



**FORMER FYN PAINT & LACQUER CO., INC.  
230 KENT AVENUE  
KINGS COUNTY, NEW YORK  
NYSDEC BCP SITE NO. C224154**

---

**REMEDIAL DESIGN REPORT**

Prepared For

Kent Riverview LLC

September 2019

Prepared By:

**WSP USA**  
Professional Environmental & Civil Engineers  
4 Westchester Park Drive, Suite 175  
White Plains, NY 10604  
(914) 694-5711

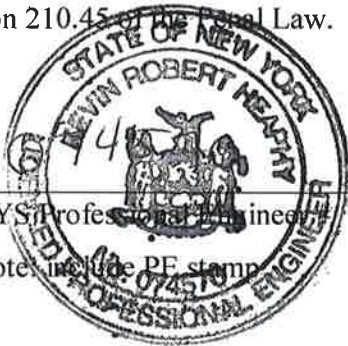
### CERTIFICATIONS

I, Kevin Heaphy, am currently a registered professional engineer licensed by the State of New York. Working on behalf of Kent Riverview LLC (KR), I have primary direct responsibility for oversight of the implementation of the remedial program for the former Fyn Paint & Lacquer Co., Inc. site (the "Site") listed in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) as Index No. C224154-02-15, Site No. C224154.

I certify that this Remedial Design (RD) report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

I certify that this RD in conjunction with the NYSCED approved Remedial Action Work Plan (RAWP) has a plan for transport and disposal of all soil, fill, fluids and other material removed from the property under this Plan, and that all transport and disposal will be performed in accordance with all local, State and Federal laws and requirements. All exported material will be taken to facilities licensed to accept this material in full compliance with all Federal, State and local laws.

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.



NYS Professional Engineer

Note: include PE stamp

9/27/19

Date

Signature

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.



## TABLE OF CONTENTS

	<u>Page</u>
CERTIFICATIONS .....	i
1.0 INTRODUCTION.....	1
2.0 SUMMARY OF SITE REMEDY.....	2
2.1 Remedial Action Objectives .....	2
2.1.1 Groundwater .....	2
2.1.2 Soil .....	2
2.1.3 Soil Vapor.....	2
2.2 Selected Site Remedy .....	3
2.3 Modification to the NYSDEC Approved Site Remedy.....	3
2.3.1 Hydraulic Barrier Specification Modification.....	4
2.3.2 In-Situ Chemical Oxidation.....	4
2.4 Site Remedy Contingency Cleanup Track.....	4
2.4.1 Track 2 or Track 4 Engineering and Institutional Controls.....	5
3.0 REMEDIAL DESIGN.....	6
3.1 Mobilization .....	7
3.2 Site Preparation Activities .....	7
3.2.1 Site Security.....	8
3.2.2 Stabilized Construction Entrance/Exit .....	8
3.2.3 Equipment and Material Staging Areas .....	9
3.2.4 Decontamination Area .....	9
3.2.5 Storm Water Pollution Prevention Plan & Soil Erosion and Sediment Control .....	10
3.3 Remedial Activities .....	10
3.3.1 Air Monitoring.....	11
3.3.1.1 Vapors.....	11
3.3.1.2 Odors .....	11
3.3.1.3 Dust.....	12
3.3.1.4 Work Zone Air Monitoring.....	12
3.3.1.5 Community Air Monitoring .....	13
3.3.1.6 Odor Control/Vapor Management.....	14
3.3.2 Installation of Steel Sheeting Hydraulic Barrier.....	14
3.3.3 Selective Demolition - Concrete Slab Excavation.....	15
3.3.4 Soil Excavation.....	15
3.3.5 Dewatering and On-Site Water Treatment.....	17
3.3.6 Decommissioning of Selected Groundwater Monitoring Wells within the Site .....	18
3.3.7 Decontamination.....	18
3.3.8 Waste Management.....	20
3.3.9 In-Situ Chemical Oxidant Application .....	21
3.3.9.1 Baseline Characterization of Post-Excavation Depth Soil .....	21
3.3.9.2 Chem-Ox Injection Well Installation .....	21
3.3.9.3 Baseline Characterization of Post-Excavation Depth Groundwater .....	22
3.3.9.3 In-Situ Chemical Oxidant (ISCO) Injection .....	23
3.3.9.4 ISCO Effectiveness Monitoring .....	26
3.3.10 Demarcation Layer Installation .....	27
3.3.11 Import of Backfill Soil From Offsite Sources .....	27
3.3.12 Backfill of Excavation Areas.....	31



**TABLE OF CONTENTS  
(continued)**

	<b><u>Page</u></b>
3.4 Post-Remedy Activities .....	31
3.4.1 Post-Remedial Reporting .....	31
3.4.2 Post-Remedy Site Controls – Track 2/4.....	32
3.4.2.1 Institutional Control - Environmental Easement.....	32
3.4.2.2 Site Management Plan .....	33
3.4.2.1 Engineering and Institutional Control Plan .....	33
3.4.2.4 Operations, Maintenance and Monitoring Plan .....	34
3.4.3 Post-Remedial Actions - Remedial Treatment System Relocation .....	35
3.4.4 Vapor Intrusion Assessment .....	36
4.0 SCHEDULE .....	37





**LIST OF FIGURES  
(at end of report)**

**Figure**

- |   |  |
|---|--|
| 1 | Site Location Map                          |
| 2 | Site Plan                                  |
| 3 | ISCO Zones and Injection Well Location Map |
| 4 | Geo-Tech Boring Soil Sampling Locations    |
| 5 | Post-Excavation ISCO Site Plan             |
| 6 | Post-Excavation ISCO Cross-Section         |

**LIST OF APPENDICES  
(at end of report)**

**Appendix**

- |   |  |
|---|--|
| A | Remedial Contractor Site Safety and Logistics Plan |
| B | NYCDOB approved Support of Excavation (SOE) Plans  |
| C | Construction Dewatering Summary                    |
| D | ISCO Design Data - Geotech Boring Soil Quality     |
| E | ISCO Design Data - Historical GW Quality           |
| F | EPA UIC Authorization                              |



**FORMER FYN PAINT & LACQUER CO., INC.  
230 KENT AVENUE  
BROOKLYN, KINGS COUNTY, NEW YORK  
NYSDEC BCP SITE NO. C224154**

---

**REMEDIAL DESIGN REPORT**

**1.0 INTRODUCTION**

Kent Riverview LLC (KR and/or the “Volunteer”) has applied and been accepted into the Brownfield Cleanup Program (BCP) with the New York State Department of Environmental Conservation (NYSDEC) as a Volunteer to remediate the property located at 230 Kent Avenue in Williamsburg, Brooklyn, Kings County, New York (heretofore referred to as the “Site”). The Site location is illustrated on figure 1. The Site is recorded under the Brownfield Cleanup Agreement (BCA) with a Site Name of Fyn Paint & Lacquer Co., Inc., Site Number C224154 and Index Number C224154-02-15. The Site is currently inactive.

The Remedial Action Work Plan (RAWP) summarized the nature and extent of contamination as determined from data gathered during the past remedial investigations, and remedial actions completed on the Site and surrounding properties between 1996 and 2014.

The NYSDEC approved RAWP identified a Track 1 cleanup (with a Track 2 contingency) as the recommended and preferred remedy. The remedy described in the RAWP is consistent with the procedures defined in DER-10 and complies with all applicable standards, criteria and guidance. The remedy described in this document also complies with all applicable Federal, State and local laws, regulations and requirements. The NYSDEC and New York State Department of Health (NYSDOH) have determined that this Site does pose a significant threat to human health and the environment. The RI for this Site did not identify fish and wildlife resources to exist onsite. Therefore, the selected remedy does not have to account for impacts to fish and wildlife resources.

WSP USA (WSP) on behalf of KR, has prepared the following Remedial Design Report (RD) for the Site.

## **2.0 SUMMARY OF SITE REMEDY**

### **2.1 Remedial Action Objectives**

Based on the results of the Remedial Investigations performed at and surrounding the Site, the contamination beneath the Property and surrounding properties consists of: Lighter Non-Aqueous Phase Liquid (LNAPL); residual VOCs in soil; dissolved phase VOCs in groundwater; and VOCs in soil vapor. Due to the contamination present beneath the Site as well as the proposed Cleanup Track and contemplated Redevelopment Plan, the following Remedial Action Objectives (RAOs) have been identified for this Site.

#### **2.1.1 Groundwater**

##### RAOs for Public Health Protection

- Prevent ingestion of groundwater containing contaminant concentrations exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.

##### RAOs for Environmental Protection

- Remove the source of ground or surface water contamination.

#### **2.1.2 Soil**

##### RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure to, contaminants volatilizing from contaminants in soil.

##### RAOs for Environmental Protection

- Prevent migration of site-related contaminants that would result in groundwater or surface water contamination.

#### **2.1.3 Soil Vapor**

##### RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into the building at the Site.

## **2.2 Selected Site Remedy**

As per the NYSDEC requirements for remedial programs under all Tracks, the threat to public health and the environment resulting from contamination in environmental media other than soil must be evaluated in the development of remedial alternatives and addressed in the alternatives analysis to ensure that the remedial program meets the requirements of ECL 27-1415(1), Subdivisions 375-3.8(a) and (f), and Section 375-6.7.

The selected cleanup track for the Site is Track 1: Unrestricted Use Soil Cleanup Objectives (SCOs). The scope of the cleanup entails the excavation of all contaminated material from beneath the Site to a minimum depth of 15 ft bg. This approach requires that contaminant concentrations not exceed the applicable Unrestricted Use SCOs.

Additionally, where it is necessary to utilize offsite soil to achieve this requirement, the soil brought to the Site for use as a soil cover or backfill must be comprised of soil or other unregulated material as set forth in 6 NYCRR Part 360. The imported soil must not exceed the applicable SCOs for the use of the Site, as set forth in 6 NYCRR Part 375-6.8(b). For the selected Unrestricted Use, the lower of the protection of groundwater or the protection of public health SCOs is the regulatory guidance value.

Due to the volume and extent of contamination in the subsurface (both onsite and offsite) in addition to the contaminant concentrations, a Track 1 cleanup was selected because it allows for the most complete remediation of the Site. A Track 1 Cleanup requires that the soil component of the remedial program achieve the Unrestricted Use SCOs as set forth in Table 375-6.8(a) for all soils above bedrock. Attainment of Unrestricted SCOs for the completed excavation would eliminate the requirement for any ECs or ICs at the Site. However, because of the physical constraints of the subsurface contamination (i.e., dissolved phase contamination which extends offsite), implementation and maintenance of ECs and/or ICs as part of the final remedy may be necessary.

## **2.3 Modification to the NYSDEC Approved Site Remedy**

Based on historical Site characterization data, supplemental pre-characterization soil quality data in addition to the physical constraints of the subsurface contamination (i.e., dissolved phase contamination which extends offsite), soil excavation to 15 feet below ground surface will likely not achieve the Unrestricted Use SCOs in all locations throughout the Site.

### **2.3.1 Hydraulic Barrier Specification Modification**

Therefore, the specifications of the hydraulic barrier have been modified, increasing the total depth of the sheets to 35 feet. The increased depth of the steel sheeting will allow for the depth of the remedial excavation to be increased, allowing for excavation of residual soil contamination to a total depth of approximately 24 feet below ground surface.

Details regarding the modifications to the steel sheeting hydraulic barrier specifications are outlined in the RAWP modification request approved by the NYSDEC on June 12, 2019.

### **2.3.2 In-Situ Chemical Oxidation**

To address residual contamination in the subsurface (anticipated based on pre-characterization sampling data), an in-situ chemical oxidation (ISCO) application will be performed onsite. The baseline characterization and ISCO application will be performed prior to the remedial excavation activities. Therefore, post-excavation endpoint samples will also provide data for ISCO effectiveness evaluation. Details of the ISCO application are outlined in Section 3.3.9, below.

## **2.4 Site Remedy Contingency Cleanup Track**

If Unrestricted SCOs are not attained following excavation activities, the Site remedy will be modified to a Track 2 or Track 4 cleanup.

As per the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, for a Site (or portion thereof) being addressed pursuant to Track 2, the requirement to achieve contaminant-specific soil cleanup objectives for all soils above bedrock shall not apply to soils at a depth greater than 15 feet below ground surface. This exclusion applies provided that: the soils below 15 feet do not represent a source of contamination; the Environmental Easement (EE) for the site requires that any contaminated soils remaining at depth will be managed along with other site soils pursuant to a SMP; offsite groundwater does not exceed standards and, onsite groundwater use is restricted.

When a Track 2 cleanup is required (due to post-excavation Site conditions), the proposed “restricted use” land use category for the Site for future redevelopment activities would be “restricted residential use”. As part of the remedy selected for a restricted use Site, the imposed

restrictions require a SMP which relies on Engineering Controls (ECs) and/or Institutional Controls (ICs) to manage exposure to contamination remaining at a site. Due to the nature and extent of the contamination beneath and surrounding the Site, the end use of the Site will be classified as “restricted use” by the NYSDEC.

The Site is eligible for the land use category of “Restricted-residential use” since there is common ownership or a single owner/managing entity of the Site. Therefore, even though only commercial uses are currently contemplated, the evaluation of remedial alternatives will assume a restricted residential future use. Restricted residential use shall, at a minimum, include restrictions which prohibit:

- any vegetable gardens on the Site (although community vegetable gardens or gardens not in contact with site soils within the residual contaminant management zone may be proposed for Department approval); and
- single family housing.

If the NYSDEC determines that the Site does not meet the requirements of a Track 2 cleanup, the contingency cleanup would then be modified to a Track 4 cleanup if long-term ICs and/or ECs are required to manage exposure to contamination remaining at the Site. In this circumstance, the same proposed “restricted use” land use category of “restricted residential use” would apply for the Site for future redevelopment activities.

#### **2.4.1 Track 2 or Track 4 Engineering and Institutional Controls**

Because residual contamination would remain at the Site, ECs and ICs would be required to protect human health and the environment. Long-term management of EC/ICs and of residual contamination will be executed under a Site-specific Site Management Plan (SMP) that will be developed and included in the FER.

Additionally, under a Track 2 or Track 4, the remedial program may include the use of long-term institutional or engineering controls to address contamination related to other media including, but not limited to, groundwater and soil vapor. This would be realized in the form of a soil vapor barrier or waterproofing membrane that would be incorporated as part of any Site redevelopment. The redevelopment scope would ensure that the onsite cover material is of sufficient thickness to comply with the redevelopment requirements established for Unrestricted

Use of the Site. This will ensure that the Site will meet the certified clean cover requirements if there is a proposed property use modification request (for residential use).

ECs would be implemented to protect public health and the environment by appropriately managing residual contamination. The Site would have three (3) primary EC systems. These are: (1) a steel sheeting hydraulic barrier (with grouted seams) installed surrounding the perimeter of the Site; and (2) a waterproofing membrane/soil vapor barrier of composite cover system installed in association with any future Site redevelopment; and, (3) in-situ chemical oxidation to address residual dissolved phase contamination.

ICs would also be implemented to protect public health and the environment by appropriately managing access to residual contamination associated with the Site. The Site would have 2 primary IC systems. These are:

1. Recording of an Environmental Easement (EE)

The EE will reference all ECs and ICs that are part of the Site remedy and would be an enforcement vehicle to ensure compliance with land use or groundwater use restrictions at the Site.

2. Implementation of the Site Management Plan

As part of Site Management, post-remedy soil vapor monitoring (following Site reconstruction) would be implemented to document the effectiveness of the remedy. The results of the soil vapor monitoring would be used to demonstrate that the remedy has mitigated the soil vapor intrusion risk at the Site. Additionally, Periodic Review Reports will be submitted to the NYSDEC to certify that all EC/IC components of the Site remedy are in place and maintained as per the design in the remedial action work plan.

### **3.0 REMEDIAL DESIGN**

The RAP and/or RAWP for the Site was developed to be protective of human health and the environment. The following sections outline the components of the remedy selected to address the impacts at the Site in accordance with the requirements of the Decision Document. Additional details for the components of the remedy are presented in the RAWP. In general, the work will be implemented in the following sequence of events:

1. Mobilization;

2. Site Preparation Activities;
3. Remedial Activities; and,
4. Site Management.

In addition, this section presents a detailed discussion of specific activities that will occur during the implementation of the Remedial Activities (as well as any supplemental Site Management Activities) as follows:

- Air Monitoring;
- Odor Control and Vapor Management;
- Decontamination;
- Waste Management; and
- Discharge Requirements for Water Disposal.

### **3.1 Mobilization**

The Remedial Contractor will be responsible for mobilizing all necessary personnel, equipment including but not limited to temporary facilities and materials to the Site required for implementation of this RDR.

The temporary facilities will include identifying locations of required equipment staging areas, material staging areas, decontamination areas and pads, and ingress/egress to the Site as further described below.

### **3.2 Site Preparation Activities**

The Site will be prepared, as needed, to facilitate the implementation of the proposed remedial activities. Site preparation activities will include, but will not be limited to, the following:

- Recording existing conditions within the Site and adjacent property by photo documentation and surveying;
- Establishing a secure Site perimeter;
- Locating and isolating perimeter utilities, if any;
- Establishing stabilized construction entrances and widening ingress/egress gates, if required;



- Establishing equipment and material staging areas;
- Establishing the decontamination area(s); and,
- Establishment of soil erosion and sedimentation controls, if any.

Major activities are further described in the following subsections of the RDR while other activities are outlined in the RAWP.

### **3.2.1 Site Security**

After installation, the Site perimeter fence will be inspected and maintained during the remedial activities. As needed, the Remedial Contractor will install temporary fencing with gates with locks to secure the Site.

The perimeter of the Site will be secured and locked during non-working hours. Perimeter security checks will be performed daily by WSP and conditions will be logged.

24-hour security is not anticipated for this work; however, during site working hours, an employee of the Remedial Contractor will be assigned, as needed, to the main entrance gate to control access to the Site. The employee will always maintain contact with Site personnel.

All Site workers, subcontractors and site visitors will be required to sign a daily log. A list of persons authorized for Site entry will be maintained at the Site entrance.

### **3.2.2 Stabilized Construction Entrance/Exit**

A stabilized construction entrance/exit consisting of smoothly graded areas large enough to accommodate equipment and truck traffic will be constructed along North 1<sup>st</sup> Street. The stabilized construction entrance/exit will consist of crushed coarse aggregate stone underlain by non-woven geotextile fabric and polyethylene sheeting and will be maintained and redressed while in use. Tires of transport trucks entering/exiting the Site will travel across these stabilized entrances/exits and can be further inspected at these points.

A decontamination pad will be in place along the exit route for the Site. Routes on- and off-site will be routinely monitored for build-up of excessive site soils and dust.

Dedicated ingress and egress points is proposed for the remediation activities and will require a stabilized construction entrance/exit. The ingress point to the Site will be from Kent Avenue. The egress point from the Site will be River Street.

The necessary municipal permits, if any, to maintain a construction entrance/exit will be obtained for the duration of the project by the Remedial Contractor. These permits will be obtained by the Remedial Contractor prior to mobilization to the Site.

All activities will be performed in accordance with the Remedial Contractor's Traffic Control Plan. The Traffic Control Plan describes the procedures that will be followed to maintain vehicular and pedestrian traffic and preserve the safety of motorists, highway workers, and pedestrians during implementation of the remedial construction.

### **3.2.3 Equipment and Material Staging Areas**

Equipment staging areas will be located to facilitate equipment ingress and egress and allow for proper sequencing of the remedial construction work. The construction equipment necessary to implement the remedial construction activities will be mobilized to the Site.

Excavated soils and impacted debris will be maintained onsite until they are loaded for offsite disposal. When staged onsite, it will be covered with plastic to minimize odors as well as the effects of weather. Odor suppressing foam will be applied to stockpiles, as necessary, to minimize the potential for odors generated by the impacted soils.

The locations of the staging areas for the Site are shown on the Remedial Contractor's Site Logistics Plan which is included in Appendix A.

### **3.2.4 Decontamination Area**

Decontamination activities will be implemented in accordance with the RAWP. During the implementation of the remedial construction activities, the Site will be divided into three primary zones: the exclusion zone, the contamination reduction zone, and the support zone. These locations will be identified in the field during the implementation of the remedial activities based on the location of the work zones.

The decontamination area will be located within the contamination reduction zone along the exit route and will include the personnel decontamination station and the equipment decontamination pads.

Heavy machinery, trucks, equipment and personnel exiting the exclusion zone will be subject to the decontamination procedures. The location of the decontamination area is shown on the Remedial Contractor's Site Logistics Plan which is included in Appendix A.

### **3.2.5 Storm Water Pollution Prevention Plan & Soil Erosion and Sediment Control**

A Storm Water Pollution Prevention Plan (SWPPP), has been prepared as part of the RAWP to support the implementation of the remedial construction activities. During the implementation of the remedial actions, storm water management practices will be implemented to control potential impacts (i.e., erosion and sediment loading) to Site-related storm water runoff and achieve the following objectives:

- minimize potential erosion of existing soil/sediments within active work areas;
- minimize the potential for the conveyance of sediment-laden storm water beyond the project work limits; and
- minimize accumulation of water within active work areas.

Additionally, prior to commencement of the remedial activities, temporary Soil Erosion and Sediment Control (SESC) measures will be installed as needed. The elements of any implemented SESC measures will be designed and installed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control.

During remedial construction, SESC measures will be inspected and maintained daily and following precipitation events. Inspection and maintenance activities will be documented in the field logs. Accumulated sediment will be removed from the erosion and sediment controls, as needed. Sediment that originates from the remedial work areas will be added to the stockpile(s) for off-site disposal.

### **3.3 Remedial Activities**

The remedial activities will include the following:

- Air Monitoring;
- Installation of Steel Sheet Pile Hydraulic Barrier
- Selective Demolition - Concrete Slab Excavation;
- Soil Excavation;
- Removal and Disposal of Closed-in-Place USTs and ASTs
- Dewatering and On-Site Water Treatment;
- In-Situ Chemical Oxidant Application;

- Demarcation Layer Installation; and,
- Temporary Cover Backfilling and Compaction; and,
- Decontamination; and,
- Waste Management.

These activities are further described below.

### **3.3.1 Air Monitoring**

Air monitoring will be performed during the implementation of the remedial actions to protect the health and safety of site workers and to confirm that air impacts from site-related activities are not migrating off-site.

The monitoring program will include monitoring for vapor, odors, and dust. All air monitoring will be conducted in accordance with the CAMP and the HASP, the details of which are outlined in the RAWP.

#### **3.3.1.1 Vapors**

Real-time air monitoring devices will be used to analyze airborne contaminant concentrations within the exclusion zone or when there are chances to tasks being conducted or exposure conditions onsite (whichever air monitoring frequency is less). If elevated concentrations are indicated, the monitoring frequency will be increased, as appropriate, and suitable mitigation measures will be taken in accordance with the CAMP and the HASP.

#### **3.3.1.2 Odors**

If objectionable odors are detected, temporary controls will be implemented. Odors will also be controlled by sequencing excavation in a manner that will result in minimizing areas of open excavation. Odors will be mitigated, if necessary, by placing a layer of non-odorous soils or plastic sheeting over the excavation area or stockpile (overnight and off-hours). In addition, foam application equipment and an adequate supply of odor reducing foaming agent will be on Site and available for application to the excavation area or stockpiles, as needed. Further, Biosolve may be sprayed during excavation and waste handling and management activities.

### **3.3.1.3 Dust**

Dust and air quality will be monitored during the construction activities in accordance with the CAMP and the HASP during the Site remedial activities.

Dust control measures will be implemented, as necessary, to control airborne dust during implementation. The Remedial Contractor will be required to proactively implement dust suppression measures during construction activities which include, but are not limited to:

- Wetting equipment and excavation faces during excavation activities and structures or hard surfaces during demolition with water or amended water solutions;
- Spraying water or amended water on buckets during excavation and loading/unloading;
- Spraying water or amended water on un-paved construction access roads and removal of dust from paved access roads (e.g., street sweeper);
- Limiting the area of disturbed ground surface;
- Covering stockpiles when active loading or unloading is not being performed;
- Hauling earthen materials and waste materials in properly tarped or watertight containers; and,
- Covering disturbed areas (e.g., with geotextile fabric) when active excavation is not occurring to minimize dust generation.

The contractor will be required to provide and maintain a supply of water and appropriate equipment (e.g., hoses, misters) if it is necessary to control dust generation. In addition, the contractor will be required to contain excess water and control runoff. Excess water will be managed in accordance with applicable regulations.

### **3.3.1.4 Work Zone Air Monitoring**

Work Zone Air Monitoring will be performed in accordance with the HASP as outlined in the RAWP. Real-time air monitoring devices will be used to analyze airborne contaminant concentrations approximately every 15 minutes in the workers' breathing zones while workers are in the designated Exclusion Zone, or when task or exposure conditions change (whichever air monitoring frequency is less). If elevated concentrations are indicated, the monitoring frequency will be increased as appropriate. Background concentrations will be determined at the beginning of each work shift by collecting several instrument readings upwind of the scheduled activities.

Alternatively, background levels can be determined by collecting readings from a nearby (up-wind) area that can reasonably be considered unaffected by Site activities.

Real-time measurements will be made as near as feasible to the breathing zone of the workers with the greatest exposure potential in each active work area. Real-time measurements may cease being collected when sufficient historical data is generated to warrant its cessation. Air monitoring will be reinstated if potential exposure conditions change.

Air monitoring equipment will be calibrated daily with the results being recorded for project files. The results of air monitoring will be recorded on an Air Monitoring Form and will be retained in the project files following completion of field activities. A copy of the Air Monitoring Form is in the HASP.

### **3.3.1.5 Community Air Monitoring**

A CAMP has been prepared as part of the RAWP, and was developed in accordance with the requirements of the New York State Department of Health (NYSDOH) “Generic Community Air Monitoring Plan, Revision 1, June 2000” guidelines and the requirements of “Fugitive Dust and Particulate Monitoring” guidelines as presented in the NYSDEC, Final DER-10, “Technical Requirements for Site Remediation”, dated May 2010 in Appendix 1A and Appendix 1B, respectively. The CAMP serves to provide specific procedures for measuring, documenting, and responding to potential airborne contaminants during the remedial construction activities. The CAMP will be implemented to reduce risk of potential exposure of site contaminants to neighboring residents.

The CAMP is designed to:

- Provide monitoring, Action Levels, and contingency procedures to prevent exposure of site workers and nearby residents to potential volatile contaminants; and
- Provide a contingency plan that prevents significant airborne contaminant release from the Site.

During the implementation of remedial construction activities, work zone and fence line perimeter air monitoring will be conducted using a combination of real-time continuous air monitoring at fixed locations and walk around perimeter and work zone monitoring using hand-held instruments.

A Contingency Plan with defined, specific response actions will be implemented if 75% of the Action Level for any contaminant is exceeded. The response actions, potentially including work stoppage, will prevent or significantly reduce the migration of airborne contaminants from the Site.

### **3.3.1.6 Odor Control/Vapor Management**

Odor control and vapor management technologies and processes have been evaluated to mitigate or eliminate potential odors during the remedial construction activities. A contingency plan is included as part of the CAMP. The purpose of the contingency plan is to identify potential control measures that may be implemented in response to elevated levels of target compounds or odor. In general, a tiered warning Action Limit and response action will be implemented during the air monitoring program. Tiered warning Action Limits are defined as:

- Action Limit 1 (Green) – Normal or ambient air conditions where all target concentrations are less than 50% of the NYSDOH Generic CAMP Action Limit.
- Action Limit 2 (Yellow) – Concentration of at least one target is equal to or greater than 50% of the Action Limit, but less than 75% of the NYSDOH Generic CAMP Action Limit.
- Action Limit 3 (Orange) – Concentration of at least one target is equal to or greater than 75% of the Action Limit, but less than the NYSDOH Generic CAMP Action Limit.
- Action Limit 4 (Red) – Concentration of at least one target is greater than the NYSDOH Generic CAMP Action Limit.

The contingency plan will rely on real-time data generated from the perimeter downwind air monitoring location. These data sources will be evaluated together to make appropriate decisions concerning Site conditions and potential control measures.

### **3.3.2 Installation of Steel Sheet Pile Hydraulic Barrier**

Excavation in the off-site area shall be conducted in a manner to protect the integrity of the existing building and any other related structures or features. This building is not owned by National Grid and currently supports an active business which prepares store fronts and thus maintains equipment which is sensitive to vibrations. An appropriate excavation stabilization

methodology (i.e., sloping or shoring) will be employed to ensure safe access to the Site for equipment and/or personnel.

Initial evaluations of the applicability of using steel sheet piles as a means of support of excavation (SOE), with the sheets driven to a depth of 35 feet below grade (ft bg), which is approximately 11 feet deeper than the total depth of the excavation (24 ft bg).

The SOE was designed, signed and sealed by a Professional Engineer licensed in the State of New York (Structural Engineering Technologies, P.C.). The NYCDOB approved SOE plans are included in Appendix B.

### **3.3.3 Selective Demolition - Concrete Slab Excavation**

Remnants of the former building (i.e., concrete slab, partial cellar), will be demolished utilizing a hoe ram, hydraulic hammer or equivalent attachment mounted on an excavator, backhoe or other conventional excavation equipment.

The debris will be cleaned with physical/mechanical agitation (scraping with hand tools) to remove any soil adhered to debris prior to transporting it to the selected disposal or recycling facility.

### **3.3.4 Soil Excavation**

In accordance with the requirements of the Decision Document and the NYSDEC approved RAWP modification, the excavation for remediation of impacted soils will be conducted to a depth of 24 ft bg (el -4 ft) which is approximately 8 feet below the elevation of the static groundwater table which is encountered at a depth of approximately 16 ft bg (el +4 ft).

The limits and depth of the highly impacted soils are present at this depth based on information obtained during the historical investigation activities. The subsurface soil pre-characterization data will be used for focusing the excavation activities.

During onsite remedial construction activities, the excavation of soil/fill material will be necessary. Soil screening will be performed during invasive work performed during the remedy and development phases prior to issuance of the COC.

Screening will be performed by qualified environmental professionals. Resumes will be provided for all personnel responsible for field screening (i.e. those representing the Remedial Engineer) of invasive work for unknown contaminant sources during remediation and devel-



opment work. During all excavation activities, the soil/fill will be inspected for staining and will be field screened for the presence of VOCs with a PID. Visual, olfactory and PID soil screening and assessment will be performed by or under the supervision of the Field Project Supervisor and/or HSO and will be reported in the FER.

If significantly impacted soil is identified outside of the pre-characterization sampling area, it will either be handled and disposed of as hazardous waste, or it will be re-sampled for waste characterization.

Impacted soil above the existing groundwater table will be directly loaded and transported to the material staging area. Impacted soils excavated from below the static groundwater table will be excavated after the water table is lowered by the construction dewatering system.

All excavation activities will be implemented in accordance with the NYCDOB approved plans as well as the Remedial Contractor's Site Logistics Plan which is included in Appendix A.

Endpoint sampling, including bottom and side-wall sampling for ground invasive activities associated with the implementation of this RAWP, will be performed in accordance with Section 5.4 of DER-10. Confirmatory sampling will be completed at the final excavation depths to determine if any remaining soils exceed the SCOs. Per NYSDEC Department of Environmental Remediation (DER) policy, confirmation soil sample collection is to be completed from the bottom of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area. Excavations will be continually evaluated in the field using a PID to screen VOC concentrations. Based on the field screening, (and if present, approval from a NYSDEC field representative), once the termination of the excavation is reached, endpoint soil samples will be collected.

Based on the DER criteria, the post-excavation endpoint confirmation soil samples will consist of approximately: six (6) bottom endpoint samples; twelve (12) sidewall samples; plus, the additional QA/QC samples required as per the RAWP. Post-excavation endpoint confirmation soil samples will be analyzed for Part 375 VOCs, SVOCs, pesticides, polychlorinated biphenyls (PCB), and metals by an NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory.

Since the perimeter of the Site will consist of a steel sheeting hydraulic barrier for the support of excavation, the sidewall confirmation endpoint samples will be collected from the interior of the Site perimeter during the advancement of the excavation activities. Endpoint

confirmation soil sampling will consist of collection of one (1) sidewall sample for every 30 linear feet around the property perimeter. The vertical sampling depth for each boring would be selected in the field and would be representative of the highest observed VOC concentration as determined based on the PID concentrations recorded during field screening.

It should be noted that following the installation of the hydraulic barrier, the Site will be isolated from residual contamination offsite. Therefore, the soil quality analysis for perimeter sidewall soil samples will have no bearing on the onsite post-remedy soil quality. However, the analytical results for the sidewall soil samples will characterize the locations and concentrations of contamination outside of the Site boundaries.

Where USTs were excavated and removed, sidewall samples will be collected from the approximate depth of the center of the tank. If the entire area underlying any USTs is excavated to the total depth of 15 ft bg or more, the standard DER-10 sampling frequency will be utilized. If following the excavation activities there is any evidence of groundwater contamination (including without limitation, a sheen or odor or if groundwater is within 20 feet of the surface), a groundwater sample will be collected.

The FER will provide a tabular and map summary of all endpoint sample results and exceedances of RUSCOs.

### **3.3.5 Dewatering and On-Site Water Treatment**

Based on the targeted depth of the excavations and the depth to water at the Site, dewatering will be required for the excavation of the contaminant source material.

A conceptual-level design of the construction dewatering system and estimated dewatering flow rates has been performed as part of the design process. The design was based on the preliminary concept of the dewatering system that involves pumping groundwater from well points installed along the perimeter of the excavation areas. This layout was developed based on the dimensions of the Site (approximately 50 feet by 100 feet). The aquifer properties were derived from the pumping test activities completed as part of the remedial investigation in 2006.

Based on the specifications of the construction dewatering system, it will have the capacity for water withdrawal at a rate exceeding 45 gallons per minute. Therefore, a summary of the construction dewatering system will be submitted to the NYSDEC in connection with a Long

Island Well Permit (LIWP) Equivalent request (along with required supplemental filing documents).

The maximum extraction rate was used to size the water treatment and disposal system required to manage the groundwater produced during construction dewatering activities to be conducted during the implementation of the Site remedy. The sizing of such a system depends predominantly on the peak flow rate that will be developed during the dewatering operation. Therefore, the design is based on the peak dewatering rate of 105 gpm. The peak dewatering rate correlates with the maximum allowable combined sewer discharge rate (as regulated by the NYCDEP).

A copy of the Construction Dewatering Summary (submitted for the LIWP Equivalent request) is included in Appendix C.

### **3.3.6 Decommissioning of Selected Groundwater Monitoring Wells within the Site**

Protection of the existing groundwater monitoring wells within the Site would be difficult and impractical. These monitoring wells (MW-16, MW-28 and MW-32) depicted on figure 2 will be decommissioned during the remedial excavation activities.

If the excavation activities allow for the wells to be manually removed, that will be the preferred course. In this situation, the wells will be removed, and the borings will be backfilled with clean fill.

Alternatively, the wells will be decommissioned in accordance with “CP-43: Groundwater Monitoring Well Decommissioning Policy” (NYSDEC, November 2009) by grouting in-place.

Groundwater monitoring wells located outside of the Site will remain.

### **3.3.7 Decontamination**

During the implementation of the remedial construction activities, the Site will be divided into three primary zones: the exclusion zone, the contamination reduction zone, and the support zone. These locations will be identified in the field during the implementation of the remedial activities based on the current work area(s).

Equipment and personnel decontamination will take place within the contaminant reduction zone at constructed decontamination stations/pads. Heavy machinery, trucks, equipment and

personnel exiting the exclusion zone will be subject to the following decontamination procedures.

Decontamination activities will include the removal of contaminated soil, debris and other miscellaneous materials from all construction equipment and tools utilized within the exclusion zone using a combination of high-pressure water sprays, low pressure hoses and detergent washing. In addition, physical/mechanical agitation (brushing/scraping with hand tools) of soil may be utilized to minimize wastewater generation.

The decontamination pad(s) will be constructed to adequately facilitate decontamination of the largest mobile construction equipment and to withstand the anticipated traffic loads throughout the duration of the project. The decontamination pad(s) will be an area with a bermed perimeter lined with crushed stone and underlain by a geotextile layer and two plastic liners. The decontamination pad(s) will be constructed to meet the following requirements:

- The area facilitating the decontamination pad(s) will be modified as needed to accommodate the pad(s). Large rocks, stones and other obstructions will be removed from the prepared subgrade to prevent damage to the overlying decontamination pad containment system;
- Berms will be installed along both sides of the decontamination pad;
- The pad area and berms will be covered with a thin layer of sand or stone dust;
- The pad area and berms will then be lined with two layers of 40 mil. HDPE sheeting (thick enough to withstand daily use) and a non-woven geotextile and covered with crushed stone in a manner that allows rinsate water to freely drain and collect in a sump for removal and disposal;
- The 40 mil HDPE geomembrane layers will be installed in one continuous piece and the geotextile layers will be overlapped a minimum of 12 inches;
- An eight-inch layer of three-quarter inch clean stone will be placed on top of the two geosynthetic layers. Wood planks or mats may be placed on top of the eight-inch stone layer to provide a stable traveling surface for vehicle wheels and tracks;
- The pad area(s) will be graded for easy entrance and exit to vehicles and equipment;
- The pad(s) will be able to hold a minimum of four inches of standing water at the shallowest point within the containment. It will be sized sufficiently to prevent splashing and

spraying from decontamination activities from contacting the surrounding unprotected surfaces;

- The decontamination pad will be graded to a sump to allow decontamination rinse water to be captured and transferred to the 10,000-gallon frac tank for treatment and discharge to the on-Site water treatment system;
- If the size of the pad is limited by site constraints, a curtain or 10-mil sheeting will be constructed around the pad to eliminate the possibility of wash water and/or sediment leaving the decontamination area;
- The pad(s) shall be kept empty and protected from rainwater when not in use;
- Material that does not infiltrate into the spaces between the crushed stone will be manually consolidated and consolidated and managed with the excavated impacted soils;
- Residual soil or waste materials generated during decontamination will be collected and managed with the excavated impacted soils; and
- Upon completion of the remedial activities, the components of the decontamination pads (i.e., sand or stone dust, HDPE geomembrane layers, the non-woven geotextile and the clean stone) will be managed as contaminated materials. These materials will be characterized and disposed of at an off-site facility permitted to accept the various types of waste.

### **3.3.8 Waste Management**

Waste materials intended for off-site transportation and disposal will be staged on the Site. Excavated soils and impacted debris will be covered with plastic to minimize impacts from odors as well as the effects of weather. Odor suppressing foam will be applied to stockpiles, as necessary, to minimize the potential for impacts from odors generated by the impacted soils.

During the implementation of remedial construction activities, the Remedial Contractor will coordinate and manage transportation and disposal of generated wastes to approved disposal facilities. The anticipated wastes to be generated during the remedial construction work consist of soil, construction debris, miscellaneous debris and PPE. All wastes designated for off-site disposal will be transported in vehicles that will be lined and covered with solid covers with

safety latches on the gates to prevent spills and/or releases to the environment. All transporters will be reviewed for permitting requirements and licensing.

All wastes designated for off-site disposal will be transported to approved waste treatment/disposal facilities that have been reviewed and approved for permitting and licensing requirements, licenses and regulatory enforcement status.

Kent Riverview LLC will be identified as the generator of all solid wastes transported from the Site. A Manifest and/or Bill of Lading corresponding to each shipment of solid waste will be completed and a representative of Kent Riverview LLC will sign the waste documents. Each truck leaving the Site will be listed on a tracking log that may include information consisting of date, time, truck and plate numbers, permits, manifest no., bill of lading number, etc.

### **3.3.9 In-Situ Chemical Oxidant Application**

#### **3.3.9.1 Baseline Characterization of Post-Excavation Depth Soil**

Concurrent to the sheeting installation activities, additional soil borings will be performed within the interior of the Site to characterize the baseline soil quality at the proposed final depth of the remedial excavation (24 ft bg).

The soil borings will be performed in eight (8) locations throughout the Site as illustrated on figure 3. The areas currently overlain by the partial basement will be excluded from these activities.

The borings will be advanced from grade to 24 ft bg, following which a soil sample will be collected using a split-spoon soil sampler. The soil sample (24 to 24.5 ft bg) will be collected and placed in laboratory supplied sample bottles. All the samples will be stored on ice in a cooler to maintain a constant temperature until delivery to the laboratory. The groundwater samples will be delivered to York Analytical Laboratories (York) of Stratford, Connecticut for analysis of VOCs (the contaminants of concern) by USEPA Method 8260 under chain-of-custody procedures. Soil sampling, handling and laboratory analysis will be performed in compliance with the quality assurance procedures outlined in the RAWP.

#### **3.3.9.2 Chem-Ox Injection Well Installation**

Following the completion of the baseline soil characterization sampling activities described above, each boring will be advanced to a final depth of approximately 27 ft bg after

which chem-ox injection wells will be installed within the completed soil borings. The injection wells will be constructed of 2-inch diameter schedule 80 poly-vinyl chloride (PVC) well material and will extend to a total depth of 26.5 ft bg. Each injection well will be constructed with 5 feet of 80-slot PVC well screen installed from 26.5 ft. bg. to 21.5 ft bg. The remainder of the injection wells will be constructed of solid 2-inch diameter PVC riser pipe from 21.5 ft bg to grade (~el +20). The annular space surrounding the well screen will be backfilled with #4 filter sand from the bottom of the soil boring to approximately 2 feet above the screen. A layer of bentonite pellets approximately 5 feet thick will be installed in the annular space above the filter sand to ensure the groundwater samples collected from the well are representative of the discrete screened interval.

The wells will be finished at approximately 0.5 ft bg, with the wellhead slightly lower than the top of the concrete slab to ensure that they are not damaged as equipment moves around the Site during sheeting installation activities.

### **3.3.9.3 Baseline Characterization of Post-Excavation Depth Groundwater**

After the each chem-ox injection well is installed, a discrete groundwater sample will be collected to characterize the baseline groundwater quality at the proposed final depth of the remedial excavation (24 ft bg).

During sampling, the groundwater will be evacuated from each well using a low-flow peristaltic pump fitted with dedicated polyethylene tubing. The tubing intake will be set at approximately 2.5 feet above the bottom of each well (24 ft bg). Groundwater will be purged for approximately 5 minutes prior to measuring any parameters, to minimize turbidity.

Groundwater will be continually monitored by a Horiba U 52 multi-parameter water-quality monitoring system (or similar). Measurements for pH, conductivity, turbidity, dissolved oxygen (DO), temperature and oxygen reduction potential (ORP) will be obtained simultaneously as the groundwater was pumped through a flow-through cell at a rate of 100-500 ml/min (milliliters per minute). All field parameters will be recorded at three-minute intervals until all parameters reached stabilization for three consecutive intervals. Stabilization requirements will be recorded on low-flow sampling logs for each injection well. Upon reaching stabilization of all parameters, the flow-through cell will be disconnected from the pump tubing, and groundwater sample will be collected in laboratory-prepared sample bottles. These parameters collected

during the baseline sampling will be used to evaluate the current aquifer conditions onsite and to assess the total demand for oxygen in the treatment area.

After sampling each well, the dedicated polyethylene tubing will be disposed of and the flow-through cell will be decontaminated with Alconox and water.

All the samples will be stored on ice in a cooler to maintain a constant temperature until delivery to the laboratory. The groundwater samples will be delivered to York for analysis of VOCs (the contaminants of concern) by USEPA Method 8260 under chain-of-custody procedures. Soil sampling, handling and laboratory analysis will be performed in compliance with the quality assurance procedures outlined in the RAWP.

### **3.3.9.3 In-Situ Chemical Oxidant (ISCO) Injection**

As a component of a modified Track 1 cleanup (as well as for a Track 2 or Track 4 cleanup), In-Situ Chemical Oxidation (ISCO) will be performed onsite to address the residual saturated soil contamination and dissolved phase VOC contamination. ISCO involves injection of an aggressive chemical oxidant into the subsurface. Based on the contamination at the Site (dissolved phase contamination and contaminated saturated soils), the proposed chemical oxidant is RegenOx™, an advanced chemical oxidation technology (manufactured by Regenesis from San Clemente, California) that reduces contaminant concentrations through controlled chemical reactions. This product maximizes in-situ performance while using a solid alkaline oxidant that employs a sodium percarbonate complex with a multi-part catalytic formula. RegenOx™ directly oxidizes contaminants while its catalytic component generates a range of highly oxidizing free radicals that oxidize a range of target contaminants.

