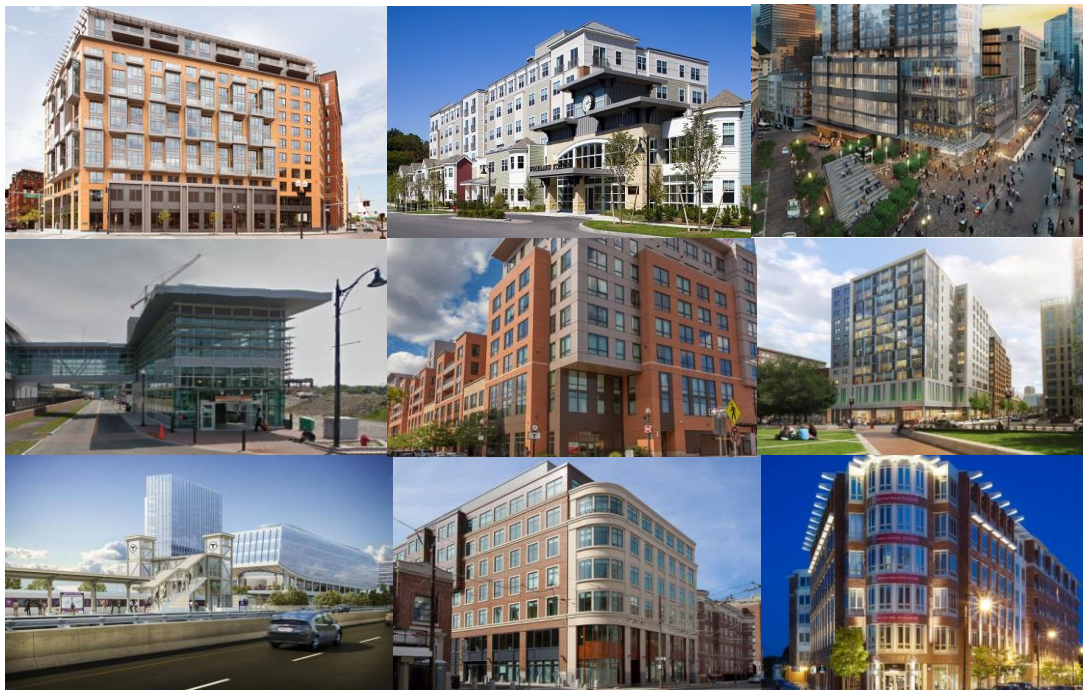




*MBTA Capital Delivery
Transit-Oriented Development Group*

*Design/Construction Review for Projects within the
MBTA's Zone of Influence*

A Guide for Owners, Developers, and Contractors (ODCs)



**Massachusetts Bay Transportation Authority
Capital Delivery Department
100 Summer Street, Suite 1200
Boston, MA 02110**

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Preface

The Massachusetts Bay Transportation Authority (MBTA), Capital Delivery Department has prepared this Manual to provide guidance for Owners, Developers, and Contractors (ODC) who contemplate construction activities in air-rights, adjacent to, or in close proximity to existing MBTA property, facilities, and/or with the potential to impact or obstruct the operational Right-of- Way (ROW).

The MBTA's Capital Delivery Department has the lead responsibility to review, authorize, and oversee project implementation in compliance with MBTA requirements. Projects are reviewed to insure the safety of MBTA customers, and that no adverse effects are imposed on MBTA operations, systems, and facilities, assuring the safe operation of the MBTA's system.

This Manual outlines the process requirements that are to be followed for MBTA design review, authorization, and construction oversight. This manual does **NOT** replace any MBTA Design Guidelines or Standards; it is to be used in conjunction with these documents.

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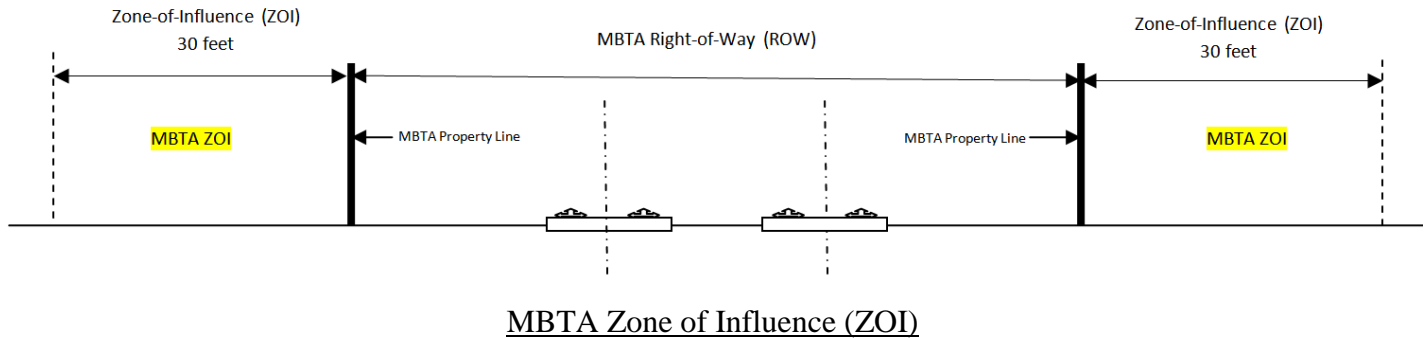
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Section 1 – MBTA Review, Authorization, and Access

This Manual describes the MBTA review and authorization process for projects proposed within the MBTA's Zone of Influence (ZOI)¹; such projects fall within the jurisdiction of the MBTA's Capital Delivery Department, under the Transit-Oriented Development Group, in cooperation with the MBTA's Office of Real-Estate and Asset Development (OREAD), in partnership with the Massachusetts Realty Group (MRG).²



The MBTA is notified of TOD³ and third-party projects through: MBTA and MRG real-estate transactions, such as land dispositions, Massachusetts Department of Transportation (MassDOT) project coordination requests, Boston Planning and Development Agency (BPDA formerly the BRA) Project Notification Forms (PNF), Letters of Interest (LOI), Public Improvement Commission (PIC) reviews, local municipality inquiries, and through project related inquiries.

The MBTA review process is initiated in two ways:

1. ODC contacts the MBTA Capital Delivery's Director of Transit Oriented Development, and arranges for a meeting to introduce the project, and discuss potential coordination; or

¹ The MBTA Zone of Influence is defined as the area in air-rights, adjacent to, or in close proximity (30-ft horizontal-plan dimension from proposed development work zone limit to MBTA property line) to existing MBTA property, facilities, and/or with the potential to endanger, impact, or obstruct the operational Right-of-Way (ROW), impairing the Authority's revenue operations or facilities.

The MBTA will review plans for projects on or adjacent to MBTA property and operational ROW, to ensure that: (1) MBTA customer safety is not compromised; (2) MBTA operations are not impacted during and after the proposed project construction; (3) MBTA facilities and operations are not damaged or affected by the proposed project; and (4) facilities being built for MBTA to own, operate and maintain, comply with MBTA Design Standards and applicable codes.

² Massachusetts Realty Group (MRG) is a partnership between Greystone & Co., Inc., and JLL, that provides real estate asset management services. MRG has been engaged by the MBTA to manage its real estate portfolio and develop strategies that will help the MBTA continue to serve its ridership efficiently and effectively.

³ In general usage, transit-oriented development, or TOD, is an approach to development that focuses on land usage around transit stations or within a transit corridor, making it possible for visitors and residents to move around without complete dependence on a car. In general, TOD occurs within one-quarter mile, or five to seven minute walk, of a transit station, and is characterized by: A mix of uses; Moderate to high density; Pedestrian orientation/connectivity; Transportation choices; Reduced parking; High quality design.

2. ODC files for a License Agreement or License of Entry⁴, anticipating the need to coordinate and seek access to MBTA property.

In either situation, the MBTA's Director of TOD engages the MBTA's canvass response team⁵, and works closely with MRG to ensure that any development near MBTA property applies for and is granted a License of Entry to allow for initial MBTA review of the project by the Capital Delivery Group, and various MBTA Engineering and Maintenance Departments, to facilitate any required coordination.

1.1 Development near MBTA ZOI with Potential to Impact

This type of development occurs near the MBTA ZOI, and has the potential for impact, requiring possible oversight by MBTA Capital Delivery TOD; occasional site visits by an MBTA construction inspector will ensure proper precautions are in effect to safeguard against potential impacts (example: construction site just outside the MBTA's ZOI). If a project is found to be working within the MBTA ZOI without proper authorization, the MBTA will halt construction on the project until such time as the proposed construction activities have been reviewed and authorized by the MBTA.

1.2 Development within MBTA ZOI

This type of development is the most common TOD type, and requires varying degrees of involvement from Capital Delivery TOD, dependent upon the project scope, schedule, and level of impact to MBTA customers, services, and facilities. These particular projects are in close proximity to an existing MBTA facility or ROW, and impending construction activities may interfere with MBTA infrastructure, day-to-day operations, potentially affecting the MBTA ROW, or adversely affecting MBTA customers. Projects proposed within or in close proximity to the MBTA ZOI shall schedule a meeting with the MBTA's Capital Delivery, TOD Group.

1.3 Initial MBTA Meeting – Capital Delivery, TOD Group

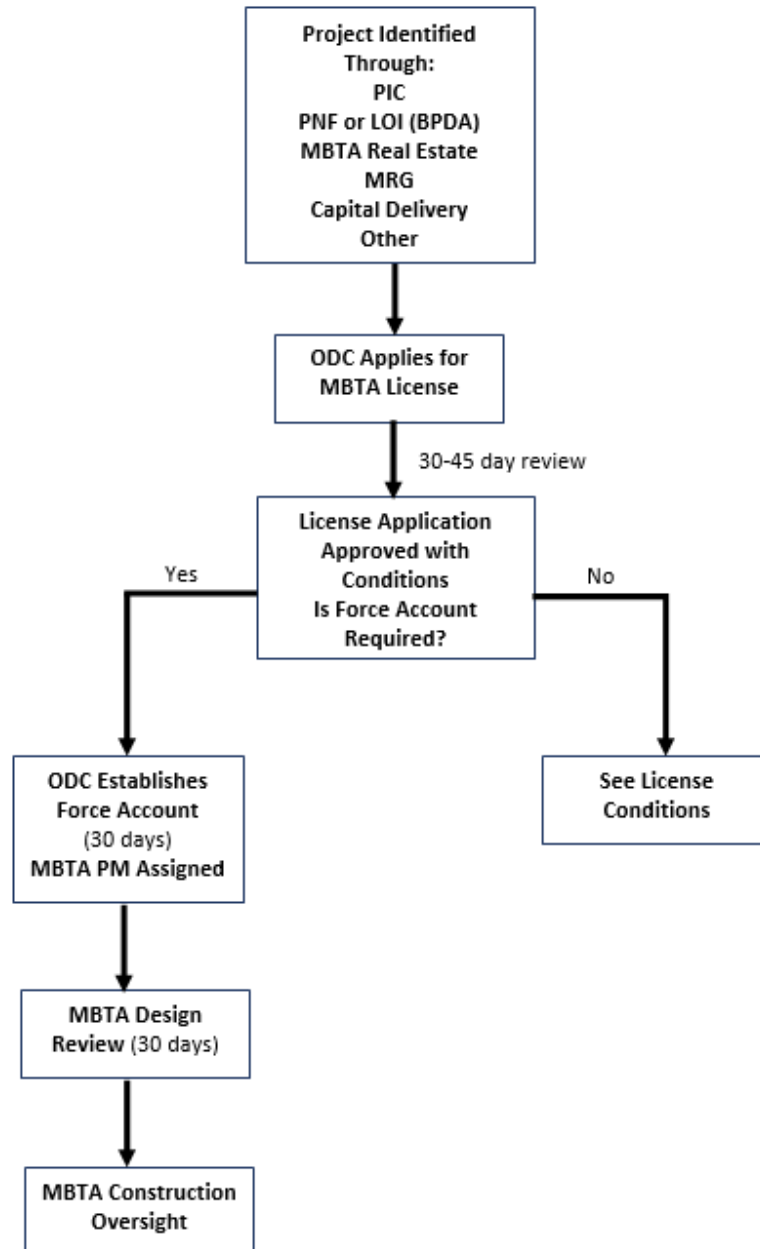
Project proponents are asked to schedule an initial project introduction meeting with the MBTA's Director of TOD, who will invite representative MBTA departments to solicit feedback for potential coordination efforts, agreements, and authorizations that may be required by the MBTA. Dependent upon proximity of project to the MBTA ZOI, project scope, and schedule, a License Agreement or License of Entry (See Section 1.5) may be required, executed between the ODC and the MBTA; other documents may also be required to support MBTA review services.

⁴ License Agreement or License of Entry can be used interchangeably; they mean the same thing. When there is any potential for a project to affect or interfere with the MBTA's services or infrastructure, the only way the MBTA can control the important interest of safeguarding the MBTA's transportation system, is by having the project's owner/developer/contractor enter into a License Agreement with the MBTA to ensure the safe operation of the rail system. This Agreement facilitates a review of the proposed work, and will be approved with an order of conditions that may include MBTA design review and construction oversight, dependent upon the nature of the proposed work. Often times a Force Account (MBTA expense account) is required to fund this review and oversight.

⁵ An internal MBTA audit team consisting of Capital Delivery, System-Wide Accessibility (SWA), Safety, and various Engineering and Maintenance departments including Power, operations, and construction Logistics.

1.4 MBTA Capital Delivery License, Review, and Authorization Process

The flow chart below illustrates the necessary steps for projects that may require MBTA design review and construction authorization and oversight. These are minimum durations which could be extended depending upon the scope and schedule of the project. ODCs are urged to consider this when developing the project schedule.



1.5 License Agreement / License of Entry

Any time an ODC wishes to access MBTA property or their proposed project falls within the MBTA ZOI, a License of Entry or License Agreement is required (See Appendix – D). The Licensing process is administered by MRG in partnership with the MBTA’s Office of Real Estate and Asset Development (OREAD); OREAD facilitates all real estate transactions for the MBTA. See link below:

http://bc.mbta.com/business_center/real_estate/

MRG’s License application-packet requires the following items:

- Application (www.mbtarealty.com/licenses/)
- \$1,000 check, made out to the MBTA (\$1,600 additional for structural review)
- Site plan with accurate MBTA right of way and infrastructure information. (Relationship between proposed and existing; see Section 1.7 for access to MBTA drawings)
- Design drawings in PDF format
- Structural drawings and calculations (if applicable)
- Construction management plan. (Plan must indicate equipment locations, durations and specifications (height, width, wheelbase, etc.); equipment loading; crane swings, outrigger loads, and crane load calculations; schedule for tasks; pedestrian safety plans; vibration monitoring plans, geotechnical reports, etc.)

Submitted License documentation must be provided in both narrative and drawing form, must provide a complete description of the scope of work to be performed, and potential impacts on neighboring MBTA facilities and operations.

Submitted documentation must include any foundation and subsurface work, including cross-sections, showing the spatial relationships between MBTA structures and proposed construction; cranes or heavy equipment: how long on site - in which location; any loading on the soils that might affect the track bed or subsurface infrastructure; any potential to tip and impact the ROW, or swing over the ROW; any excavation or foundation placement near the ROW or elsewhere on the parcel – potential for subsidence, heaving, or vibration to affect the rail alignment.

MRG initiates the canvass process or internal audit, soliciting comments from the MBTA’s canvass response team. There is a 30-day MBTA review period however; depending on volume of applications, the review period may be 45 – 60-days.

The License Agreement covers the scope of work for the project, anticipated schedule, and contains associated plans that show how the work will be performed in relation to the MBTA’s ZOI. Typically only one License is required per project, and can be amended to cover various stages of the project; long-duration projects with minimal on-site activity between each phase may need to reapply for a new License; depending on the scope of work, timing, complexity, and project’s construction sequencing, multiple licenses may be required to allow for smaller initial project activities to occur in advance of more complex project reviews. As an example: granting an initial soil exploration license, or inspection and monitoring equipment installation license, could allow for a key aspect of the project to proceed without delay, independent of the future larger proposed scope.

