



RIVERSIDE STATION

DEMOLITION MANAGEMENT PLAN

Table of Contents

GENERAL	1
Development Summary	1
Community Engagement	1
Liaison Committee	2
Construction Hours	2
Fencing / Gate/ Barricade plan	3
Construction Parking.....	3
SAFETY	4
Security	4
Safety and Emergency Vehicle Plan	4
Lighting.....	4
PRECONSTRUCTION	5
Existing Groundwater Levels.....	5
Infiltration System Evaluation.....	5
Preconstruction Survey.....	5
Preconstruction Survey – Runaway Brook Culvert	5
LOGISTICS	6
Truck Routing Plan	6
Pedestrian Pathways and Safety.....	6
Dewatering.....	6
Soil Management Plan	6
Noise Mitigation.....	8
Dust Mitigation	9
CONSTRUCTION MONITORING	11
Wetlands and Water Quality	11
Vibration Monitoring	16
Noise Monitoring	16
Dust Monitoring	16
Rodent Control.....	16
EXHIBITS	18
EXHIBIT A - Phasing Plans.....	18
EXHIBIT B – Construction Parking	18

EXHIBIT C - Observation Well Location Plan 18

EXHIBIT D- Summary of Groundwater Elevations..... 18

EXHIBIT E - Pre-Construction Survey Limits 18

EXHIBIT F - Culvert Inspection..... 18

GENERAL

Development Summary

Careful consideration has been given to developing plans to minimize construction phase impacts – specifically to pedestrian access and safety, potential impacts to the local neighborhoods, and protection of the Charles River Watershed. This Demolition Management Plan (DMP) describes the proposed construction schedule and sequencing for the Project during the initial demo and sitework scope. The DMP also identifies steps that will be taken during construction to minimize off-site impacts related to the demolition and construction phase of the Project (noise, air quality/dust, wetlands, water quality, and construction-related traffic). More specifically, the DMP describes how construction activities will be undertaken to minimize interference with MBTA service and maintenance activities. The DMP also describes the Project’s planned compliance with the various environmental regulations including but not limited to the Council Order, the Massachusetts Contingency Plan (MCP) and U.S. Environmental Protection Agency (EPA) National Pollution Discharge Elimination System (NPDES) General Permit Program for Stormwater Discharges from Construction Sites.

The DMP was developed with input from the City of Newton Inspectional Services, Public Works, Fire Department, City Engineer, and Planning Departments, as well as the MBTA, MassDOT, and other State agencies. Guided by considerable input from the pre-construction general contractor, it includes detailed information on construction activities, specific construction mitigation measures, and construction materials and access and staging plans to minimize impacts to patrons, abutters, and the local community. The DMP and any supplemental/updated construction management plans submitted with each building permit application to the City of Newton will include (i) the proposed schedule of the Project, including the general sequencing of construction activities, (ii) the proposed timeline and construction schedule for each building for which a building permit is sought, (iii) site plans showing the proposed location of contractor and subcontractor parking, on-site material storage areas, on-site staging areas for delivery vehicles, location of security fencing, and locations and regular disposal schedule for on-site dumpsters, (iv) truck routes aimed at minimizing the impact of trucks on local streets. (v) proposed methods for dust control to prevent dust from leaving the Project Site, (vi) proposed methods of noise and vibration control, (vii) a plan for rodent control during demolition and construction, (viii) anticipated dewatering, if any, during construction, site safety, and stability, particularly for driveway entrances, (ix) site safety plan showing the paths of travel for emergency vehicle access during construction of each building for which a building permit is sought, and (x) security plan showing how the portions of the Project Site under construction will be secured during construction and after hours.

Community Engagement

In order to predict, preempt and address issues that may arise affecting the general community a website has been created, including:

- Emergency contact
 - David Roache – 1-617-594-5945

- Steve Parry – 1-978-835-6378
- Construction milestone dates
- Construction updates
- The ability for community members to sign up for updates

Liaison Committee

A Liaison Committee (“LC”) was established in April of 2022. The purpose of the Liaison Committee is:

- Review, discuss, and comment on documents and monitoring reports or results submitted or filed by the Petitioner in connection with the work authorized by the Newton City Council in its Special Permit/Site Plan approval dated October 19, 2020 and or any subsequent amendment to this Special Permit.
- Enhance and ensure communication as to the status and progress of the construction of the Project by the Petitioner;
- Provide a forum for initial presentation of a construction schedule and any significant changes to schedule or changes of plans for which public review is appropriate;
- Receive and deal with construction-specific issues including, without limitation, noise, dust, parking and traffic;
- Monitor implementation of the final Demolition Management Plan; and
- Receive notices and communications from the Department of Inspectional Services and the Planning and Development Department.

Unless there is consensus within the Liaison Committee that no meeting is necessary, the Liaison Committee will meet monthly for the first six months of construction, and thereafter every three months, until at least six months after the occupancy of the final building is complete.

The Committee consists of two designees of the Petitioner, four residents from the neighborhood surrounding the Project, and two Ward 4 City Councilors, one of whom shall be appointed the Chair of the Liaison Committee. Meetings of the Liaison Committee will be open to the public.

Construction Hours

Construction of the Project will conform to all local, state, and federal laws, and employ reasonable means to minimize inconvenience to residents in the general area. Construction of the Project will occur predominantly during daytime hours no earlier than 7:00 AM and no later than 7:00 PM on any weekday, except for emergency repairs. On Saturdays, construction will occur no earlier than 8:00 AM and no later than 5:00 PM, with the same exceptions. The Mayor’s office may allow longer hours of construction under special circumstances, if a written request is provided to the Mayor’s office in advance (except in emergencies). There shall be no construction on Sunday or any local, state or federal legal holiday except under unusual circumstances and with the consent of the Mayor’s office. Interior work may occur at times outside the hours specified above, but only after the building is fully enclosed.

Blasting activities will have greater restrictions. Preparation, excavation, removal of rock and other related activities may occur during the hours referenced above. However, the detonation of blast charges will be limited to weekdays no earlier than 10:00 AM and no later than 3:00 PM.

Fencing / Gate/ Barricade plan

All construction areas in the existing Riverside parking lot will be enclosed with fencing, see Exhibit A – Phasing Plan. The work done on roadways and sidewalks will be done with police details and all open excavations will be covered with steel plates when the area is not being actively worked on.

Construction Parking

For approximately 30 months of construction prior to the opening of the MBTA Garage, up to 250 construction workers will park on site. During this phase, there will be space for contractor parking on portions of the Project Site that currently contain the hotel and a presently unused portion of the MBTA Maintenance yard that will be cleared and leveled prior to the start of the garage construction, refer to Exhibit B – Construction Parking. If parking capacity is required beyond what is available at Riverside Station, vehicles will be parked at West Newton MBTA lot and 275 Grove Street parking garage with shuttle services for the construction workers.

After the opening of the MBTA Garage, construction parking will peak at about 250 vehicles. At that point, there will be approximately 1,000 unused parking spaces available for construction workers within the MBTA Garage in addition to the space in the MBTA maintenance yard. At least 250 spaces will be available in the MBTA Garage until completion of the Project. Construction vehicles and construction parking outside of designated areas and/or neighborhood streets shall be strictly prohibited.

SAFETY

Security

During the various stages of construction, a combination of fencing, signage, and jersey barriers will be implemented to ensure pedestrian safety, traffic management, and public restriction from construction areas.

Construction vehicles will be permitted into construction zones during work hours through temporary chain link gates. At the end of construction hours, the gates will be closed and locked with a padlock. All construction areas with ground excavations will be fully enclosed with chain link fence and locked at the end of the shift. Both the public parking area and the construction areas will be under 24 hour surveillance and security within the public parking area will be maintained consistent with the current MBTA standards.

Safety and Emergency Vehicle Plan

During every construction phase, access for emergency vehicles will be provided. Every locked gate will have a Knox padlock for the Newton Fire Department use and emergency access. A site access plan will be submitted as part of the permit submission including fire truck turning studies through the temporary conditions created by the phasing on site.

Lighting

During construction, the existing lighting at Riverside will be maintained in public areas. As the development progresses a time will come when the existing lighting is no longer able to be maintained. During this timeframe, temporary lighting will be used to maintain safe lighting levels for public access until the permanent lighting is active.

PRECONSTRUCTION

Existing Groundwater Levels

A comprehensive network of groundwater monitoring wells was installed for studies completed for design and construction of the project. The location of the monitoring wells from the project geotechnical and environmental reports is indicated on Exhibit D- Observation Well Location Plan. The project Geotechnical Engineer conducted in situ permeability testing (rising head or slug tests) at seven (7) of the wells located in the area of the planned infiltration systems on 23 and 24 June 2022. The wells were selected based on the proximity to the infiltration system below Main Street which has been relocated from the initial location below the parking garage. Results of the testing along with groundwater level measurements were used to evaluate the drainage system design as described below. Locations of the wells which were selected for in situ permeability testing are shown on Exhibit D- Summary of Groundwater Elevations.

The groundwater level measurements at wells across the site are provided in Exhibit C – Observation Well Locations and Exhibit D – Summary of Groundwater Elevations.

Infiltration System Evaluation

The subsurface soil and groundwater data collected at stormwater infiltration system locations was used by the project Civil Engineer to re-evaluate the design the storm water infiltration systems and confirm the feasibility. It was confirmed that the design intent can be met relative to volume infiltrate in the 72 hour time period required without surface breakout of the water without further modification.

Preconstruction Survey

Prior to construction, pre-construction surveys were offered for each building structure located within a distance of 250 feet from the property lines of the development, see Exhibit E – Pre-Construction Survey Limits. The surveys performed included a detailed interior and/or exterior visual examination of each designated structure entity utilizing a documentational format of digital still image photography with accompanying audio narration, to document whereby accessible visibly evident fine structure details, damage and deficiencies.

Preconstruction Survey – Runaway Brook Culvert

A preconstruction inspection with a video investigation of the Runaway Brook culvert was performed on May 6, 2020 which found the culvert to be in excellent condition, see Exhibit F – Culvert Inspection. A similar post-construction inspection with a video investigation will be performed upon completion of building construction to verify that no damage was done to the existing culvert.

LOGISTICS

Truck Routing Plan

Truck access to the site will primarily enter and exit off of the West portion of the existing Riverside station parking lot, closest to recreation road. During the initial demolition and sitework stage. Portions of the work will require access via Grove Street. Truck deliveries will be between 7am and 5 pm, see Exhibit A – Phasing Plan.

Pedestrian Pathways and Safety

During the project, pedestrian access and safety will be of primary concern. The MBTA Riverside Station will remain operational and the ability for pedestrians to access the station from local neighborhoods and through the existing parking lot is critical to the success of the development. Each phase of the project has carefully considered the route that pedestrians will take safely to access the station, see Exhibit A – Phasing Plan.

Dewatering

Groundwater is approximately 10 to 20 ft below site grades. Site work (excavation and grading, foundation construction) will generally be above site groundwater levels and groundwater pumping is not required for the project. However, the Project anticipates that management of storm water runoff which may collect in shallow excavations will be required in order for work to be conducted in the dry during wet periods of the year. The primary manner of water management will be on-site recharge. However, as backup, the project will apply for and obtain a temporary construction dewatering discharge permit consisting of a NPDES Remediation General Permit (NPDES RGP) from the EPA. The permit application includes collecting groundwater and surface water quality data to assess treatment needs prior to discharge. The NPDES RGP provides requirements for ongoing dewatering effluent testing and treatment which will be conducted as needed to meet permit discharge criteria. Given the granular nature of the underlying soils, the shallow excavations and depth to groundwater, it is expected that off-site discharge would primarily be required to manage accumulated precipitation and snow melt.

Soil Management Plan

Summary of Subsurface Investigations and MCP Regulatory Status

Numerous subsurface investigations have been conducted at the site to evaluate soil and groundwater quality. The locations of the soil borings, test pits and monitoring wells completed for the project are shown on Exhibit C.