A RegenOx application will provide a mechanism to break down contamination in the subsurface. The application process enables the two-part (Part A and Part B) product to be combined just prior to use. Part A is the oxidizer powder and Part B is the liquid activator. Part A consists of a mixture of sodium percarbonate [ $2\text{Na}_2\text{CO}_3 \cdot 3\text{H}_2\text{O}_2$ ], sodium carbonate [ $\text{Na}_2\text{CO}_3$ ], sodium silicate and silica gel. Part B consists of a mixture of sodium silicate solution, silica gel and ferrous sulfate. Both parts of the product are packaged and shipped to the Site (or designated staging location) in 30 lb., 5-gallon PVC buckets. RegenOx is applied as a high-volume liquid consisting of the oxidant and the catalyst mixed with water to form a powerful and safe solution. The RegenOx solution mix ratio will be approximately 5-6 percent oxidant-in-solution, as per the



recommendation by the manufacturer for a typical solution application. All RegenOx solution mixing activities will be performed in accordance with the manufacturer established procedures.

At the request of the NYSDEC, the initial RegenOx injection activities will be performed after the steel sheeting hydraulic barrier has been installed. RegenOx will be applied to the subsurface, at manufacturer recommended volume and density rates based on subsurface soil and groundwater contaminant concentrations, to target the impacted soil and groundwater at the proposed depth of the final remedial excavation throughout the Site. The extents of the characterized ISCO zones are illustrated on figure 3. The following table provides a summary of the information pertaining to the treatment areas and the basic design elements which were utilized to calculate the quantity of RegenOx material and the subsequent injection volume:

<b>Treatment Unit</b>	<b>Treatment Surface Area (sq ft)</b>	<b>Treatment Thickness (ft)</b>	<b>Cubic Yards (cy)</b>	<b>ISCO Product</b>	<b>Product Quantity (lbs)</b>	<b>Injection Volume (gals)</b>
Northeast Area	1,000	5	185	RegenOx	720	1,216
Central Area	900	5	167	RegenOx	640	1,087
Northwest Area	675	5	125	RegenOx	440	750
Southeast Area	750	5	139	RegenOx	560	957

The ISCO quantity estimated were generated by the manufacturer, based in initial contaminant concentrations identified various ISCO treatment zones (estimated based on the pre-characterization sampling activities). The total VOC concentrations in the soil and lateral extent of the ISCO treatment zones were derived from the supplemental geotechnical soil borings pre-characterization sampling data. The “Contained-In” authorization was the basis for estimating the highest total VOC concentrations in soil throughout the Site considering any residual source material will be removed from the subsurface as part of the remedial excavation activities.

The soil quality characterization for the COCs in the various regions of the Site are summarized in the tables included in Appendix D. The pre-characterization Geotech boring soil sampling locations are presented on figure 4. Of note, the VOC concentrations utilized for calculating the ISCO quantity for the treatment design are conservative (skewed high) because

the characterized soils overlying and extending into the ISCO treatment zone which will be excavated as part of the remedial actions.

With respect to the treatment design for addressing the groundwater quality and, dissolved phase VOC concentrations derived from the 2019 groundwater monitoring data (for the onsite wells MW-16, MW-28 and MW-32) was utilized. Additionally, groundwater quality from offsite wells MW-11 and MW-15 were considered while developing the treatment design. These dissolved phase VOC concentrations (for the targeted treatment zones) are also conservative since they represent the concentrations within soils overlying and extending into the ISCO treatment zone which will be excavated as part of the remedial actions. The 2018 & 2019 groundwater quality characterization data for the COCs in the various regions of the Site (used to calculate the RegenOx treatment volume) are presented in the summary tables included in Appendix E.

The ISCO injections will be performed utilizing gravity feed for application. The depth to the screen interval will provide approximately 22 to 26 feet+ of head pressure within the well column to induce the RegenOx to permeate the screened interval of the saturated soils. Based on the geologic logs at the Site, the fine-medium sand present at ~24 ft bg will allow for gravity feed to be an efficient method of ISCO injection to the subsurface. If pressure injection is utilized as an alternative injection method (to increase injection volume) the injection pressure would be limited to approximately 5-10 psi to avoid potentially damaging the construction integrity of the injection wells.

Once applied to the subsurface, RegenOx produces a cascade of efficient oxidation reactions via several mechanisms including: surface mediated oxidation, direct oxidation and free radical oxidation. These reactions destroy a range of contaminants and can be propagated in the presence of RegenOx for periods of up to 30 days on a single application/injection. RegenOx produces minimal heat and is highly compatible with enhanced bioremediation applications.

The locations of the ISCO injection well will also take advantage of the artificial hydraulic gradient induced during operation of the construction dewatering system. This will increase the mobility of the ISCO, thereby increasing the extents of the subsurface that will be exposed to the ISCO treatment.

All as-built drawings, diagrams, calculation and manufacturer documentation for ISCO treatment will be included in the FER.

The EPA Underground Injection Control (UIC) was notified when the initial RAWP was developed. And the EPA issued an approval at that time, a copy of which is included in Appendix F. Additionally, a subsequent notification was issued to EPA UIC in August 2019. The EPA again authorized the ISCO activities, with representative Ms. Lisa Kim indicating that environmental injections are covered under their generic approval under UIC. Ms. Kim also stated that the authorization request was forwarded to the new representative (Ms. Christine Ash), who will issue a supplemental written approval.

#### **3.3.9.4 ISCO Effectiveness Monitoring**

To document that the ISCO achieves the established performance standards, verification sampling will be conducted following completion of the remedial excavation activities. This is anticipated to be performed approximately one month after the ISCO application is completed.

Post-excavation confirmation soil samples will consist of grab samples collected from the base of the completed excavation at a depth of approximately 24 ft bg. The soil samples will consist of the post-excavation confirmation bottom samples which will be used to delineate the bottom of the remedial excavation as well as for verification of the SCOs achieved by the Site remedy.

Two groundwater monitor wells will be installed within the Site to monitor the post-remedy groundwater quality. The proposed locations of the groundwater monitor wells are presented on Figure 5, and a profile view of the Site showing the post-excavation ISCO cross-section is presented on Figure 6. The groundwater monitor wells will be constructed with 2-inch diameter PVC well material consisting of ten feet of 20-slot well screen (set from elevation -14' to -4') and the remaining portion of the well will consist of solid riser pipe. Post-excavation low-flow groundwater sampling will be performed on the onsite monitor wells following completion of the remedial excavation activities.

The soil and groundwater quality results will be compared to the baseline analytical results to assess the ISCO effectiveness on reducing the residual VOC contamination at the Site.

If analytical results indicate soil quality for any of the post-excavation confirmation bottom samples exceed unrestricted SCOs (or protection of groundwater), lateral injection pipes will be installed within the bottom of the excavation. The preliminary locations of the injection pipes (if required based on the analytical results of the post-excavation confirmation samples) are

presented on Figure 5 and Figure 6. The injection pipes will consist of lateral well screen installed within a trench and backfilled with permeable gravel. A riser pipe will connect the lateral screen to the surface and will provide remote access for performing future injections directly targeting the residual contaminant zone. Subsequent ISCO applications and follow-up groundwater sampling activities could then be performed using the same methods outlined in Section 3.3.9.3 to provide ISCO effectiveness monitoring data, however the volume and mix ratio will be modified based on the post-remedy residual contaminant concentrations.

### **3.3.10 Demarcation Layer Installation**

After the completion of soil excavation/removal and any other invasive remedial activities and prior to backfilling, a land survey will be performed by a New York State licensed surveyor. The survey will define the top elevation of residual contaminated soils. A physical demarcation layer, consisting of orange snow fencing material or equivalent material will be placed on this surface to provide a visual reference.

This demarcation layer will constitute the top of the Residuals Management Zone (if present), the zone that requires adherence to special conditions for disturbance of contaminated residual soils defined in the SMP. The survey will measure the grade covered by the demarcation layer before the placement of cover soils, pavement and sub-soils, structures, or other materials. This survey and the demarcation layer placed on this grade surface will constitute the physical and written record of the upper surface of the Residuals Management Zone in the SMP. A map showing the survey results will be included in the FER and the SMP (if required).

It is expected that solid cap materials (i.e., concrete and/or asphalt) may be used on portions of the Site as part of the redevelopment plan. Concrete may be used in areas that will become slab-on-grade structures, utilities, footings, foundations, or signs supports.

### **3.3.11 Import of Backfill Soil from Offsite Sources**

Offsite material will be utilized to facilitate regrading of the Site.

In general, backfill must meet the following criteria in accordance with DER-10):

- Comply with Remedial Action Objectives;
- Be free of extraneous debris or solid waste;

- Be recognizable soil or other unregulated material as set forth in 6 NYCRR Part 360 and materials for which DEC has issued a beneficial use determination;
- Not exceed the allowable constituent levels for imported fill or soil; and
- Be tested as described below:

The backfill brought to the Site for regrading will be comprised of soil or other unregulated material as set forth in 6 NYCRR Part 360. Additionally, due to the selected cleanup track for restricted-residential use, the imported backfill and cover soil may not exceed the lower of the protection of groundwater or the protection of public health SCO for unrestricted use, as set forth in 6 NYCRR Part 375-6.8(b). For each source of backfill that is imported to the Site, one of the following will be completed prior to importing the backfill.

- a) documentation will be provided to NYSDEC as to the source of the material and the consistency of the material in accordance with the exemption for no chemical testing listed in DER-10 Section 5.4(e)(5); **OR**,
- b) chemical testing will be completed in accordance with Table 5.4(e)10 of DER-10.

If laboratory analytical testing is conducted, the results for each new source of fill must meet the values provided in Appendix 5 of DER-10 for the identified use (of potential future use) of the Site and must receive approval by the NYSDEC.

Backfill (other than virgin stone) brought to the Site for regrading will require sampling and laboratory analysis in accordance with this subdivision and Table 5.4(e)10. Once it is determined that the fill material meets imported backfill or cover soil chemical requirements and is non-hazardous, and lacks petroleum contamination, the material will be loaded onto trucks for delivery to the Site.

Samples of the fill will be collected based on the soil quantity and type of constituents identified in the table and will be a combination of discrete and composite samples, handled as follows:

1. for VOCs only, grab samples are allowed. These grab samples are one or more discrete samples taken from the fill, with the number as specified in the volatile column of Table 5.4(e)10 for the soil quantity in question, and analyzed for the VOCs identified in Appendix 5 of DER-10; or,
2. for SVOCs, inorganics and PCBs/pesticides:

- a. one or more composite samples are collected from the volume of soil identified in Table 5.4 for analysis, with each composite from a different location in the fill volume;
- b. each composite is prepared by collecting discrete samples from 3 to 5 random locations from the volume of soil to be tested; and,
- c. the discrete samples are mixed, and after mixing, a sample of the mixture is analyzed for the SVOCs, inorganic and PCBs/pesticide constituents identified in Appendix 5 of DER-10.

As per DER-10 Table 5.4(e)10, the following recommended number of soil samples (frequency for various quantities of soil) for soil imported to or exported from a Site have been established:

<b>Contaminant</b>	<b>VOCs</b>	<b>SVOCs, Inorganic and PCBs/Pesticide</b>
<b>Soil Quantity (Cubic Yards)</b>	<b>Discrete Samples</b>	<b>Composite Samples</b>
0-50	1	1
50-100	2	1
100-200	3	1
200-300	4	1
300-400	4	2
400-500	5	2
500-800	6	2
800-1,000	7	2
Greater than 1,000	An additional 2 VOC and 1 Composite for each additional 1,000 cubic yards	

For remedial projects where large amounts of cover material/backfill are required (as is the condition at the Site), DER-10 allows for a reduction in the sampling frequency from that specified in Table 5.4(e)10 once a trend of compliance is established.

A process will be established to evaluate sources of backfill and cover soil to be imported to the Site, and will include an examination of source location, current and historical use(s), and any applicable documentation. Inspection of imported fill material will include visual, olfactory and PID screening for evidence of contamination. Materials imported to the Site will be subject to inspection, as follows:

- trucks with imported fill material will be in compliance with applicable laws and regulations and will enter the Site at designated locations;
- the Remedial Engineer or designee is responsible to ensure that every truck load of imported material is inspected for evidence of contamination; and,
- fill material will be free of solid waste including pavement materials, debris, stumps, roots, and other organic matter, as well as ashes, oil, perishables or foreign matter.

Material from industrial sites, spill sites, environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The following potential sources may be used pending attainment of backfill and cover soil quality objectives:

- clean soil from construction projects at non-industrial sites in compliance with applicable laws and regulations;
- clean soil from roadway or other transportation-related projects in compliance with applicable laws and regulations; and,
- clean recycled concrete aggregate (RCA) from facilities permitted or registered by the regulations of NYSDEC.

RCA may be imported from facilities permitted or registered by NYSDEC. Facilities will be identified in the FER. The Remedial Engineer or designee is responsible to ensure that the facility is compliant with 6 NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require additional testing, unless required by NYSDEC under its terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete. *RCA material is not acceptable for, and will not be used as, cover material.*

All materials received for import to the Site will be approved by the Remedial Engineer in compliance with provisions in this RAWP. The FER will document the source of the fill, evidence that an inspection was performed on the source, chemical sampling results, frequency of testing, and a Site map indicating the locations where backfill or soil cover was placed.

The Final Engineering Report will include the following certification by the Remedial Engineer: "I certify that all import of soils from off-Site, including source evaluation, approval

and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan”.

### **3.3.12 Backfill of Excavation Area**

Backfilling will be a temporary measure at the Site, pending finalization of the Site redevelopment plan. As per NYCDOB regulations, if the SOE remains in place and the excavation is structurally sound, the excavation can remain open without being backfilled. However, Kent Riverview may choose to partially backfill the Site following completion of the remedial excavation.

If and when performed, backfilling will be done after the endpoint confirmation sampling, sample location surveying and installation of the demarcation layer. The demarcation layer will physically mark the extents of the remedial excavation activities and will be installed overlying the onsite soils that will remain in-place. The demarcation layer will consist of a geotextile fabric (or similar material) that will adequately stabilize the grade. Geotextile fabrics provide filtration through their defined openings that retain soil particles but allow the flow of water. This results in a free-draining demarcation layer.

Backfill must meet the requirements of 6 NYCRR 375-6.7(d) listed in Section 3.3.11 above.

Initial backfill shall be with select material and compacted prior to placement of remaining backfill. Backfill material will be staged onsite in a dedicated staging area pending use for backfilling activities.

## **3.4 Post-Remedy Activities**

### **3.4.1 Post-Remedial Reporting**

As per the requirements of NYSDEC DER-10, the implementation of the remedy will be documented in a Final Engineering Report (FER). The FER will be certified by a Professional Engineer licensed in the State of New York and will include, but not be limited to, the following:

- Description of the remedy as constructed pursuant to the approved remedial design;
- Description of problems encountered during construction and a discussion of their resolution;



- Listing of the waste streams, quantities of materials disposed off-site and the facilities used for disposal along with bills of lading and final executed manifests;
- Boundaries of property subject to be subject to an environmental easement and/or other institutional controls;
- Restoration activities;
- Tables and figures depicting pre- and post-remediation data;
- As-built drawings;
- Identification of applicable engineering and institutional controls; and,
- If remedy results in a Track 2/4 cleanup, Site Management Plan (SMP).

### **3.4.2 Post-Remedy Site Controls – Track 2/4**

Following completion of the Site remedial actions, the implementation of the remedy will be documented in a FER. If a Track 1 cleanup is achieved, no post-remedial Site Controls will be required at the Site. However, if Site conditions require the cleanup track to be modified to either a Track 2 or Track 4 cleanup, the following post-remedy Site controls will apply to the Site.

#### **3.4.2.1 Institutional Control - Environmental Easement**

If the Site is required to be classified as a Track 2 or Track 4 cleanup, the Site will become a controlled property. Imposition of an Institutional Control (IC) in the form of an Environmental Easement (EE) will be required for the controlled property that:

- requires the remedial party or Site owner to complete and submit to the Department a periodic certification of IC/ECs in accordance with Part 375-1.8 (h)(3);
- allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or NYCDOH; and,
- requires compliance with the Department approved SMP.

### **3.4.2.2 Site Management Plan (SMP)**

If the Site is required to be classified as a Track 2 or Track 4 cleanup, a SMP will be required. Following the completion of the remedial construction activities, a detailed post-remediation SMP will be submitted to the NYSDEC for review and approval which will include an Engineering and Institutional Control Plan and an Operation, Maintenance and Monitoring (OM&M) Plan. The SMP will detail the proposed initial and continuing monitoring and maintenance activities for the Site. The SMP will be developed to:

- Address residually contaminated soils that may be excavated from the Site during future redevelopment. The plan would require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations;
- Provide for the operation and maintenance of the components of the remedy; and
- Identify any use restrictions to on-site development or groundwater use.

#### **3.4.2.2.1 Engineering and Institutional Control Plan**

The Engineering and Institutional Control Plan will identify all use restrictions and EC for the Site and details the steps and media-specific requirements necessary to ensure the following IC and/or EC controls remain in place and effective:

1. Engineering Controls: the hydraulic barrier installed around the property perimeter, the certified composite cover system, and ISCO (discussed in Section 3.3.9).
2. Institutional Controls: the EE discussed in Section 4.4.2.1.

The Engineering and Institutional Control Plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- descriptions of the provisions of the EE including any land use, and groundwater use restrictions;
- a provision for evaluation of the potential for SVI for any buildings developed on the Site, including provision for implementing actions recommended to address exposures related to SVI;
- provisions for the management and inspection of the identified ECs;
- maintaining Site access controls and Department notification; and,

- the steps necessary for the periodic reviews and certification of ICs and/or ECs.

#### **3.4.2.4 Operations, Maintenance and Monitoring Plan**

An Operations, Maintenance and Monitoring (OM&M) Plan will be included as part of the SMP. The OM&M Plan will detail the operations and maintenance of the physical components of the remedy (i.e., post-redevelopment Engineering Controls (ECs), etc.) as well as post-remedy effectiveness monitoring (i.e., ISCO effectiveness monitoring, post-remedy soil vapor sampling).

Groundwater monitoring activities to assess ISCO treatment effectiveness will continue, as determined by NYSDOH and NYSDEC, until residual groundwater concentrations are found to be below NYSDEC standards or have become asymptotic over an extended period. Monitoring will continue until permission to discontinue is granted in writing by NYSDEC and NYSDOH. Monitoring activities will be outlined in the Monitoring Plan section of the OM&M Plan.

The OM&M Plan will be performed to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:

- procedures for operating and maintaining the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining Site access controls and Department notification; and,
- monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Engineering and Institutional Control Plan.
- providing the Department access to the Site and O&M records.

The OM&M Plan will be prepared in accordance with Section 6.2.3 of NYSDEC DER-10; and include, but not be limited to, the following tasks:

- Effectiveness monitoring of the ISCO application performed as part of the remedial activities;

- Continued evaluation of the potential for vapor intrusion for any buildings developed on the Site, including a provision for mitigation of any identified impacts;
- Implementation of the post-remedy groundwater monitoring program;
- Identification of use restrictions on the Site; and
- Continued operation and maintenance of the components of the remedy.

### **3.4.3 Post-Remedial Actions - Remedial Treatment System Relocation**

Following completion of the remedial excavation at the Site, the remedial system will be relocated for future remediation of residual offsite contamination (future OM&M to be performed by the NYSDEC or their designated remedial contractor). These activities will be performed in accordance with the Order on Consent and Administrative Settlement Index No. CO 2-20170104-73.

The system trailer will be relocated to the Con Edison parking lot north of the Site. The Volunteer will work directly with Con Edison, the NYSDEC and/or any other designated remedial contractor during the relocation. It should be noted that cooperation by Con Edison will be required to complete the relocation activities and to reconnect the offsite extraction wells (located on the Con Edison parking lot) to the treatment system. Following the system relocation, the flexible extraction tubing (removed from the interior of the Site building) will be used to connect the remaining extraction wells to the intake ports on the system trailer.

After the system is relocated and the extraction well network is re-connected, the OM&M activities will be performed by the NYSDEC and/or any other designated remedial contractor. The system relocation activities will consist of: moving the system trailer to the new location for future operation; connecting the remedial system trailer to utilities (electric, sewer, broadband); and, reconnection of the offsite extraction wells located on the Con Edison parking lot. Of note, after restarting operation of the remedial system, the NYSDEC and/or other designated remedial contractor will be responsible for ongoing OM&M activities in addition to fees associated with the system operation.

#### **3.4.4 Post-Remedial Site Redevelopment Vapor Intrusion Assessment**

A post-remedial soil vapor intrusion evaluation will be completed prior to occupying any buildings developed on the Site. The assessment will include a provision for implementing actions recommended to address exposures related to soil vapor intrusion, if identified. This is discussed further in the RAWP.

#### 4.0 SCHEDULE

A current schedule of Remedial Actions is included below. It subdivides work elements and provides estimated dates for performance of work and deliverables.

The Volunteer will implement the Remedial Action activities following NYSDEC approval. The schedule will follow the general outline below:

- Building Demolition and Offsite Waste Disposal..... Completed
- Supported of Excavation (SOE) Watertight Sheeting Install..... Start – August 28, 2019  
(duration of ~4 weeks)
- Baseline GW Monitoring (at 24 ft bg) & ISCO Application ..... Start – Sept. 30, 2019  
(duration of ~2-3 days)
- Site Soil Excavation and Offsite Waste Disposal ..... Start After Sheeting Install  
(duration of ~6-8 weeks)
- Construction Dewatering ..... Start half-way through  
Soil Excavation  
(duration of ~4-6 weeks)
- SOE Bracing/Tieback Install..... Start ~Sept 9-16, 2019  
(advances with excavation)
- Preparation of FER  
(And SMP if Site Remedy Results in Track 2/4 Cleanup) ..... 7 days after completion of  
RAWP Implementation
- COC Issuance by NYSDEC..... Following NYSDEC  
approval of FER
- DPE (Dual Phase Extraction) System  
Relocation & Reactivation Activities  
(Completed under Order on Consent)..... Following Completion of  
Soil Excavation Activities
- Post-Remedy Site Redevelopment & Soil Vapor Monitoring .... Not Required under Track 1
- Periodic Certification  
(Outlined in SMP for Track 2/4) ..... Not Required under Track 1

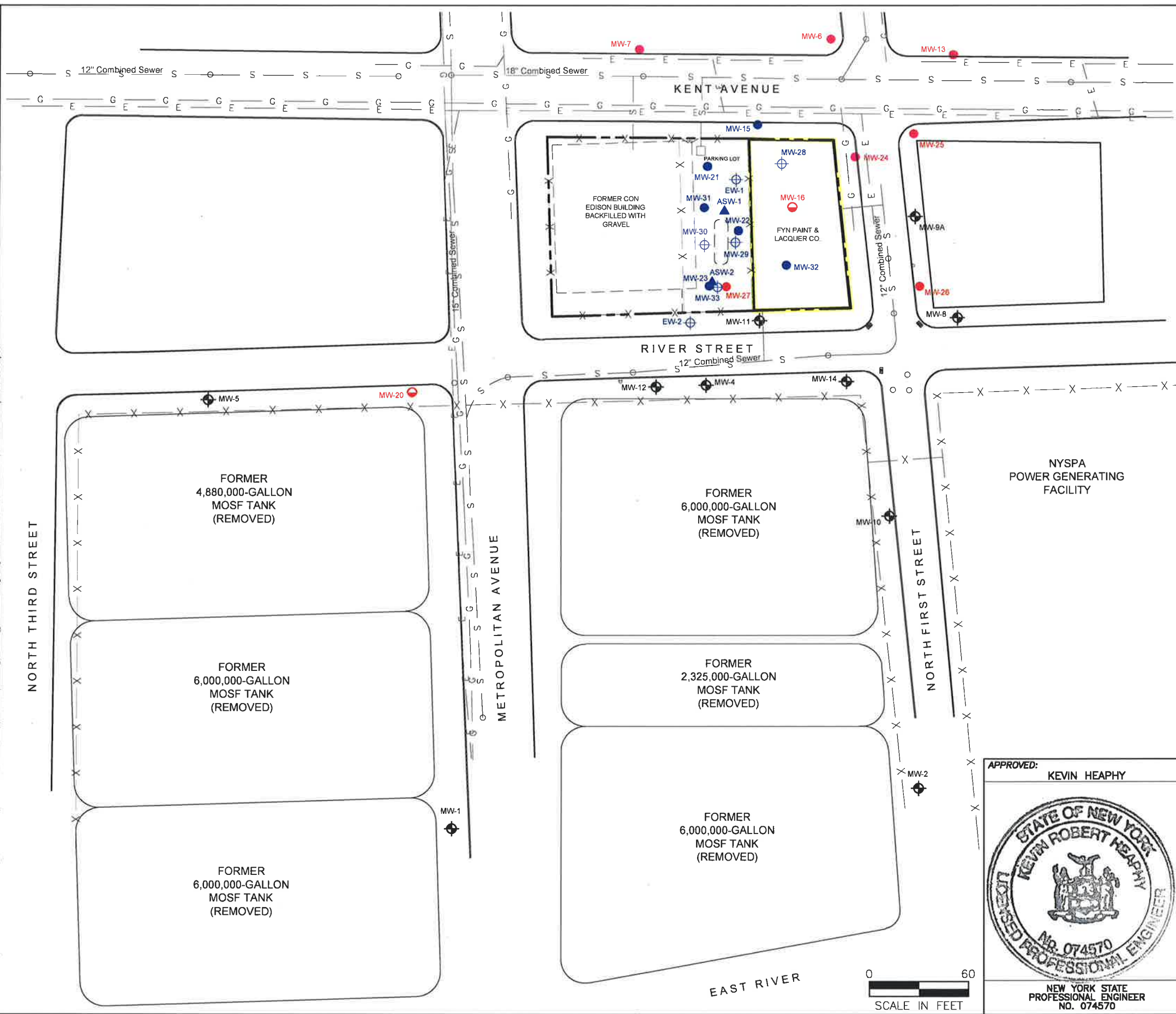
September 26, 2019

F:\reports\fyn paint bcp\02 - remedy\13 - rd report - with chem ox application plan\update with nysdec mods\remedial design report.c224154.2019-8-29.fyn paint-brooklyn.doc



# FIGURES

Z:\REBORI\Syn Paint BCEN02...Remedy\13...RD Report...with Chem. Dr. Application plan\Figures\F2\_SitePlan.dwg\_Layout1\_09/20/19 9:32:24 AM\_AcroDistTemp\DWZ7956.pcd



**LEGEND**

- PROPERTY LINE
- 4-INCH DIAMETER MONITOR WELL (PVC)
- 2-INCH DIAMETER MONITOR WELL (PVC)
- 2-INCH DIAMETER MONITOR WELL (STAINLESS STEEL)
- 4-INCH DIAMETER EXTRACTION WELL (STAINLESS STEEL)
- 2-INCH DIAMETER EXTRACTION WELL (STAINLESS STEEL)
- 1-INCH DIAMETER EXTRACTION WELL (STAINLESS STEEL)
- 10,000-GALLON UST (ABANDONED IN PLACE)
- CATCH BASIN
- CHAIN LINK FENCE
- HYDRANT
- MANHOLE
- GAS MAIN
- ELECTRICAL DUCT
- COMBINED SEWER MAIN

NOTE:  
MONITOR WELLS GP-1, GP-2, C-1, C-2 AND C-3 WERE DECOMMISSIONED.  
MONITOR WELLS MW-3 AND C-4 WERE DESTROYED.

DISCLAIMER:  
IT IS A VIOLATION OF ARTICLE 130 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OR ADOPTION BY A NEW YORK STATE LICENSED LAND SURVEYOR OR ENGINEER IN ACCORDANCE WITH SECTION 7209 (2), ARTICLE 130, NEW YORK STATE EDUCATION LAW.

APPROVED:  
KEVIN HEAPHY

NEW YORK STATE  
PROFESSIONAL ENGINEER  
NO. 074570

**FYN PAINT & LACQUER CO., INC.**  
230 KENT AVENUE  
BROOKLYN, NEW YORK

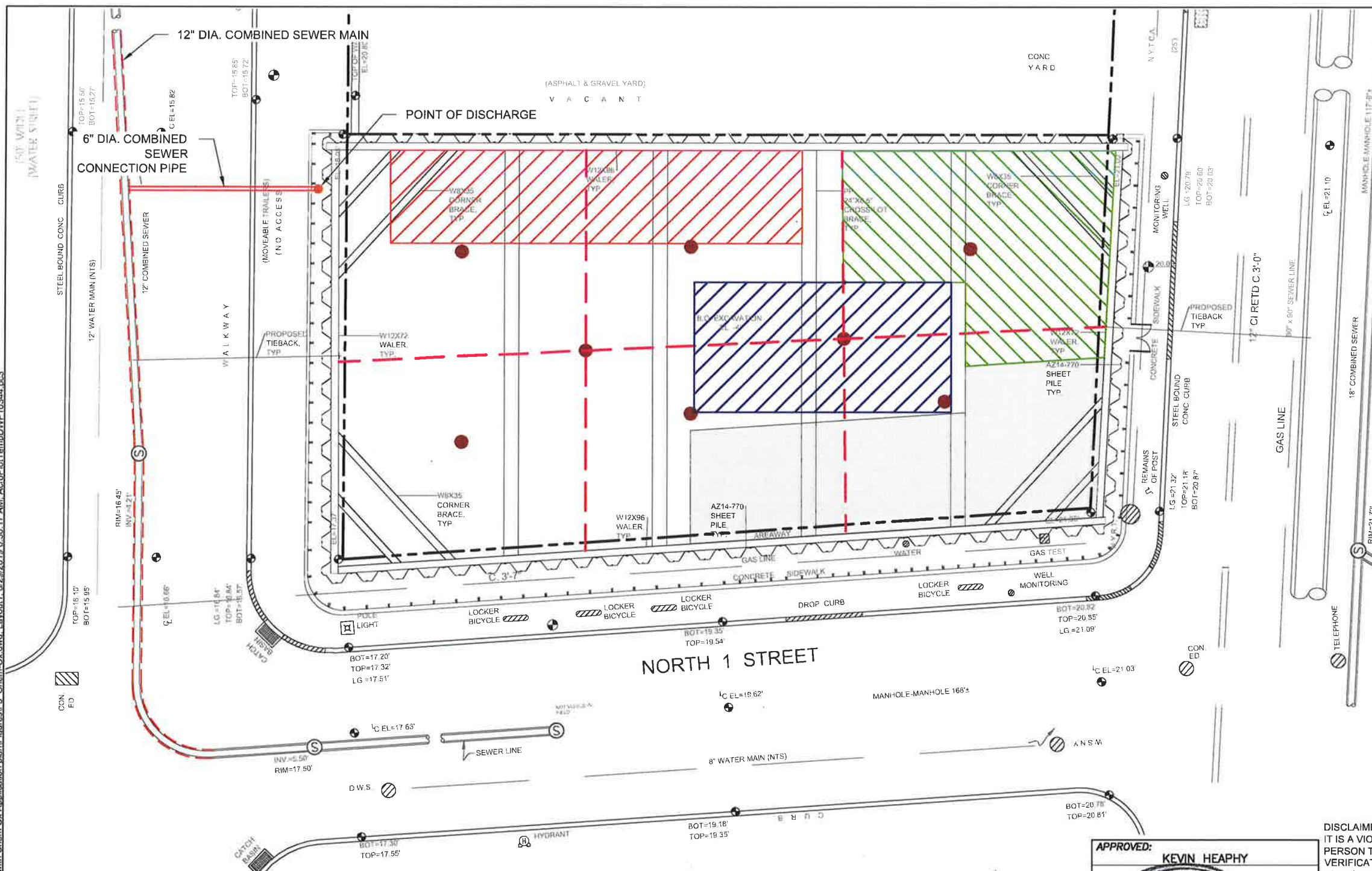
**SITE PLAN**

DATE	REVISED	PREPARED BY:
		WSP USA 4 Westchester Park Drive Suite 175 White Plains, New York 10604 (914) 694-5711
<b>DRAWN:</b>	RAC	<b>CHECKED:</b> SG
		<b>DATE:</b> 08/28/19
		<b>FIGURE:</b> 2





Z:\REPORTS\Fyn Paint BCP02 - Remed\13 - RD Report - with Chem Ox Application plan\Figures\F3\_Chem\_Ox.dwg Layout1 - 8/29/2019 8:36:17 AM\_AcroPlotTempDWF-10944.pc3



- LEGEND**
- PROPERTY BOUNDARY
  - SPOT ELEVATION
  - 12" DIA. COMBINED SEWER MAIN
  - 6" DIA. COMBINED SEWER CONNECTION
  - SOIL/GROUNDWATER BORING/ISCO INJECTION WELL (24 FTBG)
  - CENTRAL ISCO ZONE
  - NORTHWEST ISCO ZONE
  - NORTHEAST ISCO ZONE
  - APPROXIMATE 900 SF CLOSURE CHARACTERIZATION AREA
  - PARTIAL CELLAR (SOUTHEAST ISCO ZONE - IF NECESSARY)

**DISCLAIMER:**  
IT IS A VIOLATION OF ARTICLE 130 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OR ADOPTION BY A NEW YORK STATE LICENSED LAND SURVEYOR OR ENGINEER IN ACCORDANCE WITH SECTION 7209 (2), ARTICLE 130, NEW YORK STATE EDUCATION LAW.

**FYN PAINT & LACQUER CO., INC.**  
230 KENT AVENUE  
BROOKLYN, NEW YORK

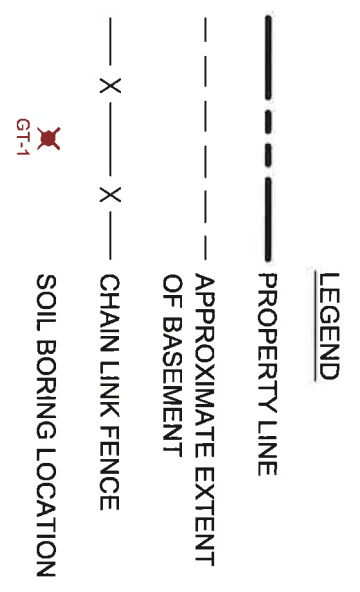
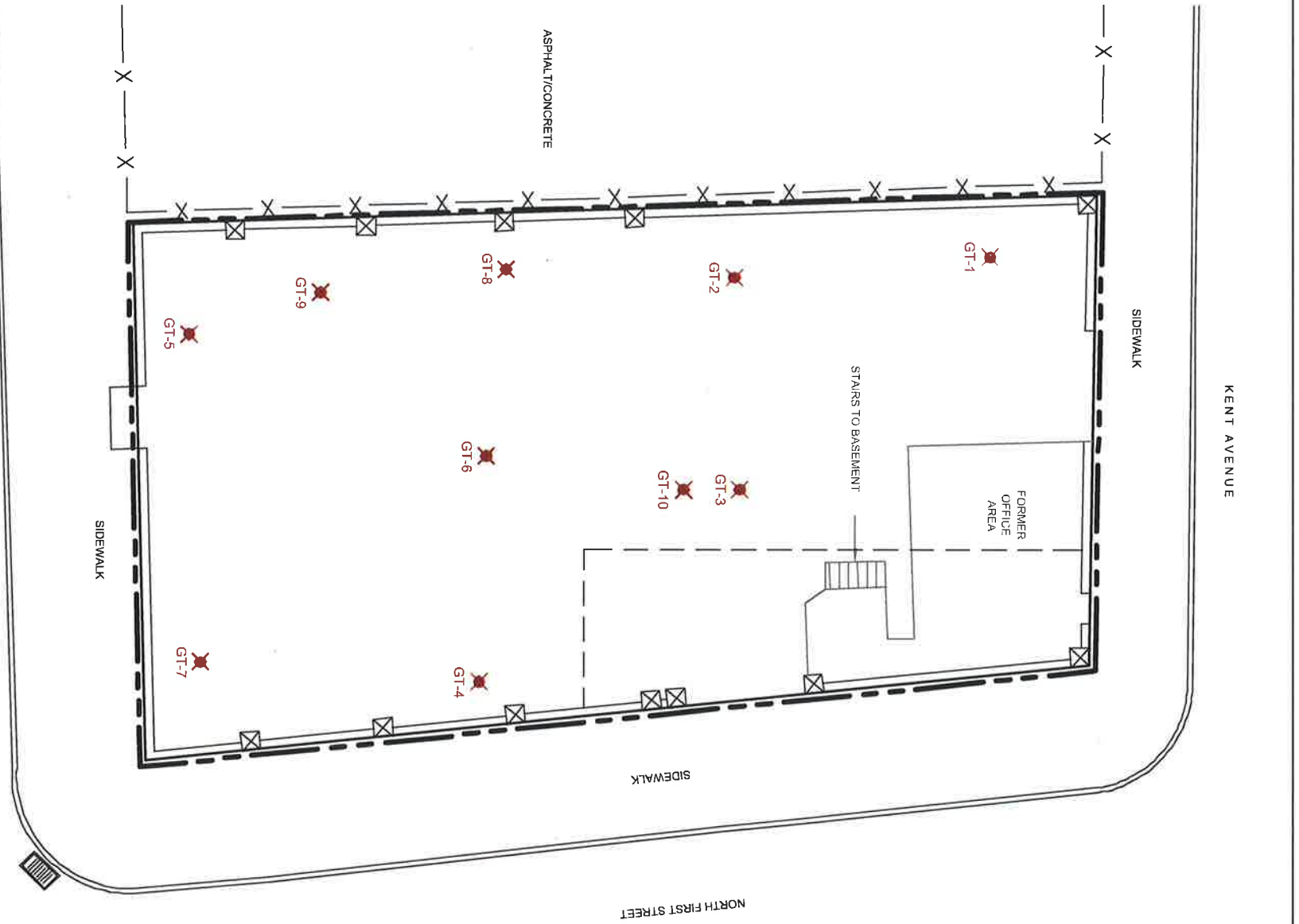
**ISCO ZONES AND INJECTION WELL LOCATION MAP**

DATE	REVISED	PREPARED BY:
<b>DRAWN:</b>	RAC	<b>CHECKED:</b> SG
<b>DATE:</b>	08/29/19	<b>FIGURE:</b> 3

APPROVED: **KEVIN HEAPHY**

**NEW YORK STATE PROFESSIONAL ENGINEER NO. 074570**





**APPROVED:**  
**KEVIN HEAPHY**  
 NEW YORK STATE  
 PROFESSIONAL ENGINEER  
 NO. 074570

**DISCLAIMER:**  
 IT IS A VIOLATION OF ARTICLE 130 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OR ADOPTION BY A NEW YORK STATE LICENSED LAND SURVEYOR OR ENGINEER IN ACCORDANCE WITH SECTION 7209 (2), ARTICLE 130, NEW YORK STATE EDUCATION LAW.

**FYN PAINT & LACQUER CO., INC.**  
 230 KENT AVENUE  
 BROOKLYN, NEW YORK

SOIL SLAB BORING LOCATIONS  
 JULY 17, 18 & 19, 2019

DATE	REVISED	PREPARED BY:

**DRAWN:** RAC      **CHECKED:** SG      **DATE:** 09/26/19      **FIGURE:** 4

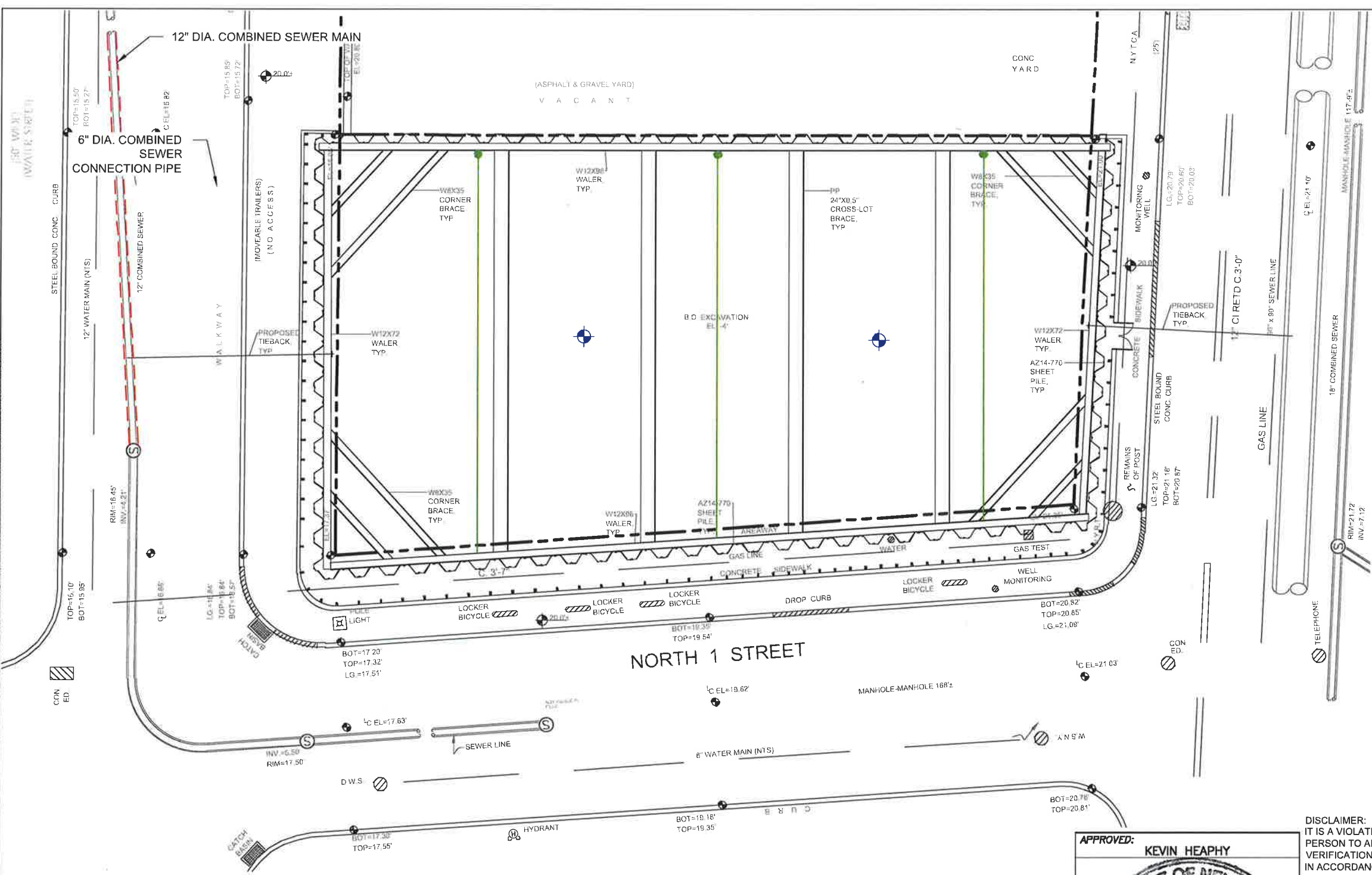


WSP USA  
 4 Westchester Park Drive  
 Suite 175  
 White Plains, New York 10604  
 (914) 694-5711





Z:\REPORTS\Fyn Paint\BCEP02 - Remedx13 - RD Report - with Chem Ox Application\plan\figures\F5 Post-Excavation SitePlan.dwg Layout1\_9/26/2019 1:30:13 PM AcropPlotTemp\DWG-4808.pcd



**LEGEND**

- PROPERTY BOUNDARY
- SPOT ELEVATION
- CHEM-OX TRENCH & LATERAL SCREEN
- REMOTE RISER
- POST-EXCAVATION GROUNDWATER MONITOR WELL

**DISCLAIMER:**  
IT IS A VIOLATION OF ARTICLE 130 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OR ADOPTION BY A NEW YORK STATE LICENSED LAND SURVEYOR OR ENGINEER IN ACCORDANCE WITH SECTION 7209 (2), ARTICLE 130, NEW YORK STATE EDUCATION LAW.