Following the License Application canvassing process, MRG prepares the License, which includes adherence with below listed documents, (copies can be found here: <https://www.mbtarealty.com/licenses/>); along with conditions required by the various MBTA departments. Conditions typically include that the ODC contact MBTA personnel before the start of work, and establish a Force Account or MBTA expense account, to cover any MBTA expenses in support of the project; such as design review, coordination, and construction oversight.

ODC's shall adhere to the following documents:

- MBTA Railroad Operations Directorate
- MBTA Insurance Requirements for Railroad
- MBTA Insurance Requirements for Transit
- MBTA Special Instructions, April, 2003
- MBTA Sample Railroad License
- MBTA Sample Transit License
- MBTA Trenching Policy
- MBTA Crane Requirements

Next, an MBTA Capital Delivery TOD Project Manager (PM) is assigned, and will be the point of contact for project reviews and approvals during the design phase and construction phases as the interface and coordination lead with MBTA Operations, Engineering and Maintenance, and field coordination (MBTA Construction Inspector).

To insure proper coordination of the project, one person shall be designated by the ODC to MBTA as the authorized point of contact to represent the project; (including tiered subcontractors and designers). All contact from MBTA to the project will be through the designated representative.

Following the approval of a License Agreement, the ODC shall schedule a Project Development Group (PDG)⁶ Meeting or coordination meeting, to review Project information. This meeting will help to expedite the MBTA review process. The earlier and more clearly impacts are identified, the more expeditiously the project can move through the MBTA review and authorization period. Dependent upon the scale of a project and design submittal process, a PDG meeting shall be scheduled at the 30%, 60%, and 100% design stages.

1.6 Force Account – MBTA Expense Account

Projects which have been determined as having the potential to impact the MBTA will be required to enter into a Force Account (FA) Agreement (See Appendix – B) to fund necessary MBTA review, authorization, and oversight. Fees, are determined by the Authority, and are based on the scope, level of MBTA support, and project schedule.

⁶ A Project Development Group (PDG) meeting allows for the project proponents to present their project at a meeting attended by key MBTA departments, responsible for reviewing the project and identifying areas that need further investigation, assuring that all appropriate MBTA requirements are considered during the various phases of design and construction.

The FA or expense account is an estimate of costs for MBTA support and oversight for a project; these may include: submittal reviews, coordination meetings, access requests, departmental support for access, and construction oversight. Overruns on the budgeted amount are the responsibility of the ODC to fund; projects that are completed below the FA budget have the remaining funds returned to the ODC. The MBTA requires a deposit for 1/3 of the estimated total amount of a FA, to activate the account for MBTA support services; as the FA is drawn down by MBTA forces through project submittals, access requests, reviews and other support services, the ODC shall replenish the account to an agreed upon amount as part of the FA agreement, for uninterrupted MBTA support.

Costs for operational support, and support services for adjacent construction and joint development projects where access is required into the ROW, or where other MBTA facilities are impacted, will be invoiced as part of the Force Account. In addition, costs for Revenue Service Adjustments and/or modified service such as, shutdowns (diversions) or single tracking, will also be included as part of the FA.

A monthly invoice is provided to the ODCs to be able to track project expenditures drawn for the FA balance. The FA will be need to be replenished with additional funding by the ODC if it falls below an agreed upon level.

Projects affecting Commuter Rail (Keolis), require a separate FA document or Project Initiation (PI) Agreement for design and construction services (flaggers). This agreement can be obtained through Ann Marie Regan at (617) 438-7145 or Annmarie.regan@keoliscs.com

AMTRAK also requires a separate FA document. This is obtained through Kate McGrath at 215-349-1750 or mcgratm@amtrak.com

Estimate of MBTA FA costs from previous projects:

\$2,000-\$5,000	Min. ROW Access + Flagger Protection (1-2 nights during non-revenue hrs)
\$5,000-\$10,000+	ROW Access and Flagger Protection (3+ nights)
\$10,000-\$80,000+	Project under construction adjacent to MBTA infrastructure
\$80,000-\$120,000+	Weekend Diversions-alternate to MBTA Service <u>per weekend</u>
\$500,000+	Project in air-rights over MBTA infrastructure

1.7 Existing MBTA Drawings

It is the responsibility of the ODC to obtain the original design or as-built drawings, where available, from MBTA, to accurately assess the impact of their proposed construction on MBTA structures, facilities and utilities.

Electronic copies of this material can be obtained from the MBTA Plan Room and by contacting Rxcroteau@mbta.com. In addition, ODC will be required to fill out an *MBTA Security Sensitive Information Certification and Conditions of Custody* agreement, and an *MBTA Security Sensitive Information Non-disclosure and Confidentiality Agreement* form (See Appendix – C).

1.8 MBTA Departments

A. Capital Delivery (formerly Design and Construction)

Oversees all MBTA architectural and engineering (structural, civil, geotechnical, Mechanical, Electrical) coordination, reviews and construction phase services, including construction inspectors; also administers MBTA Force Accounts.

Depending on the magnitude of a project, scope, and level of submittals, MBTA review and coordination services are provided through this department, supplemented by consultant services, and funded through the ODC's Force Account Agreement as needed.

B. Power Department

Maintains and oversees MBTA's electric infrastructure comprised of: third-rail, catenary and associated equipment, catenary poles, power duct-banks, and substations. The Power department performs all power shutdowns, and is also responsible for all ventilation systems, including street gratings; street grating is often times used as emergency egress.

The ODC shall note the following MBTA Power requirements:

1. No interference with existing MBTA duct-banks for electrical services shall be allowed, including catenary, third-rail, or structures that support them.
2. Any and all power requirements including supplemental power for work to be performed are the responsibility of the ODC.
3. For any duct-banks that may be affected by adjacent construction, all information must be submitted to MBTA Power Department for review and approval prior to construction.
4. For non-ROW work impacting MBTA facilities, or for a scheduled power outage and MBTA support request must be submitted to MBTA for:
 - a) All emergency/corrective/modifications work as reviewed, coordinated and approved by MBTA, and
 - b) Any work adjacent to energized cables and other electrical equipment.
5. For grounding and bonding:

Grounding of MBTA fencing, personnel safety, service equipment, facilities, etc. will be as per MBTA Specifications. See link below:

https://bc.mbtta.com/business_center/bidding_solicitations/spec_guidelines/default.asp?action=logedin

Bonding for stray current and cathodic protection will be as per MBTA Specifications. See link below:

https://bc.mbtta.com/business_center/bidding_solicitations/spec_guidelines/default.asp?action=loggedin

Ground Connections - MBTA requires an exothermic process in accordance with ANSI / IEEE80-2000.

6. Corrosion Protection:

- a) The ODC should consider stray current protection, since MBTA transit cars are powered by direct current (750 volts DC) electricity, direct current can enter the earth through unintentional leakage from MBTA's negative ground return system. The leakage or stray current may flow to and discharge from underground metallic elements (i.e. steel reinforcing, pipelines, ground systems, etc.) that are in contact with any electrolyte, including earth, in the vicinity of MBTA's facilities and systems. Because stray current may be corrosive to metal at locations where it flows into an electrolyte, the ODC is further cautioned to investigate the site for stray current and to provide the means for stray current mitigation when needed. This may include bonding all adjacent structures subject to corrosion in close proximity to MBTA's energized ROW.
- b) Further information concerning stray current mitigation can be obtained by contacting The National Association of Corrosion Engineers (NACE), P.O. Box 218340 Houston, Texas 77812 (281-228-6200) or website located at www.nace.org.
- c) Casing, pipe, tunnel, sleeve or similar structure(s) that will be subject to corrosion, when installed under any MBTA facility, structure, or at-grade ROW, will require corrosion protection. The proposed corrosion protection design scheme should be submitted to MBTA for approval and specifically identified/highlighted as proposed corrosion protection measures.
- d) Underground casing, pipe, tunnel, sleeve or similar structure(s) that will be subject to corrosion, when installed on the sides adjacent to any MBTA structure, may require corrosion protection. Coordinate with MBTA the necessity of such structure, and if it is required the proposed corrosion protection design scheme should be submitted to MBTA for approval.

7. Emergency Ventilation Grating:

Street gratings are part of the MBTA's Life Safety System, and are never to be obstructed or covered by ODC's unless permission is obtained from the MBTA Power Department.

The fans within these grates are designed to run in exhaust and supply and have airflow through the blades and over the motors. Active fans that are starved of air-flow eventually self-destruct and/or the blades fatigue and shatter. Fans are all design and custom built specifically for the size of the shaft and section of infrastructure to be ventilated; damaged units can take up to a year to design and replaced.

C. System-Wide Accessibility (SWA)

Works with all other MBTA departments to maintain ADA requirements and standards throughout the system and upgrade remaining MBTA infrastructure for a fully accessible transportation system.

New access and any alterations to existing path-of-travel or new paths connected to MBTA infrastructure and facilities, and parking structures/parking lots that are designed for the use of MBTA customers, shall comply with MBTA's more stringent standards: *MBTA Guide To Access – Guidelines for Designing Barrier-Free Transportation Facilities, 1990*, and must be reviewed and approved by SWA. See link below:

www.mbta.com/uploadedfiles/Business_Center/Bidding_and_Solicitations/Design_and_Construction/Guide-to-Access.Section1.pdf

D. Safety Department

Ensures compliance with documented safety policies, programs, and procedures in accordance with federal, state, and local regulations, rules, guidelines, and industry best practices for safety. In addition, Safety coordinates and provides technical guidance to internal and external stakeholders, regarding safety incidents, audits, advisories, directives, corrective actions, and other activities. Safety guides and oversees incident/injury investigations and reporting, hazard/risk management corrective action plan development and tracking, workplace safety programs, fire life safety, emergency management, and organizational safety training requirements. (See also Section 4.0 MBTA Safety, Operational Requirements, and Construction)

E. Operations

Responsible for planning and controlling daily transit operations (Red, Green, Blue, Orange, and Silver lines), analysis and interpretation of operational data to monitor system performance in accordance with established performance standards and indicators and applicable regulatory requirements. Oversees, implements, and evaluates route and schedule structure; ensures that service is designed to: operate safely, operate in accordance with established performance standards, operate at peak performance to maximize productivity, adequately serve high density activity centers, and adequately handle continued growth; develop, recommend and administer required transit planning in accordance with applicable regulatory requirements.

F. Construction Logistics

Responsible for overseeing all transit ROW construction related activities, and maintaining the MBTA diversion schedule. All work on or near the MBTA ROW: early access, nonrevenue, or revenue hours will be scheduled by this department. It is recommended that a project requiring weekend shut downs or diversions, tentatively schedule this with Construction Logistics through the MBTA PM, well in advance of project start; shut downs or diversions can be traded or swapped at a later date with other projects for a better schedule fit.

G. Bus Operations

Responsible for MBTA diesel and electric bus operations. Bus Operations is consulted when ODCs have the potential to interfere with normal service. Bus Operations can be utilized to provide alternative transportation for diversions, where normal transit service is interrupted. The

MBTA often times uses private carriers to supplement for additional busing capability for diversions.

H. Signal Department

Responsible for all systems used to transfer transit data and information along the ROW, and includes: signal cables, bungalows, poles, and duct-banks along the ROW.

I. Transit Facilities Maintenance

Responsible for maintenance and upkeep of MBTA infrastructure; review and comment on work of others for conformance to contract documents, MBTA standards, constructability, MBTA's quality and conformance criteria, and that technical standards are being met in order for new project systems to properly integrate with the MBTA's existing infrastructure.

J. Communications

Responsible for all systems used to transfer information: fiber optic cable, telephone, Supervisory Control and Data Acquisition systems (SCADA), Closed Circuit Television (CCTV), Telephone, Wireless, Cable and Data systems, control systems hardware and automated control and monitoring systems.

K. Maintenance of Way

Responsible for maintaining safe track alignment and condition, and any maintenance issues within the ROW.

L. Wayfinding

Alterations to existing or established accessible paths, and new permanent paths, or in areas requiring upgrades to existing MBTA signage, Wayfinding is consulted in cooperation with System Wide Accessibility (SWA). Wayfinding provides the project with location and design of required signage; the developer is responsible to fabricating and installing the signage. Below is the process involved in Wayfinding approval and authorization:

At 15% Design:

- a. Designer of Record (Designer) and MBTA Graphics (Graphics) meet at 15% Design to discuss scope and placement of wayfinding.
- b. Designer provides base plans to Graphics to identify signage locations.
- c. Designer provides survey of existing signage and disposition drawings, recommends frames that are reusable and provides field measurements.

At 30% Design:

- a. Graphics provides signage locations on base plans to architect for fixed, regulatory, and tactile braille signage.

At 60% Design:

- a. Designer provides updated base plans for Graphics to revise signage.
- b. Graphics provides signage on base plans to architect, including sign elevations and sign schedule.
- c. Designer provides structurally engineered site-specific frame designs, and

- incorporates frames in sign schedule.
- d. Designer locates signage in their model and elevation/section drawings.

At 90% Design:

- a. Designer provides updated base plans if changes after 60%; Graphics to revise signage.

Wayfinding Construction/Temporary

- a. Designer provides digital construction phase plans.
- b. Graphics provides temp directional wayfinding signage.

Permanent Signage

(Refer to MBTA Fixed Signage Spec 10400 and Metal Sign Frames Specs 10401)

General:

1. Correspondence between Graphics and the Designer goes through the MBTA PM.
2. Pre-Construction meeting: Review signage and sign frame scope, timeline, schedule, expected lead times, submittal process, and critical path to completion.
3. Graphics provides: 1/2" scale png files for all Porcelain Enamel (PE) signage to be used in shop drawings and determines signs and frames for mock-ups.
4. Contractor provides: PE color samples, completed Field Measurement Schedule, and frame shop drawings.
5. Graphics provides: Full-scale digital eps signage files with any revisions to contractor.
6. Contractor provides: Full sized digital proofs and paper proofs.
7. Upon approval of mock-ups and proofs, Graphics issues notice to proceed on fabrication of PE signs.
8. Fabrication of sign frames is coordinated by the Designer and ODC. All frame openings must be within the designated tolerances and in conformance with shop drawings. At no time is the contractor to alter digital artwork provided by Graphics to fit frames.

1.9 Access to MBTA Right of Way (ROW) and Commuter Rail Roadway Worker Protection (RWP) Training

Projects within the MBTA ZOI may require that workers complete MBTA ROW or Commuter Rail Roadway Worker Protection (RWP) Training; this includes workers:

- a. Fifteen (15) feet from the centerline of the closest rail (Commuter Rail).
- b. Ten (10) feet from the centerline of the closest rail (Red, Green, Orange, Blue Lines).
- c. Twenty-five (25) feet from the centerline of the closest catenary wire
- d. Four (4) feet from the centerline of the closest rail within MBTA transit and commuter rail stations

ROW and RWP training is provided for free, and can be scheduled by contacting a representative at the following numbers:

- MBTA Transit (Red, Green, Blue, Orange, Silver) 617-222-5377
- Commuter Rail (Keolis) 617-279-3304 or RWP@keoliscs.com
- AMTRAK 866-599-2482 or support@amtrakcontractor.com

All work within MBTA's ROW must be performed during non-revenue⁷ hours or as approved in advance. Access requests are typically required for completing pre and post construction inspections, installation and removal of monitoring equipment, and surveying locations of existing MBTA infrastructure.

Approximate MBTA nonrevenue hours are currently:

Commuter Rail

01:30 A.M. - 04:30 A.M. -Monday through Friday

01:30 A.M. - 05:00 A.M. -Saturday and Sunday

Red, Green, Orange, Blue, Silver Lines

01:30 A.M. - 05:00 A.M. -Monday through Saturday

01:30 A.M. - 06:00 A.M. -Sunday

The ODC shall maintain compliance with the License Agreement and permit, if issued. Failure to do so may prevent the ODC from obtaining track access and staff support from the MBTA.

The ODC will work with the MBTA PM to submit a ROW Access Form and a Flagging Request Form for any operational support, including work on/near the ROW or for work on MBTA property and requiring power shutdowns (3rd rail, equipment, lighting, etc. (See Appendix A). A Work Plan shall be submitted for all work activities on MBTA property regardless if the activity requires operational support.

A License Agreement is required to work on MBTA property or perform work which may impact MBTA operations (See Section 1.5 – License Agreement/License of Entry). The License covers ODC indemnification and insurance policies and certificates of insurance (including Railroad Protective Liability Insurance) must be submitted and approved by the MBTA Office of Risk Management (RISK) prior to entering MBTA property. The ODC shall maintain current insurance policies certifications with MBTA.

