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**2023 COVER INSPECTION REPORT
MASSACHUSETTS PORT AUTHORITY
Anderson Regional Transportation Center
100 Atlantic Avenue
Woburn, Massachusetts**

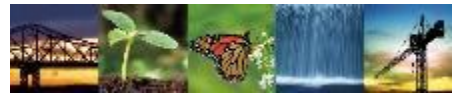
May 2023
File No. 01.0172970.02

PREPARED FOR:
Massachusetts Port Authority
East Boston, Massachusetts

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May 18, 2023
File No. 01.0172970.02

Ms. Madeline Soule Massachusetts Port Authority
One Harborside Drive, Suite 200S
East Boston, Massachusetts 02128

Re: 2023 Cover Inspection Report
Anderson Regional Transportation Center
100 Atlantic Avenue
Woburn, Massachusetts 01801

Dear Ms. Soule:

On behalf of the Massachusetts Port Authority (Massport), GZA GeoEnvironmental, Inc. (GZA), has prepared this 2023 Cover Inspection Report for the Anderson Regional Transportation Center (ARTC) located at 100 Atlantic Avenue in Woburn, Massachusetts (the "Site"). This report has been prepared in accordance with the requirements of the Grant of Environmental Restriction and Easement dated December 2010 and the Limitations contained in **Appendix A**. The purpose of this report is to document the conditions of the cover and to make recommendations for cover maintenance, repair, and other future actions at the Site.

If you have any questions or need further information, please contact the undersigned at 781-278-3700.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Colleen Gabel
Engineer I

Jamie Barberi
Senior Project Manager

Matthew M. Smith, P.E., LSP
Principal

Randy Meuse
Consultant/Reviewer

Attachment: Report



2022 Cover Inspection Report – Anderson Regional Transportation Center

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1.0 INTRODUCTION

On behalf of the Massachusetts Port Authority (Massport), GZA GeoEnvironmental, Inc. (GZA), has prepared this Cover Inspection Report for the Anderson Regional Transportation Center (ARTC) located at 100 Atlantic Avenue in Woburn, Massachusetts (the “Site”). This report has been prepared in accordance with the requirements of the Grant of Environmental Restriction and Easement (GERE) issued by the U.S. Environmental Protection Agency (EPA) in December 2010 and in the Limitations contained in **Appendix A**. The purpose of this report is to document the conditions of the cover and to make recommendations for cover maintenance, repair, and other future actions at the RTC facility.

2.0 SITE DESCRIPTION

The ARTC facility is located within a portion of the EPA-designated National Priorities List Industri-Plex Site. The facility is approximately 16.5 acres in area and was constructed in April 2001. The ARTC facility consists of a train (commuter rail) station building, covered loading platforms adjacent to loading areas for ground transportation, and surface parking areas (long term, short term, and daily). The ARTC main building, transportation loading area, and the short-term parking area are located in the central portion of the facility. The northern portion of the facility includes the commuter rail parking lot, and the southern portion of the facility contains the overnight parking area. Several landscaped areas are dispersed throughout the facility but are mostly present near the entrance at the end of Atlantic Avenue. A secondary exit for the facility is located to the northeast, adjacent to the commuter rail parking lot. Massachusetts Bay Transportation Authority (MBTA) railroad tracks border the Site to the west, which can be accessed from the ARTC. The Site is bordered to the east by commercial buildings adjacent to Atlantic Avenue and the remainder of the Site is surrounded by open, vegetated land with a detention basin and other stormwater control features.

3.0 COVER INSPECTION

On Wednesday, April 5, 2023, Colleen Gabel and Hayat Azoui (under the supervision of Matthew Smith, P.E., LSP), performed the annual cover inspection of the ARTC facility. Weather conditions at the Site during the time of the inspection were primarily cloudy, with temperatures in the 40s (°F).

Inspection activities included walking the property, opening drainage structures, and documenting site cover conditions along with areas and/or structures that require continued monitoring and or/maintenance. A Site Plan, included in the June 2016 Inspection Report (prepared by others), has been included as **Figure A** and has been updated based on observations made during this inspection. Survey monuments are approximately located as shown on **Figure A**. Please note that **Figure A** also includes locations observed by GZA that require either continued observation, maintenance actions, and/or should be considered for repair. Photographic documentation is attached as **Appendix B**. In GZA’s opinion, some of the areas/items described below require repair and are summarized in Section 4.0.

3.1 COVER INTEGRITY

GZA observed the majority of the surface pavement to be generally in fair condition with some areas noted as poor. Refer to Section 1 of **Appendix B** for photographic documentation of the pavement conditions.



GZA observed numerous cracks in the asphalt and pavement throughout the Site which were estimated to be one-inch wide by one-inch deep. The widest and deepest cracks were observed in the overnight parking area, the commuter rail parking lot area, and in several crosswalks located in the central portion of the site. In the commuter rail parking lot and the overnight parking lot, the cracks were mostly in a north-south pattern/orientation with some large areas of apparent fatigue cracking. The sidewalks and curbing were generally observed to be in good condition with the exception of cracking in the concrete at an Americans with Disabilities Act (ADA)-compliant sidewalk access; several crosswalks appeared to be in poor condition (see photographs 56, 57 and 82).

