This section shall explain the relationship between the members of the DB team.

It shall include the following statements that explain the contractual arrangements of the firms involved:

- Include a statement that the construction QC personnel (Construction Inspectors) may be employed directly by the QC Professional Engineering firm, or be employees of firms acting as sub-consultants to the QC Professional Engineering firm.
- Include a statement that the QC Professional Engineering firm and any firm acting as a sub-consultant to the QC Professional Engineering firm shall not be owned by or be an Affiliate of the Design-Builder, any Principal Participant or construction subcontractor.
- Include a statement that the QC Professional Engineering firm is distinct and separate from the design and construction production organization(s).

All QC Professional Engineering firm personnel shall be knowledgeable of the Project Quality Control Plan including construction QC requirements applicable to their work.

This section shall include the protocol for reporting deviations from approved procedures to the Design-Builder and the Authority. It shall also include the means that the DB team will ensure that all personnel are knowledgeable of the Plan.

101.4 KEY PERSONNEL – DESIGN AND CONSTRUCTION

It is expected that the number of key personnel performing QA and QC reviews shall be commensurate with the size and type of project.

101.4.1 Quality Manager

Include in this section the name of the individual assigned to be the Quality Manager.

Include a detailed description of the specific role of the Quality Manager in implementing and ensuring compliance with the Quality Control Plan (QCP) for both design and construction and for coordination with the Authority's QA staff.

101.4.2 Design Quality Control Engineer

Include in this section the name of the individual assigned to be the Design Quality Control Engineer.

Include a detailed description of the specific role of the Design QC Engineer in implementing and ensuring compliance with the Quality Control Plan and NYSDOT Standards.

Include a listing of what QC activities the Design QC Engineer is responsible for and what activities (if any) are not included. As a minimum, the list of QC activities shall include the following:

- Coordination and management of the QC activities and direct implementation of the QC Plan for design;
- Determining the staffing requirements for performing the required management and administrative duties for the design QC Engineers;
- Identifying project activities that require QC procedures and work with the QC Engineer to define the scope and content of each QC Procedure;
- Overseeing QC document management activities to ensure quality records are appropriately maintained and conform to NYSDOT Standards;
- Ensuring QC quality records are reviewed and approved by authorized personnel;
- Promoting awareness of QC requirements to QC Engineer personnel;
- Assuring QC activities are performed by properly qualified personnel;
- Attending Review Meetings as appropriate;
- Reviewing, approving and distributing Implementing QC Procedures;
- Reviewing and approving internal quality audit reports;
- Conducting internal quality spot-checks to verify conformance;
- Coordinating QC activities with the Authority's QA activities;
- Addressing programmatic issues within the QC Engineer's organization.

101.4.3 Construction Quality Control Engineer

Include in this section the name of the individual assigned to be the Construction QC Engineer.

Include a detailed description of the specific role of the Construction QC Engineer in implementing and ensuring compliance with the Quality Control Plan and NYSDOT Standards.

Include a listing of what QC activities the Construction QC Engineers are responsible for and what activities (if any) are not included. As a minimum, the list of QC activities shall include the following:

- Coordination and management of the QC activities and direct implementation of the Construction QC Plan for construction
- Determining the staffing requirements for performing the required management and administrative duties for the construction QC Engineers

- Identifying project activities that require QC procedures and work with the QC Engineer to define the scope and content of each QC Procedure
- Overseeing QC document management activities to ensure quality records are appropriately maintained and conform to Authority Standards
- Ensuring QC quality records are reviewed and approved by authorized personnel
- Promoting awareness of QC requirements to QC Engineer personnel
- Assuring QC activities are performed by properly qualified personnel or testing firms
- Reviewing and approving Inspection and Testing Plans for specific construction work elements
- Attending Review Meetings as appropriate
- Reviewing, approving and distributing Implementing QC Procedures
- Reviewing and approving internal quality audit reports
- Conducting internal quality spot-checks to verify conformance
- Performing statistical analysis of construction QC test data to identify adverse trends
- Coordinating QC activities with the Authority's QA activities
- Ensuring that the CI firm is inspecting work to match RFC quality field reviews
- Issuing nonconformance reports (NCRs) and validating NCRs issued by other QC staff when work is found to be nonconforming
- Monitoring the resolution of project NCRs, and responding to NC's issued
- Developing, reviewing, approving and implementing corrective action plans to address NCR's
- Addressing programmatic issues within the QC Engineer's organization

101.4.4 QC Engineer's Support Staff

Describe in this section the anticipated number and composition of the QC Engineer's support staff that will perform QC activities.

101.4.5 CQC Inspectors/Technicians

This section shall include a listing of the required certifications for Inspectors and Technicians as well a listing of their respective responsibilities.

101.4.6 QC Administrative Personnel

The roles and responsibilities of administrative personnel shall be identified in this section.