**FYN PAINT & LACQUER CO., INC.**  
230 KENT AVENUE  
BROOKLYN, NEW YORK

POST-EXCAVATION ISCO SITE PLAN  
LATERAL INJECTION TRENCHES AND MONITOR WELL

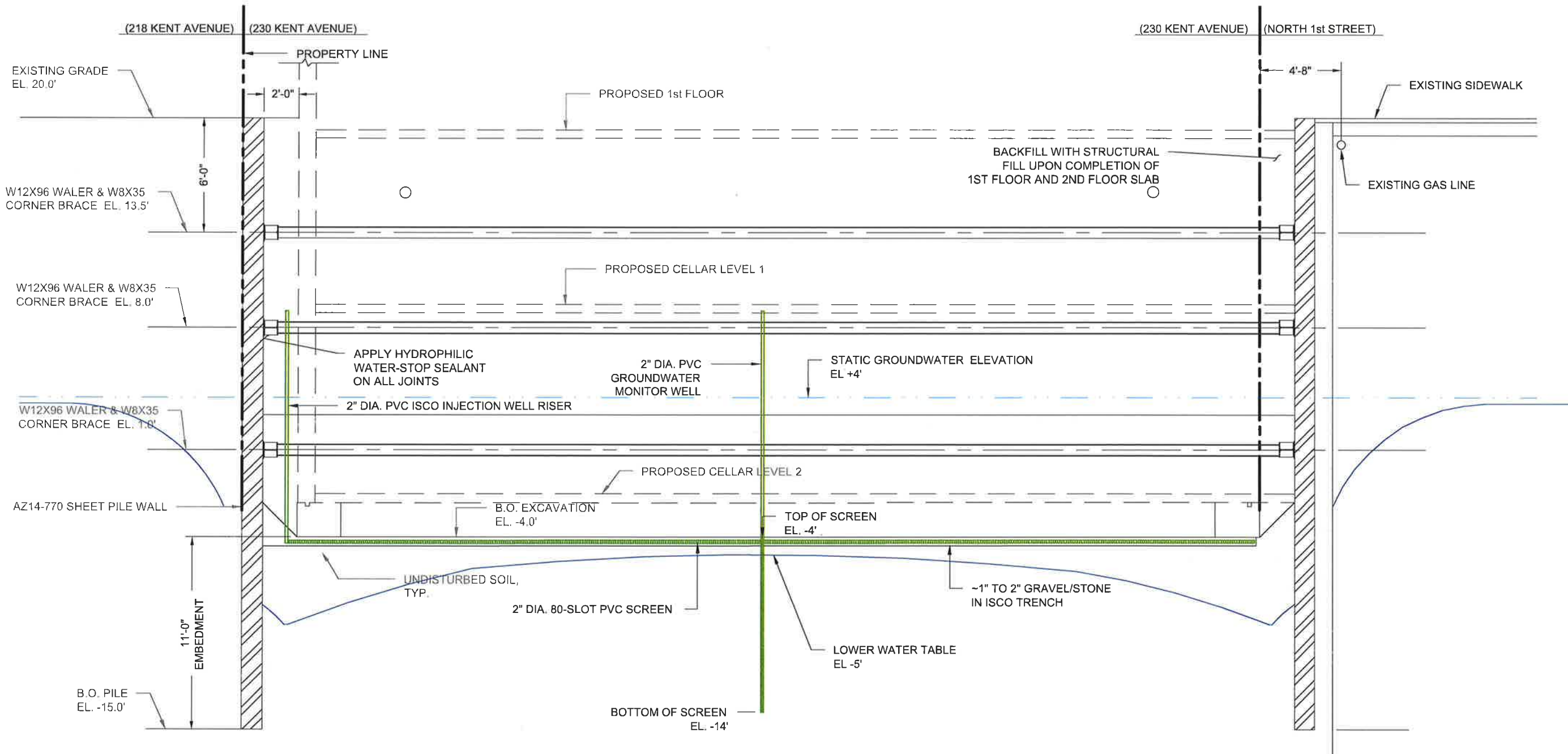
DATE	REVISED	PREPARED BY:
		WSP USA 4 Westchester Park Drive Suite 175 White Plains, New York 10604 (914) 694-5711
<b>DRAWN:</b>	RAC	<b>CHECKED:</b> SG
		<b>DATE:</b> 09/26/19
		<b>FIGURE:</b> 5

**APPROVED:**  
KEVIN HEAPHY

NEW YORK STATE  
PROFESSIONAL ENGINEER  
NO. 074570



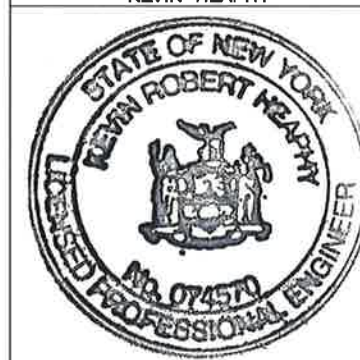
Z:\REPORTS\In Print\BCP202 - Remed\13 - RD Report - with Chem Ox Application.dwg\Figures\Fig Post-Excav ISCO CrossSection.dwg Layout1\_9/26/2019 1:30:48 PM AcroPlotTempDWF4808.pc3



NOTE:  
WELL HEAD ELEVATION FOR MONITOR WELL TO BE ADJUSTED BASED ON SITE BACKFILL THICKNESS.



APPROVED: KEVIN HEAPHY




NEW YORK STATE  
PROFESSIONAL ENGINEER  
NO. 074570

DISCLAIMER:  
IT IS A VIOLATION OF ARTICLE 130 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OR ADOPTION BY A NEW YORK STATE LICENSED LAND SURVEYOR OR ENGINEER IN ACCORDANCE WITH SECTION 7209 (2), ARTICLE 130, NEW YORK STATE EDUCATION LAW.

FYN PAINT & LACQUER CO., INC.  
230 KENT AVENUE  
BROOKLYN, NEW YORK

POST-EXCAVATION ISCO - CROSS SECTION LATERAL  
INJECTION TRENCH AND GROUNDWATER MONITOR WELL

DATE	REVISED	PREPARED BY:
		
		WSP USA 4 Westchester Park Drive Suite 175 White Plains, New York 10604 (914) 694-5711
DRAWN:	RAC	CHECKED: SG
		DATE: 09/26/19
		FIGURE: 6



# APPENDIX A

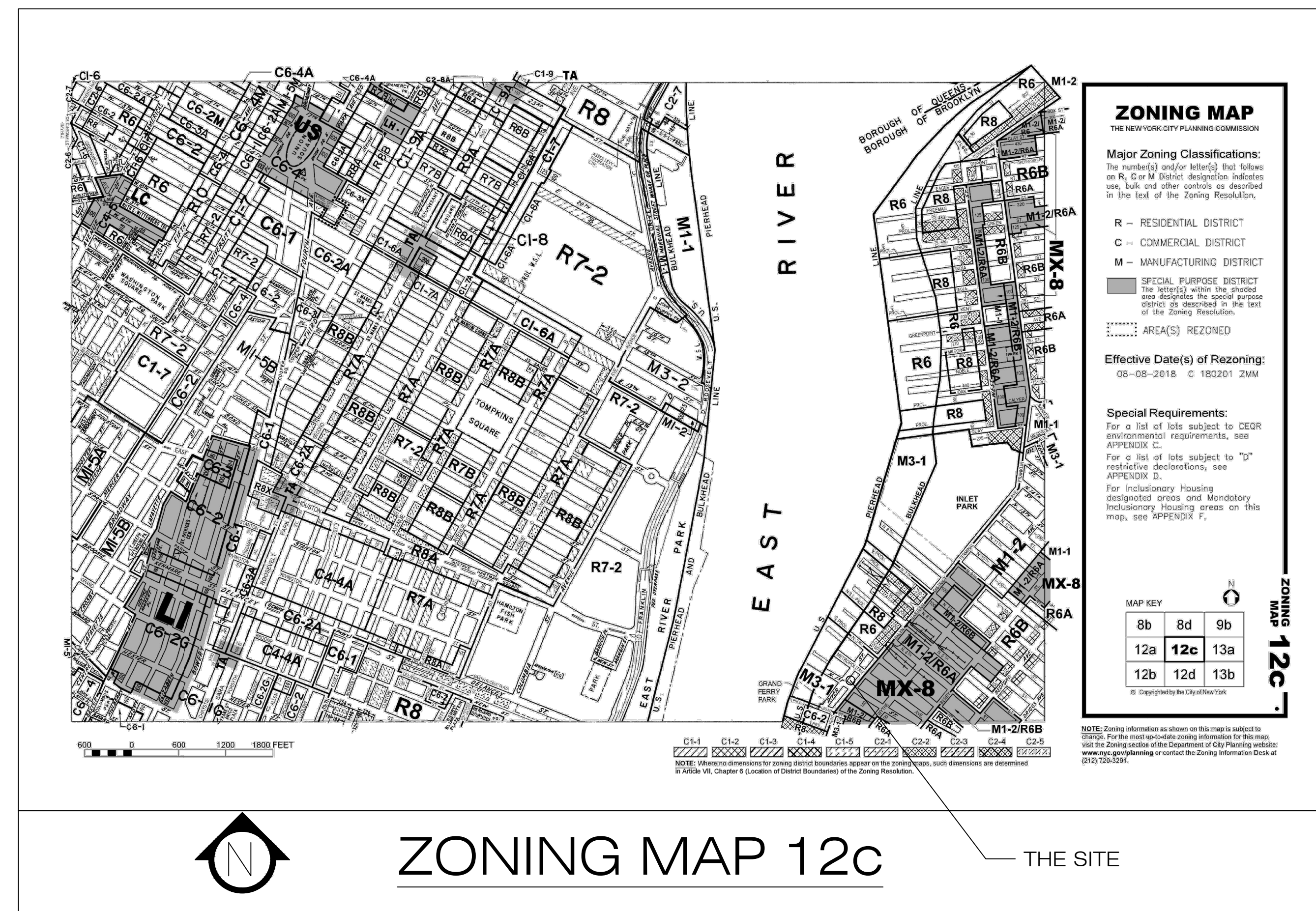


# SITE SAFETY LOGISTIC PLAN

EXCAVATION ON VACANT LOT  
230 KENT AVE BROOKLYN NY 11249  
JOB# 340683576

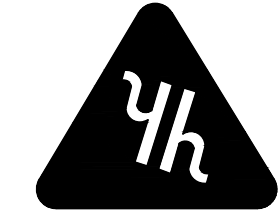
BLOCK #:	2362
LOT #:	1
ZONING:	M3-1 - HEAVY MANUFACTURING
BIN #:	3062426
OCCUP, CLASS,	CO
MAP #:	12c
CB #:	301
NO.OF STORY:	VACANT
HEIGHT:	-
BLDG SF	-

DRAWING LIST	
SHEET #	DESCRIPTION
SSP - 100.00	TITLE SHEET
SSP - 101.00	GENERAL NOTES & INFORMATION
SSP - 102.00	GENERAL SAFETY NOTES
SSP - 103.00	GENERAL EXCAVATION NOTES
SSP - 201.00	SITE PLAN
SSP - 202.00	EXCAVATION PHASE 1
SSP - 203.00	EXCAVATION PHASE 2
SSP - 401.00	STANDARD DETAILS
SSP - 402.00	STANDARD DETAILS & EQUIPMENTS



SITE SAFETY PLAN  
EXCAVATION PHASE

SAFETY DESIGNER



SAFETY DESIGN

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

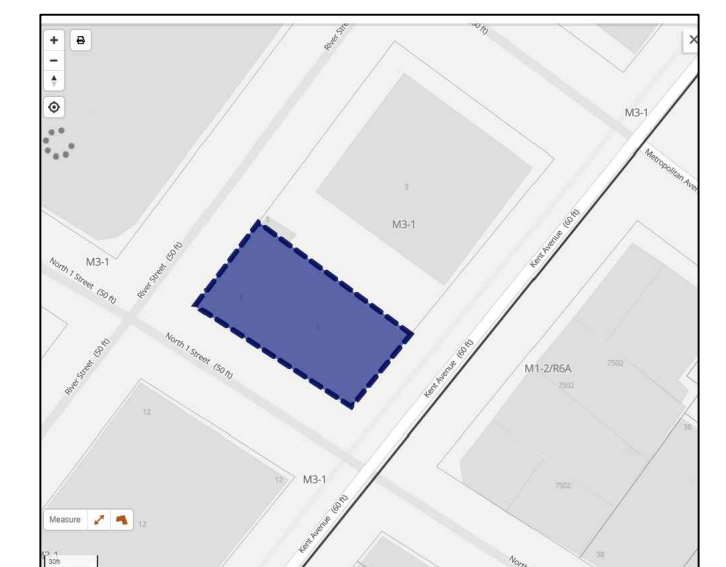
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE:  
TITLE SHEET

SIGNATURE OF PREPARER: *Mari Green*  
DATE: 8/18/2019  
SCALE: AS SHOWN  
DRAWN:  
REVIEWED:  
SHEET NO. 01

SSP-100-00



**PROJECT SCOPE OF WORK:**

PROPOSED EXCAVATION AS PER PLAN.

**INSTRUCTION TO REQUEST START OF WORK.**

FOR ALL SUSPENDED SCAFFOLDING NOTIFICATION MUST BE CALLED IN TO THE CALL CENTER 24 HOUR BEFORE START OF WORK AND AT TIME OF FINAL REMOVAL. THE NUMBER IS (212) 393-2550.

**INCIDENTS NOTIFICATION :**

AS PER 3310.2(7) OF THE NEW YORK CITY BUILDING CODE, SITE SAFETY COORDINATORS, DESIGNATED PERSONS AND SITE SAFETY MANAGERS MUST IMMEDIATELY REPORT INCIDENTS TO THE BUILDING DEPARTMENT. A CALL MUST BE MADE TO THE CALL CENTER 212-602-0431.

**FOR DEMOLITION ONLY:**

A CALL TO THE CALL CENTER 212-227-4416 24 HOUR BEFORE START OF WORK.

**FOR EXCAVATION ONLY:**

A CALL TO THE CALL CENTER 212-227-4416 24 HOUR BEFORE START OF WORK. THEN SEND THE B.E.S.T. SQUAD THEIR 24 HOUR NOTIFICATION.

**FOR ALL NEW BUILDING SITE SAFETY JOBS :**

24 HOURS BEFORE WORKS STARTS, ON COMPANY LETTERHEAD SEND A LETTER OF NOTIFICATION VIA EMAIL TO THE SCAFFOLD SAFETY TEAM ALONG WITH A COPY OF THE PW2. SSTSWSSREMOVAL@BUILDINGS.NYC.GOV

**CLOSE OUT INSTRUCTIONS:**

1. PORTAL REMOVAL OF SIDEWALK SHEDS REQUIRES AN AMENDED PLAN, NOTIFICATION TO THE SCAFFOLD SAFETY TEAM AND AN INSPECTION BY THE SCAFFOLD SAFETY TEAM.
2. PERMANENTLY REMOVING SIDEWALK SHED REQUIRES NOTIFICATION TO THE SCAFFOLD SAFETY TEAM AND AN INSPECTION BY THE SCAFFOLD SAFETY TEAM
3. REMOVAL OF SITE SAFETY REQUIRES NOTIFICATION TO THE SCAFFOLD SAFETY TEAM AND AN INSPECTION BY THE SCAFFOLD SAFETY TEAM.
4. REMOVAL OF SIDEWALK SHED ON UNSAFE LOCAL LAW FACADES REQUIRES NOTIFICATIONS TO FACADE UNIT. CALL (212) 393 2479

**NEW YORK POLICE DEPARTMENT:  
90TH PRECINCT**

211 Union Ave, Brooklyn, NY 11211  
(718) 963-5311

**NEW YORK CITY FIRE DEPARTMENT:  
ENGINE 221**

161 S 2nd St, Brooklyn, NY 11211

**EMS: STATION 35**

332 Metropolitan Ave, Brooklyn, NY 11211  
(718) 384-7039

**NYC DEPARTMENT OF TRANSPORTATION:**

55 Water St, New York, NY 10041  
212-639-9675

**NYC DEPARTMENT OF BUILDINGS:**

280 BROADWAY AVE 3RD FLOOR  
NEW YORK NY 10007  
212 566 4769

**PROPERTY OWNER :**

YITZCHOK SCHWEID  
KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
347-452-2615

**GENERAL CONTRACTOR :**

JOEL KAUFMAN  
KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
845-656-7574

**SUPERINTENDENT OF CONSTRUCTION**

LEVY I DAHAN  
REGISTRATION # 27474

**NOTE**

THE PERMIT HOLDER MUST IMMEDIATELY NOTIFY THE DEPARTMENT, IN A FORM AND MANNER ACCEPTABLE TO THE DEPARTMENT, OF ANY PERMANENT CHANGE TO THE PRIMARY CONSTRUCTION SUPERINTENDENT.

**LOCAL LAW 41:**

PRIOR TO PERFORMING ANY WORK ON THE PROJECT ALL WORKERS SHALL HAVE SUCCESSFULLY COMPLETED, WITHIN THE PREVIOUS FIVE CALENDAR YEAR, A TEN HOUR COURSE APPROVED BY THE UNITED STATES DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION IN CONSTRUCTION INDUSTRY SAFETY AND HEALTH, OR BY THE COMMISSIONER COVERING SUBSTANTIALLY THE SAME MATERIAL. SUCCESSFUL COMPLETION OF SUCH TRAINING COURSE SHALL BE EVIDENCED BY 1) PRESENTATION OF A BONA FIDE COURSE COMPLETION CARD, 2) COPY OF SUCH CARD, 3) A TRAINING ROSTER, ATTENDANCE RECORD, OR OTHER VALID PROOF WHICH MAY BE APPROVED BY THE COMMISSIONER. SUCH EVIDENCE SHALL BE READILY AVAILABLE TO THE COMMISSIONER UPON REQUEST.

ALL WORKERS EMPLOYED ON THIS PROJECT WILL RECEIVE A SITE-SPECIFIC SAFETY ORIENTATION PROGRAM SHALL INCLUDE A REVIEW OF ANY HAZARDOUS ACTIVITIES OF THE JOB THAT ARE RELEVANT TO THE TASKS AND ACTIVITIES TO BE PERFORMED. ALL WORKERS MUST ATTEND SUCH A PROGRAM NO LATER THAN SEVEN DAYS AFTER COMMENCING THEIR EMPLOYMENT.





**NOTE:**

- 1) THIS SITE SAFETY PLAN SUBMISSION IS COMPLIANCE WITH THE 2014 BUILDING CODE, CHAPTER 33 AND THE ADMINISTRATIVE CODE, SECTION 28-110.
- 2) SITE SAFETY MANAGEMENT IS IN ACCORDANCE WITH 1-RCNY.3310-01. REVISED
- 3) SITE SAFETY PLAN THAT MEETS THE APPLICABLE REQUIREMENTS OF ARTICLE 110 OF CHAPTER 1 OF TITLE 28 OF THE ADMINISTRATIVE CODE SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST
- 4) BC 3301.3 A SITE SAFETY MANAGER OR SITE SAFETY COORDINATOR MUST BE DESIGNATED AND PRESENT AT THE CONSTRUCTION OR DEMOLITION OF A MAJOR BUILDINGS ACCORDANCE WITH SECTION 3310. SINCE THIS IS NOT A MAJOR BUILDING ONLY A SUPERINTENDENT IS REQUIRED DURING THE CONSTRUCTION.

SCAFFOLD		VEHICLE RAMP	
DOB APPLICATION #		DOB APPLICATION #	
EXPIRATION DATE		EXPIRATION DATE	
SIDEWALK SHED		SIDE OF EXCAVATION	
DOB APPLICATION #		DOB APPLICATION #	
EXPIRATION DATE		EXPIRATION DATE	
CONSTRUCTION FENCE		MATERIAL HOIST	
DOB APPLICATION #		DOB APPLICATION #	
EXPIRATION DATE		EXPIRATION DATE	
TEMPORARY WALKWAY			
DOB APPLICATION #			
EXPIRATION DATE			

**NOTE**

ALL REQUIRED DOB APPLICATION NUMBERS, DOB PERMIT NUMBERS AND EXPIRATION DATES SHALL BE PROVIDED PRIOR TO THE START OF WORK.

GENERAL CONSTRUCTION SIGNAGE	
 REQUIRED CONSTRUCTION SIGNAGE	 SIDEWALK CLOSED USE OTHER SIDE.
 SIDEWALK CLOSED USE TEMPORARY WALKWAY.	 LANE CLOSED MERGE ....

LEGEND	
U. P.	UTILITY POLE
S. S.	STREET SIGN
F. H.	FIRE HYDRANT
S. L.	STREET LIGHT
D. C.	DROP CURB
L. B.	LOCK BICYCLE
O. H. S. W.	OVERHEAD SERVICE WIRE

**SITE SAFETY PLAN**

**EXCAVATION PHASE**

SAFETY DESIGNER



**SAFETY DESIGN**  
65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

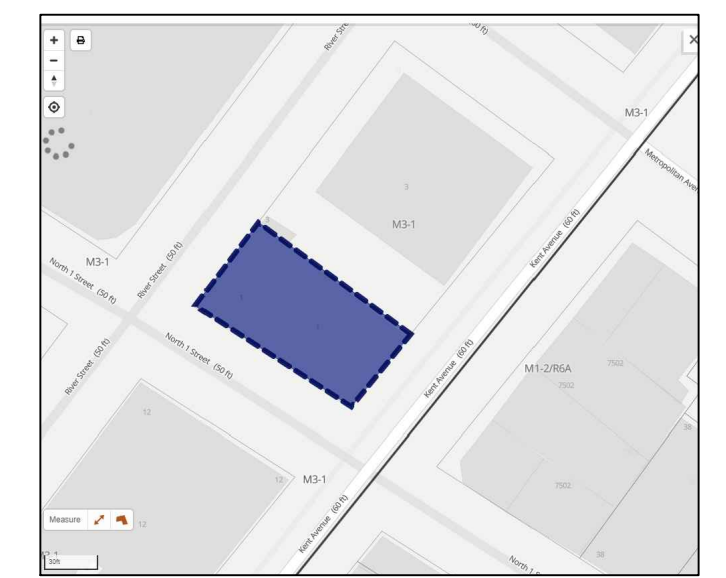
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

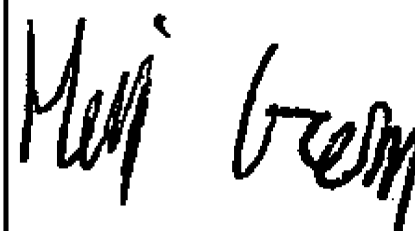
BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE: **GENERAL INFORMATION**

SIGNATURE OF PREPARER	DATE: 8/18/2019
	SCALE: AS SHOWN
	DRAWN:
	REVIEWED:
	SHEET NO. 02

**SSP-101-00**



## SAFEGUARDS AND MAINTENANCE OF SITE

- SITES SHALL BE SAFEGUARDED AND MAINTAINED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 3303 OF NYC BUILDING CODE TO PROTECT THE PUBLIC AND PROPERTY.
- ALL TEMPORARY ELECTRICAL EQUIPMENT AND WIRING SHALL MEET THE REQUIREMENTS OF THE NEW YORK CITY ELECTRICAL CODE, AND SHALL BE MAINTAINED IN COMPLIANCE WITH SUCH REQUIREMENTS.
- TEMPORARY FACILITIES SHALL BE PROVIDED DURING CONSTRUCTION OR DEMOLITION ACTIVITIES IN ACCORDANCE WITH THE NEW YORK CITY PLUMBING CODE.
- ALL AREAS USED BY THE PUBLIC SHALL BE MAINTAINED FREE FROM ICE, SNOW, GREASE, DEBRIS, EQUIPMENT, MATERIALS, PROJECTIONS, TOOLS, OR OTHER ITEMS, SUBSTANCES, OR CONDITIONS THAT MAY CONSTITUTE A SLIPPING, TRIPPING, OR OTHER HAZARD.
- HOSE LINES, WIRES, ROPES, PIPES, CHAINS, AND CONDUITS SHALL BE LOCATED SO THAT THEY WILL NOT CONSTITUTE A TRIPPING HAZARD TO THE PUBLIC, WHERE IT IS NECESSARY TO CARRY SUCH ACROSS SIDEWALKS, OR ANY PUBLIC WAY, THEY SHALL EITHER BE SUSPENDED AT LEAST 8 FEET ABOVE GROUND OR, IF LEFT ON THE GROUND, SUITABLE CHAMFERED PLANKS OR A PEDESTRIAN BRIDGE SHALL BE PROVIDED TO COVER SUCH.
- SUFFICIENT CONTAINERS, INCLUDING BUT NOT LIMITED TO WASTE DUMPSTER, DEBRIS BOXES, AND SKIP BOXES, SHALL BE AVAILABLE FOR THE STORAGE OF ALL DEBRIS OR WASTE. SUCH CONTAINERS SHALL BE MADE OF METAL, PLASTIC, OR OTHER NON-COMBUSTIBLE MATERIAL ACCEPTABLE TO THE COMMISSIONER.
- ALL MATERIAL OR EQUIPMENT NOT BEING USED SHALL BE STORED AT LEAST 10 FEET, MEASURED ALONG ALL HORIZONTAL DIMENSIONS, FROM ALL UNENCLOSED PERIMETERS OF THE BUILDING OR STRUCTURE. SUCH MATERIAL OR EQUIPMENT SHALL BE SECURED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 3303.4.5.1 OF NYC BUILDING CODE.
- CHUTES USED IN ASSOCIATION WITH THE REMOVAL OF MATERIALS SHALL COMPLY WITH SECTIONS 3303.5.5.1 THROUGH 3303.5.5.5 OF NYC BUILDING CODE.
- WHERE PORTABLE FUEL-FIRED HEATERS OR OTHER HEATING EQUIPMENT ARE USED TO PROVIDE TEMPORARY HEATING DURING THE PLACING OF CONCRETE FOR A FLOOR, AN ESCAPE HATCH SHALL BE PROVIDED. THE ESCAPE HATCH SHALL EXTEND FROM THE FLOOR WHERE THE CONCRETE IS BEING PLACED AND THROUGH AT LEAST ONE STORY IMMEDIATELY BELOW SUCH FLOOR. THE ESCAPE HATCH SHALL BE LOCATED AS NEAR TO THE CENTER OF THE BUILDING OR STRUCTURE AS PRACTICAL, AS PER BC 3303.6.
- FIRE-FIGHTING EQUIPMENT, FIRE-FIGHTING ACCESS AT THE CONSTRUCTION OR DEMOLITION SITE, AND THE CONDUCT OF ALL CONSTRUCTION OR DEMOLITION OPERATIONS AFFECTING FIRE PREVENTION AND FIRE-FIGHTING SHALL COMPLY WITH THE NEW YORK CITY FIRE CODE AND THE PROVISIONS OF SECTIONS 3303.7.1 THROUGH 3303.7.5.
- A WATER SUPPLY FOR FIRE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE NEW YORK CITY FIRE CODE.
- REQUIRED MEANS OF EGRESS, EXISTING STRUCTURAL ELEMENTS, FIRE PROTECTION DEVICES, AND SANITARY SAFEGUARDS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OR DEMOLITION OPERATIONS IN EXISTING BUILDINGS. REQUIRED MEANS OF EGRESS SHALL NOT BE OBSTRUCTED IN ANY MANNER THAT WOULD DESTROY THE FULL EFFECTIVENESS OF SUCH MEANS OF EGRESS.
- SITES WHERE CONSTRUCTION OR DEMOLITION WORK HAS BEEN INTERRUPTED OR ABANDONED AND DISCONTINUED SHALL BE PROTECTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 3303.13.1 THROUGH 3303.13.3 OF NYC BUILDING CODE.
- NO CONDITION SHALL BE CREATED AS A RESULT OF CONSTRUCTION OR DEMOLITION OPERATIONS THAT WILL INTERFERE WITH NATURAL SURFACE DRAINAGE, WATER COURSES, DRAINAGE DITCHES, ETC., SHALL NOT BE OBSTRUCTED BY REFUSE, WASTE BUILDING MATERIALS, EARTH, STONES, TREE STUMPS, BRANCHES, OR OTHER DEBRIS THAT MAY INTERFERE WITH SURFACE DRAIN AGE OR CAUSE THE IMPONDMENT OF SURFACE WATERS.
- CONCRETE WASH-OUT WATER SHALL NOT BE ALLOWED TO ENTER ANY SEWER, CATCH BASIN, DRAIN, OR BODY OF WATER OR TO LEACH INTO THE GROUND.

## PROTECTION OF PEDESTRIANS

- WHERE AUTHORIZED BY THE DEPARTMENT OF TRANSPORTATION, A TEMPORARY WALKWAY OPEN TO THE PUBLIC MAY BE PROVIDED IN THE STREET IN FRONT OF THE SITE. SUCH TEMPORARY WALKWAY SHALL BE PROTECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
- WHERE A MEANS OF INGRESS/EGRESS TO THE PROPERTY REMAINS OPEN TO THE PUBLIC DURING THE COURSE OF CONSTRUCTION OR DEMOLITION, WALKWAYS, PATHWAYS, AND SIMILAR AREAS WITHIN THE PROPERTY LINE THAT PROVIDE A PATH OF TRAVEL BETWEEN THE REQUIRED MEANS OF INGRESS/EGRESS AND THE PUBLIC SIDEWALK OR TEMPORARY WALKWAY SHALL REMAIN OPEN.
- WHERE FOOT BRIDGES ARE UTILIZED AS PART OF A SIDEWALK, WALKWAY, OR PATHWAY, THEY SHALL BE PROVIDED WITH GUARDRAILS FOR THE ENTIRE LENGTH, AND SHALL HAVE CLEATS TO PREVENT SLIPPING, WHERE PLANKS ARE USED TO PAVE THE WALKWAY OF THE FOOT BRIDGE, THE PLANKS SHALL BE LAID CLOSE AND SECURELY FASTENED TO PREVENT DISPLACEMENT. PLANKS SHALL BE OF UNIFORM THICKNESS, AND ALL EXPOSED ENDS OF RAMPS SHALL BE PROVIDED WITH BEVELED FILLERS TO ELIMINATE TRIPPING HAZARDS.
- OBSTRUCTIONS OR OPENINGS LOCATED IN A PUBLIC WAY SHALL BE MARKED AND GUARDED BY BARRIERS, FLAGS, OR SIGNS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
- IN AREAS WHERE SPECIAL DANGER TO THE PUBLIC EXISTS, INCLUDING BUT NOT LIMITED TO VEHICLE ENTRANCES AND EXITS, HOISTING AREAS, POINTS OF STORAGE OF EXPLOSIVES OR HIGHLY FLAMMABLE MATERIAL, BLASTING AREAS, OR DISCHARGE ENDS OF CHUTES, DESCRIPTIVE WARNING SIGNS SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
- WHENEVER ANY WORK IS BEING PERFORMED OVER, ON, OR IN CLOSE PROXIMITY TO A HIGHWAY, STREET, OR SIMILAR PUBLIC WAY, CONTROL AND PROTECTION OF TRAFFIC SHALL BE PROVIDED BY BARRIERS, SIGNALS, SIGNS, FLAGPERSON, OR OTHER DEVICES, EQUIPMENT, AND PERSONNEL IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
- A FLAGPERSON SHALL BE PROVIDED WHENEVER INTERMITTENT OPERATIONS ARE CONDUCTED ON, OR ADJACENT TO, AREAS OPEN TO USE BY PERSONS OTHER THAN WORKERS, OR WHEN DANGEROUS OPERATIONS, SUCH AS BLASTING, MAY AFFECT SUCH AREAS. WHERE REQUIRED BY THE DEPARTMENT OF TRANSPORTATION, DESIGNATED PERSONNEL SHALL ALSO BE PROVIDED IN ADDITION TO FLAG PERSONS.
- NO SIDEWALK SHED SHALL BE INSTALLED WITHOUT A PERMIT IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 1 OF TITLE 28 OF THE ADMINISTRATIVE CODE.
- SIDEWALK SHEDS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 3307.6.4.1 THROUGH SECTION 3307.6.4.11 OF NYC BUILDING CODE.
- A VERTICAL PARAPET AT LEAST 3 FEET 6 INCHES HIGH, AS MEASURED FROM THE DECK OF THE SIDEWALK SHED, SHALL BE CONSTRUCTED ALONG ALL EDGES OF THE SIDEWALK SHED. SUCH PARAPET SHALL CONSIST OF SOLID PLYWOOD, CORRUGATED METAL, A GALVANIZED WIRE SCREEN CONSISTING OF NOT LESS THAN NO. 16 STEEL WIRE GAGE WITH A ½ INCH DEBRIS MESH, OR OTHER EQUIVALENT MATERIAL, AND SHALL BE SECURELY ATTACHED TO THE SHED WITH BRACED UPRIGHTS. TEMPORARY REMOVAL OF A PORTION OF THE PARAPET IS PERMITTED FOR THE HANDLING OF MATERIAL, PROVIDED THE PARAPET IS IMMEDIATELY RESTORED AT THE END OF THE HANDLING OPERATION.
- THE DECK OF THE SIDEWALK SHED SHALL CONSIST OF 2-INCH THICK WOOD PLANK OR EQUIVALENT MATERIAL AND SHALL BE CAPABLE OF SUSTAINING THE LOADS REQUIRED BY SECTION 3307.6.4.2. THE DECK SHALL BE SOLID, OR SHALL CONSIST OF PLANKING LAID CLOSE AND MADE TIGHT, WHERE THE EDGE OF THE SIDEWALK SHED ABUTS A BUILDING OR STRUCTURE, THE DECKING SHALL BE BROUGHT TIGHT TO THE FACE OF THE BUILDING OR STRUCTURE.
- THE PERMIT HOLDER FOR THE SHED SHALL NOTIFY THE DEPARTMENT NO MORE THAN TWO BUSINESS DAYS FOLLOWING THE COMPLETE REMOVAL OF A SIDEWALK SHED.
- ALL SITES WHERE A NEW BUILDING IS BEING CONSTRUCTED, OR A BUILDING IS BEING DEMOLISHED TO GRADE, SHALL BE ENCLOSED WITH A FENCE. FENCES SHALL ALSO BE INSTALLED TO FULLY OR PARTIALLY ENCLOSED SITES, AS NECESSARY, WHERE THERE EXISTS AN OPEN EXCAVATION, AN UNENCLOSED PORTION OF A BUILDING ACCESSIBLE AT GRADE, OR OTHER HAZARD TO THE PUBLIC. SUCH FENCES SHALL BE AT LEAST 8 FEET (2438 MM) HIGH, BUILT SOLID FOR THEIR ENTIRE LENGTH, OUT OF WOOD OR OTHER SUITABLE MATERIAL, AND SHALL BE RETURNED AT THE ENDS TO THE EXTENT NECESSARY TO EFFECTIVELY CLOSE OFF THE SITE. SUCH FENCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH PROVISIONS OF SECTION 3307.7 OF NEW YORK CITY BUILDING CODE.
- FENCES REQUIRED BY THIS SECTION SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF WORK. SUCH REQUIRED FENCES SHALL NOT BE REMOVED UNTIL: 1. THE SITE HAS BEEN FILLED AND GRADED AND ALL HAZARDS TO THE PUBLIC REMOVED, OR 2. THE FAÇADE HAS BEEN ENCLOSED, WITH ALL DOORS AND WINDOWS INSTALLED, AND ALL EXTERIOR WORK, EXCEPT FOR INCIDENTAL WORK INCLUDING BUT NOT LIMITED TO LANDSCAPING, PAINTING, WEATHERPROOFING, OR INSTALLATION OF SIGNS OR FIXTURES, HAS BEEN COMPLETED.

## SCAFFOLDS

- SCAFFOLDS UTILIZED IN CONJUNCTION WITH THE CONSTRUCTION OR DEMOLITION OF A BUILDING OR STRUCTURE SHALL BE ERECTED AND MAINTAINED SO THAT THE SAFETY OF PUBLIC AND PROPERTY WILL NOT BE ENDANGERED BY FALLING MATERIAL OR EQUIPMENT, OR BY COLLAPSE OF THE SCAFFOLD AS PER BC 3314.1.
- SCAFFOLDS SHALL BE INSTALLED, INSPECTED, REPAIRED, MAINTAINED, ADJUSTED, USED, AND REMOVED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE MANUFACTURER, WHERE SUCH SPECIFICATIONS EXIST, AND THE REQUIREMENTS OF SECTIONS 3314.4.1 THROUGH 3314.4.8 OF NYC BC.
- PLATFORMS ON ALL WORKING LEVELS OF A SCAFFOLD SHALL BE FULLY PLANKED OR DECKED BETWEEN THE FRONT UPRIGHTS AND THE GUARDRAIL SYSTEM SUPPORTS IN ACCORDANCE WITH SECTIONS 3314.5.1 THROUGH 3314.5.6 OF NYC BC.
- THE FOOTINGS AND ANCHORAGE FOR EVERY SCAFFOLD SHALL BE SOUND AND RIGID, CAPABLE OF CARRYING THE MAXIMUM LOAD WITHOUT EXCESSIVE SETTLEMENT OR DEFORMATION AND SECURE AGAINST MOVEMENT IN ANY DIRECTION. SUPPORTS SUCH AS BARRELS, BOXES, LOOSE BRICK, LOOSE STONE, OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED. BC 3314.6.
- THE OPEN SIDES AND ENDS OF SCAFFOLD PLATFORMS SHALL BE PROVIDED WITH A GUARDRAIL SYSTEM THAT MEETS THE REQUIREMENTS OF SECTION BC 3314.8.1 AND DEBRIS NETTING THAT MEETS THE REQUIREMENTS OF SECTION BC 3314.8.2.

## PROTECTION OF UNENCLOSED PERIMETERS

- SAFETY NETTING SYSTEMS AND GUARDRAIL SYSTEMS SHALL BE PROVIDED AS REQUIRED BY THIS SECTION TO PROTECT UNENCLOSED PERIMETERS, EXCEPT WHERE THIS SECTION AUTHORIZES THE TEMPORARY REMOVAL OF UNENCLOSED PERIMETER PROTECTION, NO WORK SHALL OCCUR, NOR SHALL MATERIALS BE STORED ON ANY LEVEL, WHERE REQUIRED UNENCLOSED PERIMETER PROTECTION IS NOT INSTALLED.
- VERTICAL SAFETY NETTING MAY BE TEMPORARILY REMOVED IN THE IMMEDIATE AREA WHERE ACTIVE LOADING OR UNLOADING OPERATIONS ARE OCCURRING, OR WHERE PERIMETER WORK IS OCCURRING. THE VERTICAL SAFETY NETS SHALL BE REINSTALLED IMMEDIATELY FOLLOWING THE END OF ACTIVE LOADING OR UNLOADING OPERATIONS, OR ACTIVE WORK, OR AT THE END OF THE WORKDAY, WHICHEVER OCCURS SOONER. VERTICAL SAFETY NETTING SYSTEMS MAY BE REMOVED FROM FLOORS WHERE THE FAÇADE HAS BEEN INSTALLED AND ALL SUCH OPENINGS IN THE FAÇADE, INCLUDING FOR WINDOWS, HAVE BEEN PERMANENTLY ENCLOSED TO A HEIGHT OF AT LEAST 60 INCHES ABOVE THE FLOOR. VERTICAL SAFETY NETTING SYSTEMS MAY BE REMOVED FROM THE ROOF WHERE THE FINAL PARAPET OR GUARDRAIL HAS BEEN INSTALLED.
- GUARDRAIL SYSTEMS MAY BE TEMPORARILY REMOVED IN THE IMMEDIATE AREA WHERE ACTIVE LOADING OR UNLOADING OPERATIONS ARE OCCURRING, OR WHERE PERIMETER WORK IS OCCURRING, PROVIDED THAT: 1. A CONTROLLED ACCESS ZONE IS ESTABLISHED TO PREVENT UNAUTHORIZED PERSONNEL FROM ENTERING THE AREA WHERE THE GUARDRAIL SYSTEM IS REMOVED; AND 2. IMMEDIATELY PRIOR TO THE REMOVAL OF THE GUARDRAIL SYSTEM THE FLOOR IS BROOM SWEEP AND CLEARED OF ALL MATERIALS AND EQUIPMENT TO A DISTANCE OF AT LEAST 10 FEET, IN ALL DIRECTIONS, FROM THE AREA WHERE THE GUARDRAIL SYSTEM WILL BE REMOVED, EXCEPT FOR MATERIAL AND EQUIPMENT RELATED TO THE LOADING OR UNLOADING OPERATION OR PERIMETER WORK OR STORED IN ACCORDANCE WITH SECTION 3303.4.5.2 OF NYC BUILDING CODE.
- THE GUARDRAIL SYSTEM SHALL BE REINSTALLED IMMEDIATELY FOLLOWING THE END OF ACTIVE LOADING OR UNLOADING OPERATIONS, OR ACTIVE WORK, OR AT THE END OF THE WORKDAY, WHICHEVER OCCURS SOONER.
- AS PER BC 3308.8, ALL ALTERNATIVE SAFETY NETTING SYSTEMS AND GUARDRAIL SYSTEMS REQUIRED BY BC 3308 SHALL BE APPROVED BY THE COMMISSIONER.

## MATERIAL PLACEMENT AND INSTALLATION

- STRUCTURAL STEEL (IF BEING USED).
  - STRUCTURAL STEEL ASSEMBLY SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AISC 360 I AND THE REQUIREMENTS OF SECTIONS 3305.2.1 THROUGH 3305.2.8 OF NYC BUILDING CODE.
  - THE PERMANENT FLOORS OF TIERED BUILDINGS OR OTHER STRUCTURES SHALL BE INSTALLED AS SOON AS POSSIBLE AS THE ERECTION OF STRUCTURAL STEEL MEMBERS PROGRESSES. IN NO CASE SHALL THERE BE MORE THAN EIGHT STORIES, FLOORS OR EQUIVALENT LEVELS OR 120 FEET (36 576 MM), WHICHEVER IS LESS, BETWEEN THE WORKING DECK AND THE UPPERMOST PERMANENT FLOOR.
- CONCRETE ONLY (IF BEING USED).
  - CONCRETE FORMWORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 3305.3.1 THROUGH 3305.3.7 OF NYC BUILDING CODE.
  - DESIGN OF FORMWORK, INCLUDING BUT NOT LIMITED TO FORMS, SHORES, AND SHORING FOUNDATIONS, SHALL COMPLY WITH ACI 318, SECTION 6.1.5, AND THE REQUIREMENTS OF SECTIONS 3305.3.2.1 THROUGH 3305.3.2.8 OF NYC BUILDING CODE.
  - FORMWORK SHALL BE INSPECTED AND OBSERVED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 3305.3.3.1 AND 3305.3.3.2 OF NYC BUILDING CODE.
  - CONCRETE FORMWORK, INCLUDING BUT NOT LIMITED TO FORMS, SHORES, AND SHORING FOUNDATIONS, SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE DESIGN DRAWINGS, WHERE SUCH DRAWINGS ARE REQUIRED BY SECTION 3305.3.2.1, AND SHALL ALSO BE CONSTRUCTED TO COMPLY WITH THE REQUIREMENTS OF SECTIONS 3305.3.4.1 THROUGH 3305.3.4.5 OF NYC BUILDING CODE.
  - ANY UNSAFE CONDITION OR NECESSARY ADJUSTMENT REVEALED BY INSPECTION SHALL BE REMEDIED IMMEDIATELY. IF, DURING CONSTRUCTION, ANY WEAKNESS DEVELOPS AND THE FORMWORK SHOWS ANY UNDUE SETTLEMENT OR DISTORTION, THE WORK SHALL BE STOPPED, THE AFFECTED CONSTRUCTION REMOVED IF PERMANENTLY DAMAGED, AND THE FORMWORK STRENGTHENED.
  - THE REMOVAL OF FORMS AND SHORING SHALL COMPLY WITH THE REQUIREMENTS OF SECTIONS 3305.3.5.1 THROUGH 3305.3.5.6 OF NYC BUILDING CODE.
  - BEFORE STARTING CONSTRUCTION, THE CONTRACTOR SHALL DEVELOP A PROCEDURE AND SCHEDULE FOR REMOVAL OF SHORES AND INSTALLATION OF RESHORES AND FOR CALCULATING THE LOADS TRANSFERRED TO THE STRUCTURE DURING THE PROCESS, AS PER SECTION 3305.3.5.1 OF NYC BUILDING CODE.
  - RESHORING SHALL BE PROVIDED TO SUPPORT THE CONSTRUCTION WHERE FORMS AND SHORES ARE STRIPPED BEFORE THE CONCRETE HAS ATTAINED SUFFICIENT STRENGTH TO SUPPORT THE SUPER IMPOSED LOADS DUE TO CONSTRUCTION ABOVE. RESHORING SHALL COMPLY WITH SECTIONS 3305.3.6.1 THROUGH 3305.3.6.8 OF NYC BUILDING CODE.
- ALUMINUM (IF BEING USED).
  - FORMWORK SHALL BE INSPECTED AND OBSERVED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 3305.3.3.1 AND 3305.3.3.2 OF NYC BUILDING CODE.
- MASONRY (IF BEING USED).
- THE REQUIREMENTS OF SECTION 2104.6 OF NYC BUILDING CODE SHALL APPLY.