3.2 SUBSIDENCE

GZA observed several areas of subsidence/settlement. These conditions were observed to the north of the Atlantic Avenue entrance along the west side of the roadway (see photograph 1), around catch basins CB-18, CB-A and CB33 (see photographs 46, 48 and 69), around the entrance to the overnight parking area (see photograph 60), in an area of patched asphalt for what appears to be a utility trench (see photographs 47 and 48), and at the entrance to the short-term parking area (see photograph 49).

3.3 VEGETATION

Woody growth and trees present in the landscaped areas near the entrance to the facility were noted as consistent with the as-built landscaping and planting plans.

3.4 DRAINAGE STRUCTURES

The stormwater drainage system at the Site appeared to be free of obstructions in the limited area observed by GZA. Please refer to Section 3 of **Appendix B** for photographic documentation with descriptions of the drainage structures.

Moderate sediment accumulation, which is defined as greater than one inch in depth, was observed in catch basin CB2. Minor sediment accumulation, defined as less than one inch in depth, was observed in CB-A, CB20, CB10 MH15, and MH102. Due to the presence of standing water, GZA was unable to observe potential sediment accumulation in CB1, CB3, CB6, CB7, CB9, CB12, CB13, CB33, MH1, and MH2.

The catch basins noted in the 2022 report as having conditions that should be repaired (CB3, CB3A, CB4, CB5, CB8, CB11, CB14, CB15, CB16, CB17, CB19, CB22, CB23, CB24, CB25, CB29, and CB32) do not appear to have been addressed. At these catch basins, sizeable holes in the concrete/brickwork, broken or loose bricks, and/or significant cracking in the concrete was observed.

Manholes MH-28 and MH-30 could not be observed during the inspection work due to a parked vehicle restricting access. Catch basins CB28 and CB30 could not be observed during the inspection due to the installation of silt sacks in relation to construction activities at a neighboring property east of the Site.

3.5 SURVEY MONUMENTS

Survey monuments located during this inspection were observed to be in good condition. Refer to Section 4 of **Appendix B** for photographic documentation of survey monuments.

GZA found six survey monuments during the 2023 cover inspection which are shown on **Figure A**; **Figure A** includes other monuments which were not located during the inspection but shown in previous reports. Survey monument locations were taken from the 2015 Inspection Report prepared by others. This figure showed five survey monuments at the Site:



GB-964, GB-965, GB-962, DSK-963, and DSK-966. GZA found monuments GB-964, GB-965, and DSK-963 in locations matching the figures from previous inspections, prior to 2009. Monument GB-962 was labeled at the Site but found to be approximately 150 feet north of the location indicated on the referenced figures. Monument DSK-966 was not found in the location referenced from previous figures. GZA identified two monuments (labeled SM-1 and SM-2 on **Figure A**) north and south of DSK-966, but these monuments were not labeled at the Site. The October 2009 Inspection Report (also prepared by others) included photographs for seven survey monuments. As noted in the 2015 Inspection Report, survey monuments DSK-922 and DSK-967 were not included in the Locus Plan from the October 2009 Inspection Report.

3.6 SECURITY FENCING

GZA observed multiple locations where the security fence was damaged. The observed damage was concentrated along the northern and southern ends of the property and at the site access gates. Refer to Section 5 of **Appendix B** for photographic documentation of the security fence conditions. At these locations, GZA noted holes, cut and bent wiring, detached tension wires, vegetation growth between the wires, bent poles, and separation of the wiring from the poles. Of particular note was a location at the northern edge of the commuter rail parking lot where the wiring had been cut/bent enough for pedestrian access (see photograph 11 in Section 5 of **Appendix B**).

4.0 **SUMMARY OF FINDINGS**

As specified in the GERE, "Normal Maintenance¹" shall be performed in a timely fashion in areas of Class C Land and Class D Land² to "maintain the integrity and effectiveness of that portion of the Remedy situated on the Property." GZA found that the cover within the ARTC property was generally in fair condition, but there were several areas where significant damage to the pavement was observed. The following sections summarize the recommendations for maintenance, repair, and/or further assessment.

4.1 ROADWAYS, PARKING, AND SIDEWALK (CONCRETE) SURFACES

Observed conditions of pavement and concrete sidewalks varies greatly from good (minimal minor cracking observed) to poor/failing (major cracking, loss of material, holes, etc.) In general, areas where major cracking, holes, and loss of material were observed should be repaired. Some of these repair locations may require removing/saw cutting areas where pavement is failing and re-paving. In addition, minor to moderate cracks should be sealed prior to the next fall/winter season to mitigate crack expansion and further damage to the pavement. For areas of subsidence, please refer

¹ "Normal Maintenance" shall mean any and all activities a landowner would routinely need to perform in order to keep his or her property in good condition and repair, exclusive of repair of damage to the geotextile or geomembrane portion of the Engineered Cover. For purposes of this instrument. Normal Maintenance may include, without limitation, activities such as lawn cutting, watering and reseeding; repair of erosion and filling in ruts; bituminous or concrete pavement and asphalt seal coating, bituminous or concrete pavement and asphalt stripe painting, overlaying bituminous or concrete pavement and asphalt, sealing cracks and filling potholes; maintaining and repairing interior building sumps, sump pumps and drainage systems; maintaining and repairing building foundations; removal of unwanted vegetation; removal of debris and accumulated soil and sediment from drainage areas and structures (e.g., culverts, channels, basins).