101.4.7 Quality Control Staffing Levels

This section shall describe how the staff size and composition will be managed during the course of the design review and construction inspection. An estimate of the maximum and minimum staff required during the course of the project shall be indicated.

101.4.8 Construction QC Testing Laboratories

This section shall describe how testing laboratories will be contracted, how their certifications will be checked and how the labs' QC procedures are verified and audited by the Design Builder.

QP 200: Communication Protocols

200.1 PURPOSE

This section shall define the formal communication protocol and responsibilities between the Contractor, the Designer, the Construction Inspector and the Authority.

200.2 SCOPE

This section shall cover in detail the method for managing and documenting written, verbal, telephone, e-mail and all other formal communication between all parties in the project.

200.3 RESPONSIBILITIES

The roles and responsibilities of specific individuals for maintaining and ensuring that communications are documented and performed appropriately shall be described in this section.

200.4 PROCEDURE

The protocol for maintaining and tracking written or verbal communication and Document Distribution shall be explained in this section.

QP 300: Discipline Coordination Reviews

300.1 PURPOSE

This section shall define in specific terms how a Discipline Coordination Review (DCR) is completed to formally obtain input from each discipline into each deliverable and to take advantage of opportunities identified as well as avoid conflicts between disciplines. A list of disciplines shall be provided.

300.2 SCOPE

This section shall define the procedure to review the items that are specific to Discipline Coordination Reviews associated with deliverable packages.

A listing of the disciplines involved in the design that will be included in the review shall be presented.

300.3 RESPONSIBILITIES

The responsibilities of the key staff in distributing the review packages, recording receipt of review comments and distributing the comments to respective staff shall be described. Time durations for the reviews shall be indicated.

300.4 PROCEDURE

The detailed procedure for performing Discipline coordination reviews shall be presented in this section. The manner in which the Authority's QA Engineer will be integrated into the process shall be described.

QP 301: Independent Technical Reviews

301.1 PURPOSE

This section is applicable only if Independent Technical Reviews (ITRs) are required in the RFP or are proposed by the Design-Builder.

This section shall define in specific terms how an Independent Technical Review is completed to formally obtain input from a senior level engineer or technical expert who has familiarized himself with the project requirements but is independent of the preparation of the deliverable and is not otherwise involved in the project itself.

301.2 SCOPE

This section shall define in detail the procedures that will be used to perform independent technical reviews.

301.3 RESPONSIBILITIES

The responsibilities of key staff in the performance of Independent Technical Reviews shall be described in this section.

301.4 PROCEDURE

The procedure shall include the frequency, organization and determination of the items that are candidates for independent technical reviews. A detailed description of how the reviews will be performed shall be included. The Authority's QA Engineer's involvement in the process shall be described.

QP 302: Constructability Reviews

302.1 PURPOSE

The section shall explain how, when and by whom Constructability Reviews (CR) are completed to formally obtain input from the construction team associated with the project into each deliverable.

302.2 SCOPE

This section shall define in detail the items that are subject to Constructability Reviews associated with deliverable packages.

302.3 RESPONSIBILITIES

The responsibilities of the key staff in the performance of Constructability Reviews shall be described in this section.

302.4 PROCEDURE

The procedure shall include the method, frequency, organization and determination of the items that are candidates for constructability reviews. A detailed description of how the reviews will be performed shall be included. The Authority's QA Engineer's involvement in the process shall be described.

QP 303: Design Review Comment Procedure

303.1 PURPOSE

This section shall explain in detail the technical review processes that will be used to ensure that all comments are tracked until they are incorporated or otherwise resolved and to ensure that all comments, responses and verification of resolution are documented.

303.2 SCOPE

This section shall describe comment resolution and tracking processes implemented in the development of the design. It shall explain how Constructability Reviews (CR), Discipline Coordination Reviews (DCR), Independent Technical Reviews (ITR), Authority reviews and other reviews are documented and how comments are addressed.

303.3 RESPONSIBILITIES

The responsibilities of the key staff in the performance of this task shall be described in this section.

303.4 PROCEDURE

The procedure that will be used to process review comments shall be described in detail in this section and shall include the method, frequency and organization that will be used to ensure that comments are tracked and addressed. It shall also include the procedure for control of design development and inclusion of comments

QP 304: Material Acceptance Procedure

304.1 PURPOSE

This section shall explain the material acceptance protocol. Construction materials shall not be incorporated into the project unless they have been accepted by the Quality Manager prior to incorporation. Reference and use of the NYSDOT's/Authority's Material Acceptance Procedure and Documentation requirements shall be made.

304.2 RESPONSIBILITIES

The responsibilities of the key staff in the performance of this task shall be described in this section.