## FIRE SAFETY

- ALL HANDLING, TRANSPORTING, AND USE OF EXPLOSIVES, AS DEFINED BY THE NEW YORK CITY FIRE CODE, SHALL COMPLY WITH THE NEW YORK CITY FIRE CODE AND SECTION 3307.4.2 OF NYC BC. THE USE OF EXPLOSIVES IS STRICTLY PROHIBITED UNLESS THE WRITTEN CONSENT OF THE COMMISSIONER AND THE FIRE DEPARTMENT IS OBTAINED.
- THE TRANSPORTATION, HANDLING, STORAGE, INSTALLATION, CONNECTION, VENTILATION, AND USE OF ALL VOLATILE FLAMMABLE OILS, FLAMMABLE AND COMBUSTIBLE MIXTURES, COMPRESSED GASES, AND OTHER HAZARDOUS MATERIALS SHALL COMPLY WITH THE NEW YORK CITY FIRE CODE, AND SHALL ALSO BE SAFEGUARDED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 3307.4.2 OF NYC BC.
- ANY STRUCTURE, TEMPORARY CONSTRUCTION, OPERATION, OR EQUIPMENT FOUND TO BE DEFECTIVE OR UNSAFE, AND POSING A RISK TO THE PUBLIC AND PROPERTY, SHALL BE IMMEDIATELY SECURED AND CORRECTED, OR REMOVED FROM THE SITE.
- SITE SAFETY PLAN THAT MEETS THE APPLICABLE REQUIREMENTS OF ARTICLE 110 OF CHAPTER 1 OF TITLE 28 OF THE ADMINISTRATIVE CODE SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST.

## MATERIAL HANDLING EQUIPMENT

- MATERIAL HANDLING EQUIPMENT SHALL BE INSTALLED, OPERATED, AND MAINTAINED TO ELIMINATE HAZARD TO THE PUBLIC OR TO PROPERTY. IT SHALL BE UNLAWFUL TO OPERATE ANY SUCH EQUIPMENT THAT IS NOT PROVIDED WITH A POSITIVE MEANS FOR PREVENTING THE UNAUTHORIZED OPERATION OF SUCH MACHINE. THE MEANS WHEREBY SUCH MACHINES MAY BE MADE INOPERATIVE SHALL BE ACCEPTABLE TO THE COMMISSIONER.
- ONLY OPERATORS DESIGNATED BY THE PERSON CAUSING SUCH MACHINERY TO BE USED SHALL OPERATE MATERIAL HANDLING MACHINERY. OPERATORS AND SIGNALMEN/SIGNALWOMEN SHALL BE EXPERIENCED AT THE OPERATION THEY PERFORM. THE OPERATOR SHALL BE RESPONSIBLE FOR MAKING THE MACHINE INOPERATIVE BEFORE HE OR SHE LEAVES THE MACHINE.
- THE OWNER OR PERSON DIRECTLY IN CHARGE OF ANY MATERIAL HANDLING EQUIPMENT SHALL IMMEDIATELY NOTIFY THE COMMISSIONER FOLLOWING ANY ACCIDENT INVOLVING MATERIAL HANDLING EQUIPMENT. IN SUCH A CASE, NO PERSON SHALL PERMIT EITHER OF THE FOLLOWING WITHOUT THE PERMISSION OF THE COMMISSIONER: USE OF SUCH MATERIAL HANDLING EQUIPMENT; OR REMOVE OF THE MATERIAL HANDLING EQUIPMENT OR ANY PART THEREOF FROM THE AREA OF THE JOB SITE.
- CONVEYORS SHALL MEET THE REQUIREMENTS OF SECTION 3320.5 OF NYC BUILDING CODE.
- TRUCKS SHALL MEET THE REQUIREMENTS OF SECTION 3320.6 OF NYC BUILDING CODE.
- POWER BUGGIES SHALL MEET THE REQUIREMENTS OF SECTION 3320.7 OF NYC BUILDING CODE.
- LIFT AND FORK TRUCKS SHALL MEET THE REQUIREMENTS OF SECTION 3320.8 OF NYC BUILDING CODE.
- JACKS SHALL MEET THE REQUIREMENTS OF SECTION 3320.11 OF NYC BUILDING CODE.
- EXPLOSIVE POWERED TOOLS, INCLUDING BUT NOT LIMITED TO POWDER-ACTUATED TOOLS AND PROJECTILE TOOLS, USED IN CONNECTION WITH THE CONSTRUCTION OR DEMOLITION OF A BUILDING OR STRUCTURE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION BC 3311 OF NYC BC.

## PROTECTION OF ADJOINING PROPERTY

- THE DEPARTMENT SHALL BE NOTIFIED IMMEDIATELY BY THE PERMIT HOLDER, OR A DULY AUTHORIZED REPRESENTATIVE, OF AN ACCIDENT AT A CONSTRUCTION OR DEMOLITION SITE, OR OF ANY DAMAGE TO ADJOINING PROPERTY CAUSED BY CONSTRUCTION OR DEMOLITION ACTIVITY AT THE SITE.
- ADJOINING PUBLIC AND PRIVATE PROPERTY SHALL BE PROTECTED FROM DAMAGE AND INJURY DURING CONSTRUCTION OR DEMOLITION WORK IN ACCORDANCE WITH THE REQUIREMENTS OF BC 3309. PROTECTION MUST BE PROVIDED FOR FOOTINGS, FOUNDATIONS, PARTY WALLS, CHIMNEYS, SKYLIGHTS AND ROOFS. PROVISIONS SHALL BE MADE TO CONTROL WATER RUN-OFF AND EROSION DURING CONSTRUCTION OR DEMOLITION ACTIVITIES.
- AS PER BC 3309.1.1, WHERE A CONSTRUCTION OR DEMOLITION PROJECT WILL REQUIRE ACCESS TO ADJOINING PROPERTY IN ACCORDANCE WITH THIS SECTION, WRITTEN NOTIFICATION SHALL BE PROVIDED TO THE ADJOINING PROPERTY OWNER AT LEAST 60 CALENDAR DAYS PRIOR TO THE COMMENCEMENT OF WORK. SUCH NOTIFICATION SHALL DESCRIBE THE NATURE OF WORK, ESTIMATED SCOPE AND DURATION, DETAILS OF INSURING OR MONITORING TO BE PERFORMED ON THE ADJOINING PROPERTY, PROTECTION TO BE INSTALLED ON THE ADJOINING PROPERTY, AND CONTACT INFORMATION FOR THE PROJECT. WHERE NO RESPONSE IS RECEIVED, A SECOND WRITTEN NOTIFICATION SHALL BE MADE NO MORE THAN 45 CALENDAR DAYS, AND NOT LESS THAN 30 CALENDAR DAYS, PRIOR TO THE COMMENCEMENT OF WORK.
- AS PER BC 3309.2, THE RESPONSIBILITY OF AFFORDING ANY LICENSE TO ENTER ADJOINING PROPERTY SHALL REST UPON THE OWNER OF THE ADJOINING PROPERTY INVOLVED; AND IN CASE ANY TENANT OF SUCH OWNER FAILS OR REFUSES TO PERMIT THE OWNER TO AFFORD SUCH LICENSE, SUCH FAILURE OR REFUSAL SHALL BE A CAUSE FOR THE OWNER TO DISPOSSESS SUCH TENANT THROUGH APPROPRIATE LEGAL PROCEEDINGS FOR RECOVERING POSSESSION OF REAL PROPERTY. NOTHING IN THIS CHAPTER SHALL BE CONSTRUED TO PROHIBIT THE OWNER OF THE PROPERTY UNDERTAKING CONSTRUCTION OR DEMOLITION WORK FROM PETITIONING FOR A SPECIAL PROCEEDING PURSUANT TO SECTION 881 OF THE REAL PROPERTY ACTIONS AND PROCEEDINGS LAW.
- THE FOLLOWING ADDITIONAL REQUIREMENTS SHALL APPLY DURING EXCAVATION:
  - THE PERSON CAUSING THE EXCAVATION SHALL SUPPORT THE VERTICAL AND LATERAL LOAD OF THE ADJOINING STRUCTURE BY PROPER FOUNDATIONS, UNDERPINNING, OR OTHER EQUIVALENT MEANS WHERE THE LEVEL OF THE FOUNDATIONS OF THE ADJOINING STRUCTURE IS AT OR ABOVE THE LEVEL OF THE BOTTOM OF THE NEW EXCAVATION.
    2. WHERE THE EXISTING ADJOINING STRUCTURE IS BELOW THE LEVEL OF THE CONSTRUCTION OR DEMOLITION, PROVISION SHALL BE MADE TO SUPPORT ANY INCREASED VERTICAL OR LATERAL LOAD ON THE EXISTING ADJOINING STRUCTURE CAUSED BY THE CONSTRUCTION OR DEMOLITION.
    3. WHERE THE CONSTRUCTION OR DEMOLITION WILL RESULT IN A DECREASE IN THE FROST PROTECTION FOR AN EXISTING FOUNDATION BELOW THE MINIMUMS ESTABLISHED IN SECTION 1805.3.1, THE EXISTING FOUNDATION SHALL BE MODIFIED AS NECESSARY TO RESTORE THE REQUIRED FROST PROTECTION.
  - WHERE A PARTY WALL WILL BE AFFECTED BY EXCAVATION, REGARDLESS OF THE DEPTH, THE PERSON WHO CAUSES THE EXCAVATION TO BE MADE SHALL PRESERVE SUCH PARTY WALL AT HIS OR HER OWN EXPENSE SO THAT IT SHALL BE, AND SHALL REMAIN, IN A SAFE CONDITION. WHERE AN ADJOINING PARTY WALL IS INTENDED TO BE USED BY THE PERSON CAUSING AN EXCAVATION TO BE MADE, AND SUCH PARTY WALL IS IN GOOD CONDITION AND SUFFICIENT FOR THE USES OF THE EXISTING AND PROPOSED BUILDINGS, IT SHALL BE THE DUTY OF SUCH PERSON TO PROTECT SUCH PARTY WALL AND SUPPORT IT BY PROPER FOUNDATIONS, SO THAT IT SHALL BE AND REMAIN PRACTICALLY AS SAFE AS IT WAS BEFORE THE EXCAVATION WAS COMMENCED.
  - WHENEVER SUBSURFACE OPERATIONS, OTHER THAN EXCAVATION OR FILL, ARE CONDUCTED THAT MAY IMPOSE LOADS OR MOVEMENTS ON ADJOINING PROPERTY, INCLUDING BUT NOT LIMITED TO THE DRIVING OF PILES, COMPACTION OF SOILS, OR SOIL SOLIDIFICATION, THE EFFECTS OF SUCH OPERATIONS ON ADJOINING PROPERTY AND STRUCTURES SHALL BE MONITORED IN ACCORDANCE WITH SECTION 3309.16 OF NYC BC.
  - WHEN ANY CONSTRUCTION OR DEMOLITION OPERATION EXPOSES OR BREACHES AN ADJOINING WALL, INCLUDING LOAD BEARING AND NON-LOAD-BEARING WALLS AS WELL AS PARTY WALLS AND NON-PARTY WALLS, THE PERSON CAUSING THE CONSTRUCTION OR DEMOLITION OPERATION SHALL, AT HIS OR HER OWN EXPENSE, MAINTAIN THE STRUCTURAL INTEGRITY OF SUCH WALLS AND ADJOINING STRUCTURE, MAINTAIN ALL REQUIRED FIRE EXITS AND PASSAGEWAYS OR PROVIDE SUBSTITUTIONS; CUT OFF CLOSE TO THE WALLS ALL BEAMS IN PARTY WALLS, REMOVE STUB ENDS WITHOUT WEAKENING EXISTING MASONRY, CLEAN BEAM POCKETS OF LOOSE MORTAR, BEND OVER ALL WALL ANCHORS AT THE BEAM ENDS IN THE STANDING WALL, AND BRICK-UP ALL OPEN BEAM HOLES WITH SOUND BRICK AND CEMENT MORTAR, DURING DEMOLITION OPERATIONS, WHERE THE FLOOR BEAMS OF THE ADJACENT BUILDING BEAR ON THE PARTY WALL, THE PERSON CAUSING THE DEMOLITION SHALL ASCERTAIN THAT SUCH BEAMS ARE ANCHORED INTO THE WALL AND, WHERE SUCH ANCHORAGE IS LACKING, SHALL PROVIDE ANCHORAGE OR OTHERWISE BRACE THE STANDING WALL; DURING DEMOLITION OPERATIONS, ALL NON-LOAD-BEARING CHIMNEY BREASTS, PROJECTIONS AND ANY OTHER DEBRIS EXPOSED ON PARTY WALLS SHALL BE EXAMINED AND MONITORED. ALL OPENINGS SHALL BE BRICKED UP FLUSH ON THE EXTERIOR SIDE OF THE PARTY WALL. ALL MASONRY THAT IS IN POOR CONDITION SHALL BE POINTED AND PATCHED.
  - WHENEVER ANY BUILDING IS TO BE CONSTRUCTED OR DEMOLISHED ABOVE THE ROOF OF AN ADJOINING BUILDING, IT SHALL BE THE DUTY OF THE PERSON CAUSING SUCH WORK TO PROTECT FROM DAMAGE AT ALL TIMES DURING THE COURSE OF SUCH WORK AND AT HIS OR HER OWN EXPENSE THE ROOF, SKYLIGHTS, OTHER ROOF OUTLETS, AND EQUIPMENT LOCATED ON THE ROOF OF THE ADJOINING BUILDING.
  - NO TREES OUTSIDE THE PROPERTY LINE WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE DISTURBED OR REMOVED WITHOUT THE PERMISSION OF THE DEPARTMENT OF PARKS AND RECREATION. PROTECTION MEETING THE REQUIREMENTS OF THE DEPARTMENT OF PARKS AND RECREATION SHALL BE PROVIDED FOR ALL SUCH TREES, AND WRITTEN NOTIFICATION SHALL ALSO BE MADE TO THE DEPARTMENT OF PARKS AND RECREATION AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF SUCH WORK.
  - AS PER BC 3309.14, WHENEVER EXTERIOR CONSTRUCTION OR DEMOLITION WORK OCCURS, AND SUCH WORK RESULTS IN AN UNENCLOSED PERIMETER, IT SHALL BE THE DUTY OF THE PERSON CAUSING SUCH WORK TO PROTECT FROM DAMAGE, AT ALL TIMES DURING THE COURSE OF SUCH WORK, AND AT HIS OR HER OWN EXPENSE, ALL WINDOWS ON ADJOINING PRIVATE PROPERTY THAT FACE SUCH WORK AND ARE 20 FEET OR LESS FROM AN UNENCLOSED PERIMETER.

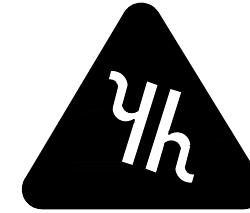
## HOISTING EQUIPMENT

- HOISTING EQUIPMENT, ITS SUPPORTS AND RUNBACK STRUCTURES SHALL BE INSTALLED, OPERATED, AND MAINTAINED TO ELIMINATE HAZARD TO THE PUBLIC OR TO PROPERTY. IT SHALL BE UNLAWFUL TO OPERATE ANY SUCH EQUIPMENT THAT IS NOT PROVIDED WITH A POSITIVE MEANS FOR PREVENTING THE UNAUTHORIZED OPERATION OF SUCH MACHINE.
- THE OWNER OR PERSON DIRECTLY IN CHARGE OF ANY HOISTING EQUIPMENT SHALL IMMEDIATELY NOTIFY THE COMMISSIONER FOLLOWING ANY ACCIDENT INVOLVING HOISTING EQUIPMENT. FOLLOWING AN INCIDENT, NO PERSON SHALL PERMIT EITHER OF THE FOLLOWING, WITHOUT THE PERMISSION OF THE COMMISSIONER: 1. USE OF SUCH HOISTING EQUIPMENT; OR 2. REMOVAL OF THE HOISTING EQUIPMENT OR ANY PART THEREOF FROM THE AREA OF THE JOB SITE.
- HOISTS AND ALL PREMANUFACTURED RUNBACK STRUCTURES SHALL BE APPROVED FOR USE BY THE COMMISSIONER OR OTHER AGENCY ACCEPTABLE TO THE COMMISSIONER. NO OWNER OR OTHER PERSON SHALL AUTHORIZE OR PERMIT THE OPERATION OF ANY CRANE OR DERRICK WITHOUT A CERTIFICATE OF APPROVAL. A CERTIFICATE OF OPERATION AND A CERTIFICATE OF ON-SITE INSPECTION, PERMITS, OR DUPLICATES OF THE PERMITS, SHALL BE POSTED IN A CONSPICUOUS LOCATION IN THE CAR OR ON THE EQUIPMENT. COPIES OF THE WRITTEN PERMIT APPLICATION AND APPROVED CONSTRUCTION DOCUMENTS SHALL BE KEPT AT THE SITE AND MADE AVAILABLE TO THE COMMISSIONER UPON REQUEST.
- HOISTING EQUIPMENT, ITS SUPPORTS AND RUNBACK STRUCTURES SHALL BE DESIGNED, CONSTRUCTED AND INSPECTED IN ACCORDANCE WITH RULES PROMULGATED BY THE COMMISSIONER.
- ALL ROPES USED IN HOISTING EQUIPMENT SHALL MEET THE INSPECTION AND REPLACEMENT REQUIREMENTS SPECIFIED IN RULES PROMULGATED BY THE COMMISSIONER.
- ONLY OPERATORS DESIGNATED BY THE PERSON CAUSING SUCH HOISTING EQUIPMENT TO BE USED SHALL OPERATE SUCH HOISTING MACHINERY. OPERATORS AND SIGNALMEN/SIGNALWOMEN SHALL BE QUALIFIED FOR THE OPERATION THEY PERFORM. THE OPERATOR SHALL BE RESPONSIBLE FOR MAKING THE MACHINE INOPERATIVE BEFORE HE OR SHE LEAVES THE MACHINE.
- AS PER BC 3316.9, THE HOISTING OR LOWERING OF ANY ARTICLE ON THE OUTSIDE OF ANY BUILDING IN THE CITY SHALL BE PERFORMED BY OR UNDER THE DIRECT AND CONTINUING SUPERVISION OF A LICENSED RIGGER.
- MATERIAL HOISTS AND BUCKET HOISTS:
  - THE EQUIPMENT USER OR HIS OR HER DESIGNATED REPRESENTATIVE SHALL OBTAIN A WRITTEN PERMIT ISSUED BY THE COMMISSIONER ON THE BASIS OF CONSTRUCTION DOCUMENTS, DRAWINGS AND SPECIFICATIONS PRIOR TO ERECTING OR INSTALLING ALL POWER-OPERATED, MATERIAL HOISTS, INCLUDING ANY RUNBACK STRUCTURE OR SUPPORT, EXCEPT FOR POWER-OPERATED, NON-GUIDED MATERIAL HOISTS WITH A MAXIMUM CAPACITY OF ONE TON OR LESS AND INSTALLED ON NEW CONSTRUCTION, OR ON ALTERATIONS WHERE THE OPERATION OF THE HOIST IS CONFINED WITHIN THE PROPERTY AND THE SITE IS PROTECTED IN ACCORDANCE WITH BC 3307.
    - NOTWITHSTANDING ANY OTHER PROVISION OF LAW, MATERIAL HOISTS WITH A MANUFACTURER'S CAPACITY OVER ONE TON SHALL BE OPERATED ONLY BY PERSONS HOLDING A CLASS A OR B HOISTING MACHINE OPERATORS LICENSE EXCEPT DURING INSTALLATION, JUMPING, DISMANTLING OR ALTERATION OPERATIONS.
  - PERSONNEL HOISTS:
    - THE EQUIPMENT USER OR HIS OR HER DESIGNATED REPRESENTATIVE SHALL OBTAIN A WRITTEN PERMIT ISSUED BY THE COMMISSIONER ON THE BASIS OF CONSTRUCTION DOCUMENTS, DRAWINGS AND SPECIFICATIONS PRIOR TO ERECTING OR INSTALLING ALL POWER-OPERATED, MATERIAL HOISTS, INCLUDING ANY RUNBACK STRUCTURE OR SUPPORTS.
    - PERSONNEL HOISTS AND THEIR COMPONENTS SHALL BE OPERATED IN ACCORDANCE WITH THIS CODE AND RULES PROMULGATED BY THE COMMISSIONER. WHEN THE HOIST IS EQUIPPED WITH MANUAL CONTROLS, THE HOIST SHALL BE OPERATED BY A COMPETENT QUALIFIED OPERATOR. ONLY THE OPERATOR AUTHORIZED BY THE EQUIPMENT USER SHALL OPERATE THE HOIST.
    - NO PERSON SHALL AT ANY TIME MAKE ANY REQUIRED SAFETY DEVICE OR ELECTRICAL PROTECTIVE DEVICE INOPERATIVE EXCEPT WHEN NECESSARY DURING TESTS, INSPECTIONS AND MAINTENANCE. IMMEDIATELY UPON COMPLETION OF THE TESTS, INSPECTIONS AND MAINTENANCE, SUCH DEVICES SHALL BE RESTORED TO THEIR NORMAL OPERATING CONDITION IN CONFORMANCE WITH THE APPLICABLE REQUIREMENTS OF THIS SECTION.
  - CRANES AND DERRICKS:
    - THE HOISTING MACHINE OPERATOR SHALL BE LICENSED AS REQUIRED BY CHAPTER 4 OF TITLE 28 OF THE ADMINISTRATIVE CODE.
    - RIGGING WORK MUST BE SUPERVISED IN ACCORDANCE WITH SECTION 3316.9.1 AND WHERE REQUIRED, RIGGERS MUST BE LICENSED IN ACCORDANCE WITH CHAPTER 4 OF TITLE 28 OF THE ADMINISTRATIVE CODE.
    - LIFT DIRECTORS SHALL BE DESIGNATED, AND PERFORM THE DUTIES ASSIGNED TO THEM, IN ACCORDANCE WITH RULES PROMULGATED BY THE COMMISSIONER. SUCH DUTIES SHALL INCLUDE, BUT NOT BE LIMITED TO, ENSURING COMPLIANCE WITH APPROVED PLANS, TRAFFIC AND PEDESTRIAN CONTROLS, AND WEATHER RESTRICTIONS.
  - NO OWNER OR OTHER PERSON SHALL AUTHORIZE OR PERMIT THE OPERATION OF ANY CRANE OR DERRICK WITHOUT A CERTIFICATE OF APPROVAL, A CERTIFICATE OF OPERATION AND A CERTIFICATE OF ON-SITE INSPECTION, WHICH SHALL COMPLY WITH BC 3319.4, BC 3319.5, AND BC 3319.6 RESPECTIVELY.
  - TOWER AND CLIMBER CRANES SHALL COMPLY WITH THE REQUIREMENTS OF BC 3319.8.
  - SLINGS CRANES SHALL BE USED IN ACCORDANCE WITH THE REQUIREMENTS OF BC 3319.9 AND ANY RULES PROMULGATED BY THE COMMISSIONER.

## SITE SAFETY PLAN

### EXCAVATION PHASE

SAFETY DESIGNER



## SAFETY DESIGN

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK:

2362

LOT:

1

ZONING:

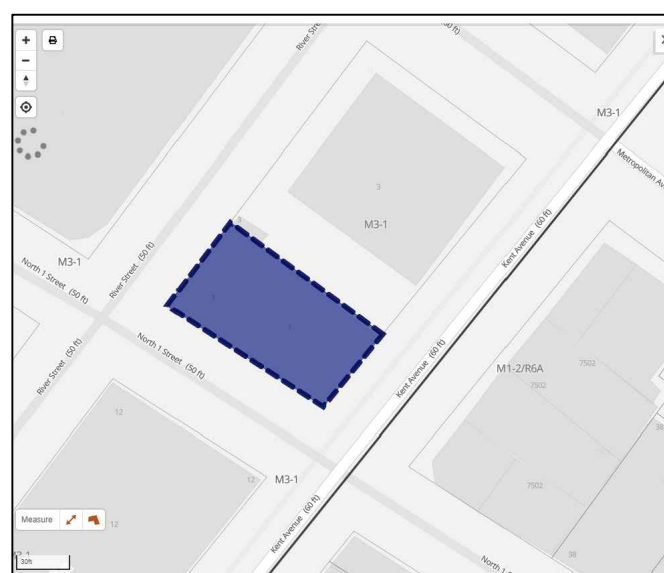
M3-1

BIN:

3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE: GENERAL SAFETY NOTES

SIGNATURE OF PREPARER	DATE:	8/18/2019
	SCALE:	AS SHOWN
	DRAWN:	
	REVIEWED:	
	SHEET NO.	02

SSP-102-00



**GENERAL:**

1. THESE DRAWING MAY BE USED FOR CONSTRUCTION ONLY IF ^^^^ IS THE SPECIAL INSPECTION AGENCY FOR EXCAVATION-SHEETING, SHORING-AND BRACING AND SOIL SITE PREPARATION.
2. IF ^^^^ AS BEING RELEASED OR WITHDRAWN ITS RESPONSIBILITY FOR SPECIAL INSPECTION AND FIRM OTHER THAN ^^^^ IS ENGAGED BY THE OWNERS, REPRESENTATIVE OR CONTRACTOR FOR SPECIAL INSPECTION OF THE DESIGN SHOWN ON THESE DRAWINGS, THAN WE REQUIRE THAT ^^^^ BE RETAINED REVIEW THE INSPECTION AGENCIES FIELD REPORTS AND FOR SITE VISITS BY OUR PERSONNEL DURING RELEVANT CONSTRUCTION ACTIVITIES.
3. ^^^^ SHALL BE ADDED TO THE PROJECT WRAP AND/OR CONTRACTORS GENERA LIABILITY INSURANCE AS AN ADDITIONAL INSURED.
4. ANY PROPOSED CHANGES TO THESE DRAWING SHALL SUBMITTED IN WRITING TO ^^^^ FOR REVIEW AND CONSTRUCTION.
5. PROPOSED DESIGN CHANGES SHALL CONSIST OF SIGNED AND SEALED DRAWING (TO SCALE). THE DRAWING SHALL BE SUBMITTED TO ^^^^ FOR REVIEW AND CONSTRUCTION.
6. DIFFERENT FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF RA CONSULTANTS IMMEDIATELY .
7. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE UTILITIES AND BELOW GROUND STRUCTURES IN THE AREA OF PRIOR COMMENCEMENT OF WORK
8. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS IN THE FIELD. IF CONDITIONS OBSERVED IN THE FIELD DIFFER FROM THESE DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO EVALUATE THE CONDITION. MODIFICATIONS TO THIS DRAWINGS MAY NECESSARY.
9. THESE DRAWING DONOT ADDRESS SAFETY ISSUES RELATED TO THE EXCAVATION AND SHORING WORK. OTHER SHALL BE RESPONSIBLE FOR SIDE SAFETY AND PROVIDE SAFETY PLAN CONFIRMING TO OSHA AND ALL APPLICABLE LAWS.
10. BARRIERS AND FENCING AROUND SITE MUST BE PROVED BY CONTRACTOR IN ACCORDANCE WITH NEW YORK CITY DEPARTMENT OF BUILDINGS AND ALL APPLICABLE LAWS.
11. IF THE CONDITIONS OBSERVED AS THE EXCAVATION ADVANCES ARE DIFFERENT THEN THE CONDITIONS SHOWN ON THE DESIGN DRAWING, THE CONTRACTOR SHALL STOP WORK AND NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER.
12. OBSERVED MOVEMENTS OF THE SUPPORT OF EXCAVATION OR OTHER STRUCTURES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER.
13. LOOSE AREA OF FOUNDATION WALL OR FOOTING AREA DAMAGED OR LOOSE SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR EVALUATION AND REMEDIAL MEASURES.
14. PINS, WIRE MESH AND PARGING MAY BE REQUIRED TO STABILIZE THE FOUNDATION WALL, OR FOOTING.
15. THE DESIGN ON THESE DRAWINGS ARE INTENT FOR TEMPORARY SUPPORT OF EXCAVATION ONLY.
16. NOTIFY THE DOB 24 - TO 48 - HOURS PRIOR TO EXCAVATION (RULE 52).
17. CONSENT FORM OWNER OF ADJACENT PROPERTY SHALL BE OBTAINED OF REQUIRED WORK EXTENT BEYOND PROPERTY LINE.
18. SIDEWALK CLOSINGS FROM NYDOT IS REQUIRED TO OVER CUT THE SIDEWALK OR TO PLACE SOLDIER PILES IN THE SIDEWALK OR STREET.

**MATERIALS & TESTING:**

1. THE OWNER /CONSTRUCTION MANGER SHALL RETAIN THE SERVICES OF AN INDEPENDENT TESTING LABORATORY/COMPANY.
2. CONCRETE PLACEMENT TIMES SHALL EXCEED 2-HOUR OR AS RECOMMENDED BY THE TESTING COMPANY.
3. PERFORM ONE SLUMP TEST FOR EACH BATCH OF CONCRETE. SLUMP SHALL BE BETWEEN 4- AND 6-INCH FOR UNDERPINNING.
4. MAKE A SET OF 5 (MINIMUM) CYLINDERS EACH DAY CONCRETE IS CAST FOR UNDERPINNING OR GROUT IS BEING FOR SOLIDER PILES.
5. PERFORM COMPRESSION TEST ON 1 CYLINDER AT 7 DAYS AND 1 AT 14 DAYS. IF THE DESIGN STRENGTH IS ACHIEVED AT 14 DAYS, NO FURTHER TESTING IS REQUIRED. OTHERWISE TEST 1 OR 2 CYLINDERS, DEPENDING IF THE DESIGN IS STRENGTH IS ACHIEVED 28 DAYS. 1 OR 2 SAMPLES SHALL BE SAVED FOR 56 DAY TESTING IF THE PREVIOUS FAIL TO MEET THE DESIGN STRENGTH REQUIREMENTS.
6. PROVIDE TESTING RESULTS TO THE CONSTRUCTION MANAGER AND/OR OWNER.
7. IF THE DESIGN STRENGTH REQUIREMENTS ARE MET, THE CONTRACTOR SHALL PERFORM A REMEDIATION AS DIRECTED BY THE CONSTRUCTION MANAGER, AT NO ADDITIONAL COST TO THE OWNER.
8. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1 USING E-70 ELECTRODES.
9. ALL STRUCTURAL STEEL SHALL BR GRADE 50. ASTM A-572.
10. 1-BAG MIX SHALL CONSIST OF 1-94LB. BAG OF CEMENT TO 1CY OF SAND. QUANTITY OF WATER SHALL BE ADEQUATE TO ALLOWED THE MIX TO FLOW.
11. TIMBER LAGGING SHALL BE ROUGH CUT, FULL SIZE CONSTRUCTION GRADE, WITH A MINIMUM ALLOWABLE BENDING STRESS OF 1200-PSI TIMBER SIZES SHOWN ARE ACTUAL SIZES.
12. MISCELLANEOUS STEEL (PLATES AND WEDGES) SHALL BE ASTM A36.

**SOLDIER PILE & LAGGING:**

1. SOLDIER PILE CASING SHALL BE INSTALLED USING INTERNAL FLUSH DUPLEX DRILLING METHOD. CONTRACTOR SHALL ADJUST DRILLING PROCEDURE AS REQUIRED TO PREVENT LOOSE OF GROUND, SETTLEMENT AND / OR LATERAL MOVEMENTS OF BUILDING, UTILITIES AND OTHER STRUCTURES.
2. NO LOOSE OF MATERIAL FROM THE OUTSIDE OF THE SOLDIER PILE WILL PERMITTED. THE CONTRACTOR SHALL ADOPT THE NECESSARY DRILLING PROCEDURES TO PREVENT LOOSE OF MATERIAL FROM AROUND THE OUTSIDE OF THE SOLDIER PILE.
3. STEEL CASING SHALL HAVE A MINIMUM WALL THICKNESS OF 0.50-INCHES. SPLICES IN THE CASING SHALL BE THREADED AND FULLY WELDED.
4. THE BOTTOM OF EACH DRILLED SOLDIER PILE SHALL BE PROTECTED BY A HIGH-STRENGTH CUTTING SHOE WITH HARDENED CUTTING EDGE.
5. NO CONCRETE OR GROUT SHALL BE PLACED AT ANY SOLDIER PILE LOCATION UNTIL TIP ELEVATION AS BEEN CONFIRMED, CLEANED OF MUD AND ANY EXTRANEIOUS MATERIAL, AND INSPECTED AND APPROVED BY THE ENGINEER.
6. CONCRETE OR GROUT SHALL BE PLACED CONTINUOUSLY FOR THE FULL DEPTH OF THE SOLDIER PILE STARTING AT THE BOTTOM OF THE ROCK SOCKET AND UP TO THE DESIGNED CUT OFF ELEVATION. NO COLD JOINT IS ALLOWED.
7. FINAL DETERMINATION OF THE ELEVATION OF THE PILE TIP WILL DETERMINED BY THE ENGINEER.
8. THE ENGINEER MAY DIRECT AND INCREASE IN SOLDIER PILE DEPTH FROM THAT SPECIFIED HEREIN OR AS SHOWN ON THE DRAWING INFERIOR SOIL OR ROCK IS ENCOUNTERED ABOVE THE ORIGINAL TIP ELEVATION.
9. NO SOLDIER PILE SHALL BY OUT OF PLUMB MORE THAN ONE PERCENT OF THESE EMBEDDED LENGTH.
10. IF ANY OF THE ABOVE TOLERANCES ARE EXCEEDDED AND IN THE OPINION OF THE ENGINEER REQUIRED CORRECTIVE MEASURES, SUCH CORRECTIVE MEASURES, INCLUDING COSTS OF ENGINEERING AND REDESIGN, SHALL BE PAID FOR THE CONTRACTOR.
11. BEFORE BRACING IS INSTALLED, MAXIMUM EXCAVATION BELOW BRACING LEVEL, IS 2-FT FOR ANCHORS AND BRAKERS UNLESS NOTED ON DRAWING.
12. LAGGING SHALL BE INSTALLED AS THE EXCAVATION ADVANCES WITH A MAXIMUM DEPTH OF 2-FT PRIOR TO LAGGING.
13. IF ARTERIAL BEHIND LAGGING HAS BEEN LOST OR DISTURBED, LEAVE A 1- TO 1-1/2 INCH SPACE BETWEEN LAGGING BOARDS TO IMMEDIATELY BACKFILL OR GROUT.
14. HAY OR FILTER FABRIC SHALL BE USED TO MINIMIZE MIGRATION OF FINES INTO THE EXCAVATION.

**SOIL AND FOUNDATION WORK**

1. NO SOIL OR FOUNDATION WORK WITHIN THE PROPERTY LINE SHALL COMMENCE UNLESS THE PERMIT HOLDER NOTIFIES THE DEPARTMENT, VIA PHONE OR ELECTRONICALLY, AT LEAST 24 HOURS, BUT NO MORE THAN 48 HOURS PRIOR TO THE COMMENCEMENT OF SUCH WORK. THE NOTIFICATION SHALL STATE THE DATE THAT SUCH SOIL OR FOUNDATION WORK IS TO COMMENCE. SHOULD THE NOTIFICATION DATE FALL ON A WEEKEND OR OFFICIAL HOLIDAY, THE PERMIT HOLDER SHALL NOTIFY THE DEPARTMENT ON THE LAST BUSINESS DAY BEFORE THE COMMENCEMENT DATE. IN THE EVENT THAT THE SOIL OR FOUNDATION WORK DOES NOT BEGIN ON THE DATE PROVIDED IN THE NOTIFICATION TO THE DEPARTMENT, THE PERMIT HOLDER SHALL NOTIFY THE DEPARTMENT OF ITS CANCELLATION NOT MORE THAN 24 HOURS PRIOR TO BUT NO LATER THAN THE DATE FOR WHICH THE SOIL OR FOUNDATION WORK WAS SCHEDULED. AS PER BC 3304.3.1
2. WHEN AN EXCAVATION TO A DEPTH OF 5 FEET TO 10 FEET IS TO BE MADE WITHIN 10 FEET OF AN ADJACENT FOOTING OR FOUNDATION, OR WHEN ANY EXCAVATION OVER 10 FEET IS TO BE MADE ANYWHERE ON A SITE, THE PERSON CAUSING THE EXCAVATION TO BE MADE SHALL PROVIDE WRITTEN NOTICE TO THE OWNERS OF THE ADJOINING PROPERTY NOT LESS THAN 10 DAYS PRIOR TO THE SCHEDULED STARTING DATE OF THE EXCAVATION. THE WRITTEN NOTICE SHALL PROVIDE A DESCRIPTION OF THE WORK TO BE PERFORMED, THE TIMEFRAME AND SCHEDULE, AND THE CONTACT INFORMATION OF THE PERSON CAUSING THE EXCAVATION AND OF THE DEPARTMENT. AS PER BC 3304.3.2
3. EXCAVATED MATERIAL AND SUPERIMPOSED LOADS, INCLUDING BUT NOT LIMITED TO EQUIPMENT AND TRUCKS USED FOR SOIL OR FOUNDATION WORK, SHALL NOT BE PLACED CLOSER TO THE EDGE OF THE EXCAVATION THAN A DISTANCE EQUAL TO ONE AND ONE-HALF TIMES THE DEPTH OF SUCH EXCAVATION UNLESS THE SIDES OF THE EXCAVATION HAVE BEEN SLOPED OR SHEET PILED (OR SHEETED) AND SHORED TO WITHSTAND THE LATERAL FORCE IMPOSED BY SUCH SUPERIMPOSED LOADS.
4. REQUIRED PROTECTION FOR THE SIDES OF THE EXCAVATION SHALL BE INSTALLED AS THE EXCAVATION ADVANCES. THE PLACEMENT OF PERMANENT STRUCTURES OR FILL IN AREAS REQUIRING SUPPORT OF EXCAVATION SHALL NOT BEGIN UNTIL THE SUPPORT OF EXCAVATION HAS BEEN COMPLETED FOR SUCH AREAS.
5. SOIL AND FOUNDATION WORK SHALL BE INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 3304.5.1 THROUGH 3304.5.3 OF NYC BUILDING CODE.
6. EVERY EXCAVATION SHALL BE PROVIDED WITH AT LEAST ONE SAFE MEANS OF INGRESS AND EGRESS THAT IS KEPT AVAILABLE AT ALL TIMES.
7. THE PERSON CAUSING THE SOIL OR FOUNDATION WORK TO BE PERFORMED SHALL DEWATER THE SITE, AS NEEDED, FOR THE PROGRESS OF THE WORK. MEASURES SHALL BE TAKEN TO PREVENT SETTLEMENT, SLOPE FAILURE, AND DAMAGE TO ADJACENT BUILDINGS, STRUCTURES, AND PROPERTY AFFECTED BY DEWATERING OPERATIONS.

**EXCAVATION, SHORING & UNDERPINNING:**

1. STRUCTURAL CONCRETE FOR UNDERPINNING PIERS SHALL HAVE A MINIMUM DESIGN COMPRESSIVE STRENGTH OF 4000-PSI AT 28 DAYS.
2. CONCRETE PIERS AND DRY PACK SHALL BE ALLOWED TO CURE PRIOR TO JACKING, EXCAVATING AN ADJACENT PIT, OR ADVANCING THE EXCAVATION IN FRONT OF THE PIT.
3. DRY PACK SHALL CONSIST OF ONE PART CEMENT TO TWO PARTS SAND BY VOLUME. WATER SHALL BE ADDED TO PRODUCE A MIXTURE WITH HOLDS ITS SHAPE WHEN FORMED INTO A BALL BY HAND.
4. TIMBER LAGGING SHALL BE ROUGH CUT, FULL SIZE CONSTRUCTION GRADE, WITH A MINIMUM ALLOWABLE BENDING STRESS OF 1200-PSI TIMBER SIZES SHOWN ARE ACTUAL SIZES.
5. GROUTING TO STABILIZE SOIL AT UNDERPINNING PITS SHALL BE PERFORMED USING SODIUM SILICATE OR MICRO-FINE CEMENT. GROUT MIX DESIGN, EQUIPMENT, DRILLING PROCEDURE, AND SEQUENCE SHALL BE PREPARED E THE CONTRACTOR AND SUBMITTED FOR REVIEW.
6. DEPTH OF EXCAVATION BELOW FOOTING AND PREVIOUSLY INSTALLED LAGGING BOARDS SHALL NOT EXCEED 18-INCHES. MAINTAIN TIGHT CONTACT BETWEEN SOIL AND LAGGING BOARDS. IF MATERIAL CAVING INTO EXCAVATION, DECREASE THE UNBRACED EXCAVATION DEPTH AND/OR GROUT THE MATERIAL TO MINIMIZE LOSS.
7. IF MATERIAL BEHIND LAGGING AS BEEN LOST OR DISTURBED, LEAVE A 1-TO 1-1/2 INCH SPACE BETWEEN LAGGING BOARD TO IMMEDIATELY BACKFILL OR GROUT.
8. EXCAVATION FOR UNDERPINNING PIERS MUST BE PERFORMED IN THE DRY. DEWATERING MAY BE NECESSARY PRIOR TO EXCAVATION TO MAINTAIN WATER LEVELS A MINIMUM OF 1-FT BELOW THE PROPOSED SUB-GRADE LEVEL OF THE PIER. HAY OR FILTER FABRIC SHALL BE USED TO MINIMIZED MIGRATION OF FINES INTO THE EXCAVATION.
9. UNDERPINNING PIER SUB-GRADE BEARING MATERIAL SHALL BE EQUAL OR BETTER CLASS THAN THE ORIGINAL BEARING MATERIAL.
10. MAXIMUM PIT WIDTH IS 4-FT UNLESS OTHERWISE NOTED ON THE DRAWING. UNDERPINNING WIDTH MAY REDUCED TO 3-FT OR LESS BASED ON RA CONSULTANTS LLC FIELD OBSERVATIONS.
11. APPROACH PITS FOR UNDERPINNING PITS SHOULD CAUSE MINIMAL DISTURBANCE TO SOIL SUB-GRADE BELOW THE FOOTING. IT IS THE CONTRACTOR RESPONSIBILITY TO DESIGN THE APPROACH PITS AND EXCAVATE PITS FOLLOWING OSHA AND LOCAL LAWS.
12. EXCAVATE PITS SUCH THAT A MINIMUM OF 12-FT OF UNDISTURBED SOIL OR CURED UNDERPINNING PIER IS MAINTAINED BETWEEN OPEN PITS UNTIL ALL UNDERPINNING IS COMPLETE UNLESS APPROVED BY RA CONSULTANTS LLC.
13. DONOT LEAVE PITS OPEN OVERNIGHT OR DURING WEEKEND AND HOLIDAYS.
14. UNDERPINNING PIER THICKNESS SHALL BE 2-FT OR WIDTH OF FOOTING, WHICHEVER GREATER.
15. UNDERPINNING SHALL BE CONSTRUCTED IN ONE VERTICAL LIFT.
16. LINE DRILL BEDROCK ADJACENT TO ALL FOUNDATION WALLS PRIOR TO ROCK REMOVAL.
17. BOTTOM OF UNDERPINNING CAN BEAR ON CLASS 1B BEDROCK OR BETTER ABOVE UNDERPINNING SUB-GRADE LEVEL SHOWN ON THESE DRAWING AS DETERMINED BY RA CONSULTANTS LLC.
18. UNDERPINNING PIERS CAN BE ELIMINATED IF THE THE EXISTING FOOTING IS BEARING ON CLASS 1B BEDROCK OR BETER DETERMINED BY RA CONSULTANTS LLC.