Inspection and monitoring work inside MBTA facilities will require an MBTA escort. Any work performed within the MBTA track bed will require a third-rail power shutdown for Red, Orange, and Blue lines, de-energizing of catenary for Green Line, and Silver Line and other trolley busses. The support or outage request, indicating the desired dates for entry into MBTA facilities, must be

⁷ Nonrevenue hours are subject to change without notification. MBTA cannot guarantee that the ODC will be able to work within the times above. Work time availability and specific schedules are evaluated on a project by project basis as well as operational needs. Operational emergencies and maintenance requirements may impact scheduled work.

submitted to the MBTA Project Manager at least thirty (30) days in advance of the date requested.

Section 2 - Construction within the MBTA's Zone of Influence (ZOI)

Any time a project proposes to construct a permanent or temporary structure within, adjacent to or in close proximity to the MBTA's ZOI, the ODC shall evaluate the effects of their project on existing MBTA infrastructure given new proposed loading or new loading conditions imposed by the development, and provide these results to the MBTA for review and comment.

2.1 Construction Limitations

The following construction activities are NOT permitted within the specified limits of existing MBTA facilities unless prior documented approval of MBTA is obtained:

- a. Excavation or tunneling under MBTA structures.
- b. Excavation within 10-feet of existing MBTA facilities (the 10-feet shall be measured in plan. from the outside face of the MBTA structure to the crest or slope of any unsupported excavation).
- c. Installation of pre-augured piles within 5-feet of MBTA structures and tracks.
- d. Pile driving within 25-feet of MBTA structures and tracks.
- e. Blasting within 100-feet of MBTA structures and tracks.

2.2 Construction Considerations

If proposed development is adjacent to or over existing MBTA underground structures, an analysis of those structures shall be based on MBTA's *Guide Specifications for Structural Design, October 2005*: https://www.mbta.com/uploadedfiles/Business_Center/Bidding_and_Solicitations/Design_and_Construction/Structural-Specs.pdf

The ODC shall establish short and long term loading conditions that will result from adjacent construction activities and verify that there is no increase in stresses and deformations in the existing MBTA structures; additional loadings must be transferred outside the limits of MBTA structures.

ODCs should note that the support of excavation systems of a large number of existing MBTA cut and cover tunnels consisted of a soldier pile and lagging system, and that these systems are frequently left in place. When these systems are encountered, they shall not be removed.

When construction work is adjacent to the MBTA surface ROW, and will impact MBTA security barrier or fencing, details shall be provided for the proposed modifications to the MBTA security fencing required to accommodate the project. The drawings shall include the details of temporary and permanent intrusions into or occupancy of MBTA's ROW. MBTA will require that the ROW is protected at all times and any modifications to current ROW fencing will be completed during non-revenue hours. MBTA will also require that all fencing (temporary or permanent), which protects the operating / energized ROW, will meet the MBTA's standards and specifications.

Specific protective measures will be required for project activities which may impact the operating ROW. These measures may include protective screening and overhead protections, as well as, restrictions on crane placement and movements. Requirements will be addressed on a project specific basis (See also Section 4.0 MBTA Safety, Operational Requirements, and Construction).

Piles adjacent to the MBTA ROW shall be driven during non-revenue hours, and an MBTA flagger will be required. Fixed-leads are required for all pile driving where impacting or encroachment onto MBTA property is possible. The ODC will be held responsible financially for any damage to MBTA structures, to include any loss of revenue operations due to detrimental impact from the adjacent construction. This would include, but not limited to, restoring MBTA tracks and/or structures to new construction standards due to the movements and displacements caused by the adjacent construction work, and alternate service in the event of disruption to scheduled revenue service.

For aerial structure foundations that fall partially or entirely above the adjacent excavation influence lines, underpinning shall be provided. Structure movement shall be monitored during excavation in accordance with monitoring plan and provided to the MBTA. (See also Section 4.0 MBTA Safety, Operational Requirements, and Construction) As coordinated with MBTA, the ODC will be held responsible financially for any damage to MBTA structures, to include any loss of revenue operations due to detrimental impact from the adjacent construction, restoration and alternate service in the event of disruption to scheduled revenue service.

Existing services to MBTA facilities, including chilled water and condenser water piping, potable and fire water, fire stand pipes, drainage pump stations, discharge pipes, and storm and sanitary sewers, are not to be interrupted nor disturbed without written approval of MBTA. The ODC shall ensure that future access to MBTA utilities is maintained and identified in proposed design modifications.

Clear access for the fire department to the MBTA fire standpipe system shall be maintained at all times. Construction signs shall be provided to identify the location of MBTA fire stand pipes. The ODC must contact MBTA's at least forty-eight (48) hours in advance for coordination of any approved interruption to fire standpipe water service or water service.

Hot or foul air, fumes, smoke, steam, etc. from adjacent new or temporary facilities shall not be discharged within 25 feet of existing MBTA ventilation system intake shafts; tunnel ventilation shafts are both intake and discharge structures.

Where demolition or construction will take place in close proximity to a MBTA vent shaft, the vent shaft shall be protected with a structure constructed of fire retardant materials; protection design shall be approved by MBTA.

Surface openings of ventilation shafts, emergency exits serving MBTA underground facilities, and ventilation system openings of surface and elevated facilities shall not be blocked or restricted in any way. Construction dust shall be prevented from entering MBTA facilities.

2.3 New MBTA Infrastructure, Modifications, and Direct Connections

Any new, modifications to exiting, or direct connections to existing MBTA infrastructure or systems shall be designed, permitted and installed at the ODC's expense, approved by the MBTA, under its direction, and in conformance with MBTA Standards and all applicable codes adopted in the jurisdiction. The ODC shall be responsible in performing an egress analysis if applicable, and presenting findings in a report to the MBTA for review; any additional scope necessitated by code, shall be the responsibility of the ODC.

Applicable MBTA Codes and Standards:

- NFPA 130: Standard for Fixed Guideway Transit and Passenger Rail Systems
- 780 CMR – Chapter 34: Repair, Alteration, Addition, and Change of use of Existing Buildings
- 521 CMR – MA Architectural Access Board
- International Building Code (IBC) for Existing Buildings
- MBTA Guide to Access
- MBTA Guide Specifications For Structural Design of Rapid Transit and Light Structures
- MBTA Guidelines and Standards
- MBTA Standard Specifications for Construction
- FTA – Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-006; most recent update
- Boston Center for Independent Living (BCIL) v MBTA – Settlement Agreement
- MBTA Safety Department – Crane Policy
- MBTA Special Instructions
- MBTA Elevator Design Standards, 9th Edition (July 31, 2017)

Modifications to existing MBTA mechanical systems and equipment, including ventilation shafts, required by new utility connections into the MBTA System, are to be approved by the MBTA, provided:

- a. The ODC obtains a MBTA License for Entry (See Section 1.5 - License Agreement / License of Entry).
- b. The ODC submits design calculations, drawings, specifications, catalog cuts and any other

information necessary to fully describe the proposed modification.

- c. The ODC designs appropriate clearances and openings to accommodate the air circulation volumes equal to the design capacity of the particular shaft, if the ODC wishes to permanently enclose any MBTA fan, emergency exit, or exhaust/ventilation units. The proposed construction above MBTA's ventilation units must include projected air flow calculations accounting for the specific shaft type. This information shall be submitted to MBTA for approval.
- d. The ODC's calculations are signed and stamped by a licensed mechanical engineer in the Commonwealth of Massachusetts. A permanent emergency path shall be provided and maintained at all times between the nearest public street and the shaft to accommodate fire and rescue, MBTA emergency ingress / egress, and MBTA maintenance access.
- e. The ODC performs field tests necessary to verify the adequacy of the modified system and the equipment performance. Where a modification is approved, the ODC shall be responsible for maintaining original operation capacity of the equipment and the system impacted by the modification.

Drawings and specifications illustrating the details of required changes shall be prepared by the ODC and submitted to the MBTA for review.

The ODC will be required to increase the elevation of the affected MBTA facility or take preventive measures as required by MBTA if the adjacent construction (including modifications to existing grade elevations) would cause a change in drainage (ponding of water, increase in water runoff adjacent to MBTA facilities, etc).

A photometric study (site lighting plan with projected lighting illumination levels, wattage, etc.) shall be required for temporary and / or permanent lighting modifications to and around existing MBTA facilities. The plans must be reviewed and approved prior to any field modifications. The ODC and MBTA personnel must coordinate and field verify illumination levels provided on the study plans prior to placing the facility in service. ODC inspection of the temporary lighting will be regularly required to ensure that the approved illumination levels are maintained.

Underground passageways connecting to a MBTA facility (eg. station, structure, passageway, etc) shall be sloped away from MBTA property in such a way as to provide positive drainage around MBTA facilities. The ODC shall design, permit, and construct, in accordance to MBTA Standards, a drainage system that is separate from MBTA's utilities in the event that the proposed passageway cannot be sloped away from the existing MBTA facility. The drainage system design (to be reviewed and approved by MBTA) must preclude water from entering MBTA's facilities. Hydraulic pumps, if required, shall be sized to handle the fire sprinkler runoff, in the event of a fire.

When required, Closed-Circuit Television (CCTV) shall be installed at the ODC's expense and connected to the MBTA's system. Power for the cameras shall be run from the CCTV to the nearest MBTA Electrical Room. The existing conduit runs and spare breaker locations can be found in the MBTA "As Built" drawings. It is the ODC's responsibility to have the plans for this work prepared

by a licensed professional engineer in the Commonwealth of Massachusetts with expertise in this type of work. Intrusion alarms shall be installed on the gate or door and control wires installed between the gate or door and the communications room by the ODC; final connection will be made by MBTA to MBTA security system.

Finishes on the interior of the MBTA side of the connection shall be to MBTA's standards and specifications.

The power source for lighting and lights in the new passageway shall be run to the ODC's electrical facility and included in the development's emergency power panel, and approved by the MBTA Power Department.

Adjacent construction with connecting passageway(s) to MBTA facilities, shall require special features to isolate one facility from the other for fire-safety as required by the local fire code, and may include automatic fire doors and dampers, sprinkler systems, smoke removal and ventilation systems and detection and alarm systems.

Specific operations and use agreements are required when connecting to any MBTA facilities.

2.4 Demolition

Demolition of structures adjacent to MBTA facilities not allowed, unless prior documented approval of MBTA is obtained. Approval is granted through the licensing process (See Section 1.5 License Agreement / License of Entry).

The ODC shall provide the complete demolition plan for MBTA review and approval. Based on the demolition plan and the nature of adjacent MBTA structure(s), MBTA may require the ODC to check the structural adequacy of the MBTA structure due to the effects of the impact of the demolition.

The Demolition Plan shall include the following:

- Detailed narrative describing the demolition procedure;
- Monitoring program (See Section 3.1-D - Monitoring);
- Plan providing crane locations and supporting documentation (See Section 3.2 Construction Review and Authorization – MBTA Safety);
- Calculations prepared by a licensed structural engineer in the Commonwealth of Massachusetts including crane and rigging capacities.

During any type of demolition, MBTA infrastructure shall be protected from dust generated by the demolition, and shall be covered during demolition to prevent dust from entering. Demolition adjacent to MBTA station entrances shall be performed during non-revenue hours. Any damage or required maintenance to MBTA infrastructure as a result of the demolition shall be the responsibility of the ODC.

Section 3 - MBTA Submittal Review and Construction Authorization

For projects within the MBTA ZOI, the ODC shall submit design and construction drawings along with calculations for MBTA review. The ODC shall provide an on-line link to the drawing set, and three (3) half-size copies of drawings with calculations for MBTA review, including one (1) electronic copy. Project review will not begin until MBTA has received this information, and the ODC has established a Force Account. A 30-day MBTA review period is standard, with a new 30-day review duration for every re-submittal.

Design work will be reviewed based upon the assumption that the design will meet all applicable codes adopted in the jurisdiction; infrastructure designed and constructed by the ODC to be owned by the MBTA at the conclusion of the TOD project shall meet current MBTA Design Criteria, Design Standards, Standard Drawings and Technical Specifications. See link below:

https://bc.mbtacom/business_center/bidding_solicitations/spec_guidelines/default.asp?action=logedin

Permits, where required by State and local Authority Having Jurisdiction (AHJ), utility agencies and railroads, shall be the responsibility of the ODC. Development on land owned by the MBTA shall be reviewed by the Office of Public Safety and Inspections (OPSI) within the Division of Professional Licensure (DPL) and through the Board of Building Regulations and Standards (BBRS); within the City of Boston, a local building permit may also be required from the City of Boston Inspectional Services Department (ISD). The ODC shall be prepared to submit plans for review to both agencies.

Currently, a Memorandum of Understanding (MOU) exists between OPSI and ISD within the City of Boston, whereby the agencies will meet to discuss the proposed project and determine whether the project will be permitted by either agency or both agencies. If it is determined that joint jurisdictional authority is appropriate, demarcations shall be graphically represented on building plans, elevations, and/or cross-sections to clearly establish where each AHJ begins and ends; such plans, elevations, and/or cross-sections shall be made part of an amended MOU as attached exhibits. These permits shall be provided to the MBTA PM upon project close-out (See Section 5 – As-Built Documentation and Project Close-out).

3.1 Required Submittals for MBTA Review

The ODC shall provide the following documents for MBTA review:

A. Drawings – Plan, Sections, and Details

Civil Drawings – Include site plan(s) showing all existing conditions, including building and basement level(s), parcel limit, distances from MBTA facilities, structures, and utilities; show demolition area, if any.

The ODC shall submit dimensioned clearances, both horizontal and vertical, between the adjacent construction project and MBTA structures, tracks, ROWs, parking areas, and utilities. MBTA's easements / ROW must be clearly identified on all site plans. Project

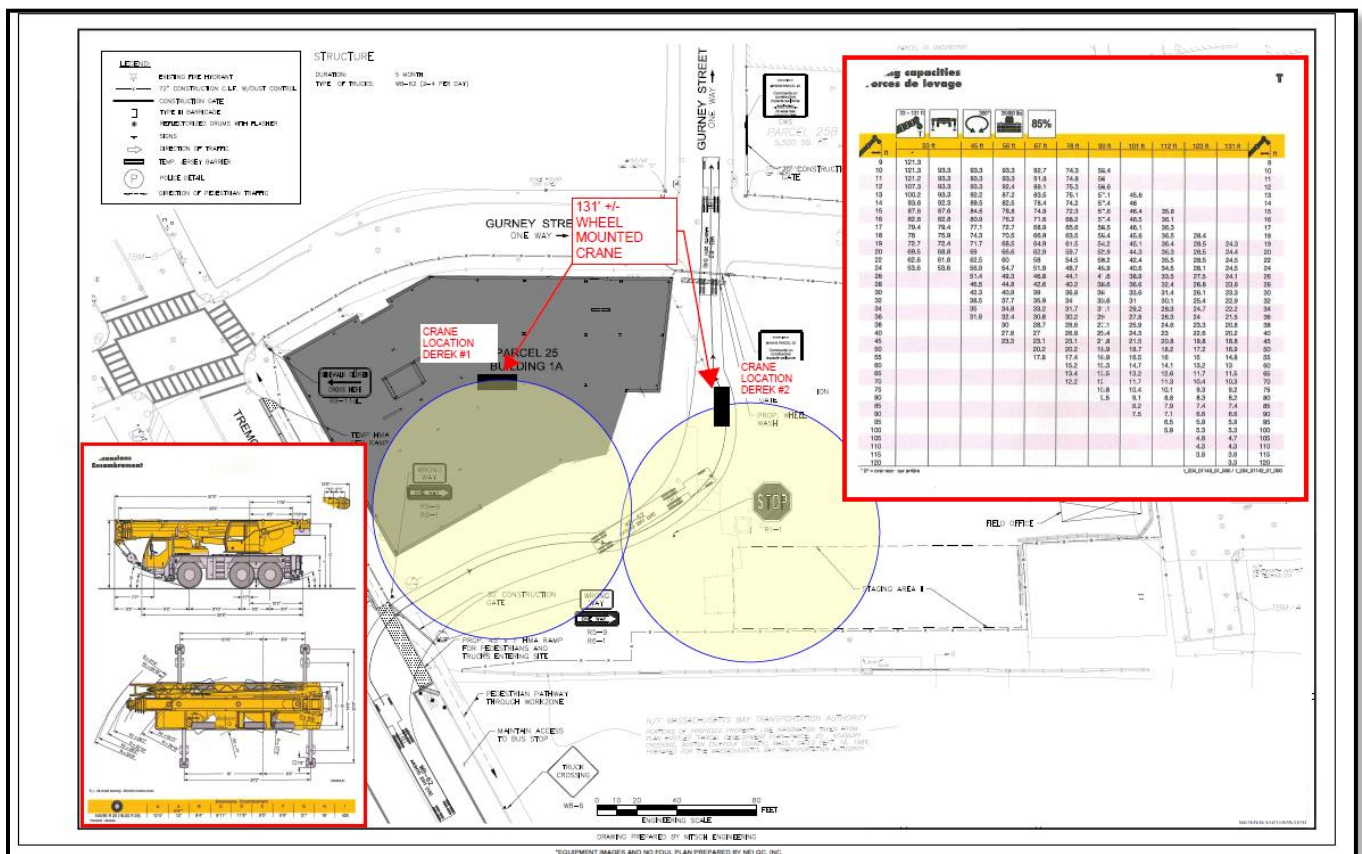
encroachment(s) shall be specifically identified.