304.3 PROCEDURE

304.3.1 Material Acceptance

100.1.1.1.1 Source of Supply Approval

This section shall describe how the source of supply is reviewed and approved by the Construction Quality Control Engineer.

304.3.1.1 Material Certification

This section shall describe in detail the process by which materials are accepted for use and incorporation into the project. It shall also describe how the certification records are maintained and how information is relayed to the construction site.

304.3.1.2 Offsite Inspection, Sampling and Testing for Material Acceptance

This section shall describe how offsite testing is performed, at what frequency and how documentation is maintained.

304.3.1.3 Material Receiving Inspection

This section shall describe how inspection for material received at the jobsite is performed and the process for acceptance/rejection is done.

304.3.1.4 Material Acceptance Identification

This section will describe how materials found to be in non-conformance with project requirements are processed at the job site. It shall describe in detail tagging procedures and how the materials are tracked until the non-conformance is resolved.

QP 400: Detailed Checking of Calculations

400.1 PURPOSE

This section shall define the process for preparation and checking of engineering calculations generated as a part of the Released for Construction (RFC) drawings as well as final designs.

400.2 INTRODUCTION

The method that will be used to prepare, check, document and archive design calculations shall be described in detail.

400.3 SCOPE

The checking method shall be applicable to and shall cover all calculations that are the basis for all study, design, construction, maintenance and procurement documents.

400.4 RESPONSIBILITIES

The responsibilities of the key staff in the performance and checking of calculations and performing QA/QC shall be described in this section.

400.5 PROCEDURE

A detailed step-by-step procedure for performing, reviewing, checking, documenting calculations for the design of the project shall be defined in this section.

QP 401: Detailed Checking of Plans

401.1 PURPOSE

This section shall describe the process that will be used to provide a uniform, orderly, and efficient method for checking drawings.

401.2 SCOPE

This section shall discuss the timing and methodology that will be used in the performance of detailed checks of in each phase of design.

401.3 RESPONSIBILITIES

The responsibilities of the key staff in the performance of detailed checking of plans and performing QA/QC functions shall be described in this section.

401.4 PROCEDURE

A detailed step-by-step procedure for checking plans shall be defined in this section.

The descriptions shall include:

1. Initiating the Checking Process
2. Checking
3. Correcting the Drawings
4. Verifying the Corrected Check Set
5. Drawing Change Management

QP 402: Detailed Checking – Specifications and Special Provisions

402.1 PURPOSE

This section shall define the requirements for the checking of Specifications and Special Provisions.

402.2 SCOPE

This procedure shall apply to all final specifications and special provisions prepared for construction or procurement.

402.3 BACKGROUND

Some individual Release for Construction packages may include specifications or special provisions unique to that particular package. These special provisions shall be checked as indicated in the Procedure presented in this section.

402.4 RESPONSIBILITIES

The responsibilities of the key staff in the performance of detailed checking of specifications and performing QA/QC functions shall be described in this section.

402.5 PROCEDURE

A detailed procedure for checking specifications shall be defined in this section.

QP 403: Review of Studies, Reports, Other Design Documents

403.1 PURPOSE

This section shall describe the guidelines for review of documents other than engineering drawings and calculations.

403.2 SCOPE

This section shall cover the review procedure that will be applied for the review of all studies, technical reports, technical memoranda, or procedures contractually required to be provided to the Authority.

403.3 RESPONSIBILITIES

The responsibilities of the key staff in the performance of detailed review of studies, reports, other design documents and performing QA/QC functions shall be described in this section.

403.4 PROCEDURE

A detailed procedure for checking of all studies, technical reports and technical memoranda shall be presented in this section.

QP 404: Detailed Checking – Structural Design Plans and Calculations

404.1 PURPOSE

This section shall describe the standards and procedures for an independent analysis (if required in the RFP or proposed by the DB) and for checking of bridge design calculations and for performing a design check of structural drawings.

404.2 SCOPE

This section shall explain in detail how the review of the structural design of major structures prepared by the Design Manager for Structures will be performed.

404.3 RESPONSIBILITIES

The responsibilities of the key staff in the performance of detailed review and checking of structural design plans and calculations shall be described in this section.

404.4 PROCEDURE

A detailed step-by-step procedure for checking structural design plans and calculations shall be defined in this section.

QP 405:

Detailed Checking of Computer Program Input

405.1 PURPOSE

To provide for systematic checking of computerized design calculations to minimize the possibility of input errors.

405.2 SCOPE

This section shall explain the scope of the procedure to be used for checking input to software programs.

405.3 RESPONSIBILITIES

The responsibilities of the key staff in the performance of detailed checking of computer program input shall be described in this section.

405.4 PROCEDURE

A detailed step-by-step procedure for checking computer program input shall be defined in this section.

QP 406: Review of Shop Drawings

406.1 PURPOSE

This section shall describe the scope, responsibilities, and procedures for processing shop drawings, submittals for review and approval.