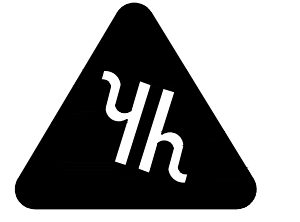
**SPECIAL INSPECTIONS:**

1. A SPECIAL INSPECTOR AND/OR SPECIAL INSPECTION AGENCY SHALL HAVE RESPONSIBILITY AS SET FORTH IN CHAPTER 17 OF THE NEW YORK CITY BUILDING CODE AND ELSEWHERE IN THE CODES WERE SPECIAL INSPECTION ARE REQUIRED. THE RESPONSIBILITIES OF THE SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY AT A SPECIAL INSPECTION SHALL INCLUDED THOSE TASKS AND STANDARDS SET FORTH IN CHAPTER 17OF THE CODE, THE REFERENCE STANDARDS AND ELSEWHERE IN THE CODE, THESE RULE OR ANY RULE OF ANY AGENCY IN CONANATIONS WITH THE WORK I SUBJECT OF SUCH SPECIAL INSPECTION.
2. NECESSARY SPECIAL INSPECTIONS.
  - A) UNDERPINNING (BC 1704.9.1).
  - B) EXCAVATION -SHEETING, SHORING, AND BRACING (BC 1704.19, BC3304.4.1).
  - C) CONCRETE - CAST- IN-PLACE (BC1704.4).
  - D) CONCRETE - TEST CYLINDERS (BC 1905.6).
  - E) CONCRETE - DESIGN MIX (BC 1905.3).
  - F) SOIL - SITE PREPARATION (BC1704.7.1).
  - G) SOIL - INVESTIGATION (BORINGD/TESTBITS) (BC 1704.7.4).
  - H) STRUCTURAL STEEL - WELDING (BC 1704.3.1)

**SITE SAFETY PLAN**

**EXCAVATION PHASE**

SAFETY DESIGNER



**SAFETY DESIGN**

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362

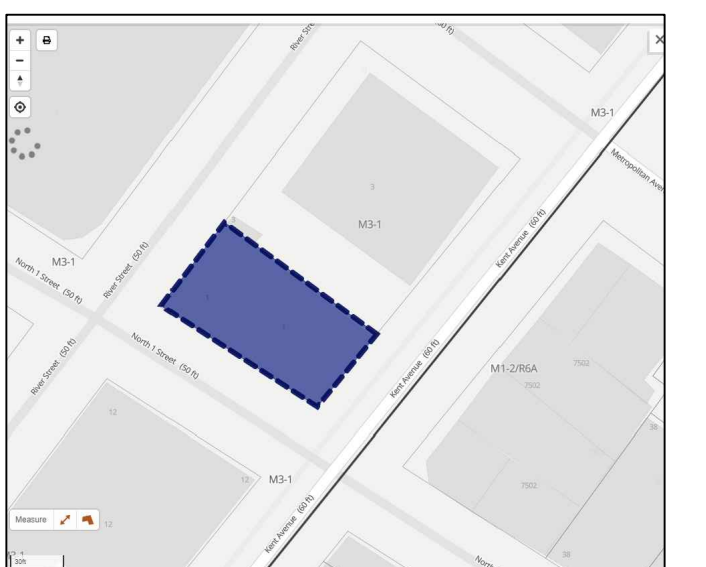
LOT: 1

ZONING: M3-1

BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



**DRAWING TITLE**

**GENERAL EXCAVATION NOTES**

SIGNATURE OF PREPARER	DATE: 8/18/2019
	SCALE: AS SHOWN
	DRAWN:
	REVIEWED:
	SHEET NO. 02

**SSP-103-00**



SITE SAFETY PLAN  
EXCAVATION PHASE

SAFETY DESIGNER



**SAFETY DESIGN**  
65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

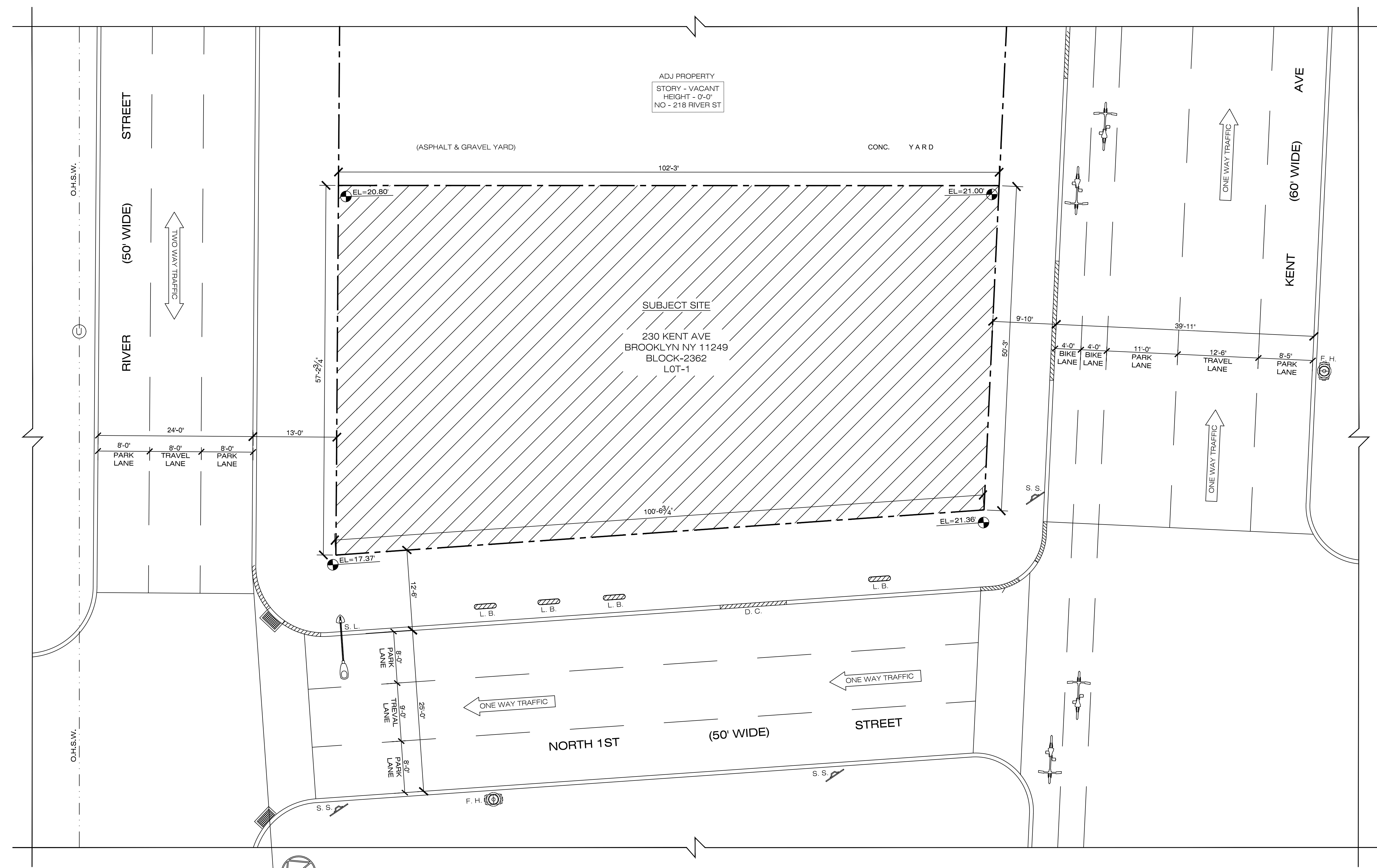
KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE: **SITE PLAN**

SIGNATURE OF PREPARER: *Mani Green* DATE: 8/18/2019  
SCALE: AS SHOWN  
DRAWN: \_\_\_\_\_  
REVIEWED: \_\_\_\_\_  
SHEET NO. 02

**SSP-201-00**



SITE PLAN  
1/8" = 1'-0"

**GENERAL CONSTRUCTION SIGNAGE**

REQUIRED CONSTRUCTION SIGNAGE	SIDEWALK CLOSED USE OTHER SIDE.
SIDEWALK CLOSED USE WALKWAY.	LANE CLOSED MERGE ....

**LEGEND**

	CONSTRUCTION FENCE		STREET SIGN
	PROPERTY LINE		FLAG MAN
	GUARDRAIL		FIRE HYDRANT
	8' CHAIN LINK FENCE		TREE PROTECTION
	3' SWING DOOR		CONTROLLED ZONE
	12' SLIDING DOOR		SIDEWALK SHED
	VEHICULAR TRAFFIC		OVERHEAD PROTECTION
	AGREES/ENTREES		ROOF PROTECTION
	PEDESTRIANS TRAFFIC		CON. BARRIER WITH CH. LINK FENCE
	ENTRANCE & EXIT		PLASTIC BARRIER

**LEGEND**

U. P. UTILITY POLE	D. C. DROP CURB
S. S. STREET SIGN	L. B. LOCK BICYCLE
F. H. FIRE HYDRANT	O. H. S. W. OVERHEAD SERVICE WIRE
S. L. STREET LIGHT	

**NOTE**

FOR ALL STRUCTURAL DRAWING & DETAILS SEE APPROVED STRUCTURAL PLANS. (DRAW BY OTHER)

- NOTE**
- MEANS OF EGRESS SHALL MAINTAINED AT ALL TIMES, LOCATION WILL VARY DUE TO THE WORK PROGRESSION.
  - REQUIRED MEANS OF EGRESS SHALL NOT BE OBSTRUCTED IN ANY MANNER THAT WOULD DESTROY THE FULL EFFECTIVENESS OF SUCH MEANS OF EGRESS.
  - SAFETY NETTING SYSTEMS AND GUARDRAIL SYSTEMS SHALL BE INSTALLED TO PROTECT UNENCLOSED PERIMETERS.
  - OBSTRUCTIONS OR OPENINGS LOCATED IN A PUBLIC WAY SHALL BE MARKED AND GUARDED BY BARRIERS, FLAGS, OR SIGNS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
  - A FLAGPERSON SHALL BE PROVIDED WHENEVER INTERMITTENT OPERATIONS ARE CONDUCTED ON SIDEWALK OR ROADWAY.
  - BARRIERS WILL BE RELOCATED OR REMOVED AS NEEDED.
  - EXCAVATOR, DUMP TRUCK, DEBRIS CONTAINER, WILL BE RELOCATED AS NEED.
  - CONCRETE & CONCRETE PUMP TRUCK, WASH OUT BOX, DELIVERY TRUCK, BOOM TRUCK, WILL BE RELOCATED AS NEED.
  - TOWER CRANE, CRAWLER CRANE, MOUNTED CRANE, WILL BE RELOCATED AS NEED.



SITE SAFETY PLAN  
EXCAVATION PHASE

SAFETY DESIGNER



SAFETY DESIGN

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

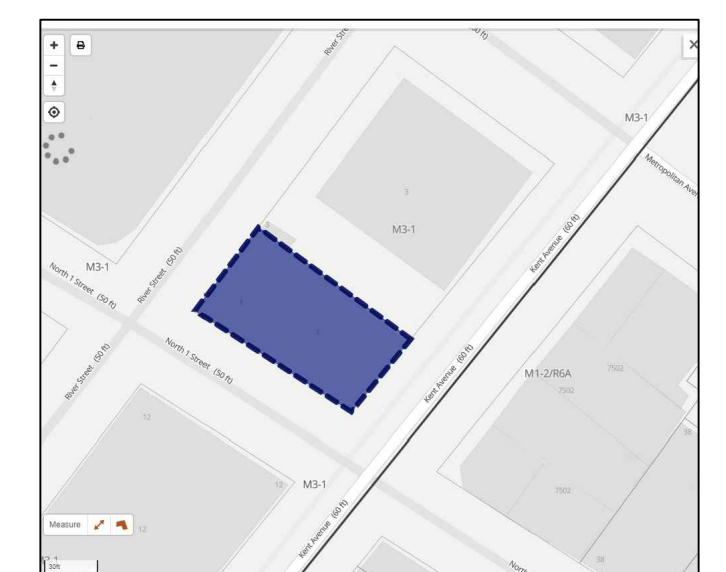
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574

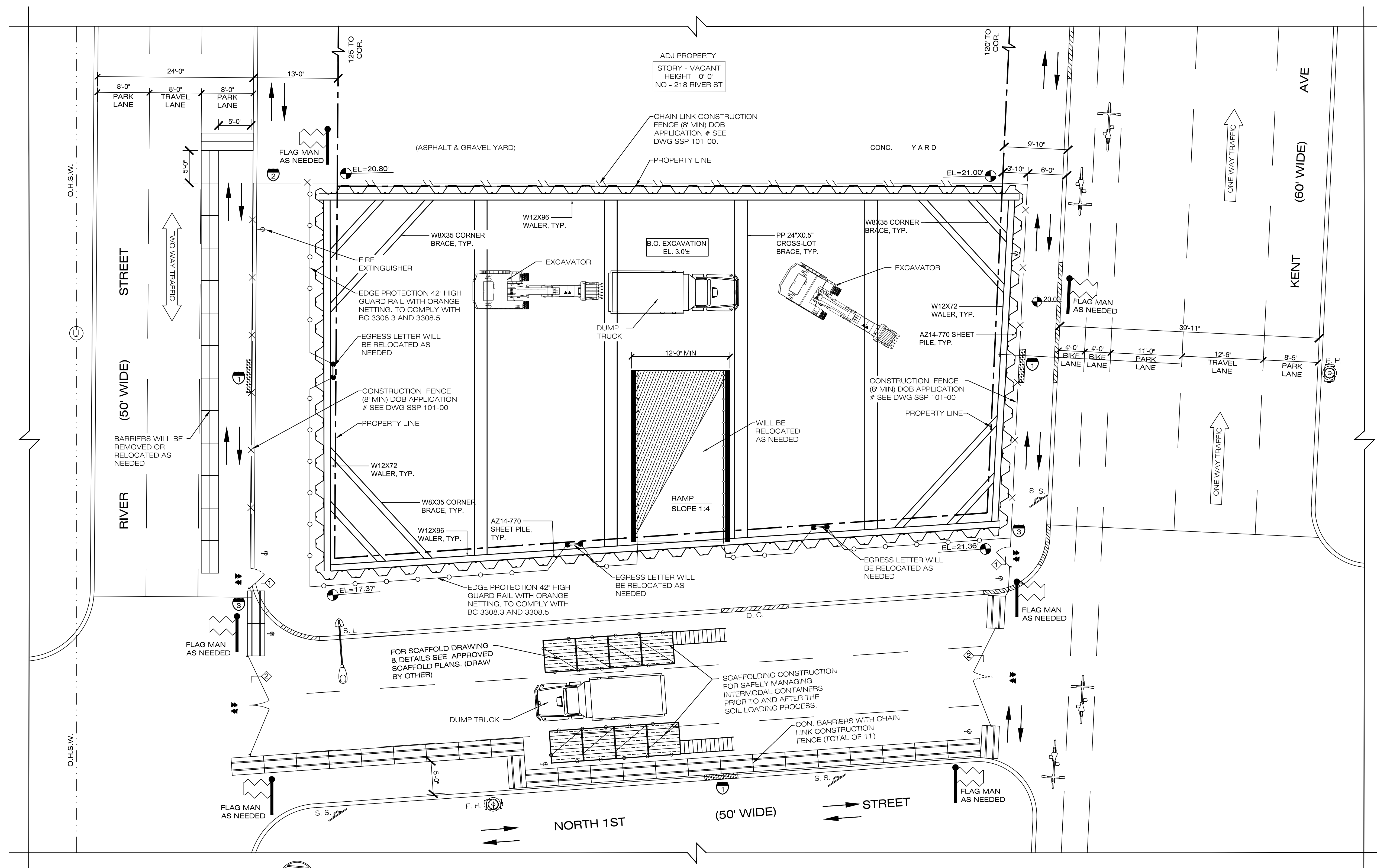


DRAWING TITLE:

EXCAVATION PHASE 1

SIGNATURE OF PREPARER: *Mani Green* DATE: 8/18/2019  
SCALE: AS SHOWN  
DRAWN: \_\_\_\_\_  
REVIEWED: \_\_\_\_\_  
SHEET NO. 02

SSP-202-00



EXCAVATION PHASE 1  
1/8" = 1'-0"

GENERAL CONSTRUCTION SIGNAGE	

LEGEND	
	CONSTRUCTION FENCE
	PROPERTY LINE
	GUARDRAIL
	8' CHAIN LINK FENCE
	3' SWING DOOR
	12' SLIDING DOOR
	VEHICULAR TRAFFIC
	AGREES/ENTREES
	PEDESTRIANS TRAFFIC
	ENTRANCE & EXIT
	STREET SIGN
	FLAG MAN
	FIRE HYDRANT
	TREE PROTECTION
	CONTROLLED ZONE
	SIDEWALK SHED
	OVERHEAD PROTECTION
	ROOF PROTECTION
	CON. BARRIER WITH CH. LINK FENCE
	PLASTIC BARRIER

LEGEND	
U. P. UTILITY POLE	D. C. DROP CURB
S. S. STREET SIGN	L. B. LOCK BICYCLE
F. H. FIRE HYDRANT	O. H. S. W. OVERHEAD SERVICE WIRE
S. L. STREET LIGHT	

NOTE  
FOR ALL STRUCTURAL DRAWING & DETAILS SEE APPROVED STRUCTURAL PLANS. (DRAW BY OTHER)

**NOTE**

- MEANS OF EGRESS SHALL MAINTAINED AT ALL TIMES, LOCATION WILL VARY DUE TO THE WORK PROGRESSION.
- REQUIRED MEANS OF EGRESS SHALL NOT BE OBSTRUCTED IN ANY MANNER THAT WOULD DESTROY THE FULL EFFECTIVENESS OF SUCH MEANS OF EGRESS.
- SAFETY NETTING SYSTEMS AND GUARDRAIL SYSTEMS SHALL BE INSTALLED TO PROTECT UNENCLOSED PERIMETERS.
- OBSTRUCTIONS OR OPENINGS LOCATED IN A PUBLIC WAY SHALL BE MARKED AND GUARDED BY BARRIERS, FLAGS, OR SIGNS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
- A FLAGPERSON SHALL BE PROVIDED WHENEVER INTERMITTENT OPERATIONS ARE CONDUCTED ON SIDEWALK OR ROADWAY.
- BARRIERS WILL BE RELOCATED OR REMOVED AS NEEDED.
- EXCAVATOR, DUMP TRUCK, DEBRIS CONTAINER, WILL BE RELOCATED AS NEED.
- CONCRETE & CONCRETE PUMP TRUCK, WASH OUT BOX, DELIVERY TRUCK, BOOM TRUCK, WILL BE RELOCATED AS NEED.
- TOWER CRANE, CRAWLER CRANE, MOUNTED CRANE, WILL BE RELOCATED AS NEED.



SITE SAFETY PLAN  
EXCAVATION PHASE

SAFETY DESIGNER



**SAFETY DESIGN**  
65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

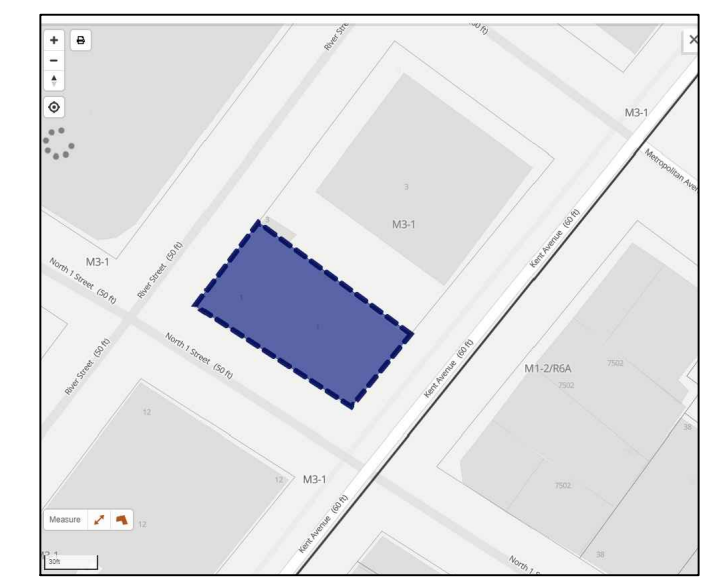
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

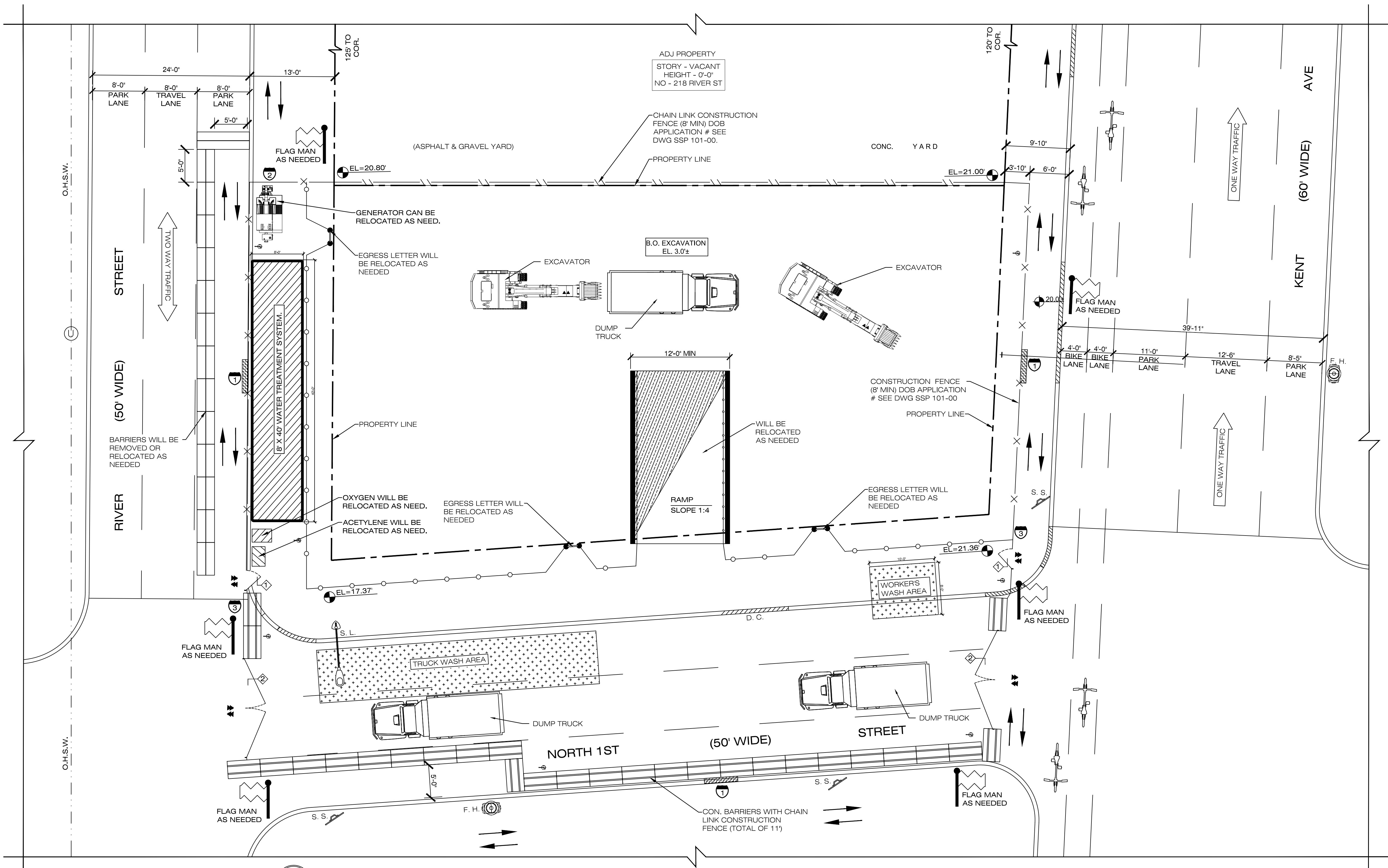
KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE:  
**EXCAVATION PHASE 2**

SIGNATURE OF PREPARER: *Mani Green* DATE: 8/18/2019  
SCALE: AS SHOWN  
DRAWN:  
REVIEWED:  
SHEET NO. 02

SSP-203-00



EXCAVATION PHASE 2  
1/8" = 1'-0"

**GENERAL CONSTRUCTION SIGNAGE**

1 REQUIRED CONSTRUCTION SIGNAGE	3 SIDEWALK CLOSED USE OTHER SIDE.
2 SIDEWALK CLOSED USE WALKWAY.	4 LANE CLOSED MERGE ....

**LEGEND**

—x—	CONSTRUCTION FENCE		STREET SIGN
---	PROPERTY LINE		FLAG MAN
—o—	GUARDRAIL		FIRE HYDRANT
—x—x—	8' CHAIN LINK FENCE		TREE PROTECTION
	3' SWING DOOR		CONTROLLED ZONE
	12' SLIDING DOOR		SIDEWALK SHED
	VEHICULAR TRAFFIC		OVERHEAD PROTECTION
	AGREES/ENTREES		ROOF PROTECTION
	PEDESTRIANS TRAFFIC		CON. BARRIER WITH CH. LINK FENCE
	ENTRANCE & EXIT		PLASTIC BARRIER

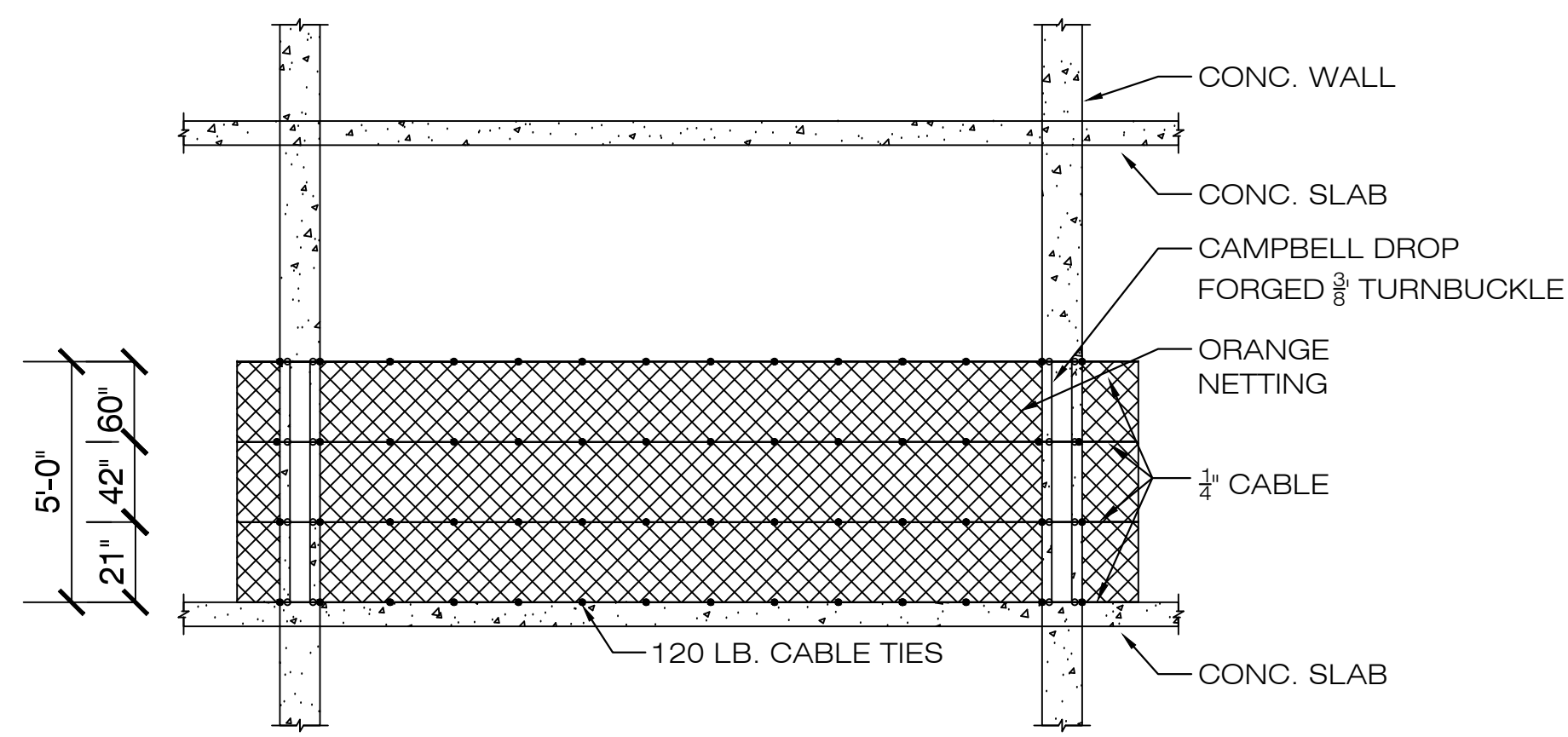
**LEGEND**

U. P. UTILITY POLE	D. C. DROP CURB
S. S. STREET SIGN	L. B. LOCK BICYCLE
F. H. FIRE HYDRANT	O. H. S. W. OVERHEAD SERVICE WIRE
S. L. STREET LIGHT	

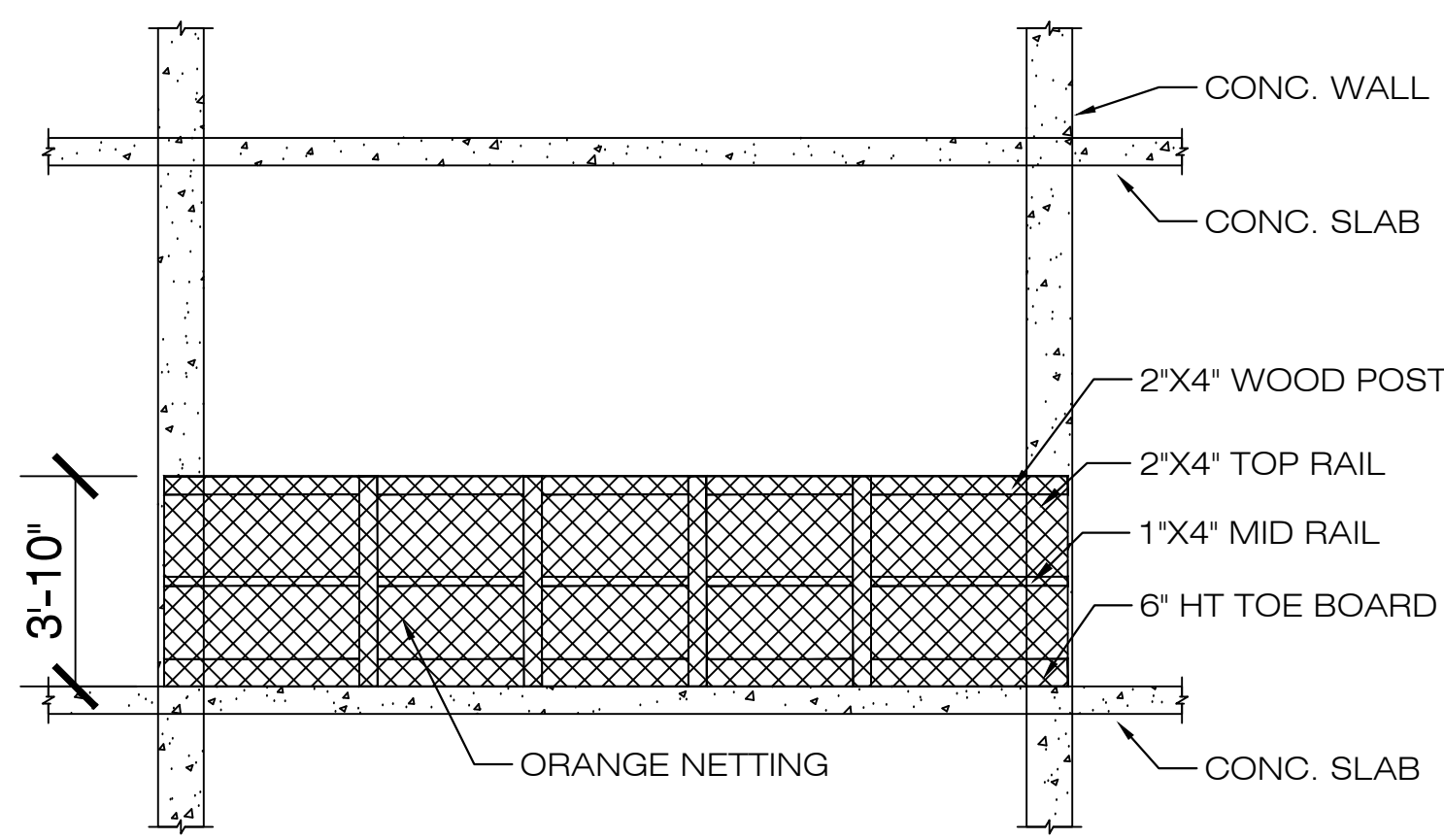
**NOTE**  
FOR ALL STRUCTURAL DRAWING & DETAILS SEE APPROVED STRUCTURAL PLANS. (DRAW BY OTHER)

- NOTE**
- MEANS OF EGRESS SHALL MAINTAINED AT ALL TIMES, LOCATION WILL VARY DUE TO THE WORK PROGRESSION.
  - REQUIRED MEANS OF EGRESS SHALL NOT BE OBSTRUCTED IN ANY MANNER THAT WOULD DESTROY THE FULL EFFECTIVENESS OF SUCH MEANS OF EGRESS.
  - SAFETY NETTING SYSTEMS AND GUARDRAIL SYSTEMS SHALL BE INSTALLED TO PROTECT UNENCLOSED PERIMETERS.
  - OBSTRUCTIONS OR OPENINGS LOCATED IN A PUBLIC WAY SHALL BE MARKED AND GUARDED BY BARRIERS, FLAGS, OR SIGNS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
  - A FLAGPERSON SHALL BE PROVIDED WHENEVER INTERMITTENT OPERATIONS ARE CONDUCTED ON SIDEWALK OR ROADWAY.
  - BARRIERS WILL BE RELOCATED OR REMOVED AS NEEDED.
  - EXCAVATOR, DUMP TRUCK, DEBRIS CONTAINER, WILL BE RELOCATED AS NEED.
  - CONCRETE & CONCRETE PUMP TRUCK, WASH OUT BOX, DELIVERY TRUCK, BOOM TRUCK, WILL BE RELOCATED AS NEED.
  - TOWER CRANE, CRAWLER CRANE, MOUNTED CRANE, WILL BE RELOCATED AS NEED.