- Groundwater has been tested for volatile organic compounds (VOCs), extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH). Chemical constituents were below laboratory reporting limits (non-detect) and below MCP reportable concentrations.
- Soil has been tested for VOCs, semi-volatile organic compounds (SVOCs), metals, polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPH), waste characteristics (pH, reactivity, ignitability), and conductance. Results for 27 out of 33 soil samples analyzed indicated constituents below MCP reportable concentrations. Results for 5 out of 33 soil samples analyzed indicated concentrations of SVOCs and/or metals slightly above the MCP reportable concentrations in fill soils only. The PAHs and metals detections are very common in

fill soils locally due to the ubiquitous historical use of coal and wood for heating. Residual coal, coal ash and wood ash is commonly found in fill soil. Ash and/or asphalt fragments were documented in the fill soils which exhibited the detections above MCP reportable concentrations.

Based on the project LSP's experience characterizing soils in eastern Massachusetts and the documented presence of ash and asphalt particles observed in the fill soil samples, the project LSP has concluded that detections above the MCP reportable threshold are exempt from reporting in accordance with 310 CMR 40.0317(9)¹ and (12)(a)². Additionally, the concentrations are consistent with the 1998 Response Action Outcome (RAO) Statement discussed below.

The area of former RTN 3-10565 indicated on Exhibit C pertains to an area which partially overlaps with proposed redevelopment activities at the eastern end of the project. The former RTN 3-10565 release is associated with petroleum-impacted rail ballast and soil removed from the site in 1993 during track renovations. The source of the petroleum was attributed to historic non-point releases from rail traffic, and the extent of the release was determined to be the limits shown. Site characterization demonstrated no impacts to groundwater. In December 1998 the release achieved a Class B-1 Response Action Outcome (RAO) based on a risk characterization which concluded that a condition of No Significant Risk to human health, public safety and welfare and the environment exists for unrestricted future site use. A Class B-1 RAO is equivalent to a Permanent Solution with No Conditions under the current MCP regulations.

Soil and Groundwater Management During Construction

Considering that the previous site release has achieved a Permanent Solution with No Conditions and that recent subsurface investigations have confirmed there is no other MCP reportable condition for the project, no MCP-related regulatory compliance documentation is required to support soil management during construction. Specifically, a Release Abatement Measure (RAM) Plan is not required³.

Mark Development has engaged a Licensed Site Professional (LSP) to provide environmental consulting and soil management monitoring. The LSP will conduct additional soil testing to characterize soil to be excavated, managed onsite and/or removed from the site during proposed redevelopment. Based on previous investigations at the property which are summarized above, we anticipate that the majority of soil to be managed during property redevelopment will consist of Non-Remediation Waste (i.e. soil with concentrations below applicable MCP Reportable Concentrations), and is therefore not subject to MCP regulations. Nevertheless, construction activities will be conducted in accordance with the applicable state, local, and federal regulations for managing soil and groundwater as well as worker and surrounding population safety.

A small amount of soil managed during redevelopment will contain concentrations exceeding Massachusetts Contingency Plan (MCP) RCS-1 Reportable Concentrations. Although no RAM Plan is

¹ 310 CMR 40.0317(9) exempts releases of oil and hazardous material related to coal, coal ash or wood ash

² 310 CMR 40.0317(12)(a) exempts releases of oil and hazardous material emanating from asphalt binder

³ 310 CMR 40.1067(3) states that remedial actions conducted after the submittal of a Permanent Solution with No Conditions do not require documentation under the MCP. Excavated Remedial Waste (i.e. soil containing concentrations above applicable reportable concentrations) shall be managed in accordance with the provisions of 310 CMR 40.0030.

required, the MCP does require that such soil be managed in accordance with minimum waste provisions outlined at 310 CMR 40.0030; Haley & Aldrich will provide LSP oversight to document that this occurs. The general requirements are as follows:

- Soil is handled, stored, transported, treated, recycled, reused and disposed in a manner that ensures the protection of health, safety, public welfare and the environment
- Soil is transported from the site under a Bill-of-Lading to appropriate facilities permitted to receive such soil

The project contract documents include an Excavated Materials and Soil Management Plan and Dewatering specifications which outline detailed provisions for:

- Criteria for onsite soil reuse
- Monitoring dust at the site perimeter
- Perimeter dust monitoring actions levels, which if exceeded during construction, will require corrective measures.
- Monitoring construction dewatering effluent discharge in accordance with permit criteria
- Observation and screening of excavated soil for evidence of contamination prior to and during construction
- Segregating and testing of any soil exhibiting possible evidence of contamination
- Temporary stockpiling of soil onsite, if any
- Evaluating potentially hazardous conditions, if encountered unexpectedly during construction. These conditions include unexpected odors, underground storage tanks, or other buried materials.

In summary, considering the limited environmental impacts to the site, the proposed redevelopment is unlikely to adversely impact human health, public welfare or the environment.

Noise Mitigation

The project will generate typical sound levels from construction activities, including demolition, foundation construction, truck movements, heavy equipment operations, blasting for ledge removal, and general construction activities. It should be noted that the Proponent has committed to remove all ledge and demolition materials in the largest form possible and will not use a material crusher on-site. Construction activity associated with the project may temporarily increase nearby sound levels due to the use of heavy machinery. Heavy machinery will be used intermittently throughout the Project's construction phases. The contractor will be required to comply with the MassDEP noise policy maintaining noise levels not to exceed 10 A-weighted decibels (dBA) over ambient levels at the location of sensitive receptors.

The Proponent will implement mitigation measures to reduce or minimize noise from construction activities. Specific mitigation measures may include:

- Construction equipment will be required to have installed and properly operating appropriate noise muffler systems and contractors will be required to maintain all original engine noise control equipment;
- All exterior construction activities, such as site excavation/grading and new building construction, will be managed and conducted in accordance with the City of Newton's requirements. Any necessary off-hour work will be minimized to the extent practicable;

- Appropriate traffic management techniques implemented during the construction period will mitigate roadway traffic noise impacts;
- Proper operation and maintenance, and prohibition of excessive idling of construction equipment engines will be implemented as required by DEP regulation 310 CMR 7.11;
- The Project Site will be surrounded by safety fencing to provide security, as well as to mitigate construction noise and fugitive dust;
- Work hours and relevant noise-generating activities will be reviewed with the City of Newton prior to construction; and
- Appropriate operational specifications and performance standards will be incorporated into the construction contract documents.

Limited ledge removal will be required during the site work phase of the Project. Blasting activities, as described previously in Section 6.1.7.1, will be restricted to daytime periods only during approved construction hours. All blasting will be conducted in accordance with applicable safety regulations and immediate residential abutters to the Project Site will be notified prior to any blasting activities. A typical rock blast produces a maximum sound level in the audible range of 94 dBA Lmax at 50 feet. The estimated instantaneous maximum (Lmax) sound levels at the nearest residential properties from blasting on the site are 69 to 84 dBA. These levels are similar to existing daytime sound levels at these same locations of 60 to 87 dBA Lmax. Therefore, blasting sound for brief periods during the day is not expected to create a noise nuisance condition to surrounding residential properties. Furthermore, all blasting activity will be done by a licensed blasting contractor in full compliance with all state and federal regulations for protecting residential areas.

- Noise monitoring will be conducted at the perimeter of the portion of the site where blasting is occurring to confirm that the performance standards outlined above are achieved. Baseline data will be collected prior to the start of blasting and compared to measurements and activities underway to determine if modifications to work is required to mitigate noise.

Dust Mitigation

Dust generated from earthwork and other construction activities will be controlled by spraying water. If necessary, other dust suppression methods will be implemented to mitigate the off-site transport of dust. There also will be wheel washes for vehicles leaving the Project Site during construction and regular sweeping of the pavement of adjacent roadway surfaces during the construction period to minimize the potential for vehicular traffic to kick up dust and particulate matter.

The Proponent will conduct dust monitoring at two locations at the site perimeter during dust generating activities such as demolition and earthwork. The monitoring devices will be located closest to residential structures and MBTA riders to measure particulates and confirm the effectiveness of the dust mitigation measures.

Contractors working on the project will be required to adhere to applicable regulations regarding control of dust and emissions. This will include, but not be limited to, maintenance of all motor vehicles, machinery, and equipment associated with construction activities, and proper fitting of equipment with mufflers or other regulatory-required emissions control devices. The Proponent will require that the

machinery of the hired contractor and the machinery of other hired sub-contractors to perform site work will utilize Low Sulfur Diesel (LSD) fuel or Ultra-Low Sulfur Diesel (ULSD) fuel in off-road construction equipment.

The construction process typically involves operations that may introduce two main types of air emissions: dust and vehicle exhaust. Clearing of vegetation, earthwork, blasting/excavation, and demolition activities provide the potential for release of fugitive dust emissions. The use and operation of construction vehicles and equipment provides the potential for increases of motor vehicle engine emissions.

Dust will be controlled using wetting agents, as necessary, and the direct transfer of excavated soil into covered trucks will greatly diminish the potential for generation of airborne dust. If necessary, other dust suppression methods will be implemented to ensure minimization of the off-site transport of dust. There also will be regular sweeping of the pavement of adjacent roadway surfaces during the construction period to minimize the potential for vehicular traffic to kick up dust and particulate matter. Dust control and street cleaning will be components of the contractor's Stormwater Pollution Prevention Plan (SWPPP) under the EPA General Construction Permit.

The Proponent will require the use of ultra-low-sulfur diesel fuel exclusively in all diesel-powered construction equipment. Ultra-low sulfur diesel has a maximum sulfur content of 15 parts per million, as opposed to low sulfur diesel fuel, which has a maximum sulfur content of 500 parts per million. In fact, by using ultra-low sulfur diesel fuel, there is a 97 percent reduction in the sulfur content as compared to low sulfur diesel fuel. In addition, the Proponent will direct its contractor(s) to retrofit any diesel-powered non-road construction equipment rated 50 horsepower or above to be used for 30 or more days over the course of the Project with EPA-verified (or equivalent) emission control devices (e.g., oxidation catalysts or other comparable technologies).

CONSTRUCTION MONITORING

Wetlands and Water Quality

During construction, the Project will include installation of redundant erosion and sedimentation controls to eliminate discharge of any sediment material into nearby wetland resource areas or off-site drainage systems. Site preparation activities, construction staging, and other requirements are described below. Additionally, a Stormwater Management Plan, as described in the Stormwater Management Report, has been developed to minimize impacts on nearby resource areas from construction activities, and long term operation of the Project.

There is no work anticipated directly within wetland resource areas. Work within the 100-foot wetland buffer zone is also limited and includes minor re-grading and restoration of open space to accommodate the roadway improvements and future connection to the DCR bike path. Erosion and sedimentation controls including silt fence and hay bales will be installed along appropriate downgrade portions of the perimeter of the excavated areas to prevent construction materials from contaminating the storm drainage system.

Site Preparation, Construction Staging and General Construction Requirements

The Project Site preparation and construction staging for the Project will include several important steps. The contractor will establish site trailers and staging areas to minimize impacts on natural resources. The site trailers and staging areas will provide a location for erosion control equipment and supplies, documentation related to the Project's local and State permits, as well as NPDES compliance, and spill control equipment. It is expected that the staging area will be located on compacted gravel or a paved surface, which will reduce potential erosion. As previously noted, most of the Site has been previously altered with predominantly paved areas associated with commuter parking areas. As such, these areas will be far more manageable as compared to a previously undisturbed site.

The following are some general requirements related to construction vehicle fueling and storage:

- Any refueling of construction vehicles and equipment will take place outside of the 100-foot wetlands buffer zone or riverfront area and will not be conducted in proximity to temporary sedimentation basins or diversion swales;
- No on-site disposal of solid waste, including building materials, is allowed in the 100-foot buffer zone;
- No materials will be disposed of into the wetlands or existing or proposed drainage systems. All contractors, including concrete suppliers, painters and plasterers, will be informed that the cleaning of equipment is prohibited in areas where wash water will drain directly into wetlands or stormwater collection systems; and
- The contractor will establish a water resource to supply a "water truck", or other means, to provide moisture for dust control and irrigation. Water will not be withdrawn from wetland areas.