² "Class C Land" shall mean that portion of the Property, if any, identified as Class C Land on the Plan of Restricted Areas; a legal description thereof by metes and bounds being set forth in Appendix III ("Legal Description of the Restricted Areas"). Class C Land contains Contaminated Soil and Cover, and may contain Contaminated Groundwater. "Class D Land" shall mean that portion of the Property, if any, identified as Class D Land on the Plan of Restricted Areas; a legal description thereof by metes and bounds being set forth in Appendix III ("Legal Description of the Restricted Areas"). Class D Land contains Contaminated Soil and Cover, and may contain Contaminated Groundwater. Class D Land also comprises the East, West, East-Central and South Hide Piles, as shown on the As Built Records; and the location of which are generally depicted on the Plan of Restricted Areas.



to photographs 46, 47, 48, 60 and 69 in Section 1 of **Appendix B**; for areas of severe fatigue cracking, please refer to photographs 3, 4, 16, 19, 25, 28, 30, 32, 34, 35, 39, 41, 43, 49, 56, 57, 60, 64, 71, 80, 82, and 84 in Section 1 of **Appendix B**.

4.2 VEGETATION

Vegetation surrounding survey monuments GB-964 and GB-965 should be routinely cut back. The vegetation growing on the security fence should be removed and cut back away from the fence to prevent future growth and damage to the fence.

4.3 DRAINAGE SYSTEM MAINTENANCE

GZA recommends that the water in the sedimentation station be pumped out and the structure be further evaluated for potential damage and leaks. GZA observed minor deterioration in catch basins CB10, CB18, CB22, CB23, and CB24 and moderate deterioration in catch basins CB3, CB3A, CB4, CB5, CB8, CB11, CB14, CB15, CB16, CB17, CB19, CB22, CB23, CB24, CB25, CB29, and CB32. To maintain compliance with the GERE, structures that have been identified experiencing minor deterioration should be individually evaluated for repairs which are not likely to be intrusive or impact the cap/clean cover system. Structures identified as being moderately deteriorated should be repaired as moderate deterioration could pose a safety hazard and are likely to impact cap/clean cover integrity. Repair work to the moderately deteriorated locations would likely be outside the scope of normal maintenance as defined in the GERE and as such would require notification of Significant Repair to EPA (21 days' notice and submittal of a written plan).

4.4 SURVEY MONUMENTS

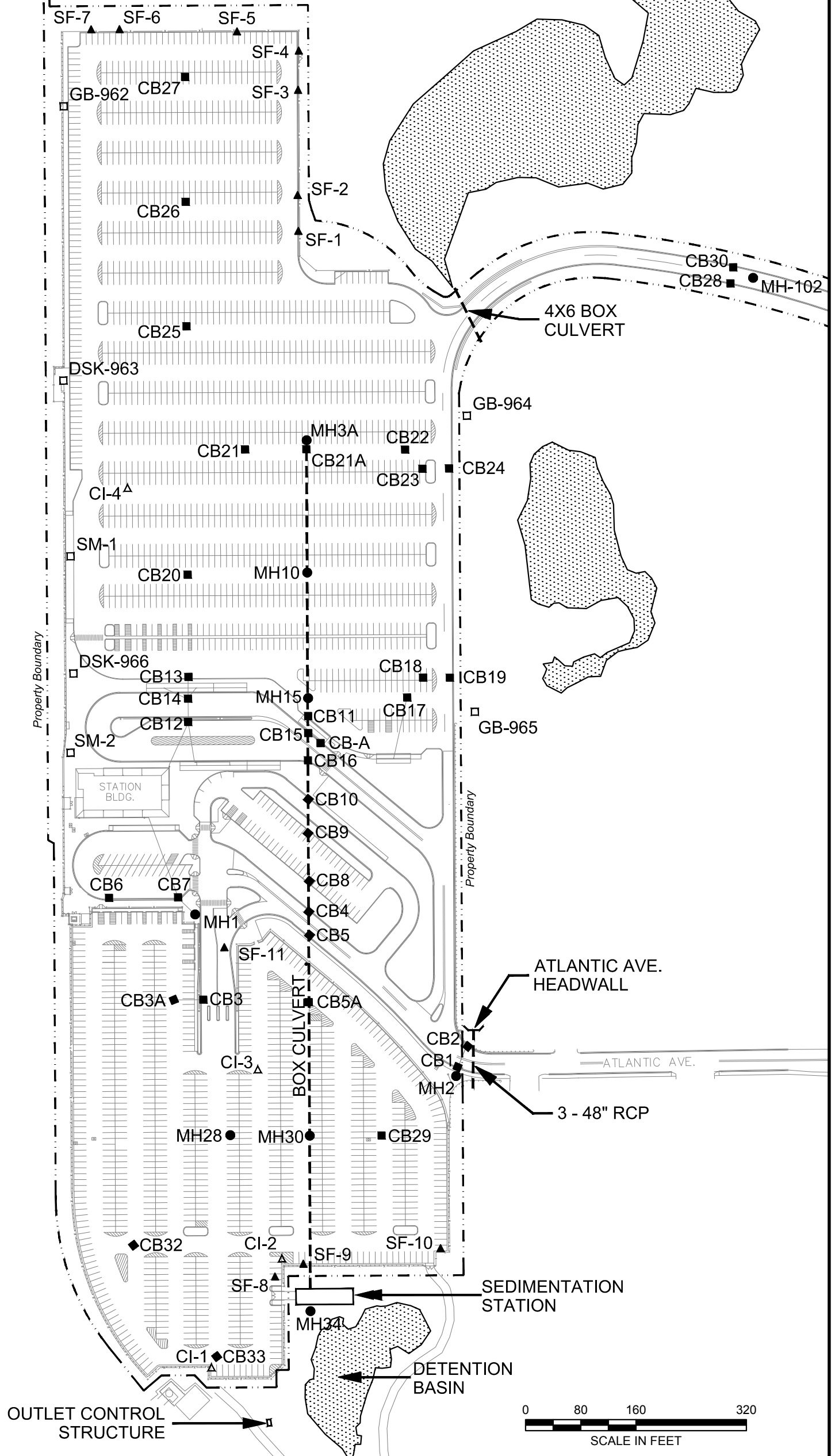
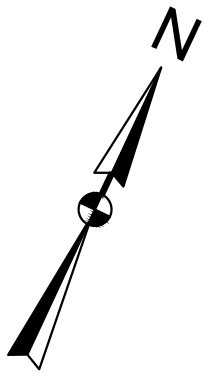
GZA recommends that the survey monuments be re-surveyed to be more accurately represented on a Site Plan, and that the missing monuments be re-established.