Provide cross sections with the existing and proposed contours and limits of grading-work shown in relation to the property lines and the impact on or to MBTA facilities. Where grading changes are required on MBTA property, provide the dimensions and square footage of the area required for construction easements.

Architectural Drawings – Include plan(s) showing new project layout, including plans, elevations and sections in relation to MBTA property and infrastructure.

Structural Drawings – Include plan(s) showing foundation plans, elevations, sections, and details in relation to MBTA property and infrastructure.

Construction Management Drawings – Include plan(s) indicating the positioning of construction equipment, including stationary and movable cranes, which have the potential to impact MBTA ROW and operations, pedestrian and vehicular access areas.



Sample Construction Management Plan Submittal

The ODC shall field verify, document and engineer their proposed project relative to existing MBTA facilities and utilities and provide a construction sequence and heavy equipment plan indicating the position of cranes (swing radius) and loading of major construction equipment, particularly equipment in close proximity to MBTA's ZOI.

Where construction will impact an MBTA station entrance and the public's access to the station, the submittal shall include plans for temporary pedestrian and vehicular traffic circulation for the area around the station entrance (See Section 1.8L – Wayfinding). Where construction is adjacent to or above an MBTA station entrance, protection will be required over the pedestrian areas, escalators and elevators, landscaping, street furniture, pylons, bus shelters, and light fixtures.. Provide signed and sealed construction plans, shop drawings, or working drawings showing the phasing of adjacent construction as well as the construction details for overhead protection, pedestrian barricades, and sidewalk protection. Requests for relocation of bus stops and bus shelters shall be clearly shown on the plans. Barricades and signage necessary to direct the public through the construction zone shall be required. Lighting shall be required as part of all overhead protection structures. The ODC will also work with SWA.

New/modified MBTA Infrastructure – Include details of the proposed modifications to MBTA's facilities, ROWs, parking areas and busways shall be provided; include sections and details showing the interface of existing and proposed facilities.

Where modifications to MBTA utilities are required by adjacent construction, submit for review cross sections, plan and profiles, specifications and design calculations concerning the utility modifications. Details for maintaining utility services to MBTA facilities shall be shown when MBTA utilities are impacted.

Provide for review and approval, design and construction documents for projects requiring an expansion of MBTA station facilities. This may include additional or expanded entrances, additional fare gates, fare collection equipment, additional or expanded mezzanines and vertical circulation elements, etc.

B. Calculations and Reports

Provide design calculations for any proposed temporary or permanent changes to loading of the MBTA infrastructure stamped by a structural engineer registered in the Commonwealth of Massachusetts, demonstrating that the proposed work does not impact the infrastructure's structural condition.

Provide geotechnical report or soils report geotechnical/structural based on sufficient job specific borings and other geotechnical investigation, with evaluation of construction within the MBTA's ZOI is to be prepared and submitted to MBTA for review and comment in conformance with the MBTA's *Guide Specifications for Structural Design of Rapid Transit and Light Rail Structures, October 2005*.

https://www.mbtta.com/uploadedfiles/Business_Center/Bidding_andSollicitations/Design_and_Construction/Structural-Specs.pdf

Existing MBTA deep foundations, retaining walls, and underground utility lines are considered to be a part of MBTA facilities.

Verify that no drainage, either surface or subsurface, is to be diverted into MBTA drainage systems from adjacent facilities without calculations to verify that the MBTA facilities will not be overloaded. Specific approval by MBTA is required for these diversions

C. Preconstruction Survey

Condition survey and field monitoring - A pre and post-construction photographic survey of MBTA infrastructure within the ZOI shall be performed; limits of the survey shall extend 100 feet in either direction beyond the proposed work limits (this information is required prior to the start of construction and at the conclusion of all work). All workers must receive RWP training. (See Section 1.9 - Access to MBTA ROW and Roadway Worker Protection (RWP) Training).

Provide preconstruction survey data plan and installation of construction monitoring equipment if in close proximity to MBTA infrastructure.

D. Monitoring

The ODC is required to design, submit for approval, and implement a monitoring program, prior to the start of construction. It is the responsibility of the ODC to document and convey compliance of their proposed monitoring system with the MBTA. All instrumentation, monitoring work, documentation, monitoring reports, and any contingency measures required as a result of the adjacent construction shall be the sole responsibility of the ODC for the adjacent construction project.

The ODC will be required to develop a written monitoring plan for procedures to ascertain structural condition(s) of MBTA facilities and proposed procedures for monitoring potential movement; these procedures shall be submitted and approved prior to entry onto MBTA property. The plan will contain contingency measures listing the immediate remedial action to be taken in the event movement reaches the established threshold limits and/or damage is observed. The contingency monitoring plan for each adjacent construction project will be evaluated for acceptable threshold limits for MBTA structures or facilities.

Instrumentation and monitoring of MBTA structures, utilities and track are required to ensure that structural or functional inadequacy does not develop as a result of the proposed adjacent construction. Monitoring is done by measurement of displacement, deformation, strain, stress, crack width, joint separation, water leaks, and observation of the formation of new cracks, etc. In addition, monitoring will be required to ensure the adjacent construction support of excavation system is functioning as designed and the loads on MBTA structures remain within design limits. If changes are observed, the frequency of monitoring will be

increased. If the changes exceed the established threshold limits, the ODC will implement contingency measures.

Selection, design, installation, reading, and documentation of the monitoring program are to be conducted by a licensed Land Surveyor or a Professional Engineer registered in the jurisdiction of the proposed project. All monitoring data and reports requiring optical surveying submitted to MBTA must be signed, sealed and certified by a licensed Land Surveyor or a Professional Engineer registered in the Commonwealth of Massachusetts.

The ODC shall develop a monitoring plan for the MBTA facility, coordinated with the overall project design. Project design plans should be reviewed and approved by MBTA prior to submission of a structural monitoring plan. The monitoring and contingency plans must be prepared and certified by a Professional Engineer or a licensed Land Surveyor registered in the Commonwealth of Massachusetts. As a minimum, the plans are to include:

- A key plan with the limits of the structural monitoring program and monitoring locations.
- Instrumentation details including accuracy, technical specification from manufacturer, survey field procedures, calibration requirements and certifications.
- Schedule of surveying / monitoring.
- Data reduction, presentation, and evaluation, and details of the monitoring report.
- Threshold / limiting values.
- Contingency Plan.

The ODC shall establish a system of vertical and horizontal control points on or about potentially affected buildings or structures, tied to stable survey control points located beyond the ZOI prior to excavation.

Monitoring Stages:

Stage 1 - Initial Pre-Construction Monitoring: Conduct survey of existing conditions within the MBTA structure or facility, obtaining initial readings at established monitoring points; ROW training will be required prior to entering onto MBTA property; (See Section 1.9 - Access to MBTA ROW and Roadway Worker Protection (RWP) Training).

Stage 2 - Project Monitoring: Monitoring during demolition, excavation and construction and will be performed at an agreed upon MBTA-frequency intervals. The monitoring frequency will be increased as necessary during critical construction activities such as blasting, tunneling, or as requested by the MBTA.

Stage 3 - Post-Construction Monitoring: Conduct final survey monitoring, performed after substantial construction completion to determine changes to the alignment, document the post-construction condition, and provide photographic records. In addition to structural monitoring, a final alignment survey of the rail/tracks will be

required for comparison with the initial survey data.

The ODC shall examine each property to determine/assess changes from original conditions as established by preconstruction inspection(s). These post-construction engineering assessments shall be furnished in a written report in addition to final monitoring data results. The ODC shall be responsible in providing written remedial or corrective measures to be taken should any deviations and/or damage occur as a result of the adjacent construction project and/or monitoring phases, and for performing remedial or corrective measures at no cost to the MBTA.

Monitoring Responsibilities:

The ODC has sole responsibility for providing monitoring until MBTA agrees in writing that monitoring may be terminated. The ODC is responsible for:

- Requesting necessary site access to all monitoring instrumentation.
- Furnishing, installing, protecting and maintaining all equipment required for monitoring, including readout devices.
- Collecting, interpreting, and storing the monitoring data obtained. In addition to the requirements specified herein, the ODC is responsible during the course of the work to install, monitor and interpret additional instrumentation deemed necessary to ensure the safety of the public.
- Certifying and promptly submitting of all monitoring data to MBTA.
- Promptly responding to threshold values specified herein or as approved by MBTA and implementing agreed upon changes to construction.
- Providing safe access for MBTA representatives to all instrument locations. Safe access will include stopping work activities, temporary relocation of obstructing materials and equipment, provision of ladders, working platforms and hoisting services, and any other needs in the opinion of MBTA representatives are necessary to ensure safety. Furnish safety equipment including respirators and harnesses for use by MBTA representatives during site visits.
- Restoring areas affected by the monitoring program to the satisfaction of MBTA at completion of the work.
- Ensuring that there are no disruptions to substrate mounting surfaces, and that the installation of monitoring targets in public areas and surfaces with architectural treatments shall be specifically approved by MBTA.

E. Construction Schedule

Updated construction schedule with a 3-week look-ahead, specifying potential impacts on MBTA facilities, ROW and/or coordination efforts. The project schedule shall clearly illustrate work activity impact to MBTA facilities and adjacent construction support / coordination requirements from MBTA personnel.

F. Other materials as requested by MBTA

The MBTA may request additional materials as part of the submittal process.

3.2 Construction Review and Authorization – MBTA Safety

At a minimum of two (2) business days prior to the proposed crane work on or adjacent to MBTA Property, or has the potential to foul the ROW, the applicant shall:

1. Submit the following to MBTA Safety for review:

- a. Scope of Work –Purpose of Work, Hours of Operations, Location, etc.
- b. Pick Plan – Showing Track(s), Bridge(s), Tunnel(s), Water, Outriggers, etc.
- c. Specifications of the Crane – Load Charts, Size Counterweight, and Maximum Expected crane boom Radius, Maximum Expected Boom Length, and Maximum Expected Pick Weight with Factor of Safety of 1.5.
- d. Copy of Crane Operator’s Valid Driver’s License.
- e. Copy of Crane Operator’s Valid Massachusetts’ Hoisting License.
- f. Copy of Crane Operator’s Valid Medical Certificate.
- g. Most recent Annual Third Party Inspection/Certification of any crane must be within the last 12-months.

2. Take the following actions:

- a. Notify MBTA Safety prior to the crane being brought on site to allow for scheduling of an onsite inspection to verify the submitted documents.
- b. Notify the appropriate MBTA Bus, Subway, or Railroad Operations Departments to coordinate Flagging activities.
- c. Adhere to all applicable Federal, State, and local regulations. If at any time work is deemed unsafe by MBTA, applicant shall cease all work until corrected/approved by MBTA personnel.

Section 4 – MBTA Safety, Operational Requirements, and Construction

The MBTA is committed to safety and implementing the highest safety standards. The prevention of accidents in the course of completing any joint development or adjacent construction project is of primary importance to everyone connected to the MBTA.

The ODC shall request and conduct a pre-construction field meeting with MBTA's Construction Inspector, prior to scheduling any work in MBTA's ZOI. These meetings are typically held on site and notification of such a meeting request must be scheduled a minimum of ten (10) work days in advance.

The ODC shall initiate and complete the administrative forms included when MBTA operational support functions and/or electrical power outage(s) are required. The administrative forms shall be submitted to MBTA for processing through the MBTA's PM. Appropriate administrative requests / forms for MBTA operational support for ROW work (non-power outage) and/or a scheduled power outage must be submitted to the MBTA PM at least thirty (35) days prior to the MBTA Operating Week of the requested date(s), and can be obtained from the MBTA's PM. The thirty (35) day advance notification is necessary to allow MBTA sufficient notice to schedule personnel and/or support equipment, and to adjust MBTA operations and maintenance to accommodate the ODC's request wherever possible.

ODC personnel are bound by MBTA's Safety Rules and Procedures while on or within MBTA's ROW and/or air space, and required to be ROW trained (See Section 1.9 Access to MBTA ROW and Roadway Worker Protection (RWP) Training).

Construction Sequence and Construction Staging

The ODC is required to submit a detailed construction sequence and equipment staging plan for all work that may impact customers, services, infrastructure, and MBTA interests. This plan shall include necessary Maintenance of Traffic plans or similar plans required by local agencies. The ODC shall maintain both vehicular and pedestrian traffic, and existing streets and sidewalks with in and adjacent to the project site at all times during the duration of the project.

Signage

The ODC shall work with Wayfinding (See Section 1.8L - Wayfinding) for installation of safety signage and markers to be included as part of the construction sequence and staging plans submitted to MBTA for review and approval. ODC shall install and maintain any temporary safety signage and/or markers placed on MBTA property during construction.

Emergency Access and Egress

Access shall be maintained at all times to fire hydrants, stand pipe/siamese connections and fire alarm boxes. Free access must be given to each fire hydrant, stand pipe/siamese connections, and fire alarm boxes as approved by local jurisdictional fire departments and MBTA whenever work is being

carried on. Obstructions shall not be piled at any time or placed within 10 feet of any fire hydrant, stand pipe/siamese connection, or fire alarm box. The position/ location of hydrants, stand pipes/siamese connections, and/or fire alarm boxes must be indicated by suitable signage and lights that are readily seen and accessible in both day and night when materials are placed in the vicinity of fire equipment (as approved by the local Fire Department in the jurisdiction of the proposed project). The MBTA's emergency egress routes shall not be obstructed.

Lighting

Temporary and permanent lighting modifications impacting MBTA structures and/or property shall be reviewed and approved in accordance with MBTA standards; MBTA lighting criteria were developed as an integral part of the architectural concept, with the purpose of providing comfort, safety and accessibility to patrons, as well as lighting-system reliability and efficiency. Lighting design and installation must be closely coordinated with the following: Power Department; Safety; and Security; System Wide Accessibility; Communications; Maintenance; and Wayfinding. Temporary lighting modifications shall be maintained by the ODC.

Construction Barriers and Barricades

The ODC, in complying with OSHA standards on MBTA property, shall barricade all work area(s) or close excavations and openings in floors, walls and other parts of structures while openings are not protected full time. Barricades shall be substantial in character, constructed of approved materials and of approved size.

The ODC shall erect and maintain signs, fences, barricades, lighting and pedestrian bridges and provide police details for the protection of public travel, the work site, adjoining MBTA property and adjoining public places at their own expense. (See also Construction Shielding, this Section)

ODC's are to take approved positive measures on MBTA property to prevent unauthorized entry into the construction site of the work and storage areas. Protective devices shall be in accordance with codes and regulations of jurisdictional agencies.

Overhead Protection

Station Entrances and customer Public Areas shall be provided with overhead protection whenever there is a possibility of overhead fall hazards from construction material, personnel, dunnage, etc. Overhead protection is required at or around MBTA station entrances, MBTA bus stops, MBTA ROW, MBTA elevators, and areas designated for public access to MBTA facilities. Erection/ installation of the overhead protection or shield for these areas will be executed during MBTA's non-revenue hours. The shield(s) must be constructed of fire retardant materials. Materials and equipment shall not be stored on the completed shield. The roof of the shield shall be constructed and maintained watertight.