406.2 RESPONSIBILITIES

The responsibilities of the key staff in the performance of shop drawing review shall be described in this section.

406.3 PROCEDURES

A detailed step-by-step procedure for checking shop drawings shall be described in this section.

QP 407:

Inspection and Testing

407.1 PURPOSE

This section will describe how inspection of the work and testing of materials is performed on site. It will also describe record keeping procedures and how document version control is managed.

407.2 PLANNING AND EXECUTION

This section shall describe the procedures for inspection and testing efforts. A flowchart indicating the various steps in this process shall be included. The process shall describe and include personnel certification requirements, specification and procedural references and indicate the standard forms associated with the anticipated construction QC inspection, sampling and testing activities for the project.

407.3 INSPECTION AND TESTING RECORDS

This section shall include a description of how documents are archived, disseminated and maintained by the DB Team. Authority forms and procedures for Inspection and Testing shall be used.

QP 500: Requests for Information

500.1 PURPOSE

This section shall describe the process that will be used to address Requests for Information (RFIs) or clarifications to Released for Construction documents requested by the Contractor or the Authority.

500.2 SCOPE

This section shall define the interaction between the Authority, Contractor, and Designer when a request for information or clarification to RFC documents is required.

500.3 RESPONSIBILITIES

The responsibilities of the key staff in responding to RFI's shall be described in this section.

500.4 PROCEDURE

A detailed procedure for responding to RFI's shall be described in this section.

QP 501: Notice of Design Change

501.1 PURPOSE

This section shall describe the procedure for revising plan sheets which were previously issued as 'Released for Construction (RFC)'. This procedure applies to design changes that are identified by the Designer only.

501.2 SCOPE

During the course of construction, it may become necessary to revise RFC plans due to changes in design progress, a conflict between design elements, or discovery of a design error. This section shall describe how these changes are executed.

501.3 RESPONSIBILITIES

The responsibilities of the key staff in processing NDC's shall be described in this section.

501.4 PROCEDURE

A detailed procedure for processing NDC's shall be described in this section. This section shall also describe how RFC drawings are revised, how revisions are tracked and how the changes are relayed to the field.

QP 502: Quality Assurance Oversight

502.1 PURPOSE

This section shall indicate how the DB team will perform Quality Assurance oversight during design and construction. The Design-Builder shall explain in this section how the QA Oversight will ensure that the QC methods being used on the project are effectively providing a high standard of quality in the design and the construction.

This section will also describe how the Audits are documented, tracked, archived and sent to the Authority. Measures to eliminate deficiencies are to be included in the documentation as well as follow-up to ensure that deficiencies have been corrected.

502.2 RESPONSIBILITIES

The responsibilities of the Quality Manager assigned to perform QA on the QC functions to ensure that the QC Plan is being adhered to shall be described in this section. This section shall describe the method, frequency and documentation of QA Audits. It shall also describe the process for tracking and resolving non-conformances of the QC Plan and process.

502.3 INDEPENDENT SAMPLING AND TESTING ASSURANCE

This section shall describe the method, frequency and documentation of QA sampling and testing. It shall also describe the process for tracking and resolving non-conformances of the QC Plan and process.

502.4 QUALITY CHECK POINTS

Quality checkpoints shall be identified in this section. A description of documentation associated with QCPs shall be included.

502.5 SCHEDULING AND NOTICES TO THE DB TEAM

This section describes the manner and timing of notifications to the Quality Manager of upcoming construction work so that the QC work is properly coordinated.

QP 503: Non-Conformance Reports

503.1 PURPOSE

This section shall indicate how the DB team will ensure that Non-Conformance Reports (NCR's) will be addressed properly, who is the responsible key staff for the disposition of NCR's and how the QC Plan will be revised and updated as needed to prevent re-occurrences of non-conformances.

This section shall also describe how NCR's are documented, tracked, archived and sent to the Authority. Measures to eliminate non-conformances are to be included in the documentation as well as follow-up indicating the disposition of each occurrence.

503.2 RESPONSIBILITIES

The responsibilities of the Quality Manager assigned to addressing NCR's shall be described in this section. It shall also describe the process for tracking and resolving non-conformances in the design and in construction.

503.3 CORRECTIVE AND PREVENTIVE ACTION

This section shall describe the procedure that the Design-Builder will implement to document, address and track corrective and preventive actions. A determination of the cause for the non-conformance shall be documented.

NCR's may be the result on internal (design-builder) or external (Authority) audits, inspections or reviews. Once the cause of the NCR has been determined, specific corrective and preventive actions shall be listed. This section shall explain how the DB team will determine the cause and the degree of corrective/preventive action to be used for every issue. It shall also explain the manner in which the proposed action is reviewed and approved by the Quality Manager.