4.5 SECURITY FENCING

GZA observed multiple locations where the security fence was damaged. GZA recommends that the identified areas of fence damage be repaired. Refer to photographs in Section 5 of **Appendix B** for these locations of observed damage to the fence line.



Figure



LEGEND

- CATCH BASIN
- SURVEY MONUMENT
- DRAINAGE MANHOLE
- ▲ SECURITY FENCE
- △ COVER INTEGRITY

SOURCE:

1. THE BASE MAP WAS DEVELOPED FROM PLANS ELECTRONIC FILES PROVIDED BY MASSPORT ENTITLED "DRAINAGE STRUCTURES", DATED: APRIL 2009, ORIGINAL SCALE: 1"=120', DRAWING NO.: 040809, CAD FILE: RTC-CB Locations-040809.DWG.
2. THE LOCATION, AND ELEVATIONS OF THE SELECTED SITE FEATURES WERE APPROXIMATELY DETERMINED BY LINE OF SIGHT FROM EXISTING TOPOGRAPHIC AND MAN-MADE FEATURES. THE DATA SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

MASSPORT
ANDERSON REGIONAL TRANSPORTATION CENTER
WOBURN, MASSACHUSETTS

SITE PLAN

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: 	
PROJ MGR: WRN	REVIEWED BY: SJB	CHECKED BY: JT	FIGURE
DESIGNED BY: JT	DRAWN BY: SMW	SCALE: 1" = 160 FEET	A
DATE: 06-29-2016	PROJECT NO.: 01.0172970.02	REVISION NO.	



Appendix A – Limitations



USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) has prepared this report on behalf of, and for the exclusive use of Client for the stated purpose(s) and location(s) identified in the Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

STANDARD OF CARE

2. The observations, findings, conclusions, and recommendations in this report were made under the conditions present at the facility during our site visit(s) and described herein. The conclusions presented in this report were based solely upon the services described in this report, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. Conditions in many of the areas reviewed during the reconnaissance are subject to change, therefore the compliance status at any given time could differ from the status at the time of our visit.
3. This report describes the compliance status with respect to the environmental regulatory programs outlined in the report. Compliance with regulatory programs or specific regulatory requirements other than those outlined in this report have not been evaluated.
4. Observations were made of the facility, structures, and operations and activities conducted at the facility as indicated within the report. Where access to portions of the facility, structures, or operations and activities was unavailable or limited, GZA renders no opinion as to the regulatory compliance status of areas, operations, or activities not observed.
5. This study was not intended to be an environmental site assessment. No attempt was made to evaluate whether soil and/or groundwater at the facility is contaminated by chemicals or petroleum products. In addition, GZA renders no opinion as to the presence of hazardous material (including asbestos and polychlorinated biphenyls) on or in any of the exterior or interior processes, equipment, walls, floors, or ceilings of the onsite structures.
6. The purpose of this study was to review the regulatory compliance of current operations and activities conducted at the facility within the limits of the objective and scope of work described in our proposal and/or report. We did not attempt to assess the compliance status of present or past owners or operators of the facility.
7. Unless otherwise specified in the report, GZA did not perform testing or analyses to determine the presence or concentration of any chemicals, oils, asbestos, or polychlorinated biphenyls at the site buildings or in the environment at the site. Where such analyses have been conducted by an outside laboratory, GZA has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.