Projects that require working over or adjacent to the MBTA ZOI, including machinery operation, construction scaffolding, or catenary wires, poles and guy wires, shall develop their construction procedures and sequences of work to meet the following minimum requirements:

- a. Construction operations on or directly adjacent MBTA facilities must be planned, scheduled and carried out in a way that will afford MBTA customers (and the general public) clean, safe and orderly access to and from the station entrance during revenue hours.
- b. Construction activities that involve swinging a crane and suspended loads over pedestrian areas, MBTA station entrances and escalators, ROW and MBTA passenger areas shall not be performed during revenue hours⁸, but must be performed during the non-revenue hours:

Approximate MBTA nonrevenue hours are currently:

Commuter Rail

01:30 A.M. - 04:30 A.M. -Monday through Friday

01:30 A.M. - 05:00 A.M. -Saturday and Sunday

Red, Green, Orange, Blue, Silver Lines

01:30 A.M. - 05:00 A.M. -Monday through Saturday

01:30 A.M. - 06:00 A.M. -Sunday

A construction project that will require work over, under or adjacent to MBTA at grade or aerial segments, including machinery operation, construction of scaffolding or catenary and any other potentially hazardous adjacent work, shall be performed during non-revenue hours and authorized by the MBTA.

Construction Shielding

Equipment used for sheeting and shoring operations shall be positioned and operated so that the equipment is precluded from overturning and falling onto or affecting the MBTA ROW. Soldier piles must not be swung over the MBTA ROW during revenue hours. Auguring or pile driving equipment shall be oriented parallel to the ROW, to prevent piles or equipment from falling or affecting MBTA ROW.

Work may be approved to be performed during revenue hours with conditions such as constructing a temporary protective shield or barrier to protect MBTA's operating ROW and facilities in accordance with the MBTA standards. The shield shall have solid sides and both sides and deck shall be designed to withstand the air pressures generated by a moving train. The shield shall be constructed or installed with an MBTA power outage in the construction area during non-revenue hours (See Section 1.9 - Access to MBTA ROW and Roadway Worker Protection (RWP) Training).

The design and field installation for the protective shield or barrier must be certified in writing by a registered professional engineer in the Commonwealth of Massachusetts, practicing in the jurisdiction of the project and shall be approved by the MBTA. The certification must be obtained prior to installation. Once written certification is received, work may proceed above the

⁸ Nonrevenue hours are subject to change without notification. MBTA cannot guarantee that the ODC will be able to work within the times above. Work time availability and specific schedules are evaluated on a project by project basis as well as operational needs. Operational emergencies and maintenance requirements may impact scheduled work.

shield or behind the barrier during revenue hours, however crane(s) shall not be allowed swing over the shield.

Section 5 - As-Built Documentation and Project Close Out

During construction, the ODC shall maintain a record set of contract drawings annotated to illustrate changes incorporated as work progresses; regular updates to record drawings shall be provided to the MBTA PM as work progresses.

A set of As-built records shall be provided to MBTA Capital Delivery at the completion of a project for new facilities, structures, utilities, property rights related to MBTA structures and / or property resulting from the adjacent construction / joint development project. As-built drawings will include recordation of impacts within the MBTA ZOI.

The as-built documentation shall include, but not limited to the following:

- a. Depths of various elements of foundations in relation to survey data.
- b. Horizontal and vertical locations of underground electrical and utility facilities.
- c. Field changes of dimensions and details.
- d. Changes accomplished by change orders.
- e. Construction left in place, such as temporary support systems, and concrete left outside neat lines of permanent structures, including notes defining types and locations of items.
- f. Any necessary Operations and Maintenance Manuals if MBTA is to maintain such facilities / equipment constructed by others as per real estate permit documentation.

As-built records submitted to MBTA shall be formatted as follows:

- a) Submit three (3) CDs with all as-built files to MBTA in PDF (portable document format)
- b) Submit one (1) hard copy of 1/2-size as-built documents to MBTA; these records are to be signed and certified by the engineer of record as “as-built”.

The ODC must advise MBTA in writing when project construction impacting MBTA is complete, ensuring all MBTA punch list items have been completed, and that the proper permitting has been obtained and provided to the MBTA. The MBTA will then issue a closeout letter to the ODC representing technical, fiscal, and administrative closeout of the project.

The PM shall obtain from the Contractor the Operating Manuals and Operating Instructions for the various systems; catalog sheets, maintenance manuals, and approved Shop Drawings of all equipment controls and fixtures with all details clearly indicated, including sizes, and any warranty statements, and guarantees.

APPENDIX - A

ROW Access Form and Flagging Request Form



Rev. 10/14

MBTA Right of Way Access Request Form

(Please provide one (1) Request per Crew/Location; **ALL AREAS MUST BE FILLED IN**)

Current Date:

Date Access Requested:

Company Name (MBTA Area or Contractor):

Access form submitted by:

Telephone#

Telephone#

Cell Phone#

Line Access Requested: ☐ BL ☐ OL ☐ GL ☒ SL

Time Access Requested (from/to):

Work Site Contact Person(s):

Telephone#

Telephone#

Cell Phone#

Flag person needed ☐ Y ☒ N

Function #

Power Off ☐ Y ☒ N

Function #

Crew #	Equipment Type & Number Or Crews on Foot	Track NB/SB, EB/WB	Access Location Requested		# of Persons	Summary of Work (Please provide exact Station Marker locations (From/To) as part of your description)
			From	To		
INTERNAL MBTA ROW REQUESTERS PLEASE INDICATE IF THE FOLLOWING ARE ALSO REQUIRED						
System Wide Welders	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Carpenters	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N

Requests for Non-Revenue Work (performed between 12am to 4:59 am) must be received **before 10am** 48 hours in advance of the work start date.

Requests for Revenue Work (performed between 5am to 11:59pm) must be received **before 12noon** the day prior.

Please E-Mail completed forms to: planningandscheduling@mbta.com and nighttrackmaster@mbta.com or Click the icon

All personnel seeking access to the ROW MUST POSSESS A VALID ROW license prior to entry.



FLAGGING REQUEST FORM



Massachusetts Bay
Transportation Authority



Flagging Services Request

Date: _____

Company/Agency: _____

MBTA PM: _____ Dept: _____ Email: _____ Phone: _____

Project Name: _____ Project # _____

Project Location: _____

Point of Contact: _____ Email: _____ Phone: _____

Agreement Services: Yes _____ Supplemental Work: Yes _____

RAILROAD OPERATIONS TRACKING NUMBER _____

Date(s) Needed: _____ Start Time: _____ AM _____ PM

Start Location: _____

RWP Trained: Yes _____ (If no, contact John Tormey at 617-222-8401)

Railroad Protection Insurance: Yes _____ License of Entry Yes _____ No _____

Third Party Agreement: Yes _____ No _____

NO FLAGGING REQUESTS WILL BE PROCESSED BY RROP WITHOUT EVIDENCE OF REQUIRED CONTRACTOR RWP TRAINING, INSURANCE & LICENSE OF ENTRY

Scope of Work: _____

(Attach additional SOW, if necessary.)

Schedule: _____

(Attach additional info, if necessary.)

RECEIVED BY KCS:

APPROVED BY KCS:

Date

Keolis Commuter Services

KCS must formally reject or approve the Request for Flagging Support Services within 48 hours (72 hours if received on a Friday) or the request will be deemed approved.

APPENDIX - B

Force Account –sample-

FORCE ACCOUNT AGREEMENT

by and between
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
and
[_____]

THIS FORCE ACCOUNT AGREEMENT (“Agreement”) is entered into this ____ day of _____, 2015, by the MASSACHUSETTS BAY TRANSPORTATION AUTHORITY (“MBTA”), a body politic and corporate and a political subdivision of the Commonwealth of Massachusetts established and existing pursuant to Chapter 161A, as amended, of the Massachusetts General Laws, having a usual place of business at Ten Park Plaza, Boston, MA 02116 and _____, a corporation formed under the laws of _____, having a usual place of business at _____.

RECITALS

WHEREAS, Developer intends to construct _____ (the “Development”);
and

WHEREAS, the Developer requires the performance of certain services described within Article I and Exhibit A, (“Services”); and

WHEREAS, MBTA is ready, willing and able to provide such Services; and

WHEREAS, Developer desires MBTA to provide such Services and Developer is willing compensate MBTA for providing such Services.

NOW THEREFORE, MBTA and Developer, in consideration of the mutual covenants herein, agree as follows.

ARTICLE 1 — Scope of Services

MBTA, through its forces, including MBTA staff and contractors (“Forces”), shall provide certain Services including, without limitation, the following:

- Construction Representatives: Facilitation of communications between MBTA, the Developer, and others related to the project; observations for compliance with the approved Contract Documents; review of changes and vibration/displacement monitoring; monitoring progress of the work against the project schedule; design review of vibration monitoring and structural issues, and monitoring adherence by the Developer’s contractors to the safety requirements of MBTA. Also, administrative support of this account.
- MBTA Safety Department Support: Oversight and support by MBTA Safety Inspectors.

- MBTA Bus Operations Support: Oversight and operational support with Inspectors for non-revenue hours access to the tunnel.
- RR Ops, Red Line, Blue Line, Green Line, Power Department, Maintenance of Way, or other departments as appropriate.

The types of Services and the anticipated personnel are described in greater detail within Exhibit A. The nature and extent of the Services to be provided shall be determined solely by MBTA, subject to the terms and conditions set forth herein.

ARTICLE 2— Budget

MBTA has provided a detailed preliminary budget/estimate with respect to the Services within Exhibit A. These estimates are subject to assumptions, including with respect to time durations, scope durations and other conditions. The total estimated cost set forth within Exhibit A is \$_____.

The cost of providing the Services, as determined by MBTA in its sole discretion, may change from any budget provided/agreed. Cost estimates may require revision due to changes such as the type of Services, the extent of Services, an increase in administrative and overhead costs, an increase in labor rates or other reason. MBTA shall provide reasonable written notice to the Developer of revisions in the estimate of cost to provide the Services.

ARTICLE 3—Force Account

Services shall be paid by Developer from an account as set forth below. MBTA and Developer agree to consult and work together in good faith to properly document costs of Services for auditing and internal accounting purposes.

MBTA will establish a force account (the “Force Account”) for the Services separate from any other MBTA account, and the Force Account shall be funded, as follows:

(a) Upon signing this Agreement, Developer shall deposit \$_____ with MBTA as an initial deposit to fund the Force Account to pay the cost of the Services. MBTA shall deduct the cost of such Services from the Force Account as incurred.

(b) On a monthly basis, MBTA shall send to Developer a Force Account statement with respect to the Services, with reasonable “back-up” including a list of Service providers, their rates, and a reasonably detailed description of their work performed. Developer shall be deemed to have no objection to the statement if MBTA does not receive a written objection within 14 days of receipt the statement by Developer. If Developer does send a written objection within such time period, the parties shall consult promptly and in good faith to resolve such objection.

When the Force Account balance is less than \$ _____, Developer shall timely deposit such amount as is necessary to replenish the Force Account to the original level described above, or such lesser amount as MBTA may require. Failure to replenish the Force Account when requested may result in immediate stoppage of work.

Upon completion of the Services, MBTA shall refund to Developer any funds in the Force Account not needed or allocated for the Services.

ARTICLE 4 -- Term

This Agreement shall be effective as of _____, and shall terminate upon completion of the Services or _____, whichever is sooner.

ARTICLE 5 — Performance of Services

MBTA and Developer shall coordinate construction schedules for the Development and the required Services. If necessary, Developer shall provide access to and use of Developer's real property without cost to MBTA as needed for MBTA to perform the Services.

MBTA operations, the safety of MBTA staff; MBTA contractor staff; and passengers, and the protection of MBTA property shall have priority over performance of the Services by MBTA. MBTA shall not be liable for any damages, including incidental and consequential damages, caused by any delay in the performance of Services.

ARTICLE 6 -Termination

Developer may, after the Services have commenced, terminate this agreement upon thirty (30) days notice to MBTA. MBTA shall continue to perform the Services as necessary, in the sole determination of MBTA, to protect the public, MBTA employees, MBTA contractor employees, and passengers, and to protect and restore MBTA operations and property. Developer shall pay the cost of such Services. Developer shall pay MBTA's reasonable demobilization costs.

In the event of a material default by Developer which continues for more than ten (10) days after written notice from MBTA (or such longer period as may be reasonably required to complete the cure, it being understood, however, that no such extension shall be available if the default in question is for failure to make a payment required hereunder), MBTA may stop providing Services under this Agreement and may consider this Agreement to be terminated. MBTA may pursue any/all other available remedies.

ARTICLE 7 - Notices

Any required written notice shall be sent to:

MBTA's Address:

Design and Construction Department
Massachusetts Bay Transportation Authority
Ten Park Plaza
Boston, Massachusetts 02116
Attn.: Edmond Hunter, Assistant General Manager

Developer's Address:

All notices, demands and requests, sent pursuant to the terms hereof shall be in writing and shall be deemed to have been properly given when delivered (or when delivery has been refused by the addressee) by certified return receipt mail, by a nationally recognized overnight mail service, or by hand/courier delivery to the correct addressee or when sent by facsimile to the correct addressee and the sender has received a successful transmission notice from its FAX machine.

MBTA and Developer may, at any time and from time to time, notify the other party as to any changes in their proper addresses by giving fifteen (15) days written notice thereof to the other party.

ARTICLE 8— Miscellaneous

- (a) Successors and Assigns. The Developer may assign this Agreement only with the consent of MBTA. The rights, obligations, liabilities, terms, conditions, and agreements herein shall inure to the benefit of, and be binding upon, the successors, permitted assigns, representatives, and transferees of MBTA and Developer.
- (b) Applicable Law. This Agreement is intended to be a binding agreement, enforceable as such, which shall be interpreted in accordance with the laws of the Commonwealth of Massachusetts without regard to its choice of law rules.
- (c) Survival of Obligations. All obligations, which arise, but are not satisfied during the term of this Agreement, shall survive termination of this Agreement.
- (d) Third Party Beneficiaries. This Agreement and the provisions hereof are for the exclusive benefit of MBTA and Developer and not for the benefit of any third party. Nothing herein shall be construed or interpreted as creating or increasing any right in any third party to recover by way of damages or otherwise against MBTA or Developer.
- (e) Modification. This Agreement may not be altered or amended except by written agreement signed by MBTA and Developer.
- (f) Severability. If any part of any provision of this Agreement or any other agreement, document or writing given pursuant to or in connection with this Agreement shall be invalid or unenforceable under applicable law, such part shall be ineffective to the extent of such invalidity or unenforceability only, without in any way affecting the remaining parts of such provisions or the remaining provisions of said agreement.
- (g) Termination Not a Release. Termination of this Agreement for any reason shall not release either party from any accrued liability to the other party. A party's right to terminate this Agreement as provided herein shall be without prejudice to any other rights provided to it by law or in equity.

- (h) Confidential Information. During the term of this Agreement, the parties shall regard and preserve as confidential and proprietary all non-public information related to the business of the other party it receives or learns as a result of this Agreement (“Confidential Information”). The parties agree not to disclose any such Confidential Information without first obtaining the other party’s prior written consent.
- (i) Entire Agreement. This Agreement constitutes the entire Agreement between the parties hereto with respect to Force Account and supersedes all prior and contemporaneous agreements and understandings of the parties in connection herewith. There are no representations, warranties, covenants, conditions, agreements, understandings or arrangements, oral or written, between or among the parties relating to the Force Account which are not fully expressed herein. No agent of any party is authorized to make any representation, promise or warranty not contained in this Agreement.
- (j) Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

[Remainder of page is blank]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives as of the day and year first set forth above.

**MASSACHUSETTS BAY TRANSPORTATION
AUTHORITY**

By:_____

Name:_____

Title: _____

[_____]

By:_____

Name:_____

Title:_____

FORCE ACCOUNT AGREEMENT
by and between
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
and
[_____]

EXHIBIT A

MBTA shall, in accordance with the terms of this agreement provide the following services to the developer using its own forces or by retaining a consultant contractor.