Upon establishing the staging area, the contractor will then establish sedimentation and erosion controls as identified in the next section. Although specific construction and staging details have not been finalized, the Proponent will work with the Contractor to verify that materials staging, and storage areas will be located to minimize impact to the surrounding neighborhood, pedestrian, and vehicular traffic. All staging and vehicular unloading is anticipated to occur on-site.

Sedimentation and Erosion Control

The Project will include implementation of erosion and sedimentation controls during each phase of construction through implementation of a SWPPP. The SWPPP will be adapted to fit the contractor's equipment, weather conditions, and specific construction activity. The following sedimentation and erosion control measures will be employed, as well as additional construction methods, in order to minimize impacts.

The program incorporates Best Management Practices (BMPs) specified in guidelines developed by MassDEP and the EPA. Proper implementation of the erosion and sedimentation control program will minimize exposed soil areas through sequencing and temporary stabilization, place structures to manage stormwater runoff and erosion, and establish a permanent vegetative cover or other forms of stabilization as soon as practicable.

The structural and non-structural practices proposed for the Project comply with criteria contained in the NPDES General Permit for Discharges from Large and Small Construction Activities issued by the EPA. Non-structural practices include temporary stabilization, temporary seeding, permanent seeding, pavement sweeping, and dust control. Structural practices include erosion control barriers, stabilized construction exits, temporary sediment basins, diversion swales, temporary check dams, catch basin inlet protection, and dewatering filters:

In addition, a hay bale/silt fence line will be installed along the down gradient slope at the limit-of-work line. The installation of this hay bale/silt fence line will provide erosion and sedimentation controls for the Project and will define the limit of disturbance for the Site contractor.

Pre-Construction Erosion Control

Erosion control barriers, such as silt fences or hay bale dyke, will be installed prior to the start of construction. These barriers will remain in place until all tributary surfaces have been fully stabilized. The contractor will establish a staging area, outside of the 100-foot wetland buffer zone and riverfront area, for the overnight storage of equipment and stockpiling of materials. In the staging area, the contractor will have a stockpile of materials required to control erosion on site, which is to be used to supplement or repair erosion control devices. These materials will include, but are not limited to, hay bales, silt fence, erosion control matting, and crushed stone.

A temporary stone construction entrance is required to prevent tracking of silt or mud onto existing roads. The stone will be replaced regularly, and the silt-laden will be replaced as needed. The contractor is responsible for erosion control on the Site, and will utilize erosion control measures where needed, regardless of whether the measures are specified on the construction plans or in supplemental plans prepared for the SWPPP.

General Erosion Control Measures

The most important aspects of controlling erosion and sedimentation are limiting the extent of disturbance and limiting the size and length of the tributary drainage areas to the worksite and drainage structures. These fundamental principles will be the key factors in the contractor's control of erosion on the Project Site. If appropriate, the contractor will construct temporary diversion swales, settling basins, or use a settling tank. If additional drainage or erosion control measures are needed, they will be in the upland, up-gradient from the hay bales and silt fences.

All disturbed surfaces will be stabilized a minimum of 14 days after construction if any portion of the Project Site has ceased or is temporarily halted unless additional construction is intended to be initiated within 21 days.

The contractor is responsible for the maintenance and repair of all erosion control devices on-site. All erosion control devices will be regularly inspected. At no time will silt-laden water be allowed to enter sensitive areas (wetlands, streams, and drainage systems). Any runoff from disturbed surfaces will be directed through a sedimentation tank that will discharge by gravity to the existing on-site drainage system.

Soil Stabilization Specifications

All disturbed areas to remain open will be graded and stabilized with plantings, sod, grass, riprap, or other suitable material as shown or specified on the plans. A minimum of six inches of loam will be applied to all surfaces to be seeded. Loam will be uniformly applied, compacted, shaped, and smoothed prior to being seeded.

Seeding may be performed by hand, mechanical, or by tractor-mounted spreader. Hydroseeding or sod may also be used. Seeding before April 15, or after October 15, will be reapplied between these dates if a minimum germination of 90 percent of surface area coverage has not occurred, or if the surface has become unstable. Seed will be lightly raked into a depth of ¼-inch to one inch, with raking to be perpendicular to slope. Seeded areas will be mulched using seed-free straw, covering the area to a depth of one inch.

Utility Construction

The Proponent will construct utility trenches in a manner that will not direct runoff toward wetlands or to drainage system structures.

Drainage System

The following will be employed during construction activities in order to minimize impacts to the local drainage system:

- Inlet works shall be constructed to a point that will allow the stabilization of the area over the pipe, if the tributary drainage works are not to be immediately extended;
- Hay bale check dams shall be used on roadways to divert runoff onto stabilized areas;
- The drainage system will be installed from the downstream end up;
- Until tributary areas are stabilized, catch basin inlets will be filtered with a silt sack, or by placing filter fabric over catch basin grates and surrounding the grate with stone or sandbags. If intense rainfall is predicted before all tributary areas are stabilized, erosion control measures will be reinforced for the duration of the storm. Downstream areas will be inspected, and any sediment removed at the end of the storm;
- Unfiltered water will not be allowed to enter pipes from unstabilized surfaces;
- Trench excavation will be limited to the minimum length required for daily pipe installation. All trenches will be backfilled as soon as possible. The ends of pipes will be closed nightly with plywood;
- Silt-laden waters should be intercepted prior to reaching catch basins. Any gross depositions of materials on paved surfaces will be removed;

- All paved areas shall be vacuum swept during the April-May period; and
- Catch basins should be inspected monthly and cleaned in anticipation of the winter season in November and at the same time the roads are swept in the spring.

Massachusetts Contingency Plan (MCP) Compliance

The project Licensed Site Professional (LSP) has evaluated site environmental conditions relative to requirements of the Massachusetts Contingency Plan (MCP). The evaluation was based on environmental site assessments completed and review of a comprehensive data set indicating environmental soil quality across the site. The locations of soil data and the limits of a previous MBTA release located north of the project and over a portion of the east end of the project are shown on the attached Exhibit C. The soil quality data has not revealed concentrations of Oil and or Hazardous Materials requiring reporting to MA DEP, therefore no preconstruction submittals (such as a Release Abatement Measure (RAM)) plan are required by MA DEP. However, the LSP will prepare a Soil Management Plan which will detail soil and groundwater management activities during all site earthwork operations. The soil management plan will also be incorporated into project specifications included in contract documents. The Soil Management which will be provided to the City for review. The Soil Management Plan will require the LSP or its designee to be on-site during earthwork activity to confirm that conditions are consistent with the available data. If visual or olfactory observations indicate potential contamination the material will be segregated for further assessment. The Proponent will conduct additional soil and/or groundwater testing as needed to confirm conditions and provide the necessary data required by receiving facilities for any material to be excavated and transported off site. If contamination in excess of applicable reporting thresholds are encountered, the Proponent and its LSP will prepare a Release Notification and submit to MassDEP.

Maintenance of Erosion and Sedimentation Controls

Scheduled inspections and maintenance of erosion and sedimentation controls will be routinely performed by the Contractor and/or an Environmental Site Monitor to maintain the functional capacity of the stormwater system and to protect stormwater quality during construction. Sediment and erosion controls will be inspected within 12 hours following each storm event of 0.5-inch or greater. Immediate action will be taken to correct any failures that are observed, and repairs and/or adjustments made promptly to any erosion and sedimentation control measures found to be inadequately performing. Silt sacks or hay bales will be installed in or around existing and new catch basins, and a supply of replacement materials such as silt fence or hay bales necessary for repairs or for first response in the event of an accidental release or failure, will be stored on-site. Catch basins in work areas will be cleaned when the sump becomes one-half full and accumulated sediment and debris should be removed from the site.

National Pollutant Discharge Elimination System

As previously discussed, the Project is subject to the provisions of the NPDES because the proposed development results in the disturbance of more than one acre of land. Prior to the start of construction, the property owner and/or general contractor must file a Notice of Intent (NOI) with the U.S. Environmental Protection Agency (EPA) under the NPDES General Permit for Construction Activities. The NOI will include a SWPPP, largely consisting of the erosion and sedimentation control plan described herein. A SWPPP will be prepared by the general contractor prior to filing the NOI for the NPDES Phase II Stormwater General Permit. The general contractor is solely responsible for developing and implementing the SWPPP. The final DMP will include a copy of the SWPPP to be filed with the EPA. The SWPPP will include the final phased Erosion and Sedimentation Control Plan, a Spill Prevention, Control and Countermeasure Plan and the Operations and

Maintenance checklist for use in the log to be maintained on site. This log will be kept in the field office available for review and will be reviewed as part of the Liaison Committee meetings.

The SWPPP will be implemented during construction to comply with the requirements of the NPDES General Permit. The Project contractor will be responsible for implementing and maintaining all erosion and sedimentation control measures. Below are specific recording and inspection requirements:

NPDES Record Requirements

- A copy of the NPDES submittal and SWPPP must be kept on-site at all times during construction and will be made available to all interested parties.
- Records must be maintained pursuant to the permit for a period of three years from the date of stabilization of the Project Site as required. Stabilization occurs when the Project Site has over 70 percent vegetative growth and/or mechanical stabilization throughout.
- The detailed plans of completed work must be added to the NPDES and SWPPP information specified above as they become available.

NPDES Inspection Requirements

- All inspections will be conducted by qualified personnel who will produce written quantitative and qualitative reports on the construction methods, general condition of the Project Site, the condition of erosion control measures, and the status of the installation of drainage structures.
- Inspections are required during site alteration a minimum of one out of every seven days while surfaces are not stabilized.
- Inspections are required within 24 hours of storms which have 0.25-inches or greater of precipitation.
- Before/until the Project Site is fully stabilized, inspections will be conducted at monthly intervals for a period of one year.

Water Quality and Monitoring Requirements

The Proponent will conduct a stormwater sampling program in accordance with the City of Newton MS4 Permit Redevelopment Requirements (Section 2.3.6.a.). The sampling program will begin within 60 days of the completion of Infiltration System 101 (as shown on the site plans), and continue annually thereafter for two years following the full build-out of the Project. Sampling will be conducted at two drainage structures:

- The existing drainage structure adjacent to Grove Street on the development parcel approximately 200 feet south of the MBTA rail bridge; and
- DMH-13 as shown on the site plans. Samples at this location should be taken both from the 48" and 60" pipes entering the structure;

Samples shall be taken both during wet and dry conditions. These samples shall be documented, and the following information shall be provided to the City of Newton Stormwater Program Manager:

- Date of sample and weather conditions;
- Date of the most recent rain event;
- Depth of precipitation of the most recent rain event;
- Percentage of Total Suspended Solids (TSS) by EPA approved method 160. or 180.1; and
- Total Phosphorus (TP) in sample by EPA approved method 365.1, 265.2 or SM 4500-P-E.

Vibration Monitoring

The Proponent will contract with a vendor specializing in vibration monitoring. The parameters of the monitoring will be as follows:

- Engineered seismographs established prior to any scheduled work to establish a baseline
- Engineered seismographs established at the start of and throughout any scheduled work that includes demolition, earthwork or blasting;
- The perimeter will be monitored in four (4) directions to determine conformance with the vibration limitations set forth by the City and notify the contractor and Proponent of excessive vibration. The reporting and data from the monitoring devices will be shared with the Liaison Committee.

Noise Monitoring

The Proponent will contract with a vendor specializing in noise monitoring. The parameters of the monitoring will be as follows:

- A baseline noise level will be established in terms of dBA.
- A monitoring station will be established at the nearest sensitive receptor during demolition, earthwork and blasting activities; and
- The activities will be required to maintain sound levels that do not result in an increase of 10 dBA over the baseline level.

Dust Monitoring

The Proponent will contract with a vendor specializing in dust monitoring. The parameters of the monitoring will be as follows:

- Monitoring stations will be established at the start of and throughout any scheduled work that includes demolition, earthwork or blasting; and
- The perimeter will be monitored on the two sides of the project closes to residents and MBTA riders to determine the effectiveness of dust control measures and notify the contractor and Proponent of excessive dust migration. The reporting and data from the monitoring devices will be shared with the Liaison Committee.