COMPLIANCE WITH CODES AND REGULATIONS

8. The regulatory compliance status described in this report has been evaluated based on our interpretation of regulations, and where appropriate, the interpretations provided by the applicable regulatory authority personnel at the time of our study. In some cases, these interpretations require subjective judgment and we cannot guarantee that all applicable regulatory authority personnel will interpret the regulations in the same manner as we have, or in the manner that the agency personnel we may have spoken to have. Applicable regulatory authorities' interpretations, requirements, and enforcement policies vary from district office to district office, from state to state, and between federal and state agencies. In addition, statutes, rules, standards, and regulations may be legislatively changed and inter-agency and intra-agency policies may be changed from present practices from time to time.



9. In preparing this report, GZA has relied on certain information provided by federal, State, or local applicable regulatory authorities and other parties referenced herein, and on information contained in the files of federal, State, and/or local applicable regulatory authorities available to GZA at the time of our compliance study. Although there may have been some degree of overlap in the information provided by these various sources, GZA did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of the study. Where information provided by Client was not complete, representations regarding the regulatory compliance of such operations and activities has not been made.

INTERPRETATION OF DATA

10. GZA's work was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and GZA observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. GZA's findings and conclusions must be considered not as scientific certainties, but rather as our professional opinion concerning the significance of the limited data gathered during the course of the study. No warranty, express or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by an applicable regulatory authority.

NEW INFORMATION

11. In the event that the Client or others authorized to use this report obtain information on environmental regulatory compliance issues at the facility not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this study, may modify the conclusions stated in this report.

ADDITIONAL SERVICES

12. GZA recommends that we be retained to evaluate the implementation of our recommendations provided in our report(s) to address the regulatory requirements cited. By retaining GZA, this will allow us the opportunity to (1) evaluate whether or not the recommendations have been made in a manner compliant with the regulatory requirements or industry best management practices identified, (2) evaluate whether the manner of implementation creates a potential new finding, and (3) evaluate whether the manner of implementation effects or changes the conditions on which our opinions were made.



Appendix B - Photographic Logs



Client Name:
Massachusetts Port Authority

Site Location:
Anderson Regional Transportation Center
Woburn, Massachusetts

Date:
April 5, 2023

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Photo 1: Observed, moderate fatigue cracking approximately 0 to 1/2" and subsidence at site entrance, looking north.



Photo 2: Observed, moderate fatigue cracking approximately 0 to 1/2" deep at the site entrance, looking north.



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Massachusetts Port Authority

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Photo 3: Observed moderate/ severe fatigue cracking approximately 200' long and traverse cracking, general conditions (north of Photo 2), looking northwest.



Photo 4: Observed approximately 200' of moderate/ severe fatigue cracking approximately 0 to 1" feet deep, and rutting (north of Photo 2), looking north.



Photographic Log
Section 1 – Cover Conditions

Client Name:
Massachusetts Port Authority

Site Location:
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Photo 5: Observed approximately (2"x13') longitudinal cracking in pavement and a hole in the pavement on the eastern edge of the pavement, looking northwest.



Photo 6: Observed approximately 150' of moderate fatigue cracking on the centerline and edge of the pavement, on the eastern edge of the paved area, looking northwest.



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Massachusetts Port Authority

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Photo 7: Observed approximately (1"x150') longitudinal crack, approximately (200') of fatigue cracking on edge of the pavement, and multiple holes in pavement approximately, on the eastern edge of the paved area, looking northwest.



Photo 8: Observed fatigue cracking and holes in the pavement.



Photographic Log
Section 1 – Cover Conditions

Client Name:
Massachusetts Port Authority

Site Location:
Anderson Regional Transportation Center
Woburn, Massachusetts

Date:
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Photo 9: Observed minor cracking (near northeast entrance), looking west.



Photo 10: Observed moderate longitudinal cracking and approximately (375') of longitudinal cracking, (northern parking area), looking northwest.



Photographic Log
Section 1 – Cover Conditions

Client Name:
Massachusetts Port Authority

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Photo 11: Observed moderate longitudinal cracking (northern parking area), looking north.



Photo 12: Observed moderate cracking, general conditions (north corner of parking lot), looking west.



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Massachusetts Port Authority

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Photo 13: Observed moderate cracking, general conditions (northern parking area), looking west.



Photo 14: Observed minor fatigue cracking, general conditions (northern parking area), looking northeast.



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Massachusetts Port Authority

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Photo 15: Observed moderate fatigue cracking, holes in pavement general conditions (near CB27), looking northeast.



Photo 16: Observed moderate/severe cracking, general conditions (northern parking area), looking west.



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Photo 17: Observed moderate fatigue cracking and two holes approximately (northern parking area), looking west.



Photo 18: Observed minor fatigue cracking, general conditions near SF-2, looking east.



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Photo 19: Observed moderate/severe fatigue cracking, hole in pavement general conditions near SF-2, looking east.



Photo 20: Observed moderate fatigue cracking, general conditions near SF-2, looking west.



Photographic Log
Section 1 – Cover Conditions

Client Name:
Massachusetts Port Authority

Site Location:
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Photo 21: Observed moderate fatigue cracking, holes in pavement, west of photo 16, looking west.