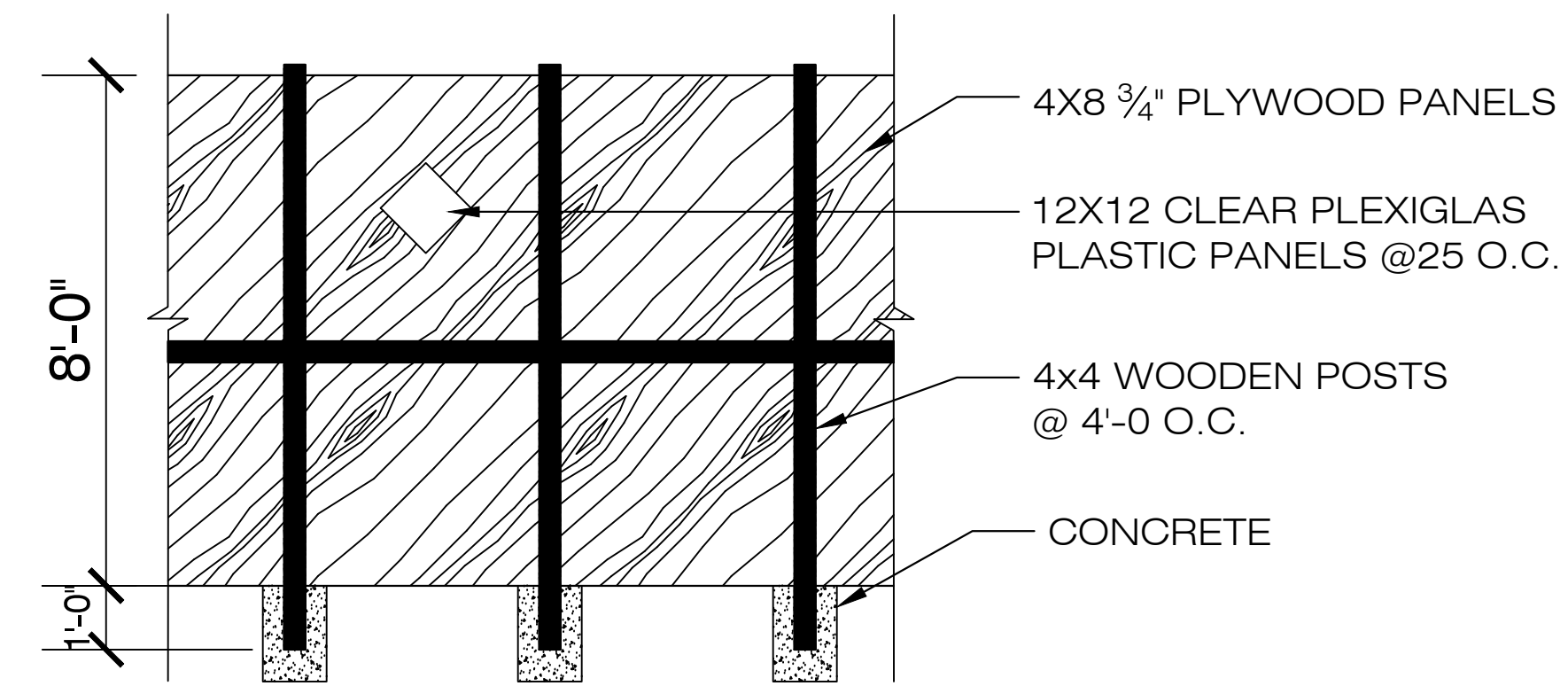




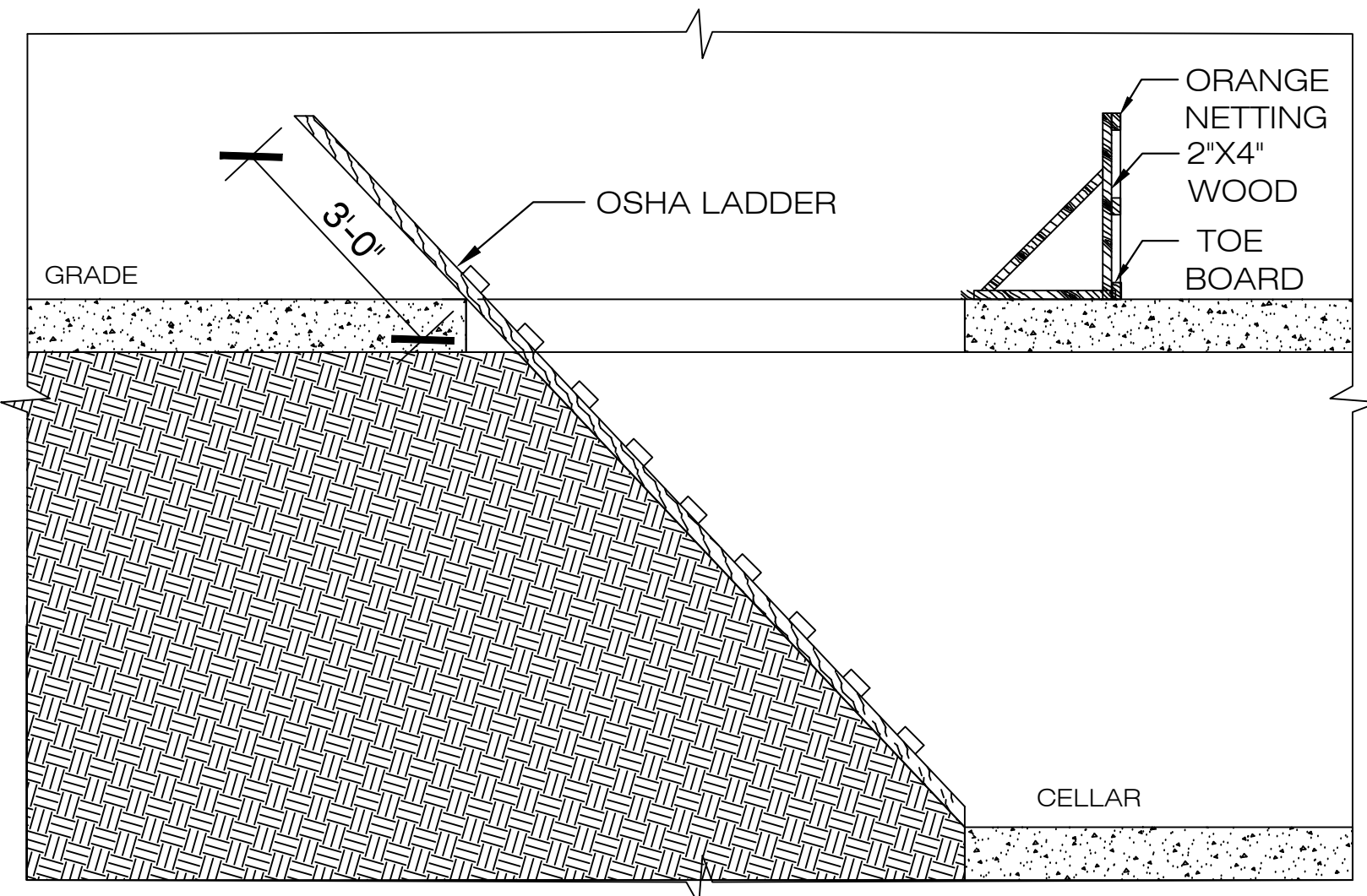
STANDARD CABLE GUARDRAIL



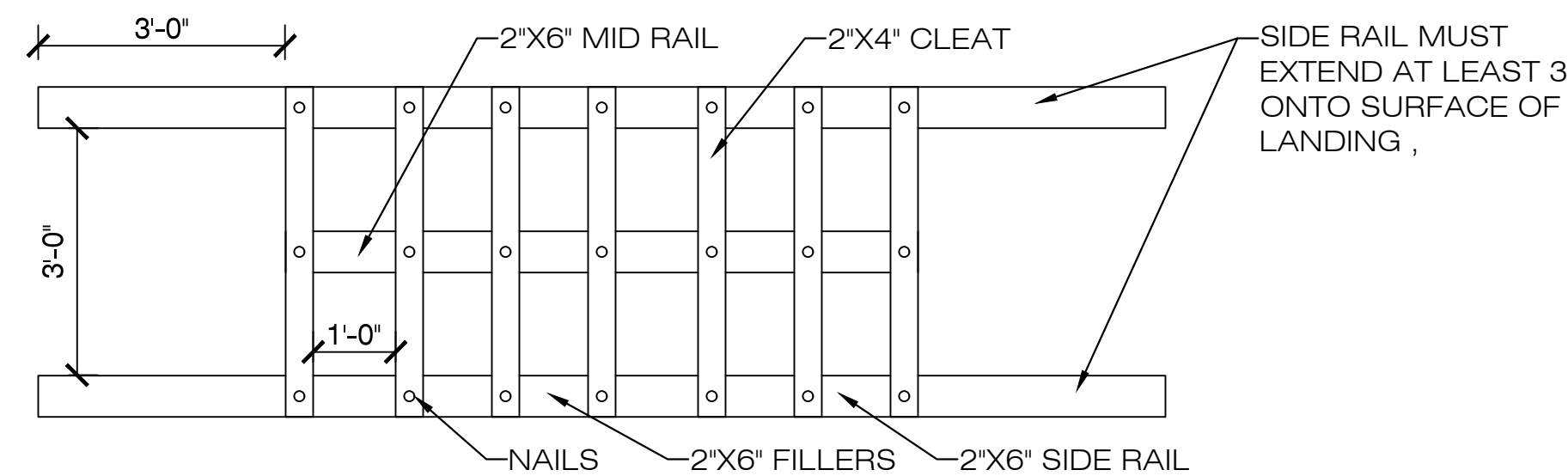
STANDARD WOOD GUARDRAIL



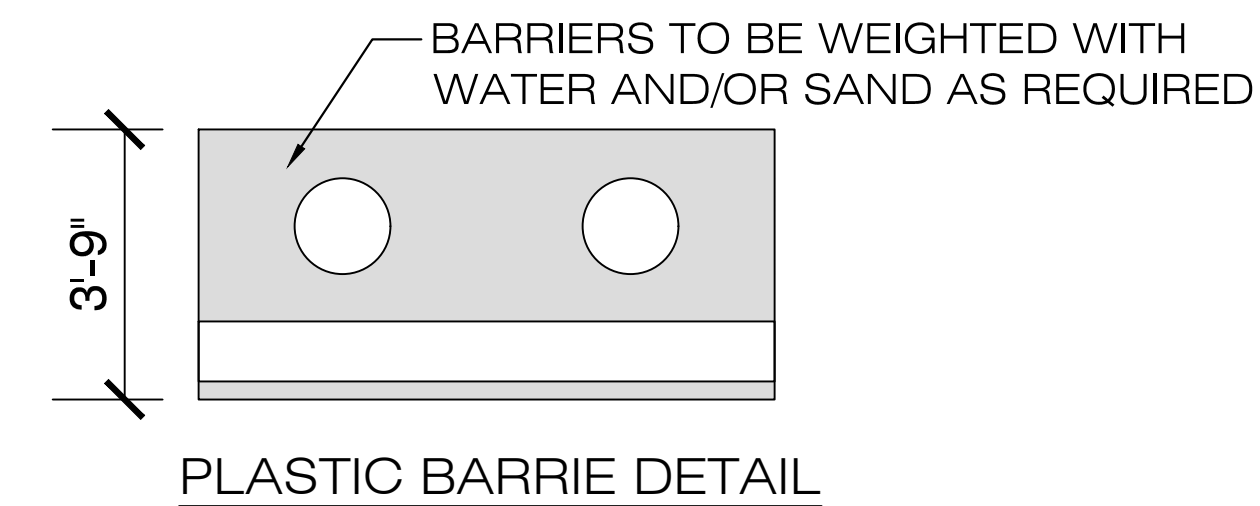
CONSTRUCTION FENCE DETAIL



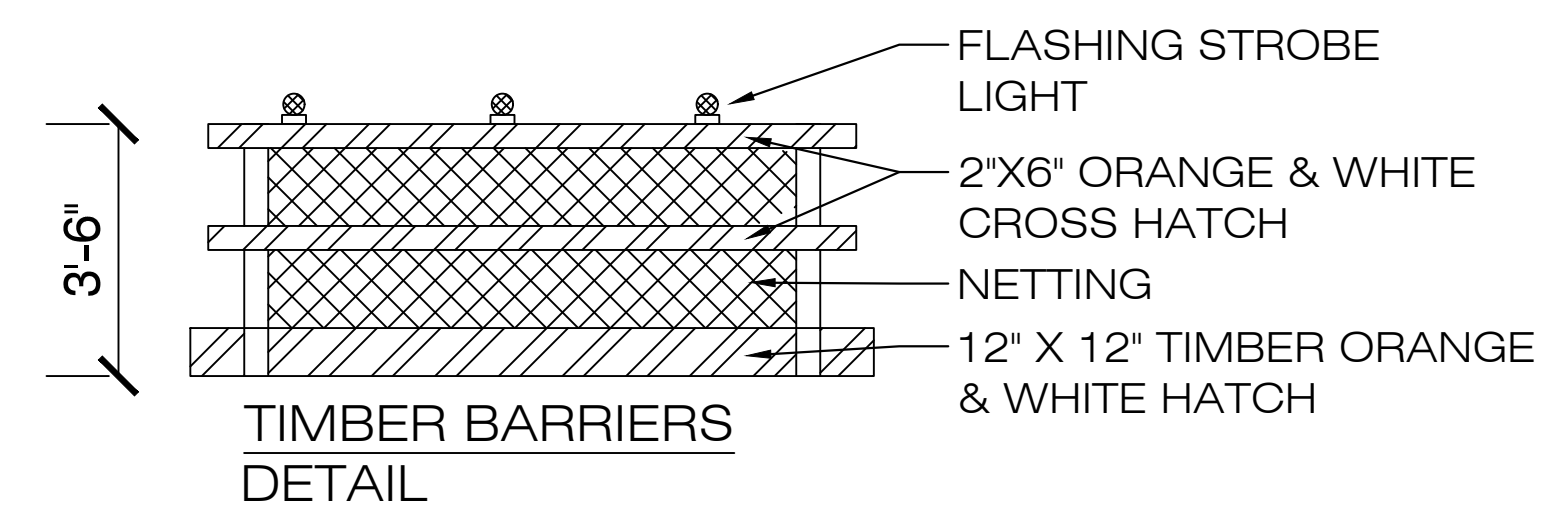
TYP. OSHA LETTER



OSHA EGRESS LETTER DETAIL



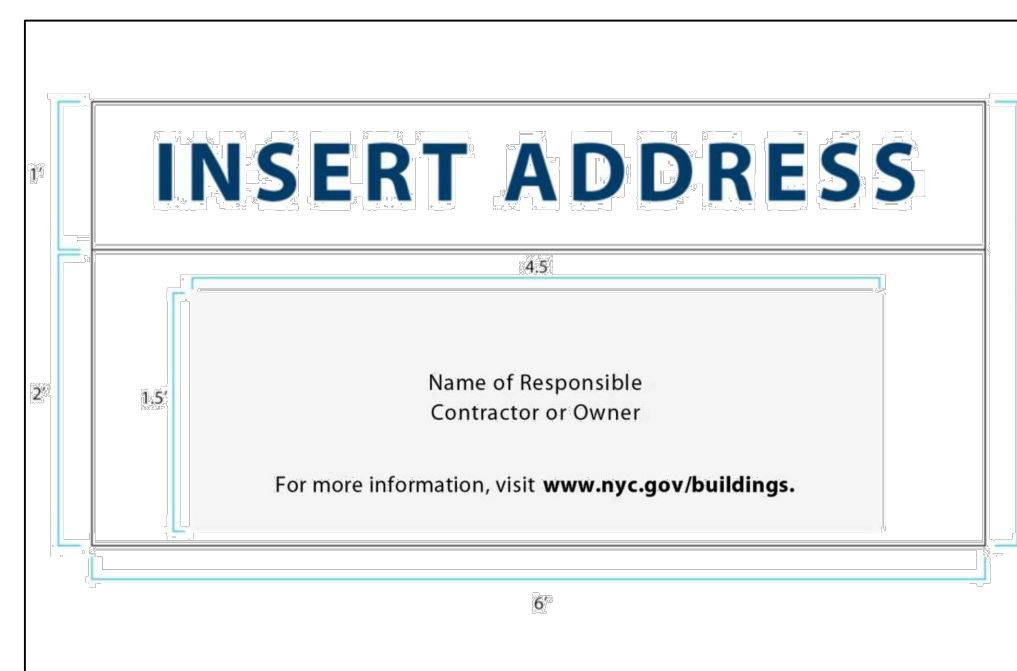
PLASTIC BARRIE DETAIL



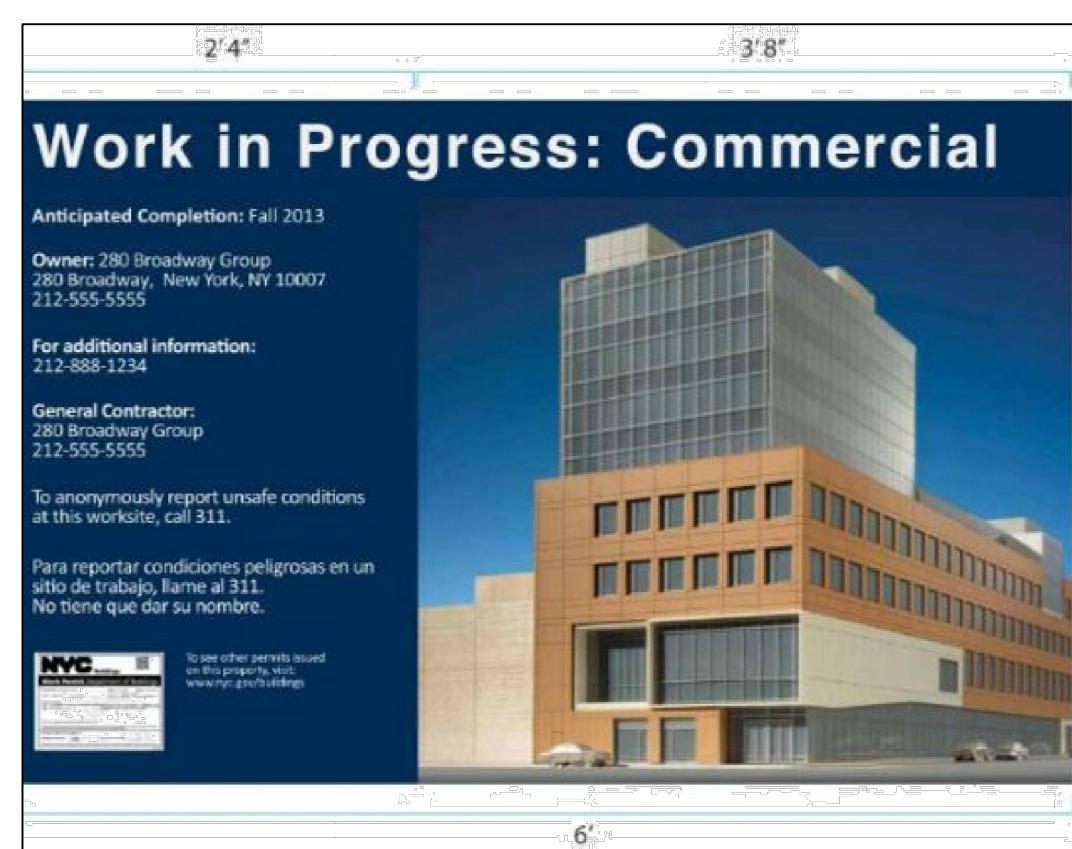
TIMBER BARRIERS DETAIL



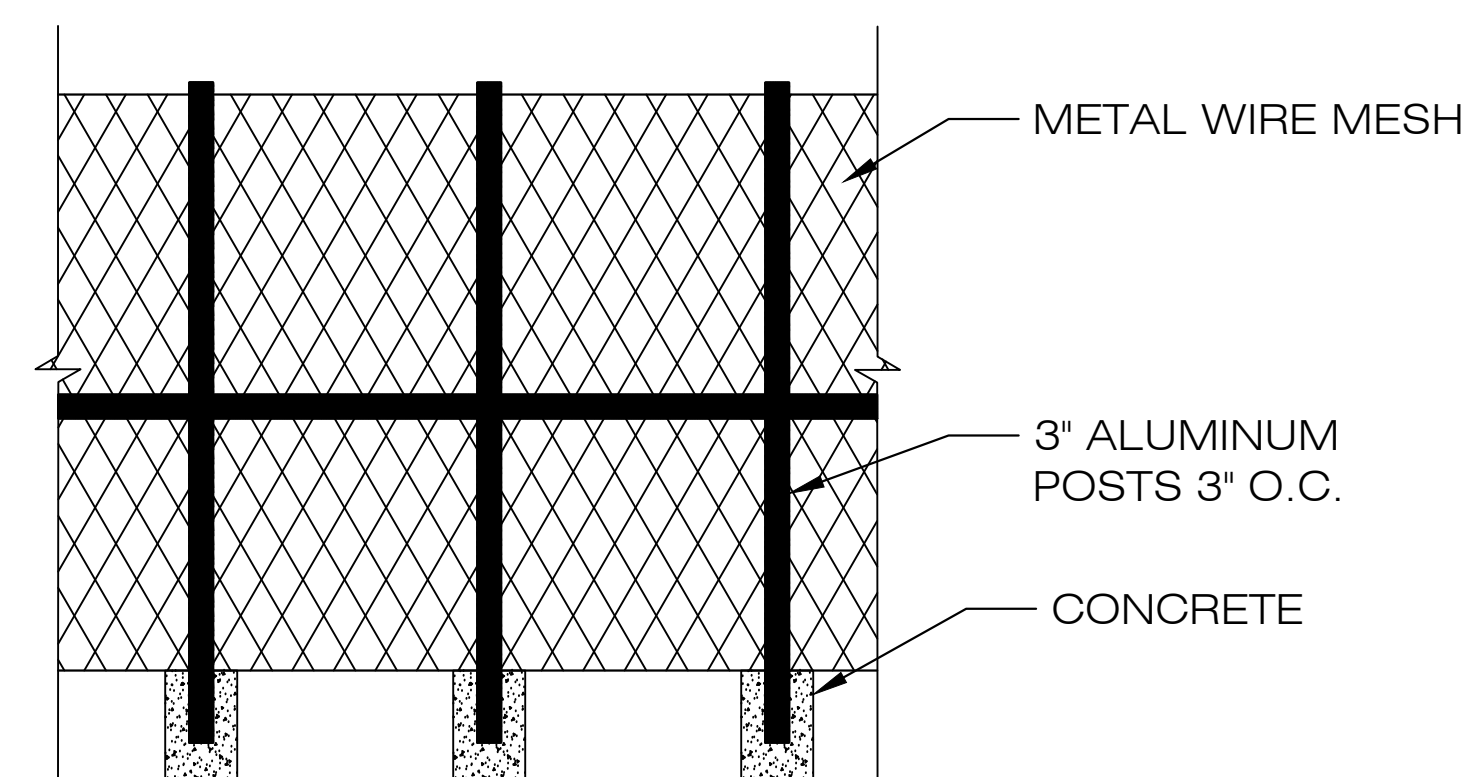
PROJECT INFORMATION PANEL AND SIDE WALK SHED PARAPET POSTING



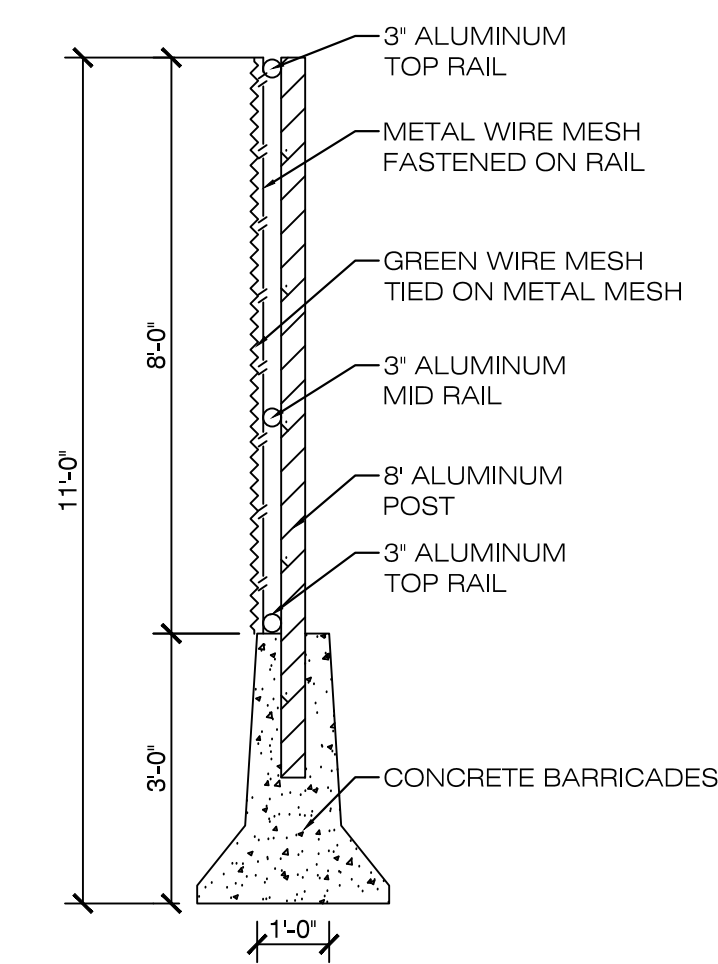
SIDEWALK SHAD PARAPET PANEL LAYOUT



FOR CONSTRUCTION SITS WITH STREET FRONTAGE MORE THAN 60'-0"



CONSTRUCTION FENCE DETAIL



CONCRETE BARRIERS WITH CHAIN LINK FENCE DETAIL

SITE SAFETY PLAN  
EXCAVATION PHASE

SAFETY DESIGNER



SAFETY DESIGN

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

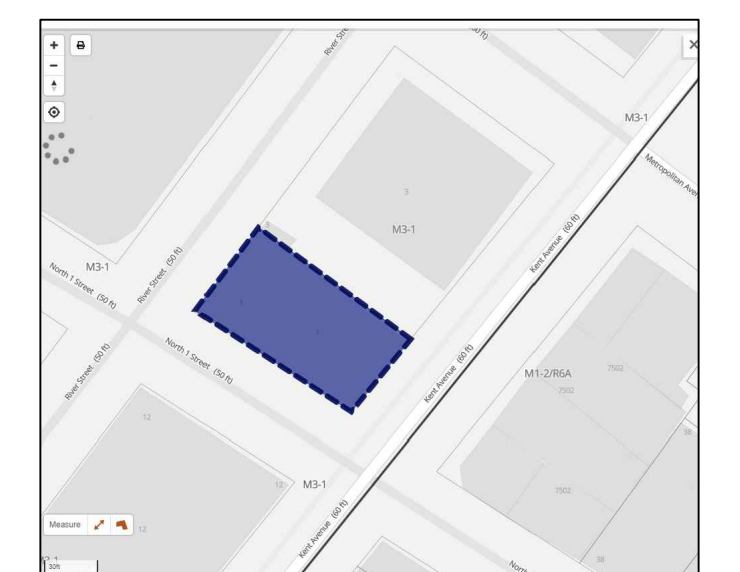
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



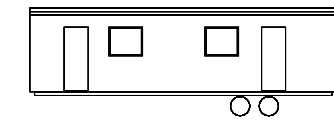
DRAWING TITLE:  
STANDARD DETAILS

SIGNATURE OF PREPARER	DATE: 8/18/2019
SCALE: AS SHOWN	
DRAWN:	
REVIEWED:	
SHEET NO. 02	

SSP-401-00



CONSTRUCTION TRAILER



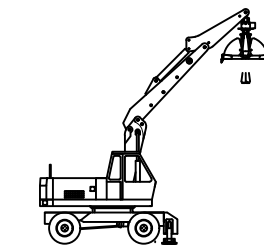
EXCAVATOR



BULLDOZER



EARTH REMOVER



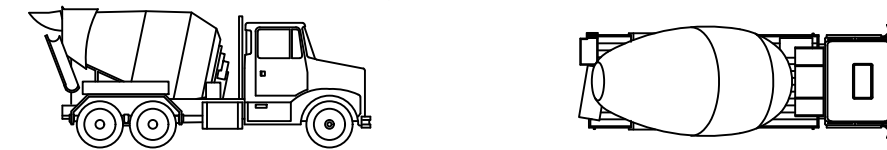
DUMP TRUCK



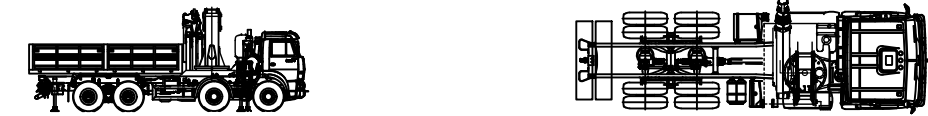
CONCRETE PUMP TRUCK



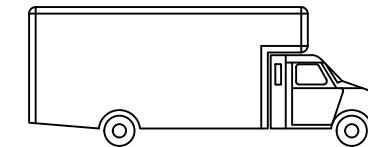
CONCRETE TRUCK



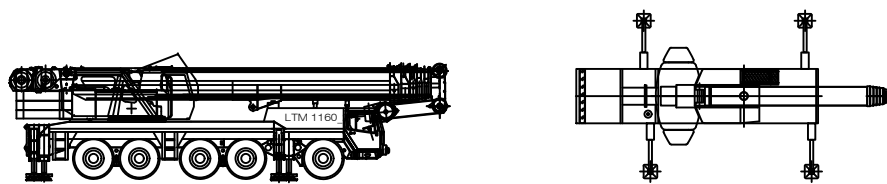
BOOM TRUCK



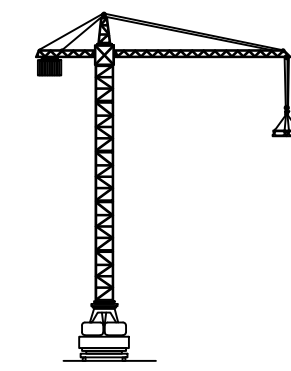
DELIVERY TRUCK



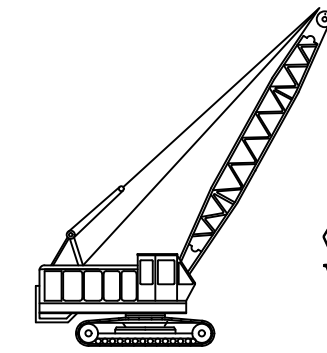
COMMERCIAL TRUCK MOUNTED CRANE



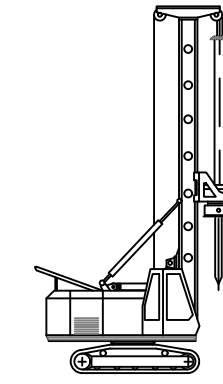
TOWER CRANE



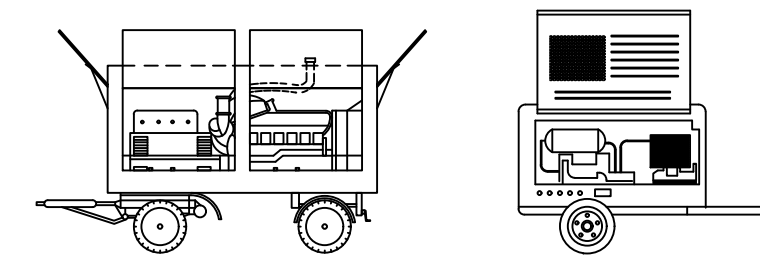
CRAWLER CRANE



SOIL CEMENT DRILLER



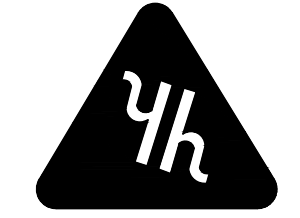
GENERATOR



SITE SAFETY PLAN

EXCAVATION PHASE

SAFETY DESIGNER



SAFETY DESIGN

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

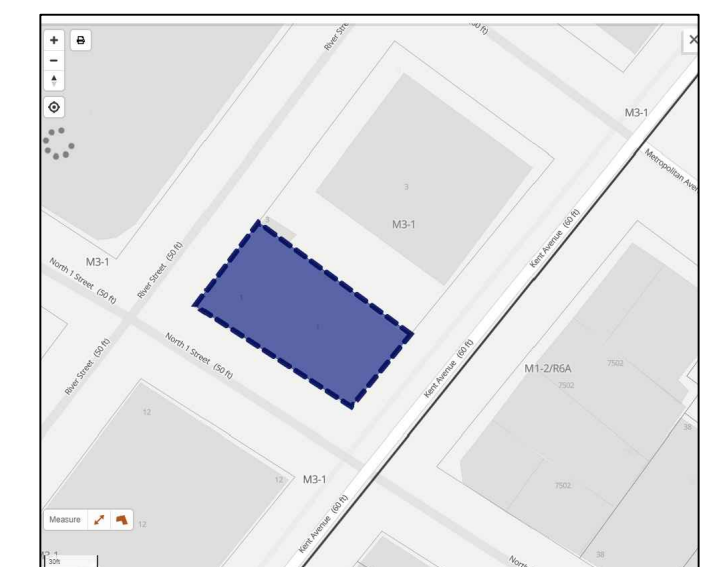
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE: STANDARD DETAILS & EQUIPMENTS

SIGNATURE OF PREPARER: *Hersi Green* DATE: 8/18/2019  
SCALE: AS SHOWN  
DRAWN:  
REVIEWED:  
SHEET NO. 02

SSP-402-00



# APPENDIX B

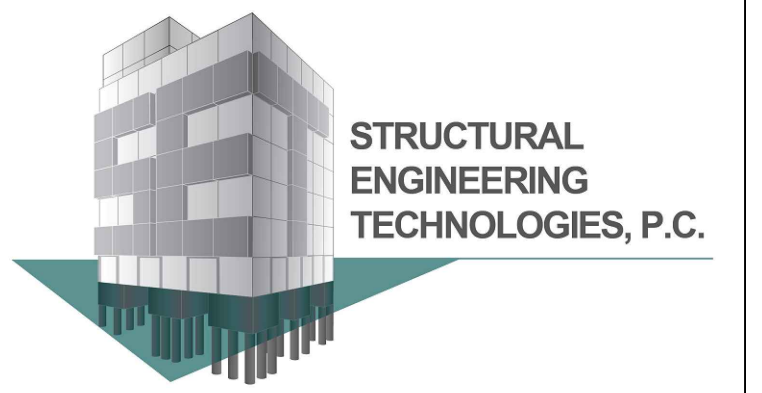












CONSULTING STRUCTURAL, GEOTECHNICAL, & ENVIRONMENTAL ENGINEERS

40-12 28TH STREET  
LONG ISLAND CITY, NY 11101  
T:(718)706-7196 Email: info@set-ny.com

ALL RIGHTS RESERVED  
ALL DRAWINGS SPECIFICATIONS AND COPIES THEREOF FURNISHED BY S.E.T., P.C. ARE AND WILL REMAIN THEIR PROPERTY. THEY ARE NOT TO BE USED ON THIS OR ANY OTHER PROJECT UNLESS WRITTEN PERMISSION IS GIVEN.

OWNER:

NOTE:  
STRUCTURAL ENGINEERING TECHNOLOGIES, P.C. HAS NOT BEEN RETAINED TO PERFORM CONTROLLED INSPECTIONS OF ANY KIND FOR THIS PROJECT.  
THE DESIGN PROFESSIONAL SHALL BE RELEASED FROM ANY AND ALL LIABILITY IN THE COMMENCEMENT OF ANY WORK PERFORMED WITHIN THESE DOCUMENTS PRIOR TO OBTAINING ALL REQUIRED PERMITS FROM THE RESPECTIVE JURISDICTIONAL AGENCIES

NO.	DATE	DESCRIPTION
	08/15/19	UPDATED
	06/10/19	UPDATED UTILITIES
	04/30/19	CROSS-LOT BRACING
	04/16/19	INTERNAL BRACING
	04/09/19	PRELIMINARY

REVISIONS:  
FILINGS:  
PROJECT

230 KENT AVENUE,  
BROOKLYN, NY 11249

SUPPORT OF EXCAVATION

DRAWING TITLE:  
**SUPPORT OF EXCAVATION PLAN**

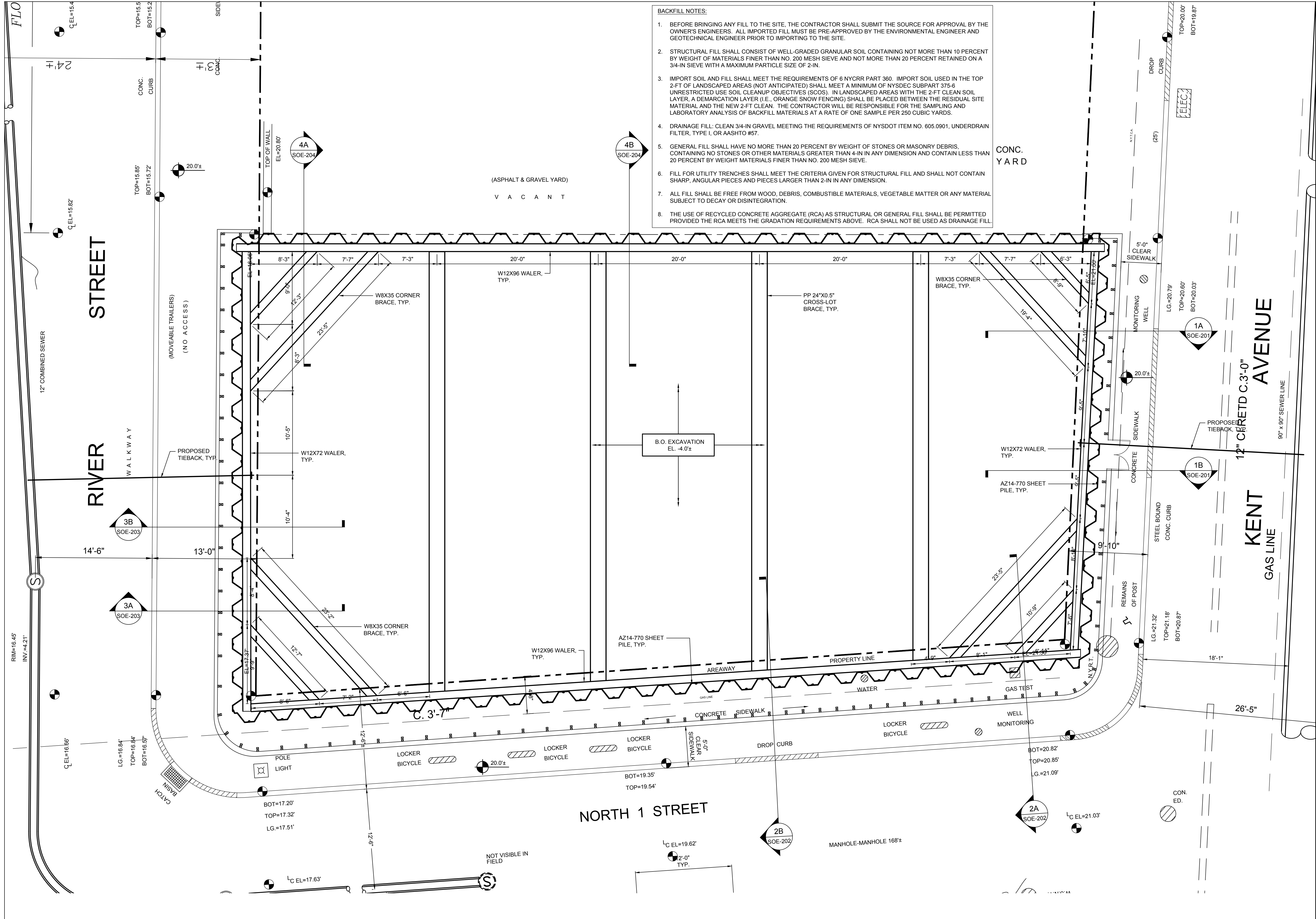
SEAL & SIGNATURE	DATE: 04-01-19
	PROJECT NO:
	SCALE: AS NOTED
	DRAWING BY: A.M.C.
	CHECKED BY: R.G.
	DWG NO: <b>SOE-101.00</b>
	SHEET NO: 3 OF 9

BSCAN STICKER

DOB APPROVAL STAMP

FOR FILING ONLY

- BACKFILL NOTES:**
- BEFORE BRINGING ANY FILL TO THE SITE, THE CONTRACTOR SHALL SUBMIT THE SOURCE FOR APPROVAL BY THE OWNER'S ENGINEERS. ALL IMPORTED FILL MUST BE PRE-APPROVED BY THE ENVIRONMENTAL ENGINEER AND GEOTECHNICAL ENGINEER PRIOR TO IMPORTING TO THE SITE.
  - STRUCTURAL FILL SHALL CONSIST OF WELL-GRADED GRANULAR SOIL CONTAINING NOT MORE THAN 10 PERCENT BY WEIGHT OF MATERIALS FINER THAN NO. 200 MESH SIEVE AND NOT MORE THAN 20 PERCENT RETAINED ON A 3/4-IN SIEVE WITH A MAXIMUM PARTICLE SIZE OF 2-IN.
  - IMPORT SOIL AND FILL SHALL MEET THE REQUIREMENTS OF 6 NYCRR PART 360. IMPORT SOIL USED IN THE TOP 2-FT OF LANDSCAPED AREAS (NOT ANTICIPATED) SHALL MEET A MINIMUM OF NYSDEC SUBPART 375-6 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCOS). IN LANDSCAPED AREAS WITH THE 2-FT CLEAN SOIL LAYER, A DEMARCATION LAYER (I.E., ORANGE SNOW FENCING) SHALL BE PLACED BETWEEN THE RESIDUAL SITE MATERIAL AND THE NEW 2-FT CLEAN. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE SAMPLING AND LABORATORY ANALYSIS OF BACKFILL MATERIALS AT A RATE OF ONE SAMPLE PER 250 CUBIC YARDS.
  - DRAINAGE FILL: CLEAN 3/4-IN GRAVEL MEETING THE REQUIREMENTS OF NYS DOT ITEM NO. 605.0901, UNDERDRAIN FILTER, TYPE I, OR AASHTO #57.
  - GENERAL FILL SHALL HAVE NO MORE THAN 20 PERCENT BY WEIGHT OF STONES OR MASONRY DEBRIS, CONTAINING NO STONES OR OTHER MATERIALS GREATER THAN 4-IN IN ANY DIMENSION AND CONTAIN LESS THAN 20 PERCENT BY WEIGHT MATERIALS FINER THAN NO. 200 MESH SIEVE.
  - FILL FOR UTILITY TRENCHES SHALL MEET THE CRITERIA GIVEN FOR STRUCTURAL FILL AND SHALL NOT CONTAIN SHARP, ANGULAR PIECES AND PIECES LARGER THAN 2-IN IN ANY DIMENSION.
  - ALL FILL SHALL BE FREE FROM WOOD, DEBRIS, COMBUSTIBLE MATERIALS, VEGETABLE MATTER OR ANY MATERIAL SUBJECT TO DECAY OR DISINTEGRATION.
  - THE USE OF RECYCLED CONCRETE AGGREGATE (RCA) AS STRUCTURAL OR GENERAL FILL SHALL BE PERMITTED PROVIDED THE RCA MEETS THE GRADATION REQUIREMENTS ABOVE. RCA SHALL NOT BE USED AS DRAINAGE FILL.

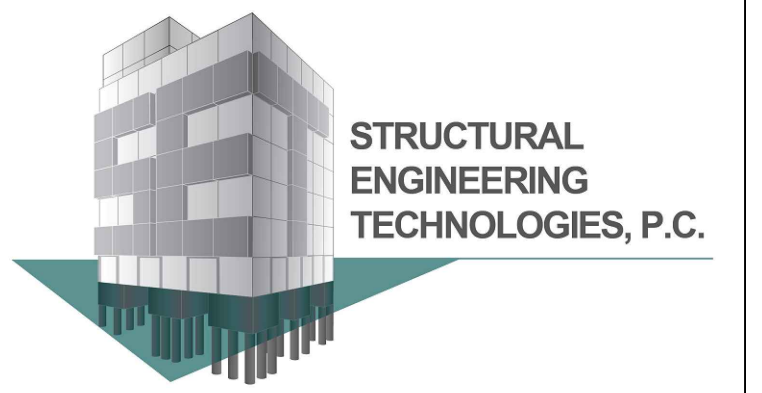


**SUPPORT OF EXCAVATION PLAN**  
SCALE: 3/16" = 1' - 0"

**LEGEND:**

	SOIL SLOPE DIRECTION OF STABLE SOIL SLOPE		PERIMETER OF ADJACENT BUILDING		-4.0' SPOT ELEVATION		B-X APPROXIMATE BORING LOCATION		TP-X APPROXIMATE TEST PIT LOCATION
--	---	--	--------------------------------	--	----------------------	--	---------------------------------	--	------------------------------------





CONSULTING STRUCTURAL, GEOTECHNICAL, & ENVIRONMENTAL ENGINEERS  
 40-12 28TH STREET  
 LONG ISLAND CITY, NY 11101  
 T:(718)706-7196 Email: info@set-ny.com

ALL RIGHTS RESERVED  
 ALL DRAWINGS SPECIFICATIONS AND COPIES THEREOF FURNISHED BY S.E.T. P.C. ARE AND WILL REMAIN THEIR PROPERTY. THEY ARE NOT TO BE USED ON THIS OR ANY OTHER PROJECT UNLESS WRITTEN PERMISSION IS GIVEN.

OWNER:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NOTE:  
 STRUCTURAL ENGINEERING TECHNOLOGIES, P.C. HAS NOT BEEN RETAINED TO PERFORM CONTROLLED INSPECTIONS OF ANY KIND FOR THIS PROJECT.  
 THE DESIGN PROFESSIONAL SHALL BE RELEASED FROM ANY AND ALL LIABILITY IN THE COMMENCEMENT OF ANY WORK PERFORMED WITHIN THESE DOCUMENTS PRIOR TO OBTAINING ALL REQUIRED PERMITS FROM THE RESPECTIVE JURISDICTIONAL AGENCIES


NO.	DATE	DESCRIPTION
	08/15/19	UPDATED
	06/10/19	UPDATED UTILITIES
	04/30/19	CROSS-LOT BRACING
	04/16/19	INTERNAL BRACING
	04/09/19	PRELIMINARY

REVISIONS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

FILINGS:  
 PROJECT

230 KENT AVENUE,  
 BROOKLYN, NY 11249

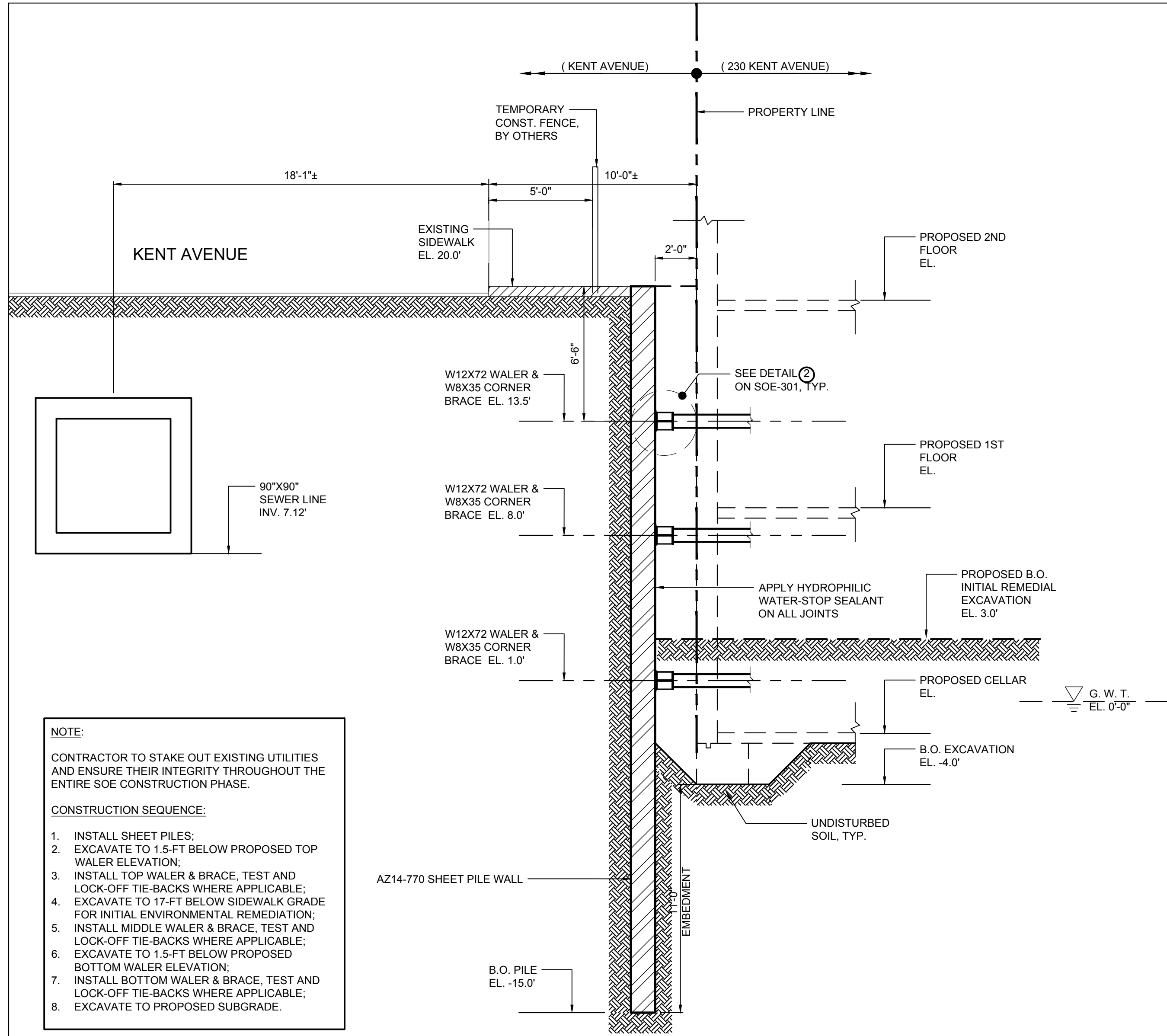
SUPPORT OF EXCAVATION  
 DRAWING TITLE:  
**SUPPORT OF EXCAVATION SECTIONS**

SEAL & SIGNATURE  
  
 DATE: 04-01-19  
 PROJECT NO:  
 SCALE: AS NOTED  
 DRAWING BY: A.M.C.  
 CHECKED BY: R.G.  
 DWG NO:  
**SOE-201.00**  
 SHEET NO: 4 OF 9

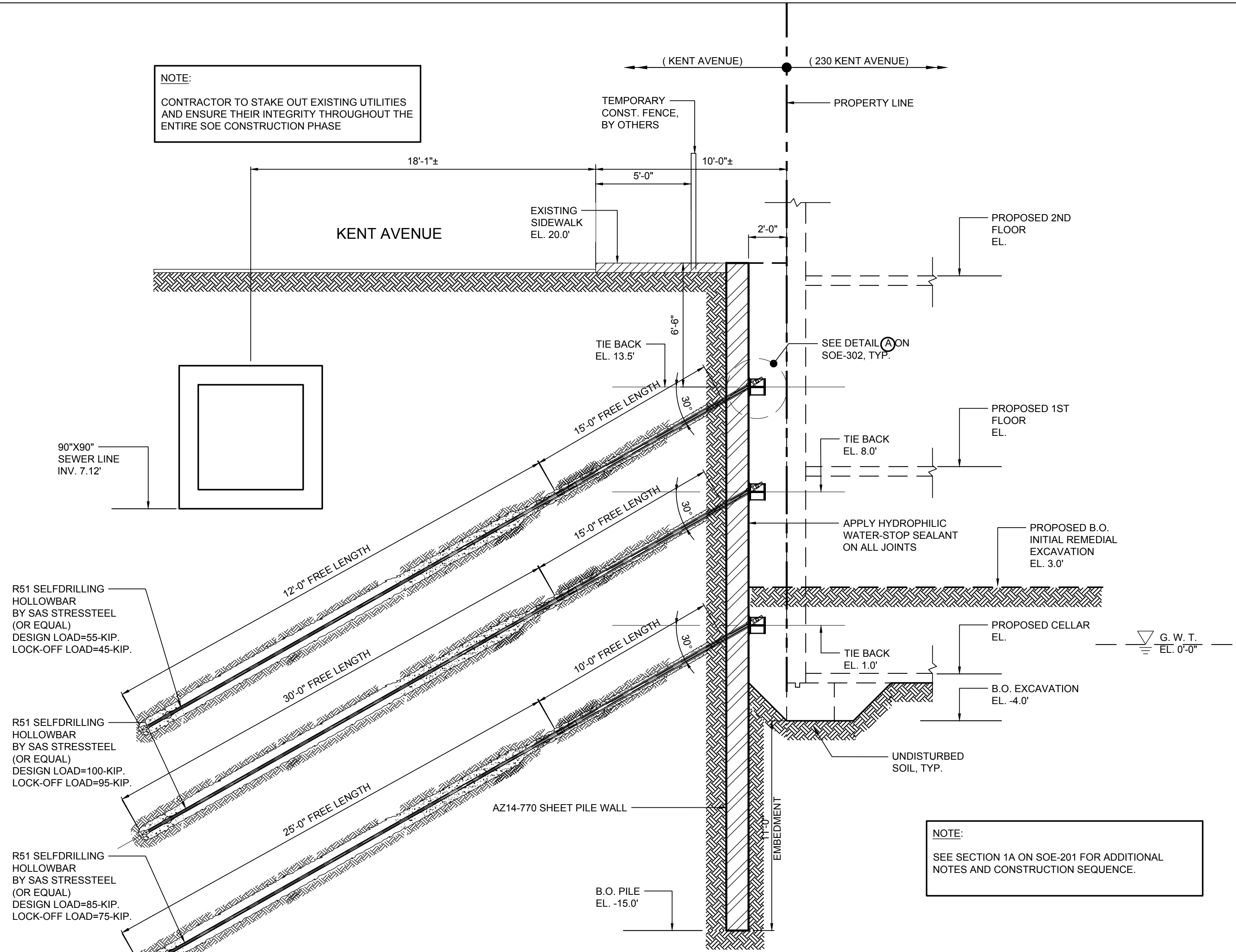
BSCAN STICKER  
 \_\_\_\_\_  
 \_\_\_\_\_

DOB APPROVAL STAMP  
 \_\_\_\_\_  
 \_\_\_\_\_

FOR FILING ONLY



**1A SECTION**  
 SCALE: 1/4" = 1' - 0"



**1B SECTION**  
 SCALE: 1/4" = 1' - 0"

NOTE:  
 CONTRACTOR TO STAKE OUT EXISTING UTILITIES AND ENSURE THEIR INTEGRITY THROUGHOUT THE ENTIRE SOE CONSTRUCTION PHASE.