Rodent Control

The Proponent will contract with a vendor specializing in rodent control. The parameters of the monitoring will be as follows:

- Pre-demolition interior rodent trapping
- 24-hour interior and exterior wildlife monitoring with motion activated trail cameras
- Exterior monitoring stations around the perimeter of the site

- Interior monitoring stations within the demolished buildings
- Bait stations around the perimeter of the site (only as needed based on observed activity)
- Daily inspections
- Daily reporting

Pre-Construction Rodent and Wildlife Monitoring

The cornerstone of this rodent control program will be a strong defensive perimeter. The site perimeter fence line will be monitored with tamper resistant rodent stations placed every 25 ft. Each piece of equipment will be numbered and mapped. This will help direct control efforts and establish trend reports. Stations will be outfitted with nontoxic monitoring blocks to help determine if local pest activity is present. In the event of rodent feeding within the station, the monitoring blocks will be replaced with reduced risk materials or snap traps depending on the situation. Signage mounted to the fence line perimeter will help to identify station placement and will bear MD Weaver contact information in the event of a question or concern.

Interior trapping services will be rendered to each building prior to demolition. Physical trapping will provide rapid control over any interior rodent activity, reduce the chance of rodents fleeing the site once demolition commences and will help to quantify site specific rodent activity.

Local wildlife populations, with nuisance wildlife being of special interest, will be monitored with the use of wildlife trail cameras. A detailed inspection of the site will guide camera placements and help determine what species are present. If wildlife activity is noted during the monitoring phase of the program the appropriate corrective action, if any, will be taken. In the event of potential wildlife displacement, nuisance activity or an elevated risk to the community, the target animal may be trapped and removed from the site. Trapping will occur within the buildings whenever possible to help ensure that only target wildlife that inhabits the site are captured.

Active Site Rodent Control

Weekly service to the site will be rendered to check rodent bait stations for activity, monitor the trail camera footage and conduct visual inspections for any apparent rat activity within the area. The monitoring and control phase of the program will be continuously maintained until the project's completion. In the event of any elevation of rodent activity, aggressive correction actions will be taken to resolve the activity. Increased service frequency, additional equipment, alternative material selection and direct burrow applications will be employed to achieve the fastest resolution possible.

EXHIBITS

EXHIBIT A - Phasing Plans

EXHIBIT B – Construction Parking

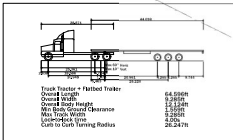
EXHIBIT C - Observation Well Location Plan

EXHIBIT D- Summary of Groundwater Elevations

EXHIBIT E - Pre-Construction Survey Limits

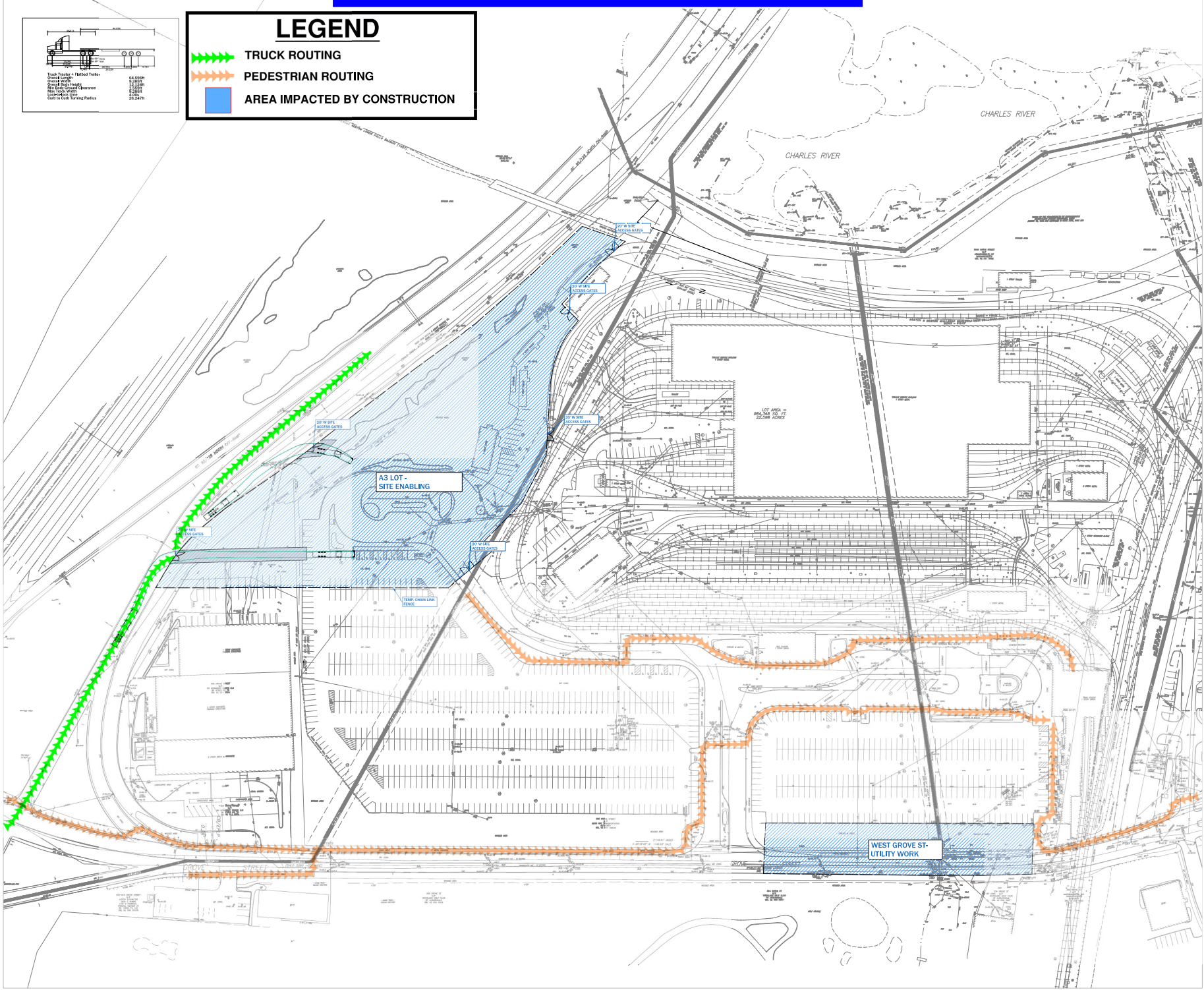
EXHIBIT F - Culvert Inspection

EXHIBIT A - PHASING PLAN



LEGEND

- TRUCK ROUTING
- PEDESTRIAN ROUTING
- AREA IMPACTED BY CONSTRUCTION



Project No. 22-0084

7/7/2022

Revisions

1	
---	--

Notes

-

DRAFT ONLY

Project North





Scale 1/32"=1'-0"

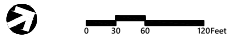
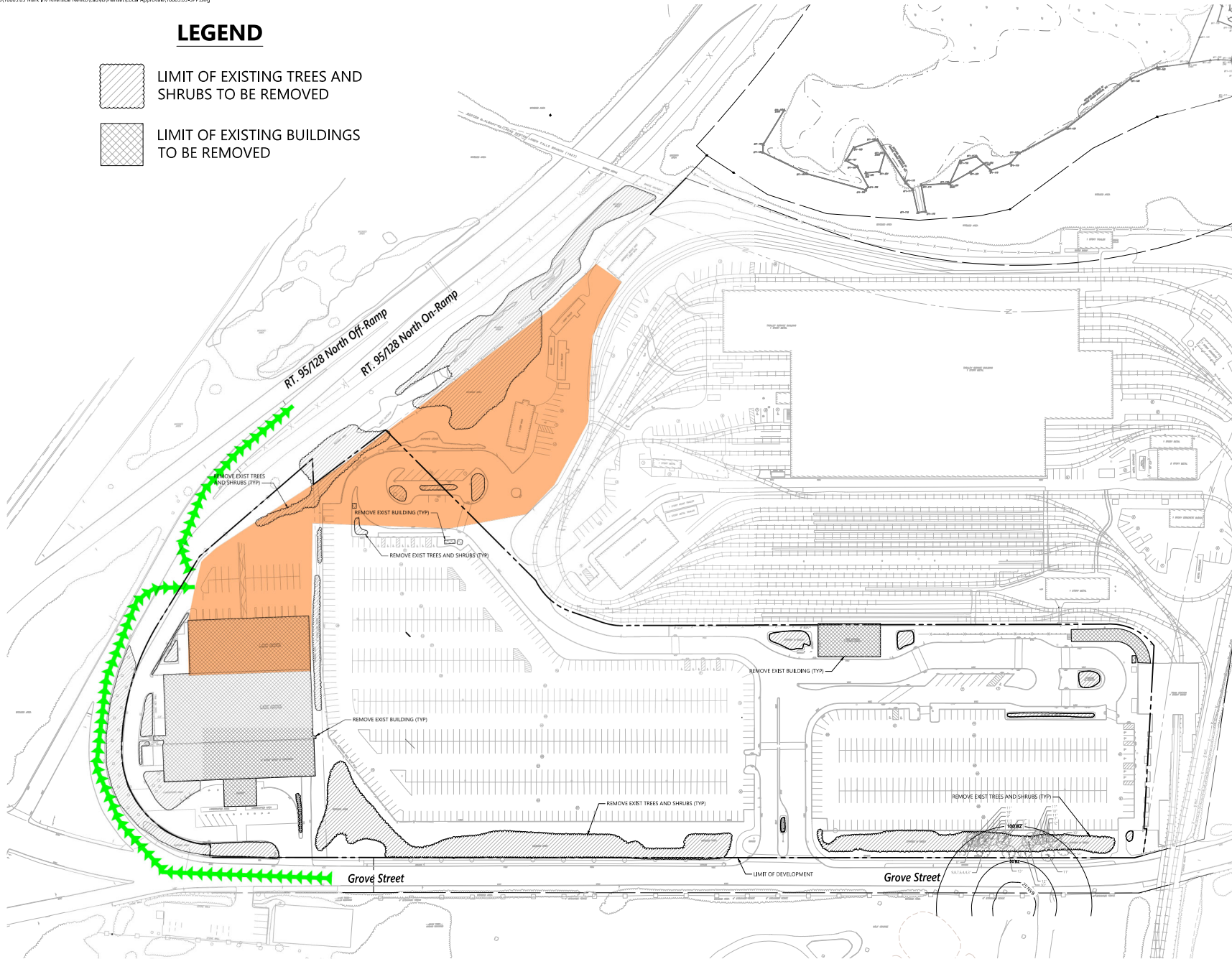
OFF SITE WORK -
SITE PHASING

CMP1.1

EXHIBIT B - PARKING PLAN

LEGEND

-  LIMIT OF EXISTING TREES AND SHRUBS TO BE REMOVED
-  LIMIT OF EXISTING BUILDINGS TO BE REMOVED



Riverside Station Grove Street Newton, Massachusetts

No.	Revision	Date	Appr'd
1	RESPONSE TO COMMENTS	04/28/2020	ASH
2	RESPONSE TO COMMENTS	07/07/2020	ASH
3	SPECIAL PERMIT SUBMITTAL	05/01/2021	ASH
4	BUILDINGS 1 AND 2 REVISIONS	05/12/2021	ASH
5	UTILITY REVISIONS	07/23/2021	ASH