Photo 22: Observed moderate fatigue cracking in the pavement, general rock and pavement debris, at the northwest of CB15, looking northeast.



Photographic Log
Section 1 – Cover Conditions

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Photo 23: Observed moderate cracking in pavement and general rock and pavement debris southeast of CB26 looking northeast.



Photo 24: Observed minor cracking and general rock and pavement debris southeast of CB26 looking northeast.



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Photo 25: Observed moderate/ severe cracking in pavement, general rock and pavement debris, holes in pavement south of SF-1, looking west.



Photo 26: Observed multiple holes in the pavement, and moderate fatigue cracking north northeast of CB25.



Photographic Log
Section 1 – Cover Conditions

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Photo 27: Observed moderate fatigue cracking in pavement west of CB25, looking northeast.



Photo 28: Observed multiple holes in the pavement and moderate to severe fatigue cracking, near CB25, looking northeast.



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Photo 29: Observed moderate cracking in pavement east of CB25, looking northeast.



Photo 30: Observed moderate/severe cracking in the pavement in the north section of commuter rail parking area northwest of GB964, looking west.



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Photo 31: Observed moderate transverse fatigue cracking in pavement in north section of commuter rail parking area (southeast of DSK-963), looking northeast.



Photo 32: Observed moderate/severe fatigue cracking, in north section of commuter rail parking area (northeast of Photo 26), looking northeast.



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Photo 33: Observed moderate fatigue cracking in pavement in north section of commuter rail parking area, looking west.



Photo 34: Observed moderate to severe fatigue cracking in pavement in north section of commuter rail parking area (west of CB21), looking west.



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Massachusetts Port Authority

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Photo 35: Observed moderate/ severe fatigue cracking, holes in the pavement in the north section of the commuter rail parking area (west of CB21), looking west.



Photo 36: Observed minor cracking in the pavement in the north section of the commuter rail parking area (near CI-4), looking northeast.



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Photo 37: Observed minor to moderate fatigue cracking in the pavement in the north section of the commuter rail parking area (northeast of Photo 32), looking northeast.



Photo 38: Observed minor/moderate cracking in the pavement in the north section of the commuter rail parking area, looking west.



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Photo 39: Observed moderate/ severe fatigue cracking in the pavement, multiple cracks wider than 2” and small holes, in the north section of the commuter rail parking area, looking west.



Photo 40: Observed minor to moderate fatigue cracking in the pavement in the north section of the commuter rail parking area (near SM-1), looking northeast.



Client Name:
Massachusetts Port Authority

Site Location:
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Photo 41: Observed moderate/ severe fatigue cracking, multiple holes in pavement (2"x2"x1"), in the north section of the commuter rail parking area (northeast of Photo 35), looking northeast



Photo 42: Observed minor cracking in the pavement in the north section of the commuter rail parking area, looking west.



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Photo 43: Observed moderate/severe fatigue cracking, multiple holes in the pavement in the north section of commuter rail parking area (south of MH10), looking west.



Photo 44: Observed minor transverse cracking approximately (100') in the pavement in the north section of the commuter rail parking area (north of DSK-966), looking northeast.



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Photo 45: Observed moderate fatigue cracking and small holes in the pavement, (north of CB13), looking northeast.



Photo 46: Observed longitudinal cracking in pavement and subsidence around CB18



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Photo 47: Observed (2'x3'x3") hole, moderate longitudinal cracking, possible subsidence in the utility patch, and moderate fatigue cracking at CB17.



Photo 48: Observed minor cracking in pavement and subsidence in the trenched area, northeast of CB-A, looking east.



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Photo 49: Observed subsidence in pavement, moderate/severe cracking, larger hole in pavement on the eastern edge of the middle section of the commuter rail parking area, looking west.



Photo 50: Observed general conditions of concrete pavement in the middle section of the commuter rail parking area, looking west.



**Photographic Log
Section 1 – Cover Conditions**

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Photo 51: Observed moderate cracking in the concrete pavement in the middle section of the commuter rail parking area, looking west.



Photo 52: Observed minor cracking in pavement near the center of the middle of the commuter rail parking area, looking east.



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Photo 53: Observed minor/moderate cracking in pavement southeast of CB8, looking northwest.



Photo 54: Observed moderate cracking in crosswalk pavement northwest of MBTA Station Building, looking south.



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Photo 55: Observed minor cracking in pavement northeast of MBTA Station Building, looking south.



Photo 56: Observed severe cracking and holes in crosswalk pavement southeast of MBTA Station Building, looking southwest.



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Photo 57: Observed moderate/ severe cracking in pavement south southeast of MBTA Station Building (northwest of CB7), looking southwest.



Photo 58: Observed moderate cracking in pavement south of MBTA Station Building (northwest of CB6), looking south.



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Photo 59: Observed moderate cracking in pavement near the center of the middle of the commuter parking area (north of MH1), looking south.



Photo 60: Observed subsidence, (30'x2"x1") moderate/ severe cracks in pavement (southeast of CB3), looking south.