Totals – For Each Department					
	MBTA Department			Total Estimate	Notes
	Design and Construction			\$129,113	*See Exhibit Bs for further cost breakdown
	Power Department			\$2,000	
	Light Rail Operations			\$326,597	
	Build/Struct. & Mech. Maint.			\$17,507	
	Maintenance of Way			\$38,867	
Grand Total:				\$514,084*	

The Services shall include the activities described in the following subparagraphs.

1. MBTA Design and Construction Department Support:

The services of the Construction Representative shall include facilitating communications between the MBTA, the Developer, and others related to the project; observing that the construction of the Project, as it impacts MBTA facilities, is performed in compliance with the approved Contract Documents; observation of the work performed by the Developer's contractors; monitoring progress of the work against the project schedule; design review of structural plans, power and monitoring adherence by the Developer's contractors to the safety requirements of the MBTA. The services of Construction Representatives shall include:

- Support/Coordination and observation of contractor's demolition of an existing elevated parking garage structure, the construction of a new subsurface parking garage structure, new retail podium, and residential buildings, and multi-use path (1 Inspector for 1576 hours during 40 week period) **All scheduling of a construction inspector will be based off of a 3 week look ahead schedule to be provided by the contractor**
- Support of a Project Director (14hrs for 198 week period), Project Manager (124hrs for 198 week period), Project Coordinator (4hrs for 198 week period), Budget Analyst (16 hrs for 198 week period) and for Design Review (64hrs for 198 week period)

Totals – Design & Construction					
Area	Function Performed	Rate	Hours	Total Estimate	Notes
531	Director	\$93.13	14	\$1,303	For a period of 198 wks
531	Project Manager	\$77.80	124	\$9,647	For a period of 198 wks
531	Inspector	\$71.99	1576	\$106,679	For a period of 198 wks
516	Design/Structural Review	\$158.98	64	\$10,174	Allowance
531	Project Coordinator	\$63.78	4	\$255	For a period of 198 wks
507	Sr. Budget Analyst	\$70.01	16	\$1,053	For a period of 198 wks
Total Labor				\$129,113*	

2. MBTA Power Department Support:

The services of the Power Department may not be required for this project, however a contingency of \$2,000 will be included as part of this Force Account to cover emergency response. This decision is based on the Developer's 25% submittal documents outlining a method of excavation support for the Project. If excavation support methods change from what is originally intended, then the Power Department may reevaluate the Force Account to determine if oversight and operational support, including the de-energizing and re-energizing of Green Line catenary will be required. (Include \$2000 for emergency response)

3. MBTA Light Rail Operations Department Support (flagger(s)):

The services of a flag-person shall be required to protect the Contractor or anyone performing work on the right-of-way or in a position to foul the ROW. Two flag-persons will be required daily, broken down by the following (tasks) and durations: (Soil exploration) - 1 week - 2 flag-persons 8 hrs a day for 5 days = 80 hrs; (Site enabling work) – 2 weeks -2 flag-persons 8 hrs a day for approx 5 days = 80 hrs; (Garage demolition) – 2 weeks - 1 flag-person 8 hrs a day for approx 10 days = 80 hrs; (Garage construction, earth work and tie-back, retail space, tower etc.) - 1 year -1 flag-persons 8 hrs a day for approx 365 days = 2920 hrs; (Walkway Const. & Red Sox Games) - 1 year - 2 flag-persons 8 hrs a day for 365 days = 2000 hrs; Total Overtime = \$296,906 + Labor Materials + Benefits = \$326,597

Totals – Light Rail Operations					
Dept/Loc	Function Performed	Rate	OT Hrs	Total Estimate	Notes
235/249	1 / 2 Flag-Persons/day	\$57.54	5,160	\$326,597*	*See Exhibit B for further cost breakdown

4. MBTA Buildings, Structures, and Mechanical Maintenance (BSM) Department Support:

The services of the BSM Maintenance may be required to respond to weekend and overnight emergencies from the construction site once the contractor leaves for the day; unintended storm damage, snow damage, wind damage, etc that will require immediate response in order to keep the trains in operation. The following is a breakdown of overtime hours in response to emergency situations:

Totals – Buildings, Structures, and Mechanical Maintenance					
Loc	Function Performed	Rate	OT Hrs	Total Estimate	Notes
005	Laborer Foreman	\$47.76	20	\$955	*See Exhibit B for further cost breakdown
005	Laborer	\$44.60	80	\$3,568	
005	Ch. Bridge Inspection	\$61.80	20	\$1,236	
005	Bridge Inspection	\$58.82	40	\$2,352	
Total Labor				\$17,507*	

5. Track Department (MOW):

The services of the Track Department will review the contractor's pre, during, and post construction survey, along with any additional verification survey the department requires during the process. The following is a breakdown of overtime hours required:

Totals – Track Department (MOW)					
Loc	Function Performed	Rate	OT Hrs	Total Estimate	Notes
011	Flagging Track-person (2) Inspection	\$49.65	40	\$3,972.00	*See Exhibit B for further cost breakdown
011	Engineer (1)	\$46.34	160	\$7,414.40	
011	Engineer (1)	\$69.51	80	\$5,560.80	
011	Survey Engineer (3)	\$69.71	60	\$12,511.80	
011	Plan Submittal Review Engineer (1)	\$69.51	16	\$1,112.16	
Total Labor				\$38,867*	

FORCE ACCOUNT AGREEMENT

by and between

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

and

[_____]

EXHIBIT B

BUDGET DETAILS

APPENDIX - C

**Massachusetts Bay Transportation Authority
Security Sensitive Information
Certification and Conditions of Custody**

&

**Massachusetts Bay Transportation Authority
Security Sensitive Information
Non- Disclosure and Confidentiality Agreement**

**Massachusetts Bay Transportation Authority
Security Sensitive Information
Certification and Conditions of Custody**

The undersigned certifies that it is receiving information from the Massachusetts Bay Transportation Authority (the "Authority") pursuant to a request for information, documents and records to assist with the Boston Harbor dredging project. The undersigned certifies its understanding that the material to be received pertains to Authority assets and infrastructure that have been deemed critical or important to operations, and are considered security sensitive information, exempted from public disclosure, pursuant to 49 U.S.C. 40119(b)(1) and 49 CFR 15.5(b)(16), and M.G.L. c. 4, § 7(26)(n). The undersigned has been authorized by the Authority to receive the security sensitive information in the form of plans, reports, surveys, AutoCAD files or any other information in any form (the "Records"). This authorization is granted based upon compliance with the following conditions.

The undersigned certifies that the Records are being made available for the limited and stated purpose in the original request to assist with the Boston Harbor dredging project, and are not to be disclosed to unauthorized persons, without written authorization of the Authority. The undersigned confirms it may be subject to penalty if the Records are released.

The undersigned certifies that access to the Records will be limited to those persons, including its employees, consultants and contractors, who have been designated by the undersigned as having a need to review the Records in order to successfully provide services or perform applicable tasks ("Authorized Personnel"). The undersigned certifies that it has established a protocol to ensure persons with access to the Records have the proper credentials and background to view and perform services involving security sensitive information; and has developed a protocol to record and limit access, reproductions and distribution of the Records to Authorized Personnel; and will continue to safeguard the Records even after it has completed work associated with the Records. Upon the earlier of the completion of its work or when the Records are no longer needed or upon written request of the Authority, the undersigned agrees to return all Records and copies thereof as well as all and any copies thereof to the Authority and to destroy all electronic copies in a manner acceptable to the Authority.

The undersigned certifies that it has developed proper safeguards and records management procedures to insulate the Records from inappropriate or unauthorized disclosure. The undersigned agrees that it will make good faith efforts to safeguard and not disclose the contents of, or copy or duplicate, any of the Records. Disclosure of documents or the information contained there to any other party other than Authorized Personnel in whole or in part or in any document created by the undersigned, or the issuance of statements to the public regarding limited access to the Records is strictly prohibited and shall require prior written authorization and approval from the Authority. To the extent that any writings and materials describing, analyzing or containing any data contained in the Records is produced by the undersigned, the undersigned acknowledges that it has an ongoing perpetual obligation to protect such data from disclosure unless prior written authorization is obtained from the Authority.

The undersigned agrees that if at any time it discovers that any of the Records has been inappropriately disclosed, the undersigned will immediately report the same to the Authority. The undersigned certifies that it will advise its own employees, agents, contractors, consultants or any other third party of the

nondisclosure obligation and ensure compliance with the obligation. The undersigned agrees that prior to granting any access to any Authorized Personnel other than its own employees, it will obtain a certification in the same form as this certification from any entity utilizing said Authorized Personnel. The undersigned also agrees that prior to granting any access to any Authorized Personnel it will obtain a Massachusetts Bay Transportation Authority Security Sensitive Information Non- Disclosure and Confidentiality Agreement (“NDA”) from that person.

Original certifications from all entities utilizing Authorized Personnel and original NDAs from all Authorized Personnel must be provided to the Authority before the Records will be released. If following release of the Records, additional Authorized Personnel are identified, original certifications and NDAs must be delivered to the Authority before the Records are released to the additional Authorized Personnel.

The undersigned confirms that failure to make good faith efforts to comply with these conditions for the approved limited purposes, including the disclosure, copying and/or duplication of information contained in the Records in whole or in part to unauthorized persons, without written authorization of the Authority, may result in the revocation of custody of the Records and/or other penalties. The Authority shall be entitled, in addition to all other rights or remedies, to seek injunctions restraining such breach, without being required to show any actual damage or to post any bond or other security.

The undersigned agrees that if served with a subpoena or discovery request or receive a public records disclosure request relating to, or if otherwise required by law to disclose any Record, the undersigned will immediately provide the Authority with written notification and provide a copy to the Authority to permit the Authority to seek a protective order or take other appropriate action. The undersigned agrees to cooperate in the Authority’s efforts to obtain a protective order or other assurance that secure treatment will be afforded the Records. In the absence of the protective order, the undersigned may disclose to the party compelling the disclosure only the part of the Records as is required to be disclosed (in which case, prior to such disclosure, the undersigned will advise and consult with the Authority as to such disclosure and the nature and wording of the such disclosure) and the undersigned will use best efforts to obtain confidential treatment thereof.

The following conditions shall apply to any AutoCAD file supplied by the Authority. All documents, files or other data accessible from this file are provided solely as a courtesy to facilitate access to information. The Authority provides such documents, files or other data “as is” without any warranty of any kind, either expressed or implied, including but not limited to, accuracy, reliability, omissions, completeness and correctness. The Authority and its consultants shall not be liable for any claim for damages, including lost profits or other consequential, exemplary, incidental, indirect or special damages, relating in any way to the documents, files or other data accessible from this file, including, but not limited to, claims arising out of or related to electronic access or transmission of data or viruses. Because data stored on electronic media can deteriorate undetected or be modified without our knowledge, the Authority cannot be held liable for its completeness or correctness. The Authority makes no representation as to the compatibility of these files. The undersigned understands that this authorization does not give the undersigned the right to distribute the files.

This Agreement shall be governed by and construed in accordance with laws of the Commonwealth of Massachusetts, without reference to its conflicts of laws principles.

The undersigned understands and accepts the conditions of custody relative to receipt and the possession of the Records.

Entity Name: _____

Signature: By: _____

Date: _____

Name of Authorized Signatory: _____

Phone Number: _____

Address: _____

Massachusetts Bay Transportation Authority
Security Sensitive Information
Non- Disclosure and Confidentiality Agreement

I certify that I am receiving information from the Massachusetts Bay Transportation Authority (the "Authority") to assist with the Boston Harbor dredging project. I certify my understanding that the material to be received pertains to Authority assets and infrastructure that have been deemed critical or important to operations, and are considered security sensitive information, exempted from public disclosure, pursuant to 49 U.S.C. 40119(b)(1) and 49 CFR 15.5(b)(16), and M.G.L. c. 4, § 7(26)(n). I have been authorized by the Authority to receive the security sensitive information in the form of plans, reports, surveys, AutoCAD files or any other information in any form (the "Records"). This authorization is granted based upon compliance with the following conditions and agreements.

I agree that the Records are of a highly confidential and security sensitive nature and that such information shall only be used for the Boston Harbor dredging project. I will not make any use of the Records for any purpose other than as expressly permitted by this Agreement.

I agree that, except as required by law, I will hold and treat the Records in the strictest confidence and will not, without the prior written consent of an authorized representative of the Authority, directly or indirectly discuss with, disclose, release, or otherwise provide or make available the data contained in the Records or any portion thereof, to any person other than authorized persons who have a need to review the Records and have executed an Massachusetts Bay Transportation Authority Security Sensitive Information Non- Disclosure and Confidentiality Agreement in connection with the Boston Harbor dredging project.

I agree to maintain the security of all documents, working papers, designs, and other materials related to the Records and I will password protect all such information stored by me in electronic form.

I agree that if at any time I discover that any of the Records has been inappropriately disclosed, I will immediately report the same to the Authority.

Upon the earlier of the Authority's written request or completion of my need for such information, the Records and all copies thereof, shall be promptly delivered to the Authority. I agree to destroy all electronic copies in a manner acceptable to the Authority. To the extent that any writings and materials describing, analyzing or containing any data contained in the Records is produced by me, I acknowledge that I have an ongoing perpetual obligation to protect such data from disclosure unless prior written authorization is obtained from the Authority.

I agree that my obligations under this Agreement will be perpetual.

If I am served with a subpoena or discovery request or receive a public records disclosure request relating to, or am otherwise required by law to disclose any Record, I will immediately provide the Authority with written notification and provide a copy to the Authority to permit the Authority to seek a protective order or take other appropriate action. I will also cooperate in the Authority's efforts to obtain a protective order or other assurance that secure treatment will be afforded the Records. In the absence of the protective order, I may disclose to the party compelling the disclosure only the part of the Records

as is required to be disclosed (in which case, prior to such disclosure, I will advise and consult with the Authority as to such disclosure and the nature and wording of the such disclosure) and I will use my best efforts to obtain confidential treatment thereof.

I acknowledge that the unauthorized disclosure and handling of the Records could cause substantial damage and expose the Authority and its facilities and customers to significant danger and could result in civil or criminal fines and penalties.

I acknowledge that the obligations of confidence required hereunder are extraordinary and unique and are vital to the security and well-being of the Authority and its customers and that damages at law may be an inadequate remedy for any breach or threatened breach of this Agreement. The Authority shall be entitled, in addition to all other rights or remedies, to seek injunctions restraining such breach, without being required to show any actual damage or to post any bond or other security.

This Agreement shall be governed by and construed in accordance with laws of the Commonwealth of Massachusetts, without reference to its conflicts of laws principles.

Signature: _____
Date: _____
Name of Signatory: _____
Title of Signatory: _____
Entity Name: _____
Phone Number: _____
Address: _____

APPENDIX - D

License Agreement – sample-

**MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
LICENSE FOR ENTRY
RAILROAD PROPERTIES**

_____, **MASSACHUSETTS**

1. The License

The Massachusetts Bay Transportation Authority, a body politic and corporate and a political subdivision of the Commonwealth of Massachusetts, established and existing pursuant to Chapter 161A of the Massachusetts General Laws, with a usual place of business at 10 Park Plaza, Boston, Massachusetts (hereinafter referred to as the "MBTA"), hereby grants to _____, with a usual place of business at _____ (hereinafter referred to as "Licensee"), the right and privilege to enter upon _____, Massachusetts as shown on Exhibit A attached hereto and incorporated herein (hereafter referred to as the "Premises").

2. General Conditions

Among the terms and conditions of this License for Entry are included the following General Conditions:

2.1 Date:

2.2 Licensee:

2.3 Term: From _____ to _____; except that the MBTA may terminate this License for Entry with thirty (30) days written notice.

2.4 Fees:

Administrative Fee: \$ 1,000.00 paid with application

Design and Construction Plan Review Fee: \$1,000.00 paid with License execution

Design and Construction Structural Review Fee: \$1,000.00 paid with License execution

License Fee: \$ _____ paid with License execution

2.5 Premises: The portion of MBTA property located _____, Massachusetts, as more fully shown in Exhibit A attached hereto.

2.6 Scope of License: Licensee shall _____. No investigations of any kind may be performed on the MBTA Right of Way. Licensee shall have the right to permit its employees, contractors and agents to use the Premises as permitted hereunder and acting by and through the Licensee, subject to all of the terms and conditions of this License for Entry.