Prepared by: **PTM** Checked by: **KSS**
 Special Permit Date: **Dec. 9, 2019**

Not Approved for Construction
Site Preparation Plan

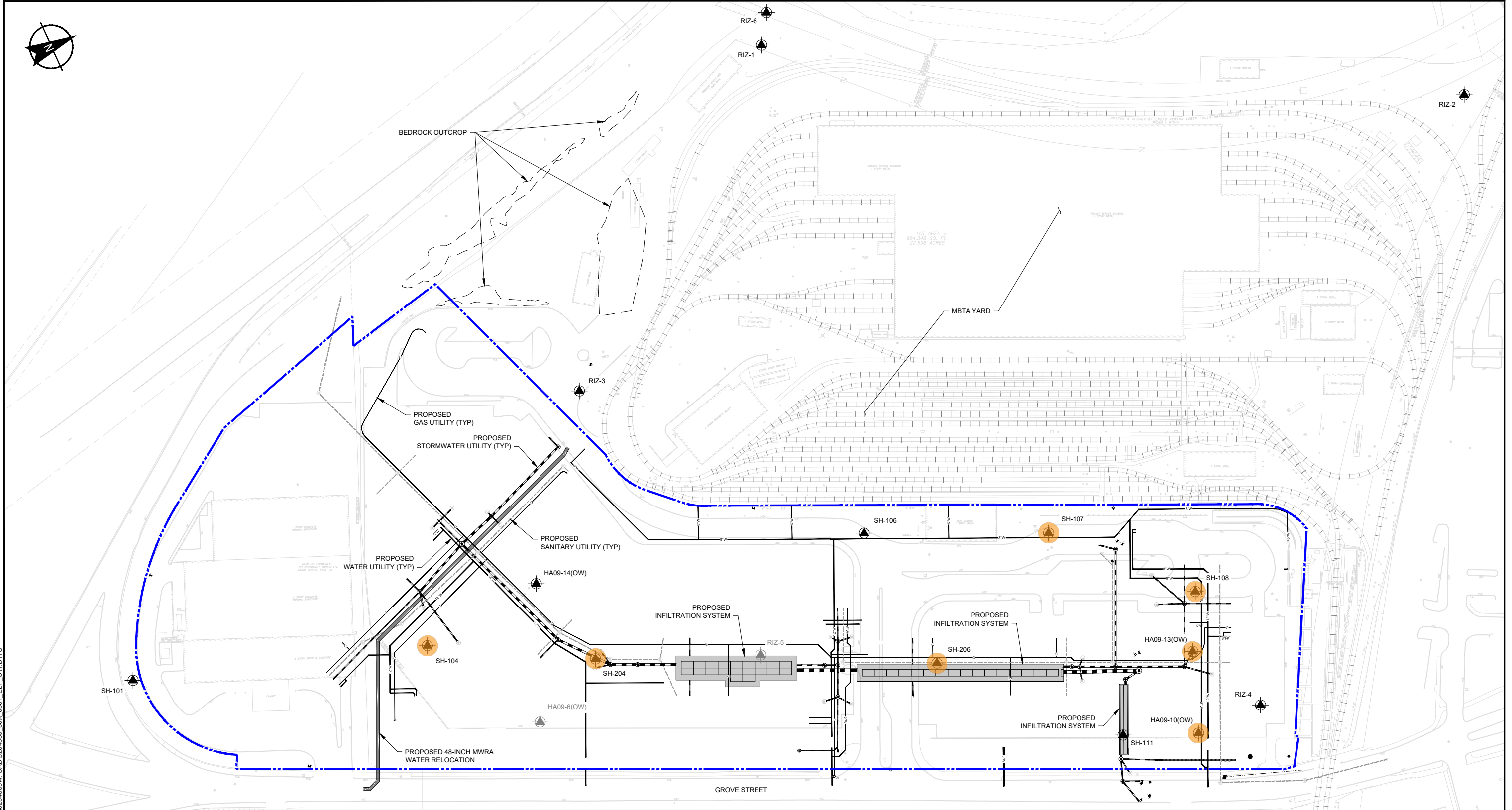


C-6.0

Sheet **10** of **25**

Project No: **10865.03**
 Date: **7/23/2021**

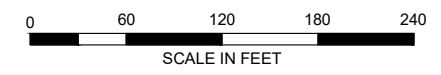
EXHIBIT B - OBSERVATION WELL LOCATIONS



ZGARDNER
 W\HALEY\ALDRICH\COM\SHARE\Q\PROJECTS\20\43594_CADD\0\204359_00X_0001_ELP_OW.DWG
 Printed: 6/30/2022 3:33 PM
 Sheet: ELP-OW

LEGEND	
●	DESIGNATION AND APPROXIMATE LOCATION OF MONITORING WELL INSTALLED 1996 THROUGH 2022
●	DESIGNATION AND APPROXIMATE LOCATION OF MONITORING WELL ABANDONED-IN-PLACE
●	EXPLORATION LOCATION WHERE IN-SITU PERMEABILITY TESTING WAS PERFORMED

- NOTES**
- EXISTING CONDITIONS REFERENCE PLAN TITLED "ALTA/NSPS LAND TITLE SURVEY RIVERSIDE MBTA STATION, GROVE STREET", DATED 14 MAY 2009, BY FELDMAN LAND SURVEYORS.
 - PROPOSED UTILITIES REFERENCE ELECTRONIC DRAWING TITLED "10865.03_PRU.DWG" PROVIDED BY VHB ON 08 MARCH 2022.



RIVERSIDE DEVELOPMENT
NEWTON, MASSACHUSETTS

OBSERVATION WELL LOCATION PLAN

SCALE: AS SHOWN
JUNE 2022

EXHIBIT J

EXHIBIT C - SUMMARY OF GROUNDWATER ELEVATIONS

EXHIBIT K
SUMMARY OF GROUNDWATER ELEVATIONS
RIVERSIDE, GROVE STREET
NEWTON, MASSACHUSETTS

DRAFT



Observation Well No.	HA-09-6		HA-09-10		HA-09-13		HA-09-14		SH-101		SH-104		SH-106		SH-107		SH-108		SH-111		SH-204		SH-206	
Ground surface El. (ft)	64.00		60.00		61.00		64.00		90.20		64.77		65.90		65.94		62.55		62.35		63.50		66.00	
Date	El. (ft)	Depth (ft)	El. (ft)	Depth (ft)	El. (ft)	Depth (ft)	El. (ft)	Depth (ft)	El. (ft)	Depth (ft)	El. (ft)	Depth (ft)	El. (ft)	Depth (ft)	El. (ft)	Depth (ft)	El. (ft)	Depth (ft)	El. (ft)	Depth (ft)	El. (ft)	Depth (ft)	El. (ft)	
9/29/2009	-		47.5		-		-		-		-		-		-		-		-		-		-	
10/1/2009	51.5		-		-		-		-		-		-		-		-		-		-		-	
10/2/2009	-		-		-		-		-		-		-		-		-		-		-		-	
10/6/2009	-		-		-		43.4		-		-		-		-		-		-		-		-	
10/14/2009	-		50.7		51.1		43.2		-		-		-		-		-		-		-		-	
10/8/2019	-		-		-		-		52.0		47.0		dry		43.0		47.5		48.2		-		-	
10/15/2019	-		-		-		-		-		47.0		-		42.9		-		48.2		-		-	
4/20/2021	-		-		-		-		-		-		-		49.6		49.6		-		-		-	
5/18/2021	-		-		-		-		-		-		-		52.1		52.1		-		-		-	
3/14/2022																								
3/28/2022	destroyed	6.8	53.2	7.9	-		-		-	17.2	47.6		-	21.1	44.9	12.0	50.6	not accessible	19.0	44.5	20.9	45.1		
5/19/2022	destroyed	7.7	52.3	8.2	52.8	20.0	44.0		-	17.4	47.4	18.7	47.2	21.7	44.2	12.5	50.1	not accessible	19.5	43.9	21.3	44.7		
6/23/2022	destroyed		-		52.3		-		-		-		48.4		43.9		49.8	not accessible		-		-		

Note: Elevations are in feet, NAVD 1988

EXHIBIT D - PRE-CONSTRUCTION SURVEY LIMITS

Pre Con Survey Limits
250 feet limits of property

- Legend**
- 📍 275 Grove St
 - 📍 Feature 1
 - 📏 Line Measure
 - 📍 Pony Truss Bridge
 - 📍 Riverside
 - 📍 Riverside
 - 📍 Riverside Park



EXHIBIT E - RUNAWAY BROOK CULVERT INSPECTION



Protection Specialists

CO.
25 Marshall Street
Canton, MA 02021
Office: 800-422-0815
Fax: 781-828-2473

NWMCC INSPECTION REPORT

PACP Rating Description

1: Excellent Condition

Minor Defects - Failure unlikely in the foreseeable future

2: Good Condition

Defects that have not begun to deteriorate - Pipe unlikely to fail for at least 20 years.

3: Fair Condition

Moderate defects that will continue to deteriorate - Pipe may fail in 10-20 years.

4: Poor Condition

Severe Defects that will become Grade 5 defects within the foreseeable future - Pipe will probably fail in 5-10 years.

5: Immediate Attention

Defects require immediate attention - Pipe has failed or will likely fail within the next 5 years or sooner.



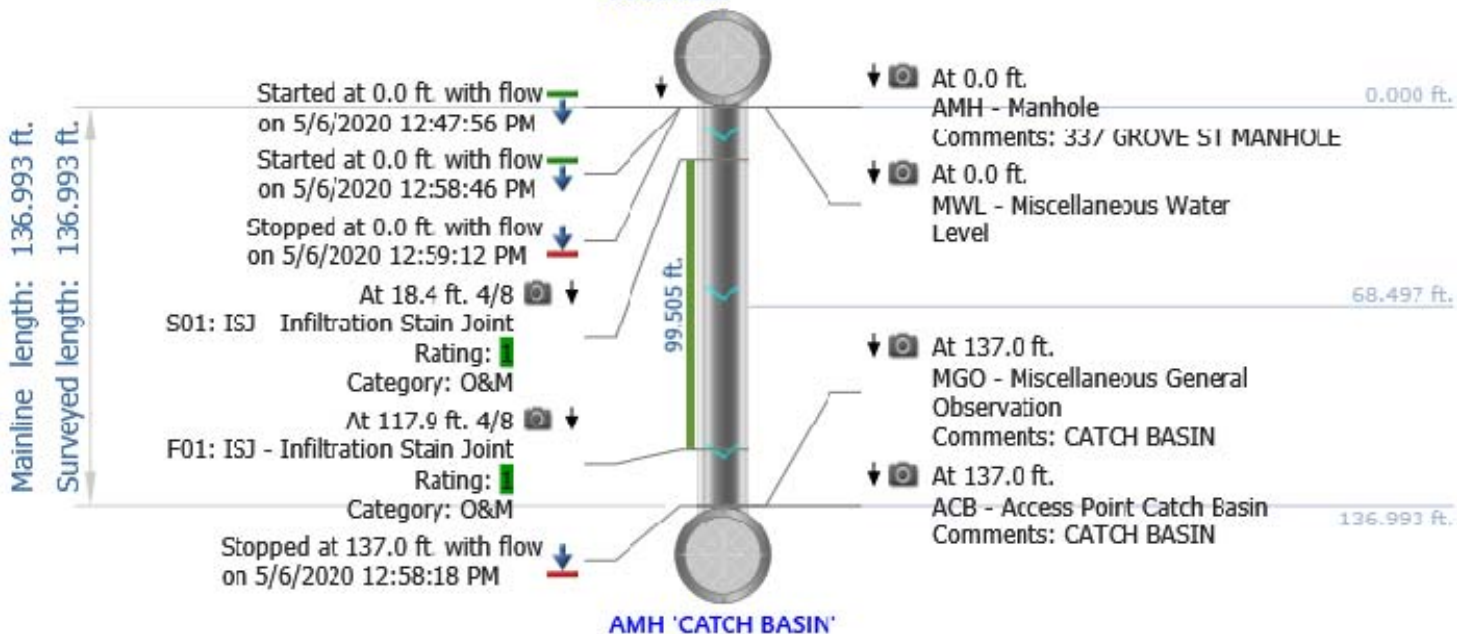
NWMCC INSPECTION REPORT

Start date/time: 20200506 12:47	Weather: Dry - No precipitation during survey	Surveyed by: A. Rodrigues	Certificate number: U-315-06023827	Pipe segment ref.: 337 GROVE ST MANHOLE-CATCH BASIN	
Owner:	Customer:	Pre-cleaning: No Pre-Cleaning	Date cleaned:	Project name: NEWTON	
City: NEWTON	Street: GROVE ST	Location code: Local/Rural Street	Pipe use: Stormwater Pipe	Drainage area:	Flow control:
Upstream MH No: 337 GROVE ST MANHOLE	Downstream MH No: CATCH BASIN	Direction: D	Total length: 136.993 ft.	Length surveyed: 136.993 ft.	
Purpose: Infiltration/Inflow Investigation	Pipe joint length:	Height: 60 in.	Material: Reinforced Concrete Pipe	Additional info:	