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Photo 61: Observed minor/moderate cracking in the pavement in the southern parking area (southeast of CB3A), looking southeast.



Photo 62: Observed minor/moderate cracking in the pavement in the southern parking area (southeast of CB3A), looking northwest.



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Photo 63: Observed moderate cracking in the pavement in the southern parking area (southeast of CB6), looking southeast.



Photo 64: Observed moderate/severe fatigue cracking and holes in the pavement in the southern parking area, looking southeast.



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Photo 65: Observed moderate cracking in the pavement in the southern parking area, looking northwest.



Photo 66: Observed minor/ moderate cracking in the pavement in the southern parking area, looking northwest.



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Photo 67: Observed moderate cracking in the pavement in the southern parking area, looking southeast.



Photo 68: Observed moderate cracking in the pavement in the southern parking area (southwest of CB33), looking northeast.



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Photo 69: Observed subsidence and moderate cracking near CB33.



Photo 70: Observed (1" x 1" x 200') cracking in the pavement in the southern parking area (northwest of CB33), looking northwest.



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Photo 71: Observed moderate/severe cracking and hole in pavement in the southern parking area (northwest of MH28), looking northwest.



Photo 72: Observed minor/moderate cracking in the pavement in the southern parking area (northwest of SF-9), looking northeast.



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Photo 73: Observed minor/moderate cracking in the pavement in the southern parking area, looking south.



Photo 74: Observed minor/moderate cracking in pavement in southern parking area (northwest of SF-10), looking north.



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Photo 75: Observed minor cracking in pavement in southern parking area (southwest of MH-2), looking west.



Photo 76: Observed moderate cracking and holes in the pavement in the southern parking area (northwest of CB29), looking southeast.



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Photo 77: Observed minor/moderate cracking in the pavement in the southern parking area (north of SF-9), looking northwest.



Photo 78: Observed minor/moderate cracking in the pavement in the southern parking area (northeast of MH30), looking northwest.



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Photo 79: Observed moderate cracking in the pavement in the southern parking area (southeast of CB5A), looking northwest.



Photo 80: Observed moderate/severe cracking small holes in the southern parking area (southeast of CB3), looking north.



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Photo 81: Observed moderate cracking and holes in pavement in southern parking area (northeast of CB3), looking north.



Photo 82: Observed moderate/ severe cracks in crosswalk (near MH-1), looking northeast.



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Photo 83: Observed moderate cracking in pavement along entrance (southwest of CB4), looking east.



Photo 84: Observed moderate/severe fatigue cracking and holes in the pavement along the entrance (east of CB4), looking east



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Photo 1: Landscape island along short-term parking area entrance, looking southwest.



Photo 2: Lawn along the commuter rail parking lot entrance, looking north.



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Photo 3: Vegetation in landscape island along east side of commuter rail parking lot, looking east.



Photo 4: Landscape island with trees along east side of commuter rail parking lot, looking north.



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Photo 5: Gravel covering along west, center side of commuter rail parking lot near MBTA tracks, looking southwest.



Photo 6: Landscape island with trees along west side of commuter rail parking lot, looking south.



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Photo 7: Tree growth near the main entrance from Atlantic Avenue, looking east.



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Photo 1: MH-1 appears to be in good condition, unable to observe sediment due to standing water.



Photo 2: MH-2 appears to be in good condition, unable to observe sediment due to standing water.



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Photo 3: MH3A appears to be in good condition.



Photo 4: MH10 appears to be in good condition.



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Photo 5: MH15 appears to be in good condition, <1 inch of sediment accumulation.



Photo 6: MH28 access restricted; car on the cover.



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Photo 7: MH30 access restricted due to proximity of car.



Photo 8: MH34 appears to be in good condition.



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Photo 9: MH102 appears to be in good condition, <1 inch of sediment accumulation.

Commented [MS1]: Looks like you accessed it to me. Please correct as appropriate



Photo 10: CB1 appears to be in good condition, unable to observe sediment accumulation due to standing water and organic debris.



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Photo 11: CB2 appears to be in good condition, several inches of sediment and organic debris.



Photo 12: CB3 with moderate deterioration of mortar and missing bricks, unable to observe sediment due to standing water.



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Photo 13: CB3A with moderate deterioration of concrete and loose bricks, no sediment accumulation observed.



Photo 14: CB4 with moderate concrete deterioration, no sediment accumulation observed.



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Photo 15: CBS with moderate concrete deterioration, no sediment accumulation observed.



Photo 16: CBSA appears to be in good condition, no sediment accumulation observed.



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Photo 17: CB6 appears to be in good condition, unable to observe sediment due to standing water.



Photo 18: CB7 appears to be in good condition, unable to observe sediment due to standing water.



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Photo 19: CB8 with moderate deterioration and loose and missing bricks, no sediment accumulation observed.



Photo 20: CB9 moderate deterioration and loose and missing bricks, unable to observe sediment due to standing water.



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Photo 21: CB10 with minor deterioration. <1 inch of sediment accumulation and organic debris.



Photo 22: CB11 with moderate deterioration of concrete, no sediment accumulation observed.



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Photo 23: CB12 appears to be in good condition, unable to observe sediment due to standing water.