CONSTRUCTION SEQUENCE:  
 1. INSTALL SHEET PILES;  
 2. EXCAVATE TO 1.5-FT BELOW PROPOSED TOP WALER ELEVATION;  
 3. INSTALL TOP WALER & BRACE, TEST AND LOCK-OFF TIE-BACKS WHERE APPLICABLE;  
 4. EXCAVATE TO 17-FT BELOW SIDEWALK GRADE FOR INITIAL ENVIRONMENTAL REMEDIATION;  
 5. INSTALL MIDDLE WALER & BRACE, TEST AND LOCK-OFF TIE-BACKS WHERE APPLICABLE;  
 6. EXCAVATE TO 1.5-FT BELOW PROPOSED BOTTOM WALER ELEVATION;  
 7. INSTALL BOTTOM WALER & BRACE, TEST AND LOCK-OFF TIE-BACKS WHERE APPLICABLE;  
 8. EXCAVATE TO PROPOSED SUBGRADE.

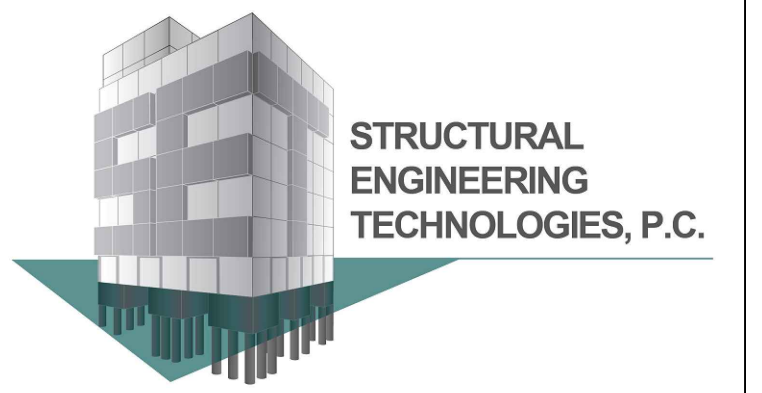
R51 SELFDRILLING HOLLOWBAR BY SAS STRESSTEEL (OR EQUAL) DESIGN LOAD=55-KIP. LOCK-OFF LOAD=45-KIP.

R51 SELFDRILLING HOLLOWBAR BY SAS STRESSTEEL (OR EQUAL) DESIGN LOAD=100-KIP. LOCK-OFF LOAD=95-KIP.

R51 SELFDRILLING HOLLOWBAR BY SAS STRESSTEEL (OR EQUAL) DESIGN LOAD=85-KIP. LOCK-OFF LOAD=75-KIP.

NOTE:  
 SEE SECTION 1A ON SOE-201 FOR ADDITIONAL NOTES AND CONSTRUCTION SEQUENCE.





CONSULTING STRUCTURAL, GEOTECHNICAL, & ENVIRONMENTAL ENGINEERS  
 40-12 28TH STREET  
 LONG ISLAND CITY, NY 11101  
 T:(718)706-7196 Email: info@set-ny.com

ALL RIGHTS RESERVED  
 ALL DRAWINGS SPECIFICATIONS AND COPIES THEREOF FURNISHED BY S.E.T., P.C. ARE AND WILL REMAIN THEIR PROPERTY. THEY ARE NOT TO BE USED ON THIS OR ANY OTHER PROJECT UNLESS WRITTEN PERMISSION IS GIVEN.

OWNER:

NOTE:  
 STRUCTURAL ENGINEERING TECHNOLOGIES, P.C. HAS NOT BEEN RETAINED TO PERFORM CONTROLLED INSPECTIONS OF ANY KIND FOR THIS PROJECT.  
 THE DESIGN PROFESSIONAL SHALL BE RELEASED FROM ANY AND ALL LIABILITY IN THE COMMENCEMENT OF ANY WORK PERFORMED WITHIN THESE DOCUMENTS PRIOR TO OBTAINING ALL REQUIRED PERMITS FROM THE RESPECTIVE JURISDICTIONAL AGENCIES

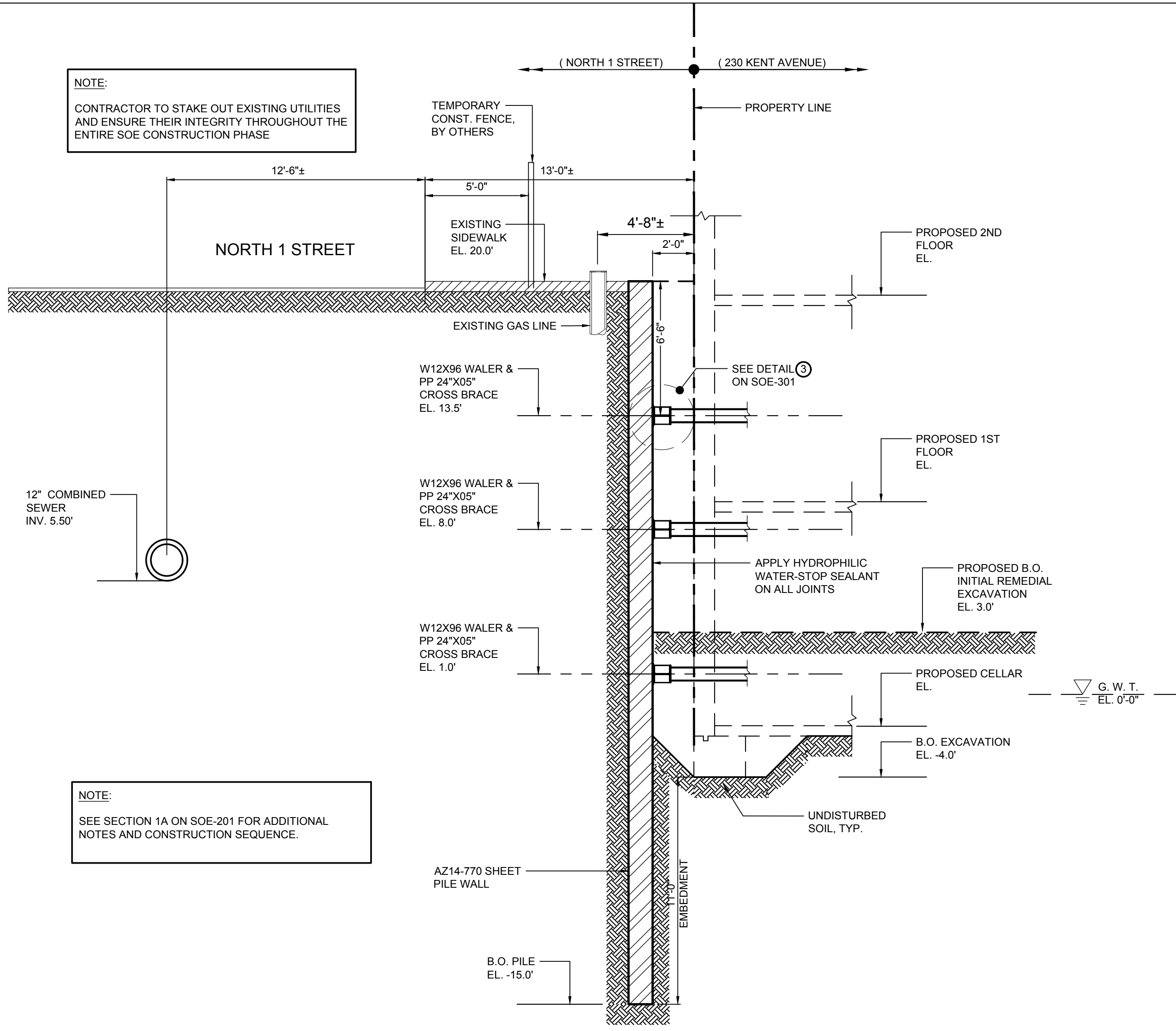
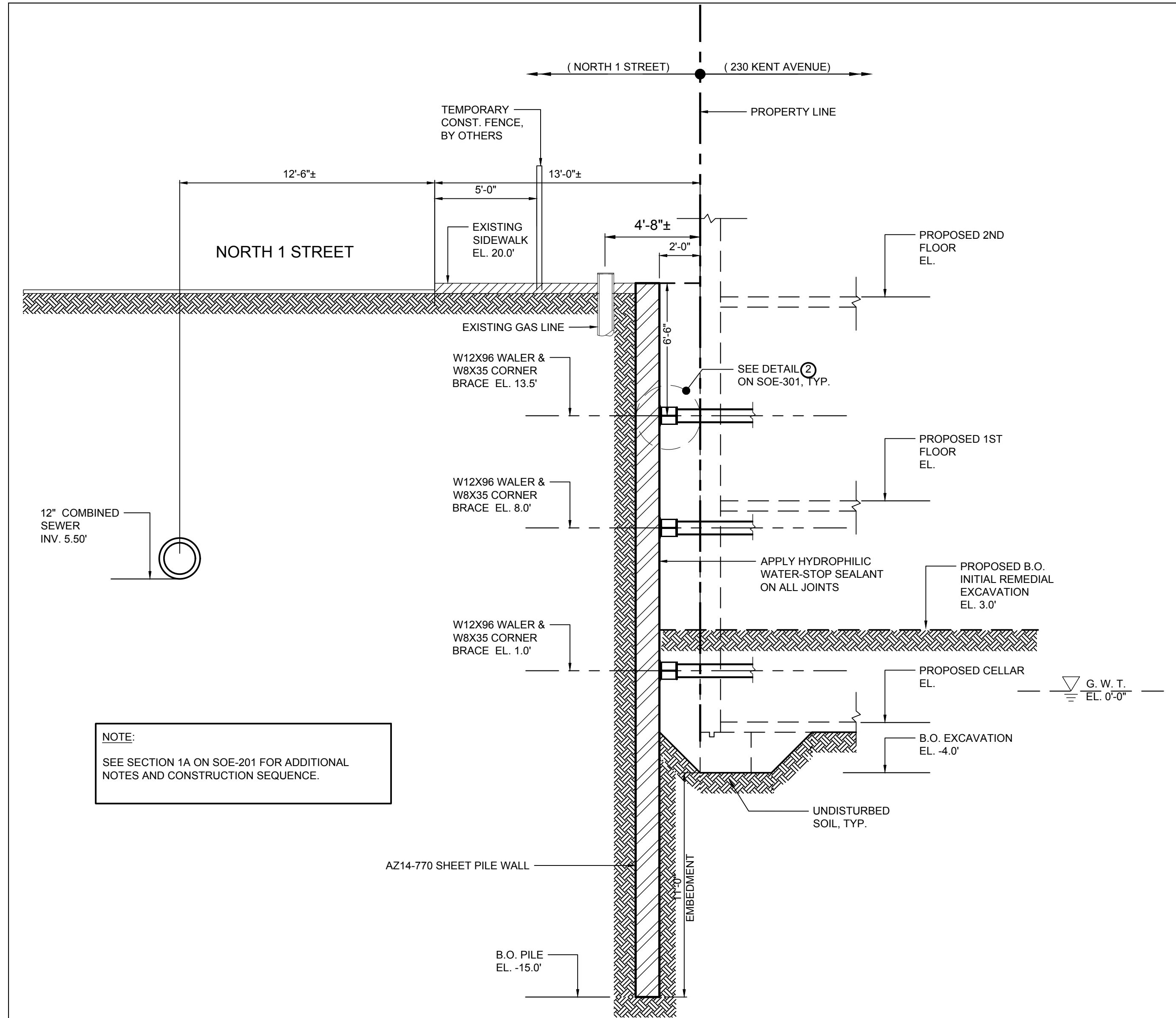
NO.	DATE	DESCRIPTION
	08/15/19	UPDATED
	06/10/19	UPDATED UTILITIES
	04/30/19	CROSS-LOT BRACING
	04/16/19	INTERNAL BRACING
	04/09/19	PRELIMINARY

REVISIONS:  
 FILINGS:  
 PROJECT  
 230 KENT AVENUE,  
 BROOKLYN, NY 11249

SUPPORT OF EXCAVATION  
 DRAWING TITLE:  
**SUPPORT OF EXCAVATION SECTIONS**

SEAL & SIGNATURE DATE: 04-01-19  
 PROJECT NO:  
 SCALE: AS NOTED  
 DRAWING BY: A.M.C.  
 CHECKED BY: R.G.  
 DWG NO:  
**SOE-202.00**  
 SHEET NO: 5 OF 9

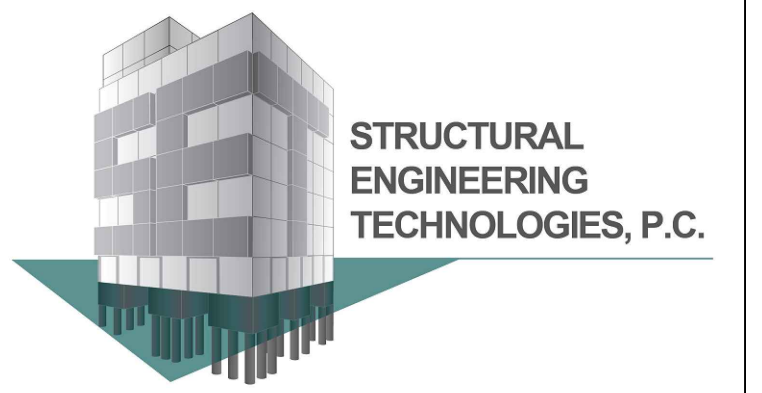
BSCAN STICKER  
 DOB APPROVAL STAMP  
 FOR FILING ONLY



NOTE:  
 CONTRACTOR TO STAKE OUT EXISTING UTILITIES AND ENSURE THEIR INTEGRITY THROUGHOUT THE ENTIRE SOE CONSTRUCTION PHASE

NOTE:  
 CONTRACTOR TO STAKE OUT EXISTING UTILITIES AND ENSURE THEIR INTEGRITY THROUGHOUT THE ENTIRE SOE CONSTRUCTION PHASE





CONSULTING STRUCTURAL, GEOTECHNICAL, & ENVIRONMENTAL ENGINEERS

40-12 28TH STREET  
LONG ISLAND CITY, NY 11101  
T:(718)706-7196 Email: info@set-ny.com

ALL RIGHTS RESERVED  
ALL DRAWINGS SPECIFICATIONS AND COPIES THEREOF FURNISHED BY S.E.T. P.C. ARE AND WILL REMAIN THEIR PROPERTY. THEY ARE NOT TO BE USED ON THIS OR ANY OTHER PROJECT UNLESS WRITTEN PERMISSION IS GIVEN.

OWNER:

NOTE:  
STRUCTURAL ENGINEERING TECHNOLOGIES, P.C. HAS NOT BEEN RETAINED TO PERFORM CONTROLLED INSPECTIONS OF ANY KIND FOR THIS PROJECT.

THE DESIGN PROFESSIONAL SHALL BE RELEASED FROM ANY AND ALL LIABILITY IN THE COMMENCEMENT OF ANY WORK PERFORMED WITHIN THESE DOCUMENTS PRIOR TO OBTAINING ALL REQUIRED PERMITS FROM THE RESPECTIVE JURISDICTIONAL AGENCIES

NO.	DATE	DESCRIPTION
	08/15/19	UPDATED
	06/10/19	UPDATED UTILITIES
	04/30/19	CROSS-LOT BRACING
	04/16/19	INTERNAL BRACING
	04/09/19	PRELIMINARY

REVISIONS:

FILINGS:  
PROJECT

230 KENT AVENUE,  
BROOKLYN, NY 11249

SUPPORT OF EXCAVATION

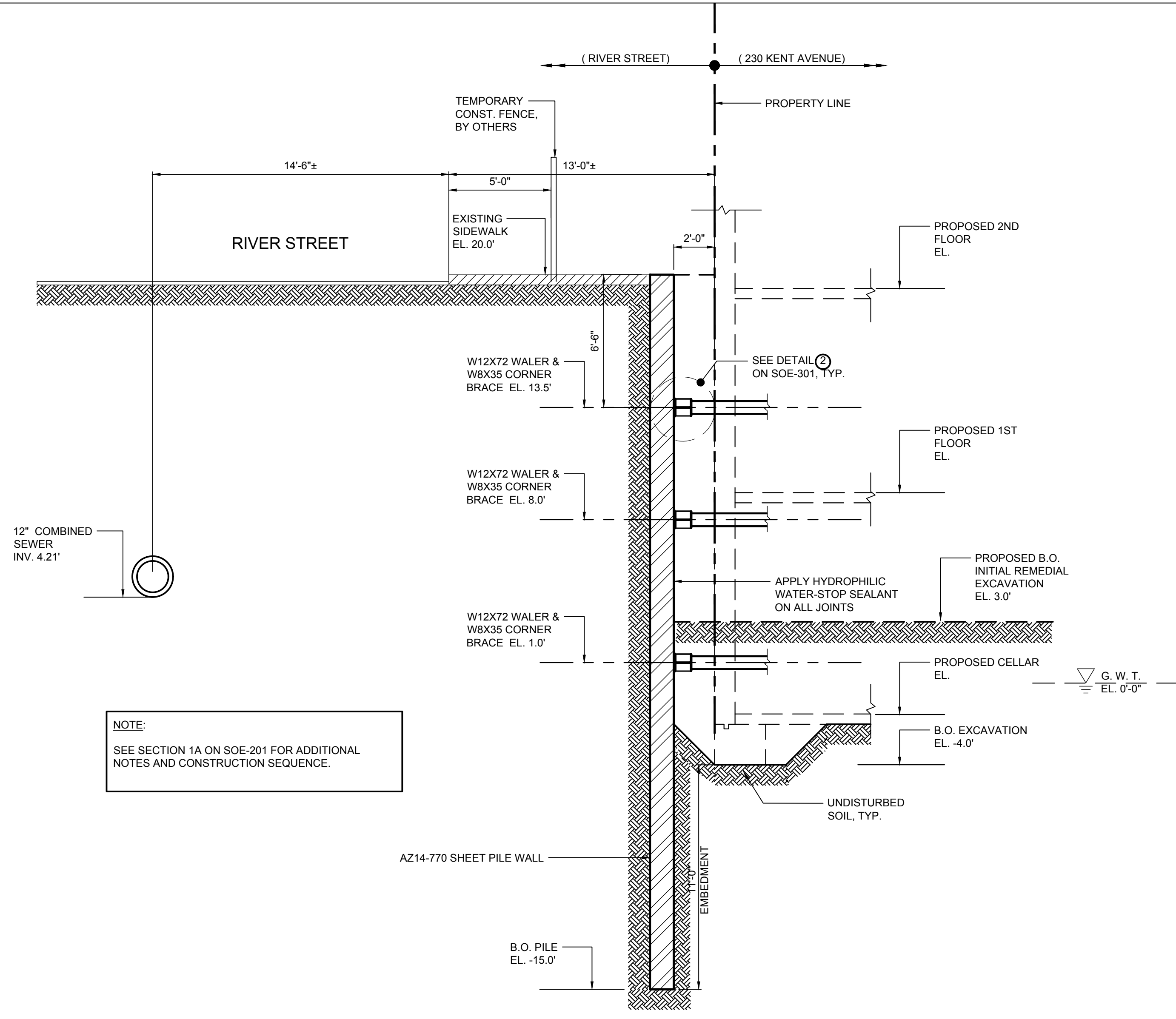
DRAWING TITLE:  
**SUPPORT OF EXCAVATION SECTIONS**

SEAL & SIGNATURE	DATE: 04-01-19
	PROJECT NO:
	SCALE: AS NOTED
	DRAWING BY: A.M.C.
	CHECKED BY: R.G.
	DWG NO: <b>SOE-203.00</b>
	SHEET NO: 6 OF 9

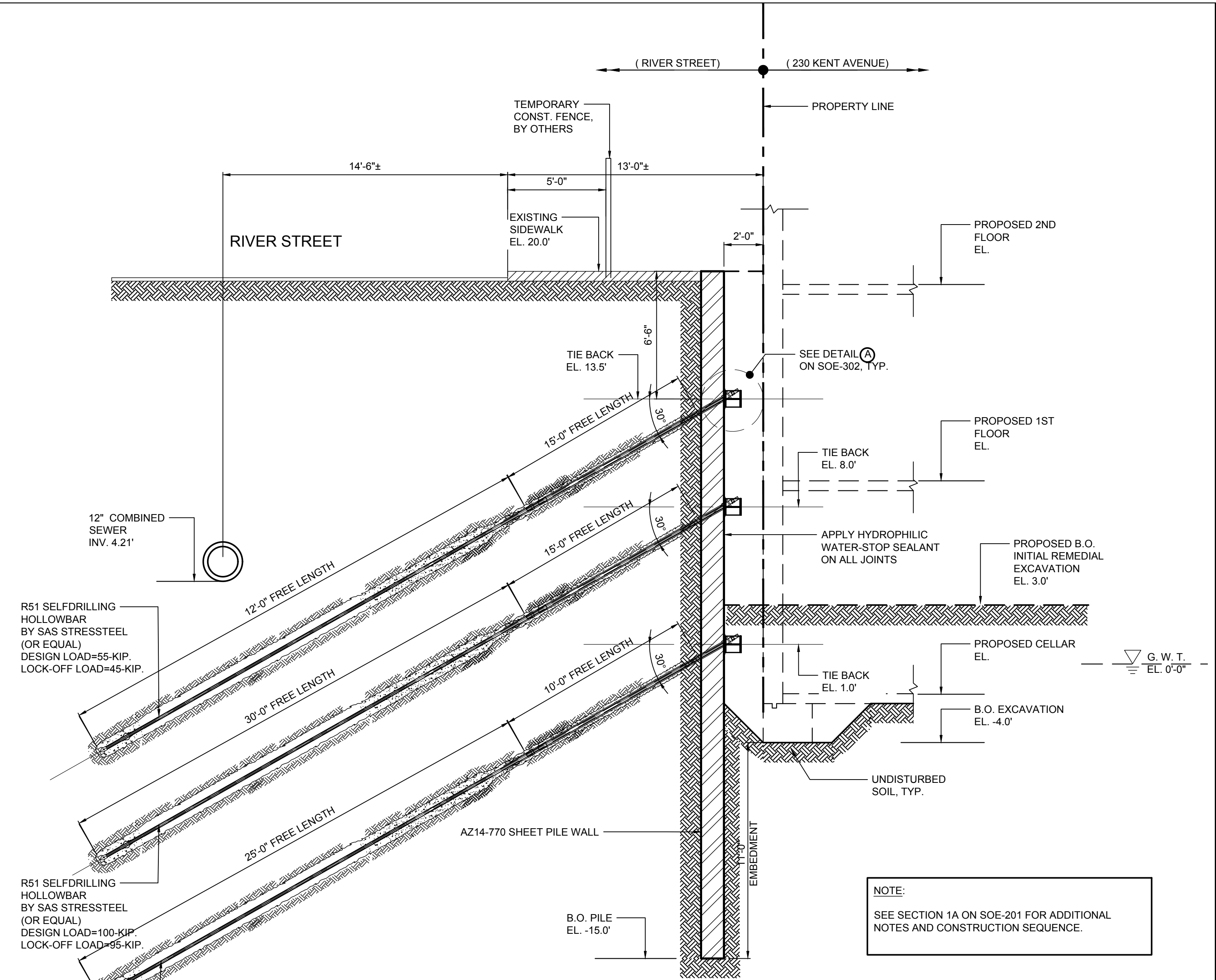
BSCAN STICKER

DOB APPROVAL STAMP

FOR FILING ONLY



**3A SECTION**  
SCALE: 1/4" = 1' - 0"



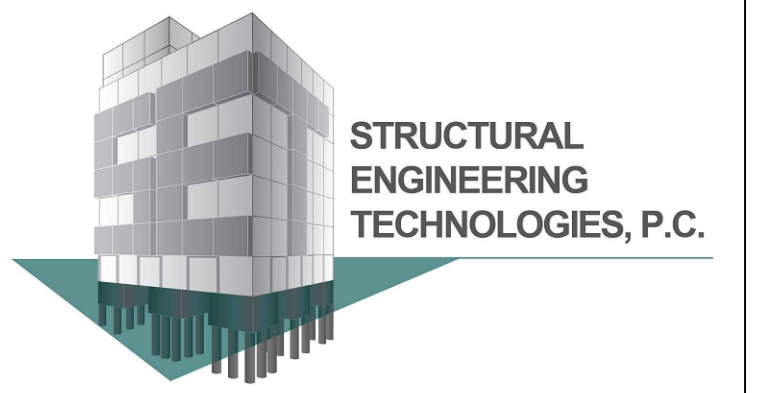
**3B SECTION**  
SCALE: 1/4" = 1' - 0"

NOTE:  
SEE SECTION 1A ON SOE-201 FOR ADDITIONAL NOTES AND CONSTRUCTION SEQUENCE.

NOTE:  
SEE SECTION 1A ON SOE-201 FOR ADDITIONAL NOTES AND CONSTRUCTION SEQUENCE.







CONSULTING STRUCTURAL, GEOTECHNICAL, & ENVIRONMENTAL ENGINEERS

40-12 28TH STREET  
LONG ISLAND CITY, NY 11101  
T: (718) 706-7196 Email: info@set-ny.com

ALL RIGHTS RESERVED  
ALL DRAWINGS SPECIFICATIONS AND COPIES THEREOF FURNISHED BY S.E.T. P.C. ARE AND WILL REMAIN THEIR PROPERTY. THEY ARE NOT TO BE USED ON THIS OR ANY OTHER PROJECT UNLESS WRITTEN PERMISSION IS GIVEN.

OWNER:

NOTE:  
STRUCTURAL ENGINEERING TECHNOLOGIES, P.C. HAS NOT BEEN RETAINED TO PERFORM CONTROLLED INSPECTIONS OF ANY KIND FOR THIS PROJECT.

THE DESIGN PROFESSIONAL SHALL BE RELEASED FROM ANY AND ALL LIABILITY IN THE COMMENCEMENT OF ANY WORK PERFORMED WITHIN THESE DOCUMENTS PRIOR TO OBTAINING ALL REQUIRED PERMITS FROM THE RESPECTIVE JURISDICTIONAL AGENCIES

NO.	DATE	DESCRIPTION
	08/15/19	UPDATED
	06/10/19	UPDATED UTILITIES
	04/30/19	CROSS-LOT BRACING
	04/16/19	INTERNAL BRACING
	04/09/19	PRELIMINARY

REVISIONS:

FILINGS:  
PROJECT

230 KENT AVENUE,  
BROOKLYN, NY 11249

SUPPORT OF EXCAVATION

DRAWING TITLE:

**SUPPORT OF EXCAVATION DETAILS**

SEAL & SIGNATURE DATE: 04-01-19

PROJECT NO:

SCALE: AS NOTED

DRAWING BY: A.M.C.

CHECKED BY: R.G.

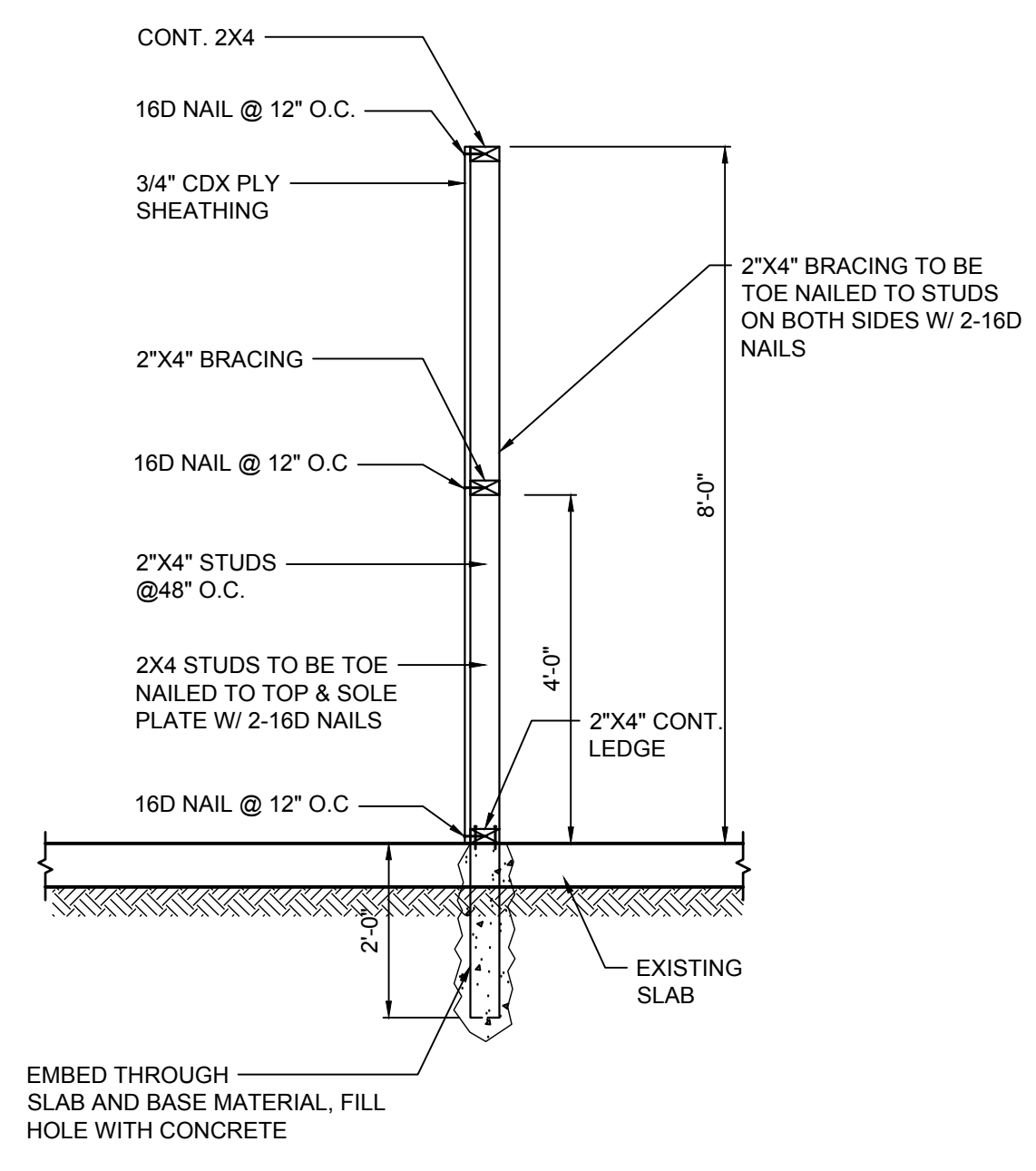
DWG NO: **SOE-301.00**

SHEET NO: 8 OF 9

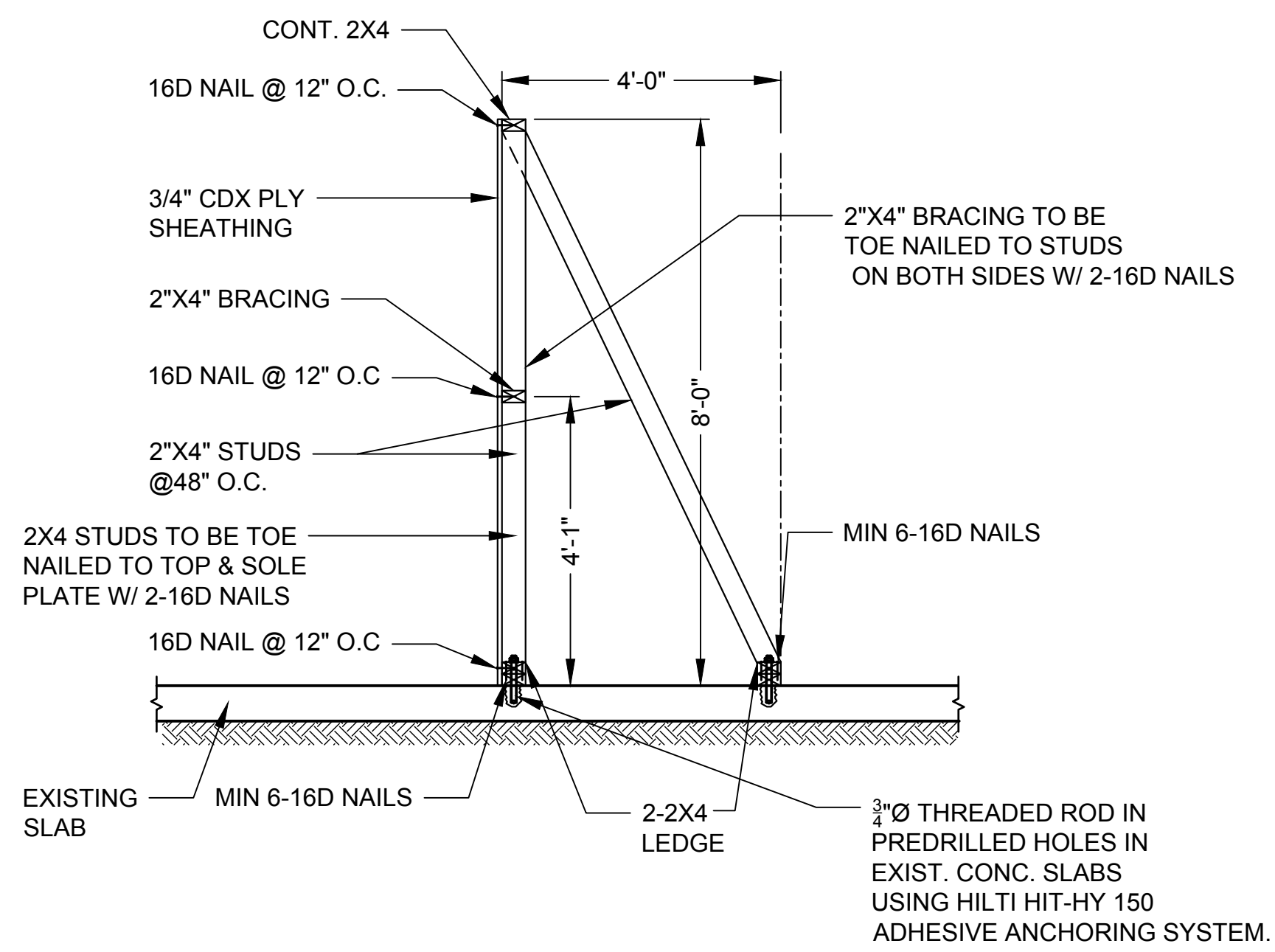
BSCAN STICKER

DOB APPROVAL STAMP

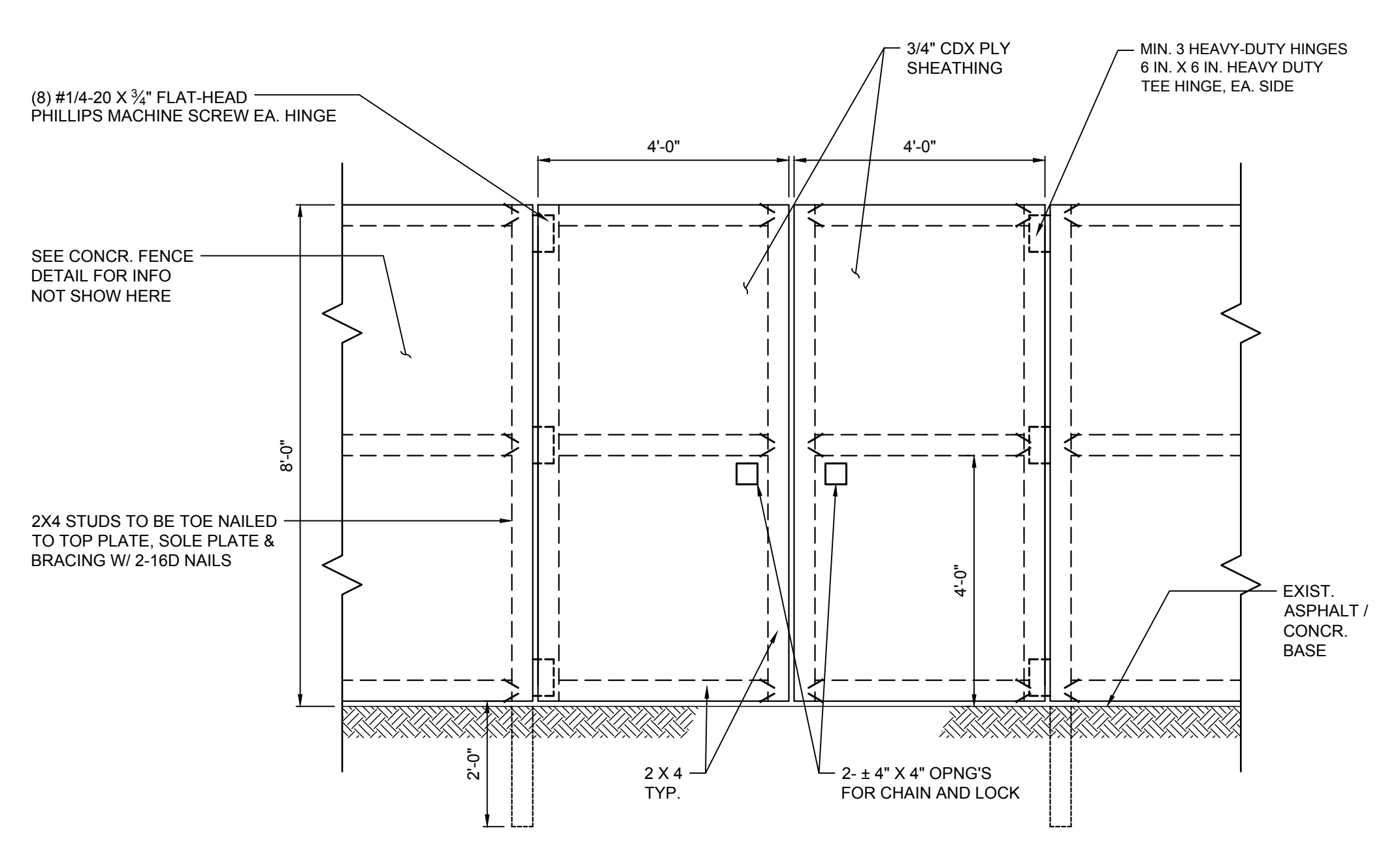
FOR FILING ONLY



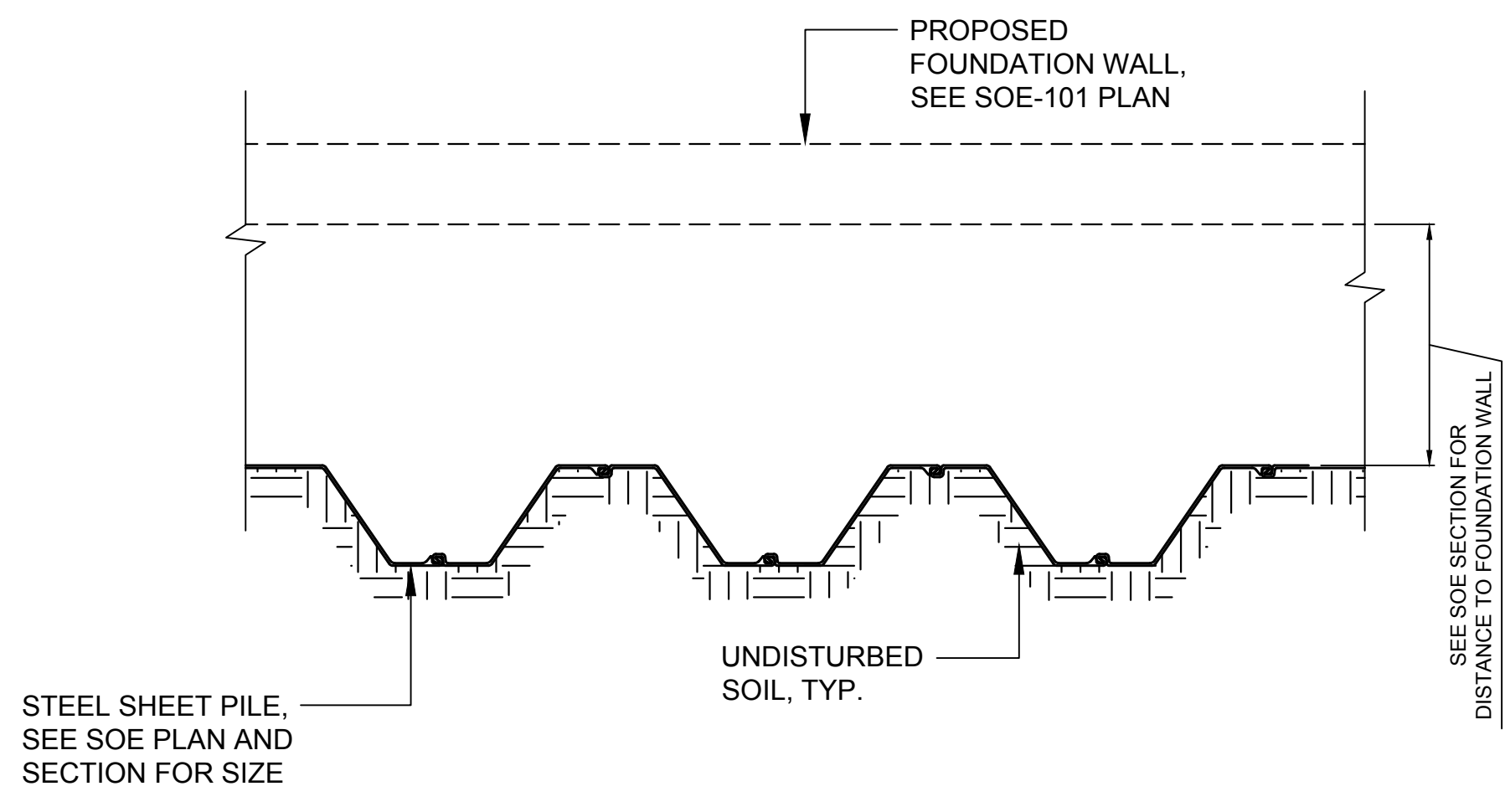
**TEMPORARY CONSTRUCTION FENCE DETAIL- 1**  
1/2"=1'-0"