Pipe Ratings

Grade	Structural:					O&M:					Overall:			
	Defects	Segment Grade	Pipe Rating	Quick Rating	Pipe Rating Index	Defects	Segment Grade	Pipe Rating	Quick Rating	Pipe Rating Index	Pipe Rating	Pipe Rating Index	LoF	Risk
1	0	0	0	0000	0.0	0	20	20	1C00	1.0	20	1.0	2.0	
2	0	0				0	0							
3	0	0				0	0							
4	0	0				0	0							
5	0	0				0	0							

AMH '337 GROVE ST MANHOLE'



NWMCC INSPECTION REPORT

Inspection Photos

City: NEWTON	Street: GROVE ST	Start date/time: 20200506 12:59	Pipe segment ref.: 337 GROVE ST MANHOLE-CATCH BASIN
------------------------	----------------------------	---	---



Photo: 337 GROVE ST MANHOLE-T STATION-5_6_2020 12_47 PM-AMH-0.0 ft.-5_6_2020 12_47 PM.JPG

At: 0 ft. AMH - Manhole
Joint: No 337 GROVE ST MANHOLE



Photo: 337 GROVE ST MANHOLE-T STATION-5_6_2020 12_47 PM-MWL-0.0 ft.-5_6_2020 12_47 PM.JPG

At: 0 ft. MWL - Miscellaneous Water Level
Joint: No 5 %



Photo: 337 GROVE ST MANHOLE-T STATION-5_6_2020 12_47 PM-ISJ-18.4 ft.-5_6_2020 12_52 PM.JPG

At: 18.398 ft. ISJ - Infiltration Stain Joint
4/8
Joint: Yes



Photo: 337 GROVE ST MANHOLE-T STATION-5_6_2020 12_47 PM-ISJ-117.9 ft.-5_6_2020 12_54 PM.JPG

At: 117.903 ft. ISJ - Infiltration Stain Joint
4/8
Joint: Yes

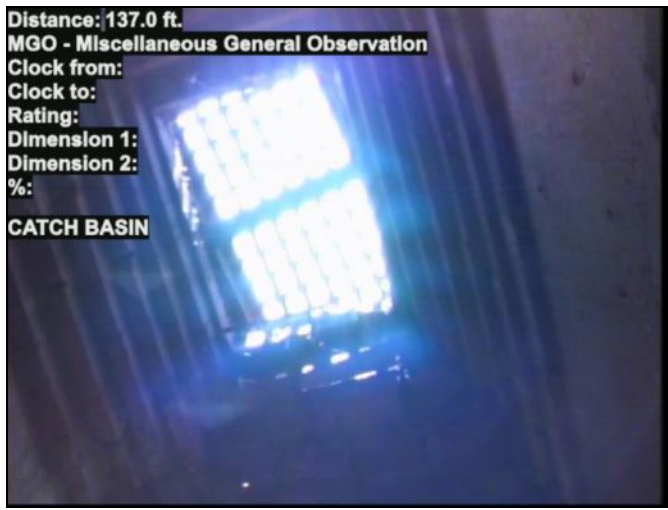


Photo: 337 GROVE ST MANHOLE-T STATION-5_6_2020 12_47 PM-MGO-137.0 ft.-5_6_2020 12_55 PM.JPG

At: 136.993 ft. MGO - Miscellaneous General Observation
Joint: No CATCH BASIN

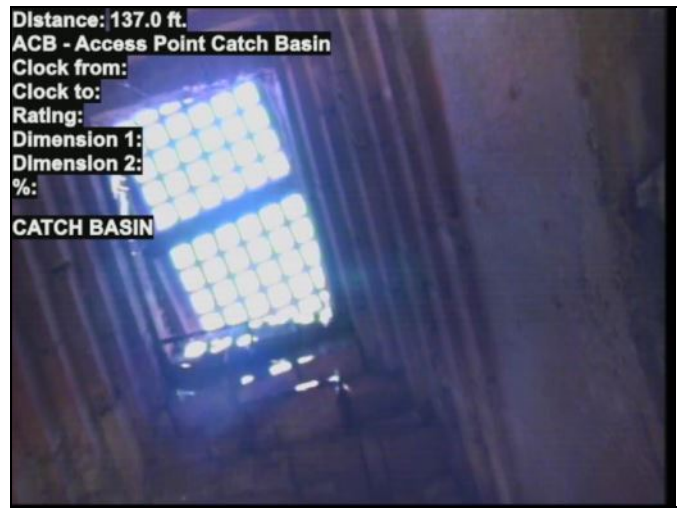


Photo: 337 GROVE ST MANHOLE-CATCH BASIN-5_6_2020 12_47 PM-ACB-137.0 ft.-5_6_2020 12_57 PM.JPG

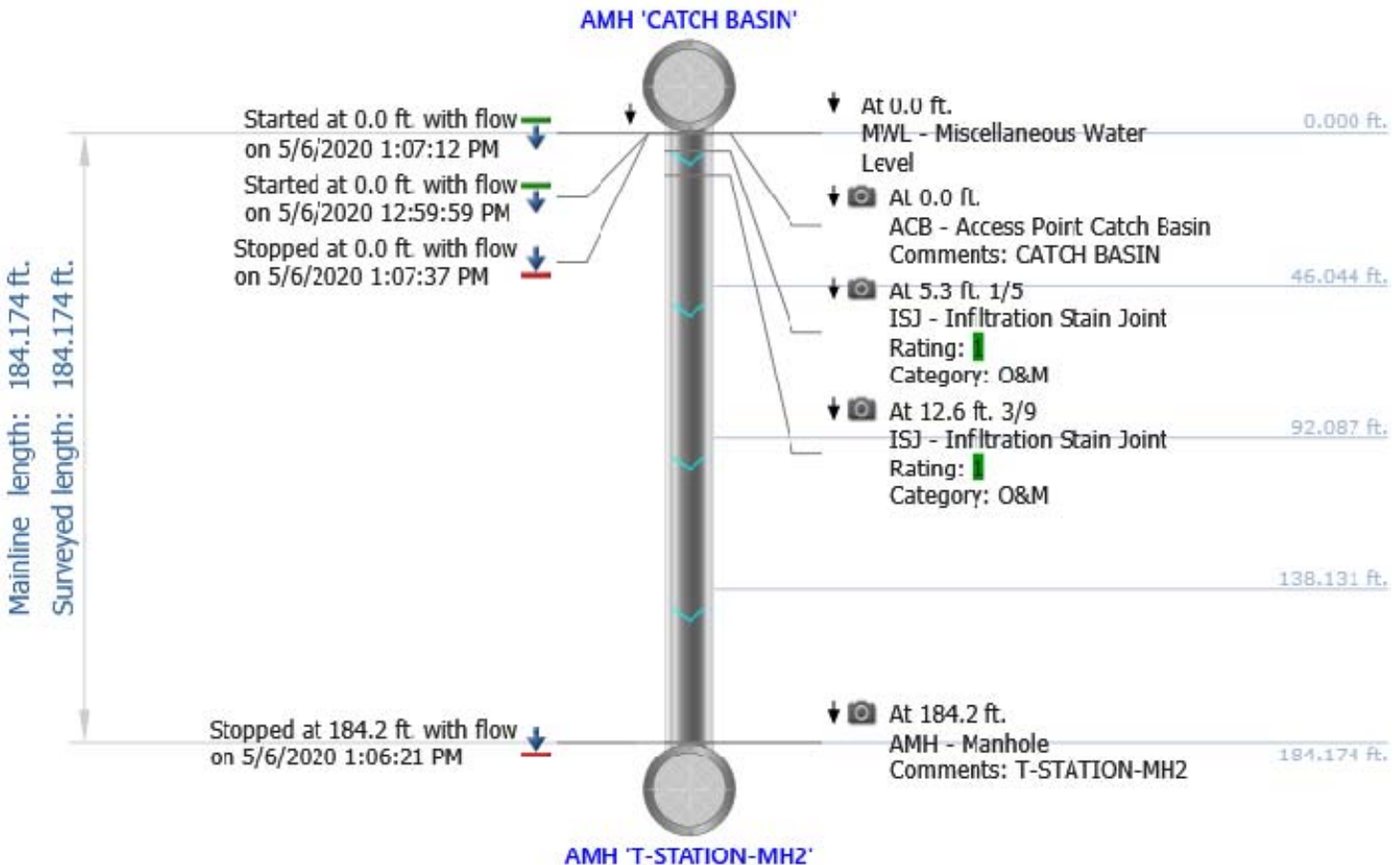
At: 136.993 ft. ACB - Access Point Catch Basin
Joint: No CATCH BASIN

NWMCC INSPECTION REPORT

Start date/time: 20200506 12:59	Weather: Dry - No precipitation during survey	Surveyed by: A. Rodrigues	Certificate number: U-315-06023827	Pipe segment ref.: CATCH BASIN-T-STATION-MH2	
Owner:	Customer:	Pre-cleaning: No Pre-Cleaning	Date cleaned:	Project name: NEWTON	
City: NEWTON	Street: GROVE ST	Location code: Local/Rural Street	Pipe use: Stormwater Pipe	Drainage area:	Flow control:
Upstream MH No: CATCH BASIN	Downstream MH No: T-STATION-MH2	Direction: D	Total length: 184.174 ft.	Length surveyed: 184.174 ft.	
Purpose: Infiltration/Inflow Investigation	Pipe joint length:	Height: 60 in.	Material: Reinforced Concrete Pipe	Additional info:	

Pipe Ratings

Grade	Structural:					O&M:					Overall:			
	Defects	Segment Grade	Pipe Rating	Quick Rating	Pipe Rating Index	Defects	Segment Grade	Pipe Rating	Quick Rating	Pipe Rating Index	Pipe Rating	Pipe Rating Index	LoF	Risk
1	0	0	0	0000	0.0	0	2	2	1200	1.0	2	1.0	1.2	
2	0	0				0	0							
3	0	0				0	0							
4	0	0				0	0							
5	0	0				0	0							



NWMCC INSPECTION REPORT

Inspection Photos

City: NEWTON	Street: GROVE ST	Start date/time: 20200506 13:08	Pipe segment ref.: CATCH BASIN-T-STATION-MH2
------------------------	----------------------------	---	--