Licensee understands and agrees to the following conditions:

2.7 Notices: MBTA:

Real Estate Department

Massachusetts Bay Transportation Authority

10 Park Plaza, Room 5750

Boston, Massachusetts 02116

Attn: Assistant General Manager for Real Estate and Asset Development and MBTA Railroad Operations
Department

Engineering and Maintenance

32 Cobble Hill Road

Somerville, Massachusetts 02143

Attn: Asset Manager with copies to: [as appropriate, National Railroad Passenger Corporation ("Amtrak") and

such other railroads as the MBTA may designate] and

Massachusetts Realty Group
20 Park Plaza, Suite 1120
Boston, Massachusetts 02116
Attn: MBTA License Management and
Keolis Commuter Services, LLC
470 Atlantic Avenue
Boston, Massachusetts 02210
Attn: _____

LICENSEE:

3. Consideration

The rights contained in this License for Entry are granted for good and valuable consideration, the sufficiency of which is hereby acknowledged.

4. Terms and Conditions of License for Entry

This License for Entry is subject to the following terms and conditions:

4.1 Scope of Activity

(a) Scope of Activity

The Scope of Activity is the Scope of License (Section 2.6) as modified by the terms of this License for Entry and Exhibit B attached hereto and incorporated herein. The Licensee shall minimize the disruption to and alteration of the Premises and, as soon as possible after each entry onto the Premises, shall return the Premises to the condition existing immediately prior to the initiation of the Scope of Activity and entry hereunder; except as specifically authorized under the Scope of License

Except pursuant to an approved Access Plan, defined in Exhibit B, attached hereto and incorporated herein, or in case of emergency, Licensee shall provide at least seven (7) days' prior written notice of its desire to enter the Premises to the MBTA's Railroad Operations Department at the addresses noted above and shall make arrangements at least seven (7) days in advance with the _____ (hereinafter referred to as "_____") for access. The MBTA _____ may have an observer present at all times when Licensee is present on the Premises. See Exhibit B for required notice from Licensee when Licensee needs access because of an emergency. Licensee shall do all work in accordance with the Plan described in Exhibit B.

(b) Utilities

Licensee acknowledges that there may be surface and subsurface utilities on and adjacent to the Premises and agrees to exercise extreme caution in performance of the Scope of Activity. Licensee shall comply with Massachusetts General Laws, Chapter 82, Section 40 (said statute also known as the "Dig Safe" law) and the regulations promulgated pursuant thereto including but not limited to the Code of Massachusetts Regulations, more particularly, 220 CMR 99.00 et seq. To the extent _____, the MBTA, or parties acting on behalf of either, locate and mark railroad utilities in the railroad rights of way and appurtenant thereto, Licensee shall be responsible for payment to such parties for such services which may include, but not be limited to, locating and marking utilities, facilities and appurtenances thereto serving the railroad and transit line(s) or used in connection with services or operations of the MBTA and/or the Railroad Companies (as defined below). Any damage to any utilities on or near the Premises caused by Licensee shall be the sole responsibility of Licensee. If Licensee does not immediately repair any utilities it has damaged, the MBTA, without being under any obligation to do so and without waiving the Licensee's obligation hereunder, may repair any utilities damaged

by the Licensee immediately and without notice in case of emergency. In the event the MBTA exercises such right, the Licensee shall pay to the MBTA immediately upon demand all of the MBTA's cost of performing such repairs plus a fee equal to twenty-five percent of the MBTA's cost of performing such repairs to reimburse the MBTA for its administrative costs.

(c) Subordination to MBTA's Operating Requirements

The work permitted hereby shall be subordinate to the requirements of the MBTA in maintaining and operating a transportation system and may be stopped or delayed, at any time, in response to each requirement. MBTA shall not be responsible for any damages incurred by Licensee as a result of any such work stoppage, delay or required relocation.

(d) Environmental Cooperation

If for any reason Licensee is not responsible for Hazardous Materials, defined below, on the Premises then Licensee agrees to cooperate with the MBTA in the determination of the party liable for the remediation of the Premises under applicable Federal and/or state law. Such cooperation may include the temporary adjustment of the rights granted to Licensee hereunder. The MBTA shall not be responsible for any damages incurred by the Licensee as a result of such temporary adjustment. "Hazardous Materials" shall mean "oil" or "hazardous materials", as those terms are defined in Massachusetts General Laws Chapter 21E ("Chapter 21E") and the regulations promulgated pursuant thereto, the Massachusetts Contingency Plan, 310 CMR 40.0000 et seq. (the "MCP").

(e) Remediation Obligation of the Licensee

Whenever by law or the terms of this License for Entry, Licensee is responsible for remediation of Hazardous Materials on MBTA property, Licensee, upon written demand of the MBTA, shall conduct, at Licensee's sole cost and expense (or, at the MBTA's election, reimburse the MBTA for the cost and expense incurred by the MBTA in connection with the MBTA's conduct of), all response actions required by Chapter 21E and the MCP with respect to the Hazardous Materials (including the hiring of a Licensed Site Professional). Any such response action, if performed by Licensee, shall be performed in accordance with Chapter 21E, the MCP, any other applicable statutes and regulations, and in accordance with plans and specifications approved by the MBTA, shall be completed in a timely manner to the reasonable satisfaction of the MBTA, and shall allow the MBTA to use the Premises, and/or MBTA owned adjacent or contiguous property, for its present use and for any future transportation use. Licensee shall also be responsible for the reasonable costs incurred by the MBTA in hiring consultants (including a Licensed Site Professional) to review, supervise and inspect any plans, specifications, proposed method of work, installation, operation and results.

(f) Notice of Project Completion and Record Drawings

Upon completion of its work, Licensee shall provide written notice ("Notice of Project Completion") to the MBTA Railroad Operations Department of the date of project completion. Licensee shall also provide the MBTA Railroad Operations Department, and all relevant Railroad Companies, defined below, with one reproducible "As-Built" copy of each approved construction drawing marked to indicate all changes and deviations from the original approved plans and recording the final conditions of the Premises ("Record Drawings") upon completion of the work authorized hereunder. All Record Drawings shall be received and accepted by the MBTA and the Railroad Company (ies) prior to final inspection. The Notice of Project Completion and the Record Drawings shall be delivered to:

Section Chief

Engineering and Maintenance

MBTA Railroad Operations Department

32 Cobble Hill Road

Somerville, MA 02143 and

Railroad Company(ies) at the Notice location designated in Section 2.8 herein.

(g) Evidence of Financial Responsibility

Prior to commencement of Licensee's activities hereunder, Licensee shall provide evidence to the MBTA's reasonable satisfaction that Licensee has sufficient financial resources available to discharge any anticipated obligations hereunder. Such resources may be in the form of Licensee's net worth, insurance coverage, a bond or such other financial security as may be acceptable to the MBTA in form and amount.

(h) Plan Review Costs

Licensee shall be responsible for and pay all costs that may be incurred by the MBTA for Design and Construction Plan Review and Design and Construction Structural Review that are in excess of the Fees allocated to those reviews in Section 2.4 above within 30 days of being invoiced for same. Such costs and Fees are in addition to the Administrative Fee and the License Fee, and are included within the Licensee's indemnity obligations in Section 4.2(a) below.

4.2 Indemnification and Release of MBTA

(a) Licensee shall indemnify, defend (at the option of the MBTA) and save the MBTA, _____ and any other company operating on the Right of Way (collectively, except for the MBTA, the "Railroad Companies") harmless from and against any and all liabilities, losses, damages, costs, expenses (including reasonable attorneys' expenses and fees), causes of action, suits, claims, demands or judgments of any nature whatsoever including, without limitation, those related to Hazardous Materials that may be imposed upon, incurred by, or asserted against the MBTA or the Railroad Companies by reason of any of the following occurrences:

(1) the activities of the Licensee hereunder or the exercise by the Licensee of any rights or privileges hereby granted; or

(2) the presence, discovery or revealing of any pre-existing Hazardous Materials on the Premises (or other property of the MBTA adjacent to the Premises) (i) which discovery is a result of the Licensee's activities hereunder; (ii) where said Hazardous Materials are present because of Licensee's previous occupancies of the Premises, whether those occupancies were unauthorized or permitted pursuant to prior 6

agreements between the parties; or (iii) where those pre-existing Hazardous Materials migrated from land now or previously owned, leased, occupied or operated by the Licensee or for which the Licensee is a potentially responsible party as defined under Chapter 21E; or

(3) the placement or accidental release of any Hazardous Materials onto the Premises (or other property of the MBTA adjacent to the Premises) by Licensee or its employees, agents, contractors or consultants or by the employees, agents, or consultants of Licensee's contractors or subcontractors

(4) any use, condition or occupation of the Premises or any part thereof by Licensee; or

(5) any failure of Licensee to perform or comply with any of the terms hereof, or of any contracts, agreements or restrictions, statutes, laws, ordinances or regulations affecting the activities or any part thereof.

In subsection (2) above, Licensee's previous occupancies of the Premises includes occupancies by the predecessors in interest of Licensee.

(b) Licensee has inspected the Premises and decided that the Premises are suitable for the uses Licensee contemplates. Licensee assumes all the risk of entry on to the Premises.

(c) Licensee hereby releases the MBTA and the Railroad Companies from any responsibility for Licensee's losses or damages related to the condition of the Premises, and Licensee covenants and agrees that it will not assert or bring, nor cause any third-party to assert or bring, any claim, demand, lawsuit or cause of action (whether by way of original claim, cross claim, counterclaim, contribution claim, indemnification claim, third-party claim or any other claim) (hereinafter "Claims") against the MBTA or the Railroad Companies, including, without limitation, claims for response actions, response costs, assessments, containment, removal and remedial costs,

governmental oversight charges, including any overhead or response action costs incurred or assessed by DEP, fines or penalties, permit and annual compliance fees, reasonable attorney and expert fees, natural resource damages, property damages, including diminution in property value claims, and personal injury damages and damages related to a person's death relating to, or arising from, the condition of the Premises.

Licensee shall obtain a written release of liability similar to the one in this Section 4.2(c) and including the language of Section 4.2(d) in favor of the MBTA and the Railroad Companies from each of Licensee's consultants and contractors before they enter onto the Premises.

(d) In clarification of the above release and covenants of defense and indemnification, and not in limitation of them, Licensee shall indemnify, defend (at the option of the MBTA) and save the MBTA harmless from and against any and all liabilities, losses, damages, costs, expenses (including reasonable attorneys' expenses and fees), causes of action, suits, claims, demands or judgments related to the injury, illness or death of any employee of Licensee or of an employee of Licensee's contractors or consultants; except if the "Claim" arose because of the MBTA's grossly negligent or willful misconduct. It shall not be grossly negligent to allow access to the Premises that are in substantially the condition they were in when Licensee inspected the Premises before accepting this License for Entry.

(e) Licensee shall be notified, in writing, by the MBTA and each of the affected Railroad Companies of the assertion of any claim against it that Licensee has agreed to indemnify above (the "Indemnified Claim").

(1) If the MBTA decides to itself conduct the defense of an Indemnified Claim against it or to conduct any other response itself, Licensee shall reimburse the MBTA for all costs and expenses (including, without limitation, reasonable attorneys' fees and expenses) incurred by the MBTA in connection with the MBTA's defense of the Indemnified Claim against it and/or the conduct of all response actions, including, without limitation, those required by Chapter 21E and the MCP. The settlement or compromise of any Indemnified Claim shall not include the admission of guilt (or comparable plea), wrongdoing or negligence or the permitting or imposition of civil or criminal penalties or indictments, or the entering of consent decrees or orders of any kind by the MBTA on behalf of the Licensee or any other action that would materially prejudice the rights of the Licensee without the Licensee's express written approval. The Licensee shall cooperate fully and promptly with the MBTA in the defense of any Indemnified Claim. This same right of self-defense and the right to Licensee reimbursement shall apply to each of the Railroad Companies that has an Indemnified Claim against it.

(2) If the MBTA decides to have Licensee defend the Indemnified Claim or handle the response action, the MBTA shall notify Licensee of that decision in writing and the Licensee shall bear the entire cost thereof and shall have sole control of the defense of any Indemnified Claim and all negotiations for its settlement or compromise provided that the MBTA is fully indemnified by the Licensee and provided further that the settlement or compromise shall not include the admission of guilt (or comparable plea), wrongdoing or negligence or the permitting or imposition of civil or criminal penalties or indictments, or the entering of consent decrees or orders of any kind by the Licensee on behalf of the MBTA or any other action that would materially prejudice the rights of the MBTA without the MBTA's express written approval. The MBTA shall cooperate with the Licensee in the defense of any Indemnified Claim. If any of the Railroad Companies wants the Licensee to defend it against an Indemnified Claim, then they must agree to this paragraph 4.2 (e)(2).

If any response action due to the presence of Hazardous Material or the threat of release of Hazardous Waste onto the Premises (or other property of the MBTA which abuts the Premises), is performed by 8

Licensee, the response action shall be performed in accordance Section 4.1 (e).

(f) Licensee and contractor shall provide to the MBTA financial assurance guaranteeing Licensee's performance of the obligations of this License for Entry in a form satisfactory to the MBTA.

For purposes of this Section 4, Licensee shall include Licensee and its directors, officers, employees, agents, successors and assigns and the MBTA shall include the MBTA and its directors, officers, employees, agents,

successors and assigns.

The provisions of Sections 4.1 and 4.2 shall survive the termination or expiration of this License for Entry.

4.3 Insurance

Prior to entry hereunder, Licensee and its consultants and contractors shall provide the MBTA and the Railroad Companies with a certificate or certificates of insurance and shall, during the term hereof, renew and replace any expired certificate, evidencing the insurance of the activities permitted hereunder, and Licensee's covenant of indemnification hereinabove, with companies that are reasonably acceptable to the MBTA, as stated below, in which Licensee and others hereinafter specified are either additional insureds as their interests may appear or named insureds and which provide minimum liability coverage as follows:

(a) Commercial General Liability Insurance

Insuring the Licensee, the MBTA, the Railroad Companies, the Premises and all activities allowed hereunder as well as Licensee's indemnification obligations contained in Section 4 with minimum liability coverage for personal injury, bodily injury and property damage with limits not less than One Million Dollars (\$1,000,000.00) per occurrence and Three Million Dollars (\$3,000,000.00) in aggregate. Umbrella liability coverage with limits of not less than Five Million Dollars (\$5,000,000.00) covering all work performed must also be provided. Such insurance shall be written on an occurrence basis (as opposed to a claims made basis). These policies shall name the MBTA and the Railroad Companies as additional insureds.

(b) Worker's Compensation Insurance

Insuring all persons employed by Licensee in connection with any work done on or about the Premises with respect to which claims for death or bodily injury could be asserted against the MBTA or the Railroad Companies or the Premises with limits of liability of not less than those required by Massachusetts General Laws, Chapter 152, as amended. The policy shall contain a clause waiving the right of subrogation in favor of the MBTA and the Railroad Companies. Each of Licensee's subcontractors and consultants shall have similar policies covering their employees.

(c) Railroad Protective Liability Insurance

While working within fifty (50) feet of the tracks on the right of way, insuring the MBTA and the Railroad Companies as named insureds with limits of not less than Five Million Dollars (\$5,000,000.00) per occurrence and Ten Million Dollars 9

(\$10,000,000.00) in aggregate combined bodily injury property damage. _____ shall be provided with an original policy of Railroad Protective Liability Insurance and the MBTA and the remaining Railroad Companies shall be provided with certificates of insurance.

(d) Automobile Liability Insurance

Automobile liability insurance with limits of not less than One Million Dollars (\$1,000,000.00) covering all owned, non-owned, hired, rented or leased vehicles of Licensee and its consultants and contractors that are used in the activities permitted hereunder.