Photo 24: CB13 appears to be in good condition, unable to observe sediment due to standing water.



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Photo 25: CB14 some loose bricks with moderate concrete and mortar deterioration, no sediment accumulation observed.



Photo 26: CB15 with moderate concrete deterioration, no sediment accumulation observed.



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Photo 27: CB16 with moderate mortar deterioration and loose bricks, no sediment accumulation observed.



Photo 28: CB17 with moderate concrete deterioration, no sediment accumulation observed.



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Photo 29: CB18 with minor concrete deterioration.



Photo 30: CB19 with moderate mortar deterioration and loose bricks, no sediment accumulation observed.



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Photo 31: CB20 appears to be in good condition, <1 inch of sediment accumulation and organic debris.



Photo 32: CB 21 appears to be in good condition, no sediment accumulation observed.



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Photo 33: CB21A appears to be in good condition, no sediment accumulation observed due to standing water.



Photo 34: CB22 with minor mortar deterioration and loose bricks, no sediment accumulation observed.



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Photo 35: CB23 with minor mortar deterioration and loose bricks, no sediment accumulation observed.



Photo 36: CB24 with minor mortar deterioration and loose bricks, no sediment accumulation observed.



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Photo 37: CB25 with moderate mortar deterioration and missing bricks, no sediment accumulation observed, some water.



Photo 38: CB26 in good condition, no sediment accumulation observed.



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Photo 39: CB27 appears to be in good condition, minor sediment accumulation observed.



Photo 40: CB28 contained a silt sack with minor accumulation of organic debris.



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Photo 41: CB29 with moderate concrete deterioration, no sediment accumulation observed.



Photo 42: CB30 contained a silt sack with minor accumulation of organic debris.



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Photo 43: CB32 with moderate mortar deterioration and loose bricks, no sediment accumulation observed.



Photo 44: CB33 appears to be in good condition, unable to observe sediment accumulation due to standing water.



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Photo 45: CB-A appears to be in good condition, approximately <1 inch of sediment and organic debris accumulation observed.



Photo 46: West side of a box culvert that runs under the northeastern corner of the property, looking east.



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Photo 47: East side of a box culvert that runs under the northeastern corner of the property, looking southeast.



Photo 48: Atlantic Ave. headwall, north of Atlantic Avenue, looking south.



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Photo 49: Atlantic Ave. headwall, south of Atlantic Avenue, looking north.



Photo 50: Sedimentation structure, looking east.



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Photo 51: Sedimentation structure, looking north.



Photo 52: View of detention basin outlet structure, looking south.



Photographic Log
Section 4 – Survey Monuments

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Photo 1: Survey monument GB-965



Photo 2: Vegetation around survey monument GB-964



Photographic Log
Section 4 – Survey Monuments

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Photo 3: Survey monument GB-964



Photo 4: Survey monument GB-962



Photographic Log
Section 4 – Survey Monuments

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Photo 5: Survey monument DSK-963



Photo 6: Survey monument SM-1



Photographic Log
Section 4 – Survey Monuments

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Photo 7: Survey monument SM-2



Photographic Log
Section 5 – Security Fencing

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Photo 1: Vegetation and bowed fabric, looking northwest near sand shed.



Photo 2: fence bowed and tree growing through fence.



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Photo 3: Vegetation growing through fence fabric and hole in the fence, looking northwest.



Photo 4: Hole in fence fabric, the same location as Photo 2, looking north.



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Photo 5: Fence fabric pulling away from top rod at SF-3, looking north.



Photo 6: vegetation growing through fence fabric, north of SF-3, looking north.



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Photo 7: top rail of fence disconnected, looking north.



Photo 8: Bowed fence fabric near SF-5, looking west.



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Photo 9: Bowed fence fabric, not secure, near SF-5, looking west.



Photo 10: lower portion of fence bowed.



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Photo 11: Hole in fence fabric near SF-6, looking north.



Photo 12: Top rail disconnected, near SF-6, looking north.



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Photo 13: vegetation growing through northwestern fence line.



Photo 14: Cross-member railing disconnected from vertical members.



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Photo 15: Fabric disconnected, near station building, looking west.



Photo 16: Gate near CB6 open.



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Photo 17: Vegetation growing through the fence, south of station building, looking west.



Photo 18: Vegetation growing through fence fabric along the southwest edge of the site, looking west.



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Photo 19: Gate warped, hinge appears damaged, facing south near CB32.



Photo 20: Vegetation growing through fence fabric along the southern edge of the site, looking south.



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Photo 21: Vegetation growing through fence fabric, looking along the southern edge of the site.



Photo 22: Warped fabric, disconnected fabric, the southern edge of the site, looking south.



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Photo 23: Damage to a gate near the southwest corner of the site, hinge appeared damaged, looking southwest.



Photo 24: Disconnected fabric near sedimentation station and pole disconnected.



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Photo 25: Vegetation growing through fence fabric, near SF-10 looking east.



Photo 26: Warped disconnected fabric, warped gate, pole disconnected, near SF-10 looking east.



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Photo 27: Top of post loose and fabric disconnected, near SF-10 looking east.



Photo 28: Leaning fence, near Atlantic Ave., looking north.



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