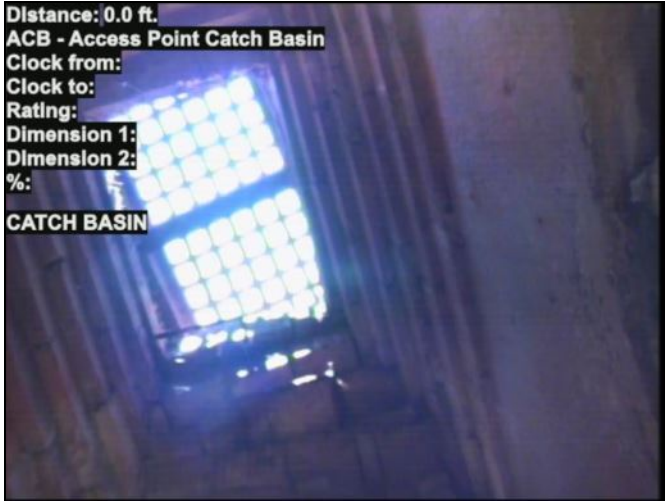


Photo: CATCH BASIN-T-STATION-5_6_2020 12_59 PM-ACB-0.0 ft.-5_6_2020 1_00 PM.JPG

At: 0 ft. ACB - Access Point Catch Basin
Joint: No CATCH BASIN



Photo: CATCH BASIN-T-STATION-5_6_2020 12_59 PM-ISJ-5.3 ft.-5_6_2020 1_01 PM.JPG

At: 5.341 ft. 1/5 ISJ - Infiltration Stain Joint
Joint: Yes



Photo: CATCH BASIN-T-STATION-5_6_2020 12_59 PM-ISJ-12.6 ft.-5_6_2020 1_02 PM.JPG

At: 12.562 ft. ISJ - Infiltration Stain Joint
3/9
Joint: Yes



Photo: CATCH BASIN-T-STATION-MH2-5_6_2020 12_59 PM-AMH-184.2 ft.-5_6_2020 1_05 PM.JPG

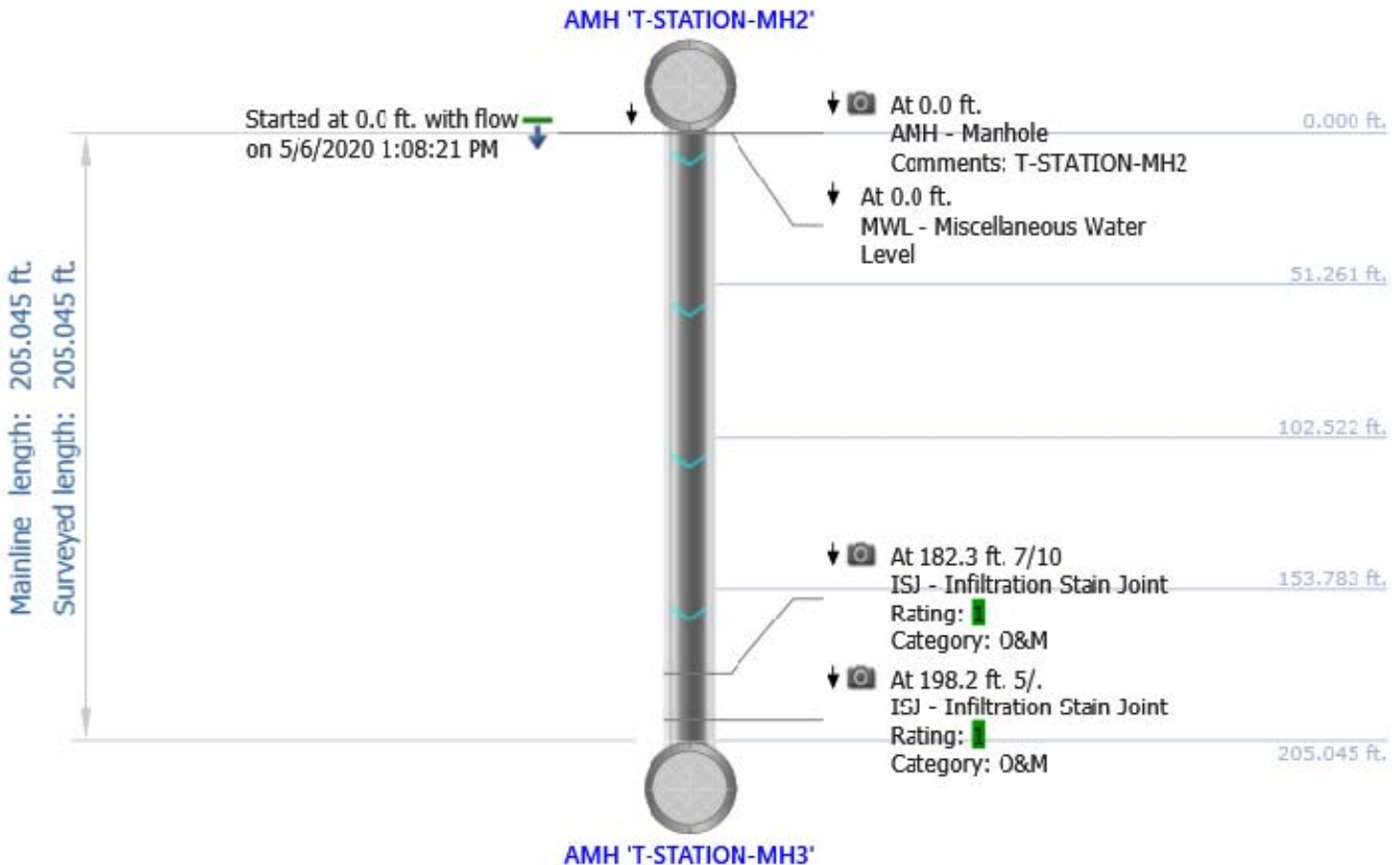
At: 184.174 ft. AMH - Manhole
Joint: No T-STATION-MH2

NWMCC INSPECTION REPORT

Start date/time: 20200506 13:08	Weather: Dry - No precipitation during survey	Surveyed by: A. Rodrigues	Certificate number: U-315-06023827	Pipe segment ref.: T-STATION-MH2-T-STATION-MH3	
Owner:	Customer:	Pre-cleaning: No Pre-Cleaning	Date cleaned:	Project name: NEWTON	
City: NEWTON	Street: GROVE ST	Location code: Local/Rural Street	Pipe use: Stormwater Pipe	Drainage area:	Flow control:
Upstream MH No: T-STATION-MH2	Downstream MH No: T-STATION-MH3	Direction: D	Total length: 205.045 ft.	Length surveyed: 205.045 ft.	
Purpose: Infiltration/Inflow Investigation	Pipe joint length:	Height: 60 in.	Material: Reinforced Concrete Pipe	Additional info:	

Pipe Ratings

Grade	Defects	Segment Grade	Structural:			Defects	Segment Grade	O&M:			Overall:			Risk
			Pipe Rating	Quick Rating	Pipe Rating Index			Pipe Rating	Quick Rating	Pipe Rating Index	Pipe Rating	Pipe Rating Index	LoF	
1	0	0	0	0000	0.0	0	2	2	1200	1.0	2	1.0	1.2	
2	0	0				0	0							
3	0	0				0	0							
4	0	0				0	0							
5	0	0				0	0							



Some observations have distance greater than the pipe length

Stopped at 205.0 ft. with flow ↓
on 5/6/2020 1:14:00 PM

↓ At 205.0 ft.
AMH - Manhole
Comments: T-STATION-MH3

NWMCC INSPECTION REPORT

Inspection Photos

City: NEWTON	Street: GROVE ST	Start date/time: 20200506 13:14	Pipe segment ref.: T-STATION-MH2-T-STATION-MH3
------------------------	----------------------------	---	--



Distance: 0.0 ft.
 AMH - Manhole
 Clock from:
 Clock to:
 Rating:
 Dimension 1:
 Dimension 2:
 %:
T-STATION-MH2

Photo: T-STATION-MH2-T-STATION-MH3-5_6_2020 1_08 PM-AMH-0.0 ft.-5_6_2020 1_08 PM.JPG

At: 0 ft. AMH - Manhole
 Joint: No T-STATION-MH2



Distance: 182.3 ft.
 ISJ - Infiltration Stain Joint
 Clock from: 7 o'clock
 Clock to: 10 o'clock
 Rating: 1
 Dimension 1:
 Dimension 2:
 %:

Photo: T-STATION-MH2-T-STATION-MH3-5_6_2020 1_08 PM-ISJ-182.3 ft.-5_6_2020 1_12 PM.JPG

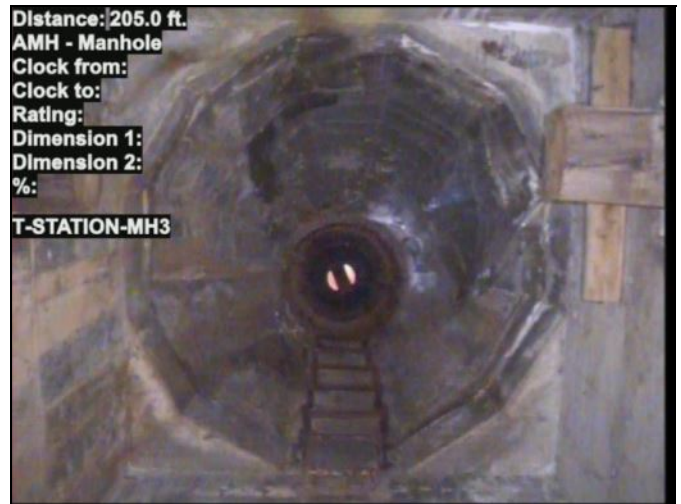
At: 182.295 ft. ISJ - Infiltration Stain Joint
 7/10
 Joint: Yes



Distance: 198.2 ft.
 ISJ - Infiltration Stain Joint
 Clock from: 5 o'clock
 Clock to:
 Rating: 1
 Dimension 1:
 Dimension 2:
 %:

Photo: T-STATION-MH2-T-STATION-MH3-5_6_2020 1_08 PM-ISJ-198.2 ft.-5_6_2020 1_13 PM.JPG

At: 198.22 ft. 5/. ISJ - Infiltration Stain Joint
 Joint: Yes



Distance: 205.0 ft.
 AMH - Manhole
 Clock from:
 Clock to:
 Rating:
 Dimension 1:
 Dimension 2:
 %:
T-STATION-MH3

Photo: T-STATION-MH2-T-STATION-MH3-5_6_2020 1_08 PM-AMH-205.0 ft.-5_6_2020 1_13 PM.JPG

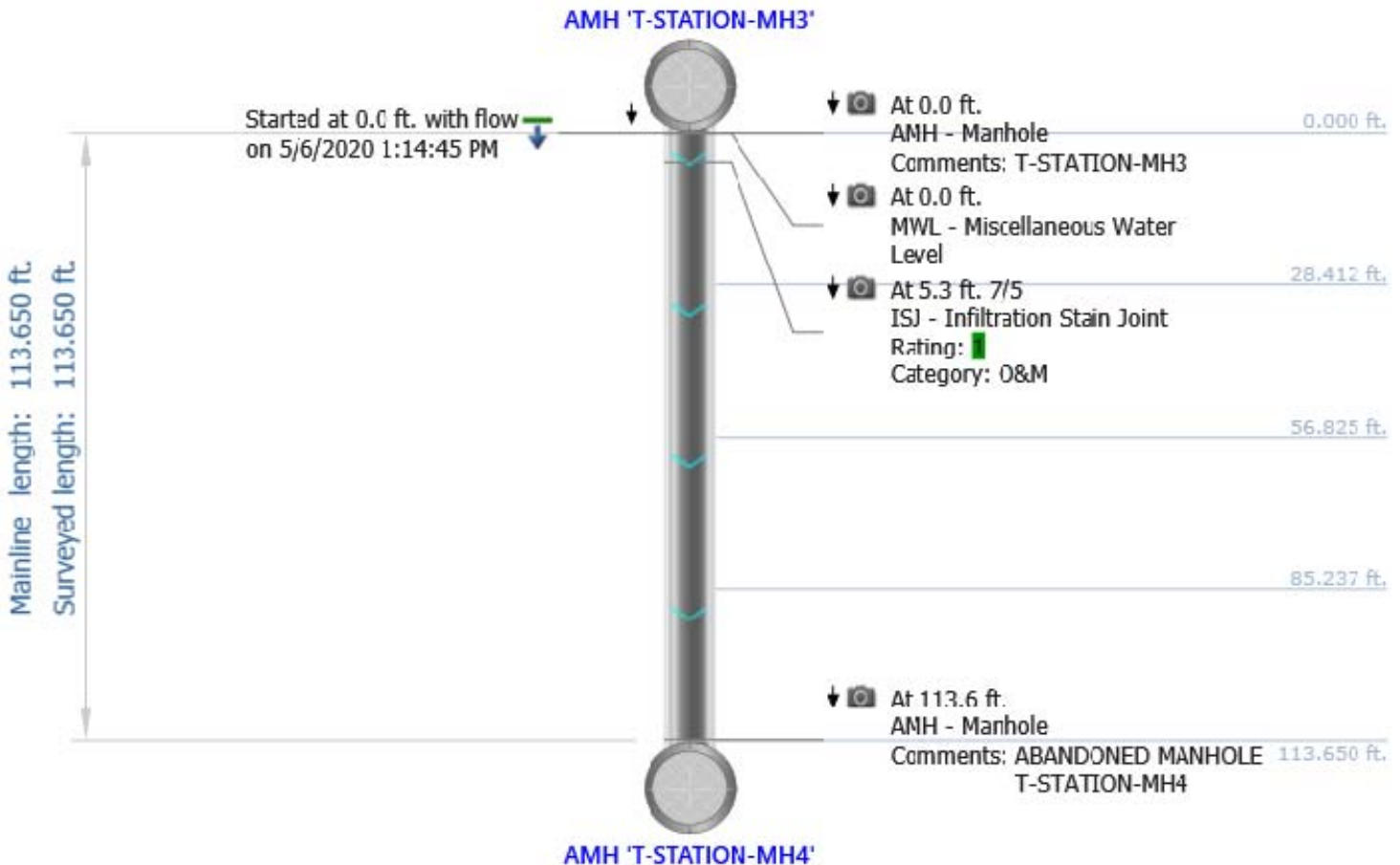
At: 205.045 ft. AMH - Manhole
 Joint: No T-STATION-MH3