The required insurance coverages hereinbefore specified shall be placed with insurance companies currently licensed by the Massachusetts Division of Insurance to do business in the Commonwealth of Massachusetts (which licensure shall remain in effect during the entire Term of this License for Entry) and having a Best's rating of B+ or better, shall be taken out before the License is commenced and be kept in full force and effect throughout the term of the License, shall be primary to and non-contributory to any insurance or self-insurance maintained by the MBTA, and shall require that the MBTA be given at least 30 days advance written notice in the event of any cancellation or materially adverse change in coverage. All such required insurance shall be written on an occurrence basis form, as opposed to a claims made basis form. The MBTA shall be named as an additional insured under the Commercial General Liability, Automobile Liability, Umbrella, Insurance Policies. The Workers' Compensation and Employers' Liability Insurance Policies shall include a waiver of subrogation in favor of the MBTA and the Railroad Companies which precludes these insurers from being able to make any

subrogation claims against either the MBTA or the Railroad Companies. All such insurance as is required of the Licensee shall be provided by or on behalf of all subcontractors to cover their operations performed. The Licensee shall be held responsible for any modifications, deviations or omissions in the compliance with these requirements by the subcontractors. At the inception date of the License and throughout the term of the License, the MBTA shall be provided with certificates of insurance evidencing that such insurance policies are in place and provide coverage as required.

ALL CERTIFICATES OF INSURANCE PERTAINING TO THIS REQUEST (AS WELL AS RENEWAL CERTIFICATES) SHOULD DESCRIBE THE SITE THAT IS COVERED.

4.4 Compliance with Laws

Licensee shall comply with, and shall cause all work performed to comply with all Federal, state, county, municipal and other governmental statutes, laws, rules, orders, regulations and ordinances.

Licensee shall also be responsible for obtaining any and all Federal, state, and/or local permits and/or approvals necessary to carry out the activities permitted hereunder.

4.5 Non-Exclusive Use

The MBTA makes no representations or warranty, express or implied, that the Licensee shall have sole or exclusive use of the Premises under this License for Entry. In the event other agreements, licenses or easements have been or are granted, the Licensee shall be responsible for coordinating its work and activities with that of other licensees and parties in interest. The MBTA shall not be liable for delays, obstructions, or like occurrences affecting the Licensee, arising out of the work of the MBTA or other licensees or parties in interest.

Licensee's rights herein are granted subject to easements and rights of record and existing leases and licenses.

4.6 No Warranty

Licensee accepts the Premises "As Is" and the MBTA makes no warranty, express or implied, as to the condition of the Premises.

4.7 Termination

At the termination of this License for Entry, Licensee agrees to restore the Premises promptly to the condition it was in at the commencement of the term hereof, and to remove all of Licensee's personal property and debris from the Premises; except _____ may remain unless the MBTA notifies Licensee to remove the _____. Should Licensee not perform such restoration at the end of the Term, the MBTA may perform any and all necessary restoration at the sole expense of the Licensee. Any personal property not so removed shall, at the option of the MBTA, either become the property of the MBTA or be removed by the MBTA and disposed of without any liability in the MBTA for such removal and disposition, all at the sole expense of Licensee.

4.8 Assignment

Licensee shall not, without the prior written consent of the MBTA, transfer or assign this License for Entry or any part hereof. Such consent may be withheld in the sole discretion of the MBTA. Any assignment made by Licensee without the prior written consent of the MBTA shall render this License for Entry null, void and of no further force or effect.

5. Notices

All notices, demands, requests, consents, approvals and other instruments required or permitted to be given pursuant to the terms hereof (hereinafter "Notice"), shall be in writing and shall be deemed to have been properly given when deposited in registered or certified United States mail, postage prepaid, return receipt requested, addressed, as described in Section 2.8 or when delivered by messenger or overnight mail service to the correct addressee. Notice shall be deemed received when actually received or when the proffered Notice has been refused by the Addressee. The signature of an employee, servant or agent of the Addressee shall be determinative on the issue of actual receipt.

Licensee and the MBTA shall, at any time and from time to time, have the right to specify as their proper addresses for purposes of this License for Entry any other address or addresses giving fifteen (15) days' written

notice thereof to the other party.

6. Results

If this License for Entry explicitly allows Licensee to conduct certain investigations on MBTA owned land, then Licensee agrees to provide to the MBTA, at no cost, a copy of the results of such investigations (including data and analysis) and all other work conducted under this License for Entry in both hard copy form and in a digital format specified by the MBTA regardless of whether the report was prepared by Licensee, its agent, consultant or contractor, or prepared on behalf of the Licensee. All results and reports shall be provided to the MBTA within ten (10) days of receipt by Licensee. Licensee agrees to consult with the MBTA prior to contacting any governmental entity, regarding any information, results of analysis or reports regarding the Premises. Licensee shall give the MBTA a copy of any reports or notifications, including but not limited to release notifications, prior to submitting the same to any governmental entity.

7. Default and Termination

(a) Termination for Non-Payment

In the event that Licensee shall neglect or fail to pay the License Fee, Administrative Fee, Design and Construction Plan Review Fee, Design and Construction Structural Review Fee or any other sum herein specified to be paid upon the due date hereunder, Licensee shall be in default and the MBTA shall have the right at any time thereafter to terminate this License for Entry by giving Licensee two (2) weeks written notice of the MBTA's decision to terminate for non-payment ("Termination Notice"). Licensee shall not be entitled to cure any such default by tendering payment after the expiration of the two (2) week grace period which starts upon Licensee's, or Licensee's servants, agents or employee's receipt of (or refusal to accept) the MBTA's Termination Notice. Any amount due hereunder that is not paid when due shall be charged to 1.5% per month and 18% per annum.

(b) Default of Terms and Conditions

Licensee shall also be in default if Licensee:

(1) fails to perform or observe any of the other covenants or agreements contained in this instrument and on its part to be performed or observed, or

(2) makes any assignment for the benefit of creditors or files petition for relief under bankruptcy law, or

(3) has a bankruptcy petition filed against it that is not dismissed within sixty (60) days, or

(4) has its estate taken by process of law, proceeding in bankruptcy or insolvency or otherwise,

and if such defaults continue after two (2) weeks' written notice given by the MBTA to Licensee to cure, the MBTA may terminate this License For Entry by written notice to Licensee and/or deny access to the Premises and expel Licensee and those claiming through or under Licensee and remove Licensee's effects from the Premises without prejudice to any remedies which might otherwise be available for such breach of covenant, and, upon entry as aforesaid, the rights of Licensee created by this License for Entry shall terminate.

Notwithstanding the preceding, if Licensee begins to cure a default as soon as possible within said two week period and thereafter continues to pursue a cure with all due diligence, then the MBTA shall not terminate this License for Entry until and unless Licensee ceases to pursue a cure with all due diligence and has not in fact cured said default. Licensee agrees to pay any expense including reasonable attorneys' fees incurred by the MBTA in enforcing any of Licensee's obligations hereunder.

Notwithstanding the preceding, if the default is one that threatens the safety of the public or the ability of the MBTA or a Railroad Company to operate its transportation system, then it shall be considered an Emergency Default and if Licensee does not affect an immediate cure, the MBTA may terminate the License upon reasonable notice and use self-help at the expense of Licensee and Licensee shall be responsible for such expenses as well as for a twenty five percent (25%) administrative fee above the expenses.

In the event this License for Entry is terminated pursuant to this Paragraph 7, the MBTA shall retain the License Fee as partial damages, without prejudice to its right to claim additional damages as a result of the breach.

8. Holding Over

If Licensee desires to continue the work defined in the Scope of Activity after the termination of this License for Entry, the resulting license shall be on a month-to-month basis and may be terminated by either party at any time by providing the other party with thirty (30) days prior written notice of termination. During the extended term, a monthly fee equal to three (3) times the equivalent monthly License Fee (calculated based on the length of the original term and the original License Fee established hereunder) shall be paid monthly in advance by Licensee to the MBTA. During such extended term, Licensee shall be bound by all applicable provisions of this License.

9. Work in Harmony

Licensee agrees that in any work performed in or about the Premises, it will employ only labor which can work in harmony with all elements of labor being employed by the MBTA or the Railroad Companies.

10. Promotional Material

Licensee shall not, without the prior written approval of the MBTA, refer to the MBTA in any promotional matter or material, including, but not limited to advertising, letterheads, bills, invoices and brochures.

11. Nondiscrimination

With respect to its exercise of all rights and privileges herein granted, Licensee shall undertake affirmative action as required by Federal and state laws, rules and regulations pertinent to Civil Rights and Equal Opportunity unless otherwise exempted therefrom. Licensee agrees that it shall comply with any and all required affirmative action plans submitted pursuant to the directives of any Federal agency and in accordance with applicable Federal Law and applicable state laws, rules and regulations.

Licensee shall not discriminate against any person, employee or applicant for employment because of race, color, creed, national origin, age, sex, sexual orientation, disability or Vietnam era veteran status in its activities at the Premises, including without limitation, the hiring and discharging of employees, the provision or use of services and the selection of suppliers, contractors, or subcontractors.

Consistent with the law, Licensee shall use reasonable efforts to contact, encourage and utilize minority and female business enterprises in the procurement of materials and service under this License for Entry.

12. Taxes

Licensee shall be solely responsible for the payment of any taxes, levies, betterments or assessments, fees or charges, whether in existence on the date hereof or becoming applicable during the Term, which may be assessed against Licensee or the MBTA which are directly attributable to Licensee's installations in, or use of, the Premises, or any personal property or fixtures of Licensee located thereon (collectively referred to as "Taxes"). Licensee shall pay all Taxes directly to the taxing authority before delinquency and before any fine, interest, or penalty shall become due or be imposed by operation of law for their nonpayment. Such payments shall constitute an additional License Fee hereunder.

Licensee may contest, in good faith for its own account and at its own expense, the validity or amount of any Taxes, provided Licensee shall indemnify the MBTA against any resulting loss, cost and expense. Licensee shall not permit a lien or encumbrance on the Premises by reason of failure to pay any Taxes.

13. No Third Party Beneficiaries

This License for Entry shall not be construed to create any third party beneficiary rights in favor of any other parties (except the explicit rights granted to the Railroad Companies) or any right or privilege for the benefit of any other parties.

14. Entire Agreement

This License for Entry contains the entire agreement of the parties hereto with respect to the subject matter hereof, and no representations, inducements, promises, or agreements, oral or otherwise, between the parties hereto with respect to the subject matter hereof not embodied herein shall be of any force or effect.

15. Governing Law

This License shall be construed and interpreted under and pursuant to the laws of the Commonwealth of Massachusetts, and the Massachusetts and Federal conflict of laws provisions shall not be applied if the result is

that other than Massachusetts law shall govern.

16. Successors and Assigns

The provisions of this License shall be binding on and inure to the benefit of the parties hereto and their respective successors and assigns.

17. Limitation On Damages

The MBTA shall not be liable to Licensee for any loss of business or any indirect, incidental, special, consequential or exemplary damages or lost profits unless specified herein.

18. No Waiver No failure by Licensor to insist upon strict performance of any term, covenant or condition hereof, or to exercise any right or remedy consequent upon a breach thereof shall constitute a waiver of any such breach or of any such term, covenant or condition. The acceptance by Licensor of any amount less than the full amount due to Licensor hereunder shall not be deemed a waiver by Licensor of its right to collect the full amount due. Licensor may deposit checks or drafts that state "final payment", "payment in full" or the like without being deemed to have waived its right to receive all amounts due hereunder. Any waiver by Licensor of any term, covenant or condition hereof shall not be effective unless such waiver is in writing.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have caused this License to be executed this ____ day of _____.

MASSACHUSETTS BAY [LICENSEE NAME]

TRANSPORTATION AUTHORITY

By: By:

Mark E. Boyle

Assistant General Manager for Name: _____

Real Estate and Asset Development

Title: _____ 15

EXHIBIT A

PLAN OF PROPERTY 16

EXHIBIT B

SCOPE OF ACTIVITY

Subject to the terms and conditions in this License for Entry Agreement, the Licensee, its agents, employees, contractors, subcontractors, and/or representatives are hereby granted a license to enter upon the Premises for the sole purpose of _____.

Licensee shall _____ in a safe manner and immediately notify the MBTA if any problem occurs which may result in a safety hazard. If any unsafe situation should occur, Licensee will correct the situation by eliminating any safety hazard immediately or, if the situation cannot be reasonably cured immediately, then in such longer time as is reasonably required, and in all such unsafe situations, MBTA Railroad Operations Safety Procedures shall be followed.

Licensee shall submit a plan and detailed specifications (including the materials to be used) and the proposed methods of performing the work, or any part thereof (the "Plan") to the MBTA. Licensee shall not enter the Premises until the Plan has been approved by the MBTA. Such approval may be withheld in the MBTA's sole discretion. The Scope of Activity for said construction, installation, maintenance, operation and/or replacement will be more fully defined in the approved Plan, which approved Plan will automatically be incorporated herein by reference and made part of this License for Entry. The Licensee shall also provide the MBTA with a detailed schedule of times when Licensee, its employees, contractors, subcontractors, or agents would like to be on the Premises to undertake the Scope of Activity (the "Access Plan"). The MBTA and _____ shall have full power to make a final determination of when Licensee may be on the Premises as it is necessary to

coordinate the work of all those desiring or having the right to access the Premises.

Unless entry is made pursuant to an Access Plan approved by both the MBTA and _____, Licensee agrees to give, **each time it desires entry**, at least five (5) days' prior written notification to the MBTA (except in cases of emergency when notice shall be given to the MBTA and the Railroad Companies as quickly as possible) of its need to access the Premises for all work to be performed under this License For Entry by contacting for Railroad Property currently at 617-222-_____ and five (5) days prior notice to of its desire for access. Licensee understands that the more notice given to the MBTA and to _____ the more likely it will be that Licensee can gain access at the times requested. **Licensee shall present evidence of the required insurance coverage before each entry. In the case of an emergency, Licensee shall as soon as possible contact MBTA Control Center 617-222-5278.**

No activities permitted herein may be performed by Licensee except as approved in writing by the MBTA; and no method of testing, installation or construction shall be used by Licensee except with prior written approvals or written approvals received in the field from the MBTA's representatives at the time the work is performed. If at any time during the work of installation or connection, the MBTA or an affected Railroad Company should, in its sole and absolute discretion, deem flagmen, watchmen, communications/signaling personnel, electric traction personnel, inspectors assigned to construction crews, and/or other measures, including but not limited to train re-routing, desirable or necessary to protect its operations, its property or its employees or other persons on or near the Premises, the MBTA and/or a Railroad Company shall upon notice to Licensee (where such notice is feasible) have the right to place such personnel, including personnel of the MBTA's or the Railroad Company's agents or to take such measures, at the sole cost and expense of Licensee. Such cost and expense shall include the current wages and fringe benefits due and owing to such personnel in and for the performance of such measures. Licensee hereby covenants and agrees to bear the full cost and expense thereof and to reimburse the MBTA and/or the Railroad Company within thirty (30) days of receiving an itemized, written invoice for such reimbursement. The MBTA's or a Railroad Company's failure to furnish such personnel or take such measures shall not relieve Licensee of any obligation or liability it might otherwise have assumed, and shall not give rise to any liability to Licensee on the part of the MBTA or the Railroad Companies. Upon being notified that the personnel or measures referred to in the first sentence of this Paragraph have been deemed desirable or necessary by the MBTA and/or a Railroad Company, Licensee shall not commence or continue construction or repair measures, as the case may be, unless and until such personnel or measures are in place.

If Licensee shall deem any requirement for flagging or the like by the MBTA or a Railroad Company or one of their agents for supervision of the activity hereunder as unreasonable, Licensee shall nevertheless pay for such flagging and the like, but may take exception in writing thereto as an unreasonable requirement in each instance. The parties agree to review such exceptions at the times of billings for such services and attempt to adjust them as the MBTA may deem appropriate. This reimbursement is in addition to the License Fee and Administrative Fee required hereunder.

Licensee shall comply with all applicable MBTA Railroad Operations Directorate requirements including, but not limited to, those entitled: "I - Guidelines and Procedures for Construction on MBTA Railroad and Transit Properties" dated May 1994, "II - Maintenance and Protection of Railroad Traffic" dated May 1994, "III - Insurance Specifications" dated May 1994 and MBTA Special Instructions dated April, 2003. To the extent that there is an irreconcilable conflict between the aforementioned requirements and this License For Entry, the terms and conditions contained in the MBTA Railroad Operations Directorate Procedures shall control unless the requirements in this License for Entry are more strict.

No individual, including representatives and employees of Licensee, may enter onto the Premises unless that individual has first attended _____ Safety Orientation/RWP Class (for scheduling contact _____ at _____).