NWMCC INSPECTION REPORT

Start date/time: 20200506 13:14	Weather: Dry - No precipitation during survey	Surveyed by: A. Rodrigues	Certificate number: U-315-06023827	Pipe segment ref.: T-STATION-MH3-T-STATION-MH4	
Owner:	Customer:	Pre-cleaning: No Pre-Cleaning	Date cleaned:	Project name: NEWTON	
City: NEWTON	Street: GROVE ST	Location code: Local/Rural Street	Pipe use: Stormwater Pipe	Drainage area:	Flow control:
Upstream MH No: T-STATION-MH3	Downstream MH No: T-STATION-MH4	Direction: D	Total length: 113.650 ft.	Length surveyed: 113.650 ft.	
Purpose: Infiltration/Inflow Investigation	Pipe joint length:	Height: 60 in.	Material: Reinforced Concrete Pipe	Additional info:	

Pipe Ratings

Grade	Defects	Segment Grade	Structural:			Defects	Segment Grade	O&M:			Overall:			
			Pipe Rating	Quick Rating	Pipe Rating Index			Pipe Rating	Quick Rating	Pipe Rating Index	Pipe Rating	Pipe Rating Index	LoF	Risk
1	0	0	0	0000	0.0	0	1	1	1100	1.0	1	1.0	1.1	
2	0	0				0	0							
3	0	0				0	0							
4	0	0				0	0							
5	0	0				0	0							



Some observations have distance greater than the pipe length

Stopped at 113.7 ft. with flow ↓
on 5/6/2020 1:19:06 PM

NWMCC INSPECTION REPORT

Inspection Photos

City: NEWTON	Street: GROVE ST	Start date/time: 20200506 13:19	Pipe segment ref.: T-STATION-MH3-T-STATION-MH4
------------------------	----------------------------	---	--

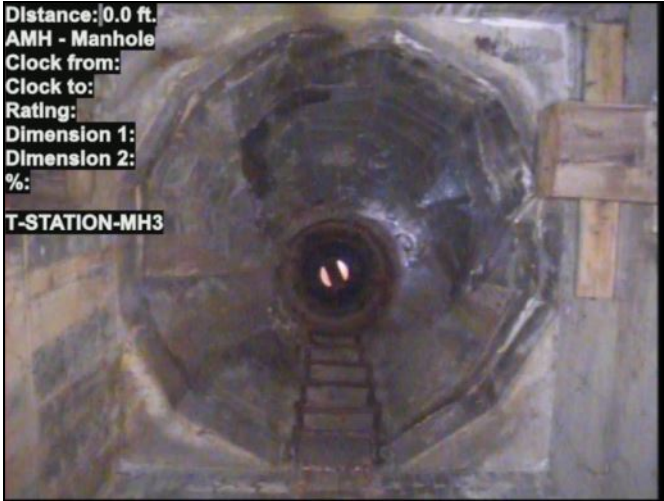


Photo: T-STATION-MH3-T-STATION-MH4-5_6_2020 1_14 PM-AMH-0.0 ft.-5_6_2020 1_14 PM.JPG

At: 0 ft. AMH - Manhole
Joint: No T-STATION-MH3



Photo: T-STATION-MH3-T-STATION-MH4-5_6_2020 1_14 PM-MWL-0.0 ft.-5_6_2020 1_14 PM.JPG

At: 0 ft. MWL - Miscellaneous Water Level
Joint: No 5 %



Photo: T-STATION-MH3-T-STATION-MH4-5_6_2020 1_14 PM-ISJ-5.3 ft.-5_6_2020 1_15 PM.JPG

At: 5.341 ft. 7/5 ISJ - Infiltration Stain Joint
Joint: Yes



Photo: T-STATION-MH3-T-STATION-MH4-5_6_2020 1_14 PM-AMH-113.6 ft.-5_6_2020 1_18 PM.JPG

At: 113.551 ft. AMH - Manhole
Joint: No ABANDONED MANHOLE T-STATION-MH4

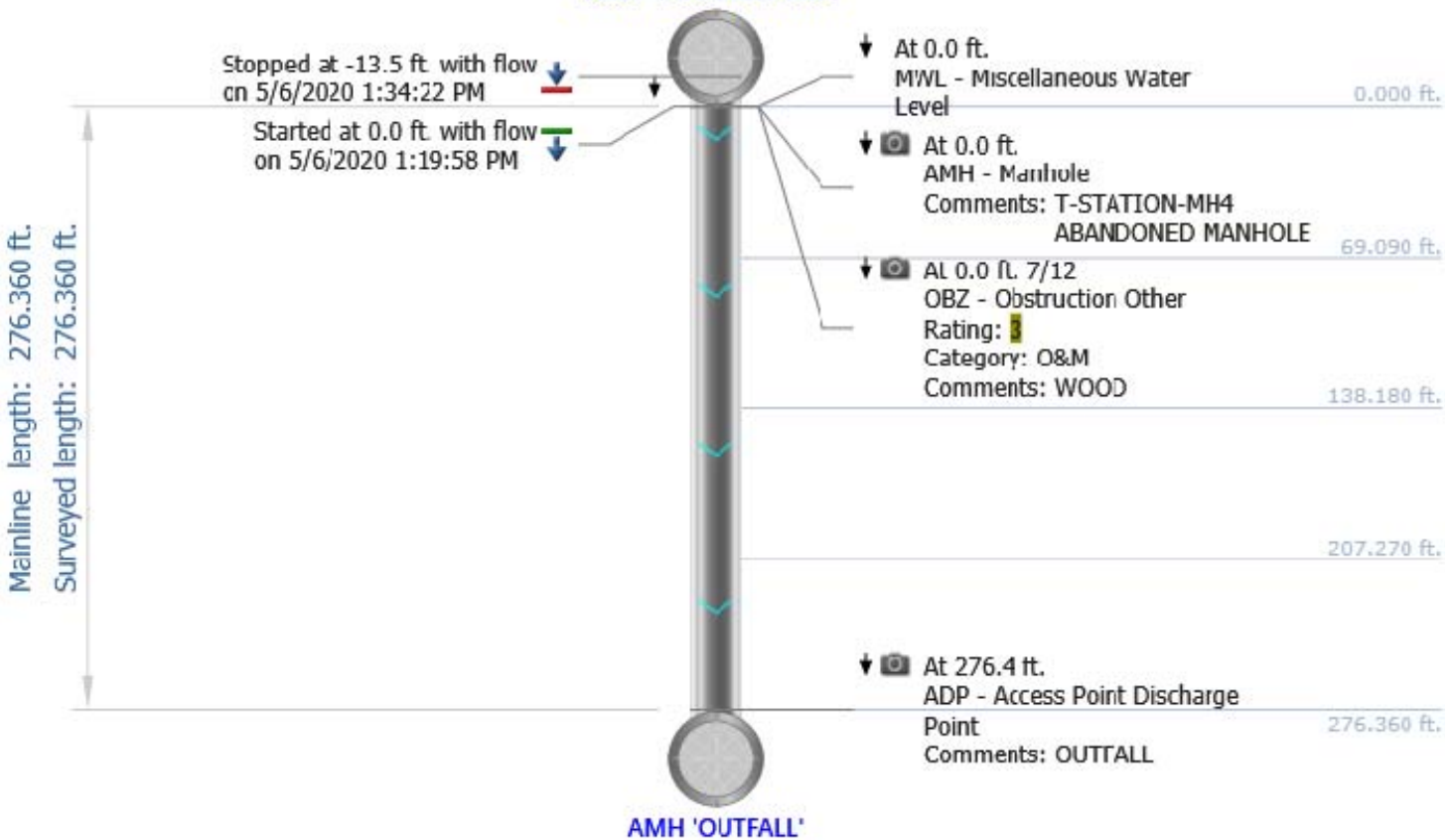
NWMCC INSPECTION REPORT

Start date/time: 20200506 13:19	Weather: Dry - No precipitation during survey	Surveyed by: A. Rodrigues	Certificate number: U-315-06023827	Pipe segment ref.: T-STATION-MH4-T-STATION-MH5	
Owner:	Customer:	Pre-cleaning: No Pre-Cleaning	Date cleaned:	Project name: NEWTON	
City: NEWTON	Street: GROVE ST	Location code: Local/Rural Street	Pipe use: Stormwater Pipe	Drainage area:	Flow control:
Upstream MH No: T-STATION-MH4	Downstream MH No: OUTFALL	Direction: D	Total length: 276.360 ft.	Length surveyed: 276.360 ft.	
Purpose: Infiltration/Inflow Investigation	Pipe joint length:	Height: 60 in.	Material: Reinforced Concrete Pipe	Additional info:	

Pipe Ratings

Grade	Defects	Segment Grade	Structural:			Defects	Segment Grade	O&M:			Overall:			
			Pipe Rating	Quick Rating	Pipe Rating Index			Pipe Rating	Quick Rating	Pipe Rating Index	Pipe Rating	Pipe Rating Index	LoF	Risk
1	0	0	0	0000	0.0	0	0	3	3100	3.0	3	3.0	3.1	
2	0	0				0	0							
3	0	0				0	3							
4	0	0				0	0							
5	0	0				0	0							

AMH 'T-STATION-MH4'



NWMCC INSPECTION REPORT

Inspection Photos

City: NEWTON	Street: GROVE ST	Start date/time: 20200506 13:19	Pipe segment ref.: T-STATION-MH4-T-STATION-MH5
------------------------	----------------------------	---	--



Photo: T-STATION-MH4-T-STATION-MH5-5_6_2020 1_19 PM-OBZ-0.0 ft.-5_6_2020 1_21 PM.JPG

At: 0 ft. 7/12 OBZ - Obstruction Other
Joint: No 15 % WOOD



Photo: T-STATION-MH4-T-STATION-MH5-5_6_2020 1_19 PM-AMH-0.0 ft.-5_6_2020 1_20 PM.JPG

At: 0 ft. AMH - Manhole
Joint: No T-STATION-MH4 ABANDONED MANHOLE

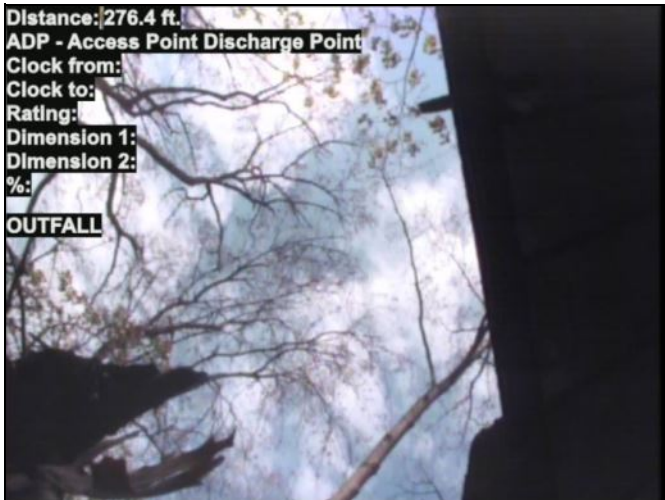


Photo: T-STATION-MH4-OUTFALL-5_6_2020 1_19 PM-ADP-276.4 ft.-5_6_2020 1_29 PM.JPG

At: 276.36 ft. ADP - Access Point Discharge Point
Joint: No OUTFALL