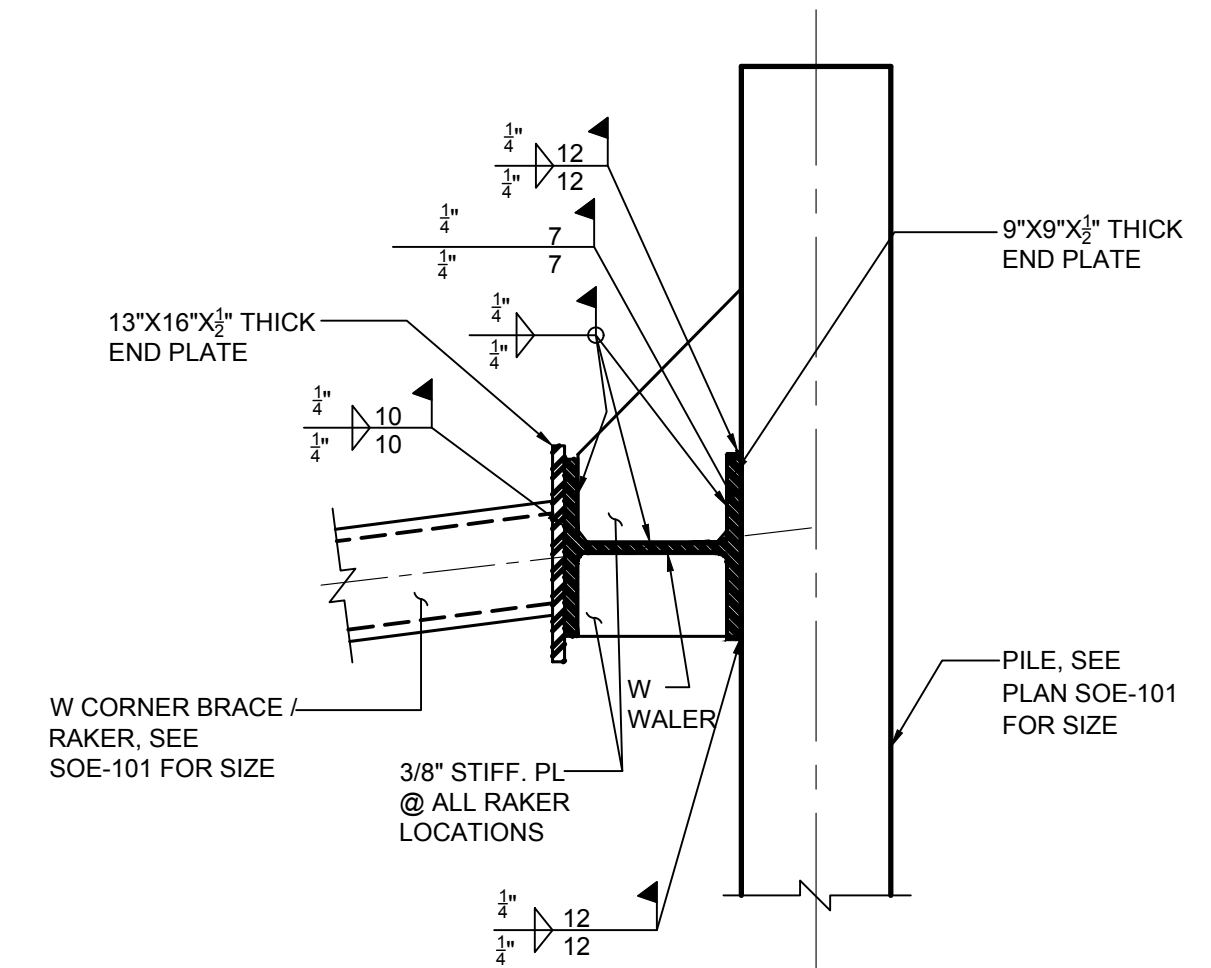
**TEMPORARY CONSTRUCTION FENCE DETAIL- 2**  
1/2"=1'-0"



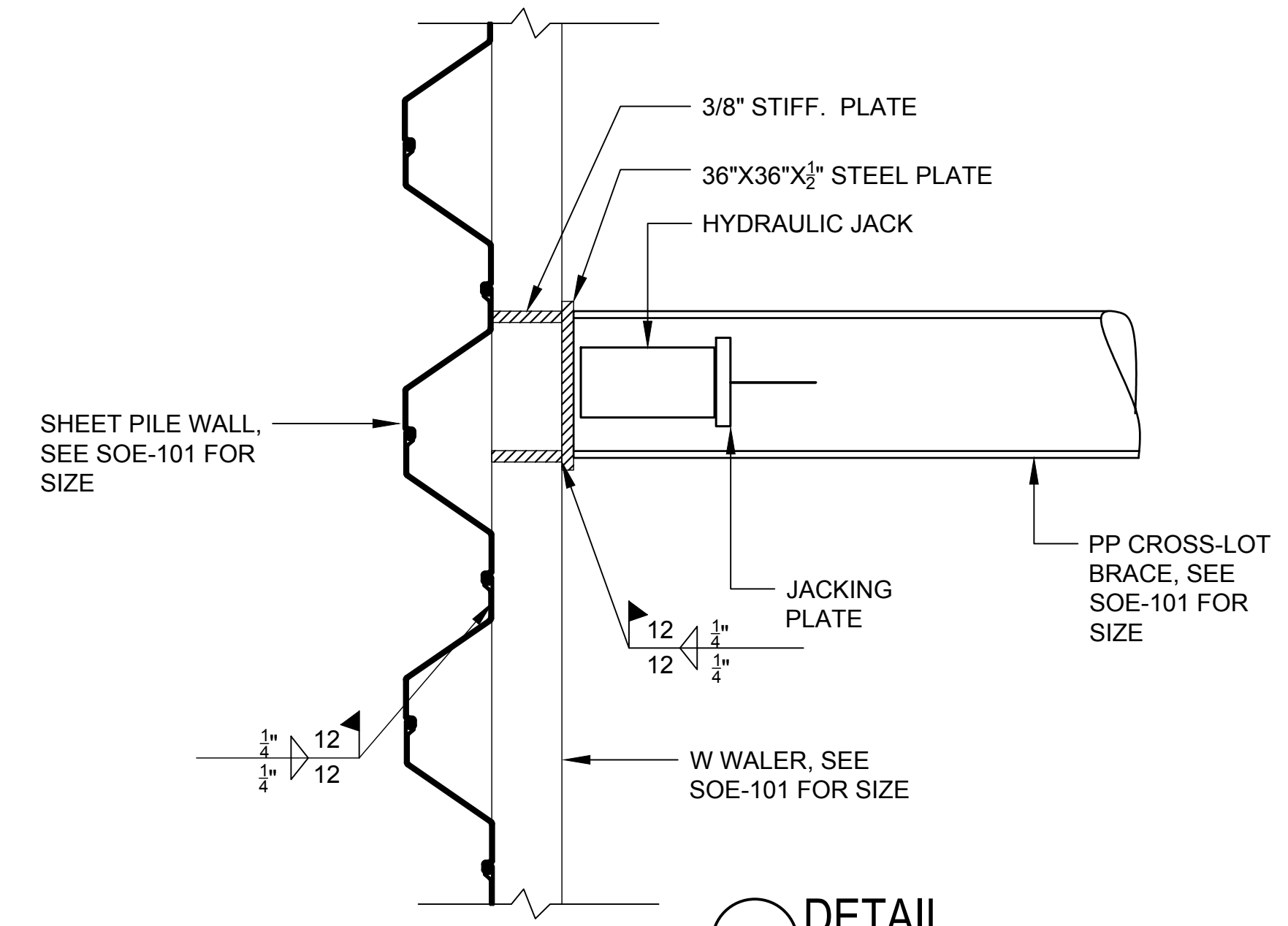
**TYPICAL GATE ELEVATION DETAIL AT CONSTRUCTION FENCE**  
1/2"=1'-0"



**1 SHEET PILE DETAIL**  
1/2"=1'-0"



**2 DETAIL**  
3/4"=1'-0"



**3 DETAIL**  
1/2"=1'-0"









# APPENDIX C



**FORMER FYN PAINT & LACQUER CO., INC.  
230 KENT AVENUE  
KINGS COUNTY, NEW YORK  
NYSDEC BCP SITE NO. C224154**

---

**LONG ISLAND WELL PERMIT EQUIVALENT REQUEST  
CONSTRUCTION DEWATERING SUMMARY**

Prepared For

Kent Riverview LLC

August 2019

Prepared By:

WSP USA  
Professional Environmental & Civil Engineers  
4 Westchester Park Drive, Suite 175  
White Plains, NY 10604  
(914) 694-5711



**LIST OF FIGURES  
(at end of report)**

**Figure**

- |   |  |
|---|--|
| 1 | Site Location Map                          |
| 2 | Site Plan                                  |
| 3 | ISCO Zones and Injection Well Location Map |

**LIST OF APPENDICES  
(at end of report)**

**Appendix**

- |   |  |
|---|--|
| A | Remedial Contractor Site Safety and Logistics Plan             |
| B | NYCDOB approved Support of Excavation (SOE) Plans              |
| C | Construction Dewatering - Water Treatment Process Flow Diagram |



# 1 CONSTRUCTION DEWATERING

---

## 1.1 SUMMARY OF PROPOSED DEWATERING OPERATIONS

Construction Dewatering will be implemented at the Former Fyn Paint & Lacquer Co., Inc. site (the 'Site') to facilitate the implementation of the contaminated soil excavation portion of the Site remedy. The Site location is presented on figure 1 and a Site Plan is presented on figure 2.

---

### 1.1.1 WELLPOINT DEWATERING AREA

The elevation of the property is approximately 20 feet above the National Geodetic Vertical Datum 1988 (NGVD88). The depth to groundwater beneath the Site is located at an approximate elevation of +4 feet. The location and extent of the remedial excavation areas which will require dewatering will encompass the entire Site and is illustrated on the Construction Dewatering – Site Layout, figure 3. Subgrade excavation will be required to facilitate the removal and offsite disposal of contaminated soil (source material and residual impacted soil).

The Site dewatering system is capable of lowering groundwater levels approximately 1.00 foot below the final excavation depth (approximately 0 to 2 feet of drawdown) to ensure excavation activities are performed in dry conditions.

Of note, Site redevelopment will not commence immediately following the completion of the remedial excavation activities. Therefore, subsequent future construction dewatering will be required in conjunction with the Site Management Plan. At that time, these same specifications will be utilized to achieve the required groundwater control at the Site.

---

### 1.1.2 WELLPOINT/SUCTION WELL DEWATERING SYSTEM

The estimates for the groundwater extraction rate required for the construction dewatering system to maintain groundwater drawdown/control were calculated using the pumping test data generated as part of the 2006 Site Remedial Investigation.

In order to quantify hydraulic parameters and to evaluate the feasibility of groundwater remediation using the pump and treat technology, a pumping test was conducted on extraction well EW-1, a 4-inch diameter stainless steel well installed on the Con Edison parking lot adjacent to the northeast corner of the Site. The purpose of the test was to calculate the hydraulic conductivity of the formation, determine the radius of influence on the groundwater table, and to obtain data necessary for designing the groundwater extraction system. The field data indicates a water-table aquifer in the overburden on top of surficial bedrock. The pumping test was conducted on April 4 and 5, 2006 from EW-1 at a rate of 4.75 gpm (gallons per minute) for approximately 18-hours. The groundwater from the well was pumped into a 10,000-gallon fractionation tank. Prior to and during the pumping test, groundwater levels were measured in the pumping well and surrounding monitoring wells. Prior to, during and after the 18-hour pumping test, depth to groundwater was measured and drawdowns were calculated in the pumping well and select monitoring wells.

Based on groundwater level measurements recorded during the pumping test, a 4.75 gpm pumping rate from extraction well EW-1 can influence the groundwater table for a radius of approximately 60 feet. This result demonstrates that a groundwater pumping rate of 4.75 gpm has the potential to induce a cone of depression sufficient for extraction from the subsurface of groundwater with dissolved chemical compounds and/or NAPL, and to control further offsite migration of contaminated groundwater. The pumping test results indicated that onsite and offsite groundwater remediation (and/or onsite groundwater control for construction dewatering) can be accomplished by the groundwater extraction and treatment (i.e., "pump and treat") technology. Detailed data regarding the pumping test are included as Appendix A. The pumping test data from EW-1 were used to calculate transmissivity (135 ft<sup>2</sup>/day), storage coefficient (0.0943) and hydraulic conductivity (2.7 ft/day).



An additional factor to consider with the construction dewatering is that it will be implemented after the hydraulic sheeting is installed around the perimeter of the Site. Although the sheeting will not be keyed into a confining layer, it is anticipated to reduce the formation yield as groundwater is redirected to take a more restrictive vertical flow path around the sheeting then onto the Site.

The construction dewatering will be implemented to encompass the entire Site and will be coordinated with the excavation contractor based on the requirements of the foundation work. A wellpoint system, consisting of a series of 2-inch diameter well points surrounding the Site perimeter, will be installed to ensure dry conditions for the excavation beneath the static groundwater table elevation.

The historical pumping test data and the years of remedial system operational data were used to both design the construction dewatering system and to estimate the required groundwater extraction rate of the system at the start of dewatering activities. Based on this data it is estimated that sufficient groundwater control for the remedial excavation activities can be achieved with a network of fifteen (15) perimeter wellpoints. The wellpoints will be installed along the interior perimeter of the Site at a spacing of approximately 20 feet with the bottom of each wellpoint set at approximate elevation -11 feet NAVD88 (approximately 7 feet below the bottom of the excavation). The wellpoint spacing is based on an estimated extraction rate of approximately 7 gpm per wellpoint, with an overall system capacity of approximately 105 gallons per minute.

As long-term dewatering continues, it is expected that there will be a decrease in the inflow (extraction) rate as the flow system goes from the period of transient flow (e.g. when significant quantities of water are released from storage in unconfined aquifers and hydraulic gradients are steeper) to the period of steady-state flow (e.g. when no water is released from storage and hydraulic gradients are flatter).

---

### 1.1.3 DEEP WELL DEWATERING ALTERNATIVE

The use of deep wells for the construction dewatering was not considered for the Site remedy since the water table drawdown requirement for the remedial excavation will be limited. When using deep wells for dewatering, a steeper cone of depression across the Site would need to be induced to collect the lateral flow by gravity drainage which could result in mobilization of contamination to further depths below the static groundwater table.

The proposed alternative wellpoint system described above will be sufficient for construction dewatering. This method is preferred since it will limit the drawdown required in each wellpoint and will capture the lateral flow at a shallower depth from a limited saturated thickness of the aquifer and thus minimize extraction of groundwater from deeper in the aquifer. Finally, the wellpoint system approach will result in a greater focus on extraction of the groundwater from the upper portion of the groundwater table with the zone (vertical horizon) of highest dissolved contamination.

---

### 1.1.4 STRUCTURES

There are no structures on the Site or on the adjacent Con Edison property located to the north of the Site.

The sensitivity of structures to changes in water level results from potential changes in effective stress on underlying foundation soils and possible loss of subsurface sediment. Structures that bear in organic or compressible soils might experience undesirable settlement or damage due to consolidation resulting from increased effective stress. However, structures founded on firm bearing soils, like those beneath the Site, are not likely to be impacted by either of the dewatering scenarios.

---

## 1.2 RECOMMENDED METHOD – WELLPOINT SYSTEM

Based on the subsurface conditions at the Site in relation to the limited drawdown dewatering requirements for completion of the soil excavation and foundation work, the recommended dewatering method is wellpoint dewatering. Wellpoint dewatering is a simple, efficient method of temporarily lowering the groundwater table in a localized area to allow for construction. The system consists of a series of shallow wells, (wellpoints), installed



around the excavation. The wellpoints use a riser pipe to reach the desired depth and allow the wellpoint to extract the ground water. The riser pipe is connected to a manifold, called a header pipe, by a flexible hose, called a swing joint. The swing joint is connected to an adjustable header valve, and to the top of the riser pipe. The adjustable header valve provides a method to control the air and groundwater entering the header pipe. The header pipe is connected to a wellpoint pump, such as a rotary pump, vacuum pump, piston pump or a vacuum-assisted dry prime trash pump.

Advantages to a wellpoint dewatering system are: installation is very rapid; equipment is simple and inexpensive; operation results in limited fine sediments being extracted from the subsurface; and subsidence of the surrounding soil is minimized. In addition to these advantages, a wellpoint dewatering system offers the flexibility to modify/expand the dewatering area to have localized control of water table drawdown for limited excavations. This is a benefit when site wide drawdown requirements are significantly less than the drawdown requirements at specific locations.

The main disadvantage associated with wellpoint dewatering systems is limited suction lift resulting in the need for two or more stages for deeper excavations. Additionally, wellpoints must be placed in bore holes when the subsurface soils consist of large gravel or sand containing cobbles or boulders (increased installation costs). However, based on the Site conditions, these issues will not be a factor (i.e., shallow dewatering is required for the Site excavation activities and subsurface soils consist primarily of fine to medium sand with little silt).

---

## 1.3 WELLPOINT SYSTEM COMPONENTS

Specifications for the equipment and materials which will be used for construction and operation of the Wellpoint Dewatering System are detailed below.

---

### 1.3.1 WELLPOINTS AND RISER PIPE

The dewatering system will utilize self-jetting wellpoint tips connected to solid riser pipe due to the nature of the subsurface soils (primarily fine to medium sand). The self-jetting wellpoint tips will consist of: an aluminum jetting head with a polypropylene check valve and cutting teeth on the bottom; a 31-inch length of 2-inch diameter 0.015-inch slotted PVC screen with a 1.5-inch diameter galvanized inner draw down tube; and a 1.5 inch galvanized coupling. The self-jetting wellpoint tips have an overall length of approximately 38.5 inches. The details of a typical self-jetting wellpoint tip are illustrated on the manufacturers' information sheet included in Appendix B.

Each wellpoint will be completed to grade with a 1.5-inch diameter steel riser pipe. The total length of riser pipe will be approximately fifteen (15) feet in length. Each wellpoint will have a stick-up of approximately 10 feet (although it will be variable based on Site grading/re-grading) that will be capped with an aluminum well top screw. The aluminum well top screw is illustrated on the manufacturer's information sheet included in Appendix B.

Alternatively, if self-jetting wellpoints are unable to be advanced to the target depth (due to subsurface obstructions), the wellpoints will be installed using a drill rig. In this instance, the wellpoints would be constructed using 2-inch diameter PVC screen and riser pipe. The wellhead would be fitted with a grommet cap, that will allow for connection of the swing joint connection(s).

---

### 1.3.2 WELLPOINT HEADER PIPE

The wellpoint system will utilize a 6-inch diameter schedule-80 PVC suction header pipe. The suction header pipe is used to connect wellpoints to the suction pump unit, and it is a negative pressure collecting line for all inlets/intakes. Each section of the header pipe will be 20 feet in length, and each length will be fitted with three (3) to five (5) grommets for wellpoint swing joint connections. Unused grommets will be sealed with grommet plugs.



### **1.3.3 SWING JOINT CONNECTIONS**

Connections between each wellpoint and the suction header pipe will be made using flexible swing joint assemblies. Each swing joint assembly will consist of flexible vacuum hose, a flow control ball valve and 90-degree elbows with either O-ring seals or tapered ends. One elbow will connect to the well top screw and the other end will connect to the header pipe grommet. The swing joint assemblies are illustrated on the manufacturer's information sheet included in Appendix B.

---

### **1.3.4 WELLPOINT JET PUMP AND SUCTION PUMP**

For the purposes of the conceptual design plan, the dewatering system will utilize diesel powered equipment. The Contractor will be responsible for electing to use diesel powered equipment or using equivalent electric pumps and providing a diesel generator for power. Additionally, the Contractor will be responsible for maintaining compliance with applicable regulations associated with operation of diesel equipment (i.e., low-sulfur fuel, particulate filters, noise mitigation).

The self-jetting wellpoints (and interior piezometers) will be installed using a 46 HP high-pressure centrifugal jetting pump with a 2.5-inch discharge (Model No. 2.5JPE-Dz3-F(W) centrifugal jetting pump (or similar). A specification sheet is included in Appendix B.

A wellpoint suction pump will be used to provide the vacuum and remove water flowing to the system. One (1) wellpoint suction pump will be staged onsite for the construction dewatering activities. It is recommended that in addition to the primary wellpoint suction pump, a backup suction pump (same specification as the primary) be staged onsite to facilitate seamless transition in the event the primary pump fails or maintenance is required. However, if the backup pump is not maintained onsite, the excavation/dewatering contractor should provide confirmation that a backup pump will be available on-call for same-day delivery in the event the primary pump fails.

The dewatering system will utilize a 4VAWP 6 inch x4 inch Vacuum Assisted Wellpoint Pump (or similar). This pump is an auto-priming high-performance centrifugal pump designed for groundwater extraction from the wellpoints. The wellpoint suction pump must have adequate air-handling capacity and have the capability of producing a vacuum of at least 22 to 25 feet of water in the headers. The suction lift of a wellpoint pump is dependent on the vacuum available at the pump bowl. The specified centrifugal pump will allow for maximum performance in air handling and water extraction volume, with a pumping capacity of up to 700 gpm. A specification sheet for the 6 inch x4 inch Vacuum Assisted Wellpoint Pump is included in Appendix B.

---

### **1.3.5 Piezometers**

It will be important to demonstrate that adequate drawdown of the groundwater table has been accomplished before excavations can begin. In addition to the wellpoint installation, piezometers will be installed at select locations surrounding the wellpoint system. The piezometers will provide a complete and reliable picture of water table drawdown induced by the dewatering system. Piezometers installed within the Site will be constructed with self-jetting wellpoints; with construction specifications matching those of the respective dewatering area.

Existing offsite groundwater monitor wells will be utilized to provide offsite monitoring water table elevation and drawdown data.



## 2 WELLPOINT SYSTEM CONSTRUCTION

The construction steps for the well-point system are: the wellpoints are jetted into the ground; the annular void is filled with filter media (if required based on site specific geology); the wellpoint header pipe is installed adjacent to the wellpoints; the wellpoints are connected to a header pipe by means of a riser pipe and swing joint connection; and the header pipe is connected to suction pumps for dewatering of the construction excavation.

It is recommended that dewatering operations be completed by a specialist dewatering subcontractor. If dewatering is conducted as anticipated in this analysis, it will be important that the contractor understands their responsibilities and can execute the work competently.

---

### 2.1 WELLPOINT INSTALLATION

The locations of the wellpoints and header pipe for the dewatering required for the Site excavation is illustrated on the Construction Dewatering – Site Layout included as figure 3. The wellpoints will be installed along the excavation interior so that the spacing interval and depth setting (bottom depth of the wellpoint) for the dewatering: Wellpoints spaced at a horizontal interval of approximately 20 feet on center with the bottom of screen set at elevation -11 feet NAVD88;

Final installation elevation of the top of wellpoints and the wellpoint suction pump staging area and pump intake will be dictated by the working grade elevation (restricted by the static groundwater table elevation).

If the excavation dewatering can be achieved from a limited number of wellpoints while still being able to induce sufficient water table drawdown to facilitate the excavation work, the select wellpoints will be disconnected from the wellpoint system. In this situation, the inactive wellpoints would be utilized as piezometers to monitor the water table drawdown.

The wellpoints will be jetted into the ground with a jet pump by forcing water out the tip of the wellpoint under high pressure. The contractor will be responsible for obtaining a hydrant permit for providing the water necessary for the jetting activities. For dewatering systems installed after the installation of the water treatment system, the contractor may recirculate the treated groundwater for use with the jetting activities.

Because the onsite soils are fine to medium sand, self-jetting wellpoints can be installed with water pressures of about 50 pounds per square inch. The jetting hose (2.5 inch diameter) will be attached to the wellpoint riser, which is picked up either by an excavator, a crane or by hand and held in a vertical position as the jetting water is turned on. The wellpoint will be allowed to sink slowly into the ground and will be slowly raised and lowered during sinking to ensure that all fine sand and dirt are washed out of the hole. Care will be taken to ensure that a return of jet water to the surface is maintained; otherwise, the point may “freeze” before it reaches grade. If the return of jet water stops, the point will be quickly raised until circulation is restored and then slowly re-lowered.

Once the wellpoint is at the required depth, the water jetting flow is reduced until it is only flowing out of the ground. At that time, a sand pack (#2 filter sand) can be added to the annulus around of the wellpoint. The low flow of water can assist with flushing sediment from the annulus and allowing the packing material into the annulus around the well-point. The goal is to install the wellpoint with a consistent column of sand around it. Based on the Site geology, the placing of filter sand around the wellpoints may not be required due to the sand that is already in the subsurface soils.

Before the wellpoint is connected to the header, it will be pumped to flush it and the filter pack. All joints connecting wellpoints to the header will be made airtight to obtain the maximum needed vacuum.

---

### 2.2 WELLPOINT HEADER PIPE INSTALLATION

The wellpoint system will be begin by first installing the header at the locations required for the dewatering area. The locations of the wellpoints and header pipe for the excavation dewatering are illustrated on Construction Dewatering – Site Layout included as figures 3.





The estimated length of suction header pipe (excluding solid length of suction header pipe connecting to the suction pump to which no wellpoints are attached) is approximately 300 linear feet.

The wellpoint system suction header pipe will be placed level with or slightly higher than the suction pump intake and horizontally at an approximate distance of 2 feet from the line of wellpoints. The header will be installed along the interior perimeter of the steel sheeting and will be supported along the second layer of internal steel bracing. Additionally, hangars can be installed along the length of the header pipe for support in areas that no bracing will be present.

Assembly of the suction header pipe line (individual header pipe sections, flexible connectors, bends, stoppers) involves connecting the ends of the pipe using the rubber header sleeves (or alternate connections). 6-inch PVC joints (90-degree, 45-degree, 22.5-degree) will be used to change suction header pipe direction. T-couplings can be utilized at select locations to provide for connection to the header pipe of localized extraction points. The header pipe ends opposite the end connected to the vacuum pump (along the eastern perimeter adjacent to Kent Avenue) shall be closed with a 6-inch PVC end cap or rubber coupling caps. Pressure and vacuum gages shall also be installed at the pumps and in the header lines.

After the header pipe is assembled, the stopcock portion of the swing connection will be connected to the header on the spacing called for by the design, and all fittings and plugs in the header made airtight using a pipe joint compound to prevent leakage.

---

## 2.3 SUCTION PUMP STAGING AND CONNECTIONS

The staging location for the wellpoint suction pump will be on the southwest corner of the Site. The proposed location of the suction pump for the dewatering required for the excavation is illustrated on the Construction Dewatering – Site Layout on figure 3. To obtain the maximum possible vacuum, the suction intake of the pump shall be set level with or slightly lower than the header pipe. The wellpoint pump shall be centrally located (along the wellpoint line) so that head losses to the ends of the system are balanced and as low as possible.

Once the wellpoints and header pipe installation is complete, the header pipe will be connected to the suction pump. The discharge end of the suction pump will transfer the extracted groundwater from the wellpoint system to the water treatment system (connected to the settling frac tank) via 4-inch diameter piping or hose. The discharge pipe shall be watertight and supported independently of the pump. The most appropriate route for positioning the discharge pipe will be coordinated with the dewatering contractor so that it does not interfere with site activities while also ensuring it is protected from accidental damage.

---

## 2.4 PIEZOMETER INSTALLATION

The piezometers will be constructed with similar specifications as the wellpoints and will be installed using the same procedure. Typical locations proposed for the internal piezometers for the excavation are illustrated on figure 3.

Following the installation of all piezometers required for excavation/dewatering, a top of casing elevation survey will be conducted. The relative top of casing elevations of each monitor well will be surveyed with respect to an established benchmark elevations. This survey will ensure that the fluid level measurements are properly converted to water table elevations. The top of casing elevations will allow for the generation of groundwater elevation contour maps to assess the extent of water table drawdown induced by the dewatering activities.



# 3 DEWATERING SYSTEM OPERATING AND MONITORING

---

## 3.1 GROUNDWATER EXTRACTION SYSTEM

---

### 3.1.1 WELLPOINT DEWATERING SYSTEM STARTUP

The dewatering contractor will be responsible for providing all labor, materials, equipment, and services necessary to operate, and maintain the construction dewatering system and water treatment system during all construction dewatering operations. The duration of system operation will be determined by the construction schedule and the amount of time needed to provide adequate dewatering for the respective construction activities, however it is expected that active dewatering will be performed for a period of 3 to 4 weeks.

After the wellpoint dewatering system is constructed, it shall be pump-tested to check its performance and adequacy. This test will include measurement of initial groundwater water table elevations, drawdown at critical locations in the planned excavation area by gauging groundwater elevations in piezometers on the interior of the Site, flow from the system and vacuum at various points in the suction header pipe. These data shall be analyzed, and if conditions at the time of test are different than those for which the system was designed, the data will be used to extrapolate new design parameter values to achieve groundwater drawdown required for the excavation work and as outlined in the design. It is important to evaluate the system as early as possible to determine its adequacy to meet full design requirements.

After the system is installed, the wellpoint pump with the pump suction valve will be closed. The vacuum should rise to a steady 25 to 27 inches of mercury. If the vacuum on the pump is less than 25 to 27 inches of mercury, there must be air leaks or worn parts in the pump. If the vacuum at the pump is satisfactory, the valve on the suction side of the pump will be opened and the vacuum applied to the header, with the wellpoint swing joint valves still closed. If the pump creates a steady vacuum of 25 inches or more in the header, the header can be considered tight.

The swing joint valves will then be opened to apply the vacuum to the wellpoints. If a low, unsteady vacuum develops, leaks may be present in the wellpoint riser pipes, or the water table has been lowered to below the top of the screen in some wellpoints so that air is entering the system through one or more wellpoint screens. In this situation, the swing joint valve in the affected wellpoints (determined based on field observations such as surging at the swing joint) would be closed to tune the vacuum and groundwater extraction rates.

---

### 3.1.2 WELLPOINT SYSTEM MAINTENANCE AND MONITORING

The dewatering system will operate continuously while the excavation work is in progress below the static water table elevation. The dewatering contractor (or alternative contractor designated by the Construction Manager or owner) will be responsible for continuous maintenance and monitoring of the system. Since the dewatering system will not be operational during winter months, it is not expected that freeze protection measures (i.e. insulation, heat tape...) will be necessary to ensure uninterrupted system operation.

The proper operation of a wellpoint system requires that a steady, high vacuum be maintained continuously. Testing a dewatering system and monitoring its operation requires gauging the network of piezometers and measuring flow from the system. The entire system shall be inspected daily for air leaks to ensure it maintains the required vacuum.

Proper observation of system components is important to assess the system performance should include, but not be limited to: water level observations in all piezometers; instantaneous and cumulative flows (as per the flow meter); pressures in the manifold systems; operational parameters for the suction pump and condition of all system



components. A cross-section illustrating components of the wellpoint systems and the estimated drawdown influence for the dewatering activities are included on figure 4. The locations and view perspectives of the cross-section is shown on the Construction Dewatering – Site Layout on figure 3.

A schedule of component maintenance requirements (as recommended by the component’s manufacturer) and a log documenting component maintenance shall be kept up to date. Inspection logs shall also be maintained that document regular visual inspections of pipelines, discharge lines, headers, manifolds, valves, and other fittings for leaks and system integrity.

Additionally, the monitoring program will include a regular report to project management regarding the operation and status of the dewatering system which will note any changes in trends, component failures, and any other event that is outside normal or expected conditions. Remote electronic transducers installed within the piezometers may be necessary for adequate monitoring of water table drawdown during dewatering operations. Conditions that require immediate corrective actions shall be reported to project management immediately.

Entry of air into the system can be prevented by partially closing the main valve between the pump and the header or by adjusting the valves in the swing connections until air entering the system is stopped. This method is commonly used to reduce the water flow rate to control the entry of air; a process that is known as tuning the system and that is part of the daily maintenance task.

If following system commencement, the flow from the wellpoints slow down, it could be due to clogging of the wellpoint screens. If the clogging is due to sediment, quickly lower then increase the vacuum from the header line to flush the wellpoint. If backflushing from closing the swing joint valve is unsuccessful in restoring the wellpoint extraction flow, the jetting pump can be used to flush the wellpoint. However, if flushing is not able to restore wellpoint flow, it can be removed and replaced with a new wellpoint.

---

### **3.1.3 SUCTION PUMP MAINTENANCE**

The suction pump should always be operated and maintained in accordance with the manufacturer’s directions. All equipment shall be maintained in optimal operating condition at all time. Sufficient fuel shall be maintained onsite to ensure uninterrupted operation of the pumps. The standby pump shall also be maintained in fully operable conditions at all time. Standby equipment may be required to operate during breakdown of a pumping unit or during periods of routine maintenance and oil change of the regular dewatering equipment. All standby equipment shall be periodically operated to ensure that it is ready to function in event of a breakdown of the regular equipment.

---

### **3.1.4 SYSTEM SHUT DOWN**

Wellpoint dewatering activities will be implemented to cover the entire Site. Components of the system may be shut down intermittently when the yields from any given components are too low for continuous operation of those components to be effective. In such cases, one or more of the system components may be operated on a cycle that will enable them to be shut down periodically and operate only when water levels have recovered to a specified level. The number of wellpoints in which the flow control valves will be closed will be dictated based evaluation of the fluid level monitoring data recorded in the field.

In general, system shutdown, either in phases or all at once, will be controlled by the construction activities and their requirements to maintain water levels and control of the surface and groundwater conditions. These shutdown procedures will be coordinated with project management and the dewatering contractor.

---

## **3.2 WATER TREATMENT SYSTEM MAINTENANCE**

Monitoring and maintenance of the water treatment system is essential for the operation of the construction dewatering system. The water treatment system maintenance and monitoring activities will include assessment of the condition of: all pipe connections; the settling frac tanks; the level controllers; the transfer pumps; the bag filter units; the flow meter; and the discharge pipe.



Periodically during each day of operation, the discharge rate and flow meter totalizer reading will be recorded on a system log sheet. Measurement of flow from a dewatering system is necessary to evaluate the operation of the system relative to design projections. Flow measurements are also useful in identifying any loss in efficiency of the system due to clogging of the wellpoints or the well screens.

The inlet pressure of the operational bag filter unit and liquid phase carbon unit(s) shall be monitored daily. If required, the bag filters will be replaced to ensure that the optimum flow rate can be maintained. Replacement of the bag filters will be done by temporarily shutting down the transfer pump, replacing the filter bags, and restarting the transfer pump. It is not anticipated that a carbon change-out will be required for the duration of the construction dewatering.

---

### 3.3 SURFACE WATER CONTROL

Trenches and/or sumps, and pumps for the control of surface water and the protection of dewatering pumps must be maintained throughout construction of the project. Failure to control surface water may result in flooding of the dewatering equipment and complete breakdown of the system. Measures to control surface water are not included in this dewatering plan and are the responsibility of the Contractor.

In addition to groundwater extracted by the dewatering system, the water treatment system will be able to operate at a sufficient rate to handle a 24-hour rain event at 5 inches per hour (80% range of precipitation model projections for New York). If necessary, pumping could be limited in localized areas where water table drawdown is not essential for site work.

Accumulated surface water may be pumped from sumps with local pumps and discharged to the water treatment system. So long as proper vacuum pressure is maintained, a suction line may be connected to the wellpoint suction header pipe to extract accumulated water from localized sumps. Pumped surface water is expected to have more sediment than groundwater pumped from the dewatering system. This sediment load could cause more accumulation in the frac tank and could result in a larger sediment/turbidity content in the discharge water, which could result in the need for more frequent change-outs of the bag filters.

---

### 3.4 PIEZOMETER FLUID LEVEL MONITORING

Prior to commencement of dewatering activities, a baseline fluid level monitoring round will be completed at the Site. Each piezometer and offsite monitoring well surrounding the Site will be opened (if capped) prior to measuring the fluid levels; allowing groundwater levels to equilibrate to the atmospheric pressure.

For any piezometer gauged for fluid-level monitoring, a top of casing elevation will be determined based on a benchmark established at the Site. The depth to water will be measured from the top of the piezometer wellhead using an electric water-level indicator accurate to 0.01 foot. The measured water levels will be recorded on field sheets. The depth to water measurements will be converted to water table elevations based on the surveyed top of casing elevations (completed after installation of the respective piezometers).

---

### 3.5 BENEFICIAL USE OF DEWATERING DISCHARGE

The operation of the construction dewatering system and associated water treatment system provides the opportunity for onsite beneficial use of the dewatering discharge. The following are site use alternatives for the dewatering discharge: 1) dust suppression; 2) truck washing; and 3) conditioning materials for water content (i.e., compaction requirements).



## 4 PERMITTING, TREATMENT & DISCHARGE REQUIREMENTS

---

### 4.1 NYSDEC PERMITTING

The excavation contractor has estimated that the excavation activities will take approximately 30 day to complete. Based on the duration of dewatering at the estimated extraction rate calculated for the excavation/dewatering area, the average daily water withdrawal volume is estimated to be approximately 151,200 gallons per day (105 gpm). Additionally, assuming the maximum extraction rate is maintained throughout the duration of dewatering activities, the 30-day volume estimate will be approximately 4,536,000 gallons.

In accordance with Part 601.9 (o) – permit exemptions, the following action with respect to a water withdrawal system is exempt from the permit requirements: temporary water withdrawals for the purposes of construction, dewatering, hydrostatic testing, or aquifer testing, where the volume withdrawn is less than an average of 100,000 gallons per day in any consecutive 30-day consecutive period (three million gallons during a 30-day period). This estimated construction dewatering water withdrawal rate/volume exceeds the L.I. Well (Water Withdrawal) permit exemption requirement outlined in 6 CRR-NY Part 601.9 (o). Therefore, WSP is submitting this request for an equivalent Long Island Well permit as allowed under the BCP.

---

### 4.2 NYCDEP COMBINED SEWER PERMITTING

---

#### 4.2.1 GROUNDWATER QUALITY CHARACTERIZATION

Following mobilization of the water treatment system components, groundwater will be extracted from MW-28 (representing the highest dissolved phase contamination onsite) and processed through the water treatment system. A post-treatment effluent sample will be collected and will be submitted to an ELAP certified laboratory for analysis of NYCDEP effluent discharge parameters established for discharges to the combined sewer system consisting of the following parameters: VOCs by Method 624, semivolatile organic compounds (SVOCs) by Method 625; mercury by Method 245.1; total metals by Method 200.7; chromium VI by Method 218.4; non-polar materials by Method 1664A; flashpoint; phenols by Method 420.1; PCBs by Method 608; total suspended solids; Carbonaceous Biochemical Oxygen Demand (CBOD); Chloride; Total Nitrogen; and, Total Solids. The total nitrogen concentration will consist of: Total Kjeldahl Nitrogen (TKN), Nitrite (NO<sub>2</sub>) and Nitrate (NO<sub>3</sub>). Additionally, temperature and pH will be measured in the field.

As part of the sewer discharge permit modification/renewal request, the laboratory analytical results of the post-treatment effluent sample will be submitted to the NYCDEP Bureau of Wastewater Treatment (BWT) to confirm that the effluent water quality complies with the established NYCDEP Daily Limits effluent discharge parameters. This data will verify that the designed water treatment system (settling tank, bag filtration and carbon adsorption units) will ensure that the extracted groundwater to meet applicable discharge requirements (effluent water quality) as required under the NYCDEP sewer discharge permit. Ongoing analytical sampling of the effluent will be conducted in accordance with the prescribed monitoring schedule as outlined in the NYCDEP BWT Letter of Approval once issued by the NYCDEP, however only one (1) additional effluent sample (at the completion of dewatering) is anticipated to be required.

---

## 4.2.2 WATER TREATMENT SYSTEM

For the purposes of the design plan, the dewatering system will utilize diesel powered equipment. The Contractor will be responsible for electing to use diesel powered equipment or using equivalent electric pumps and providing a diesel generator for power. The Contractor will be responsible for maintaining compliance with applicable regulations associated with operation of diesel equipment (i.e., ultra-low sulfur fuel, particulate filters, noise mitigation).

The extracted groundwater will be transferred under positive pressure from the wellpoint system suction pump to the water treatment area. The water will be transferred directly from the dewatering suction pump under positive pressure via a 4-inch diameter PVC pipe or lay-flat hose. The extracted groundwater will discharge into an 8,000-gallon to 10,000-gallon frac tank (or similar) which will be used as a settling tank. The frac tank will allow extracted sediment to fall out of suspension prior to filtering and discharge.

A diesel powered 4-inch (10 HP to 15 HP) self-priming centrifugal transfer pump (or equivalent electric pumps with power provided by a diesel generator), will be used to discharge the water from the frac tank via a 4-inch diameter pipe/hose. The transfer pump will be capable of discharging water extracted from the frac tank at a flow rate of up to 790 gpm, however discharge flow will be restricted with a flow control valve to ensure it does not exceed the discharge limit authorized by the NYC DEP sewer discharge permit.

If necessary, the transfer pump will be connected to level controllers in the frac tank to automatically cycle the transfer pumps operation such that the discharge rate from the frac tank is equal to or less than the extraction rate of the operational dewatering system tank and prevent compromising the performance of the dewatering system. This would eliminate the requirement for continuous manual monitoring of the dewatering rate (frac tank influent) to not exceed the storage capacity of the frac tank.

In addition to the primary transfer pump, a backup transfer pump, with the same specification as the primary pump, will be readily available to set up and connect in the event of a mechanical failure of the initial dewatering pump. Alternatively, a backup transfer pump can be manifolded to the primary pump to facilitate seamless transition in the event of a primary pump failure or if pump maintenance is required.

For sediment filtration, the transfer pump will discharge the water through two (2) 2-stage bag filter housings (or similar) capable of processing the effluent water at a rate up to 105 gpm. The first 2-stage bag filter housing will be fitted with 10-micron bag filters and the second 2-stage bag filter housing will be fitted with 0.5-micron bag filters. Pressure gauges will be installed prior to the first bag filter housing, in between the two bag filter housings and after the second bag filter housing to assess filter capacities and to assess when bag filter replacement is required. This will ensure that the effluent transfer pump discharge rate does not decrease below the wellpoint system extraction rate.

After the bag filtration, the water will be processed through two (2) 5,000-pound liquid-phase granular activated carbon (GAC) adsorption units. Liquid-phase carbon adsorption model calculations were generated based on the VOC concentrations detected in the onsite wells during the first round (2019) of groundwater monitoring. A copy of the calculations are included in Appendix C. A third GAC unit will be staged onsite in the event of breakthrough during the dewatering water treatment. A flow-meter/totalizer will be installed on the effluent discharge pipe after the second bag filtration unit. An electronic flow meter/totalizer (GPI TM400 [4"] or similar) will be used to monitor real-time extraction/discharge rates, in addition to logging the total volume of water discharged to the combined sewer. The flow meter will have a monitoring range of approximately 30-600 gpm.

Following water treatment, the effluent will then be connected to a mini-frac tank (settling tank ) of approximately 500 to 1,000-gallons (or similar) via a 4-inch diameter PVC or lay-flat conveyance pipe/hose. Prior to the mini-frac, a pressure gauge and a flow control valve will be installed followed by sampling port will be for the collection of post-treatment effluent water quality samples. The settling tank will be staged on the northwestern corner of the Site, adjacent to the location of the existing 6-inch diameter combined sewer connection pipe. The settling tank will be staged at an elevation which will allow for effluent discharge to the combined sewer to drain by gravity flow.

A process flow diagram illustrating the components of the water treatment system is presented on figure 5. Specification sheets for the proposed settling frac tank, transfer pump, bag filter units, flow meter and liquid-phase GAC adsorption units are attached as in Appendix C.





### 4.3 NYCDEP DEWATERING (SEWER DISCHARGE) PERMIT

Groundwater extracted by the wellpoint dewatering system will need to be discharged offsite. The anticipated duration of the construction dewatering activities will be approximately two months. Additionally, the remedial treatment system will resume operation following dewatering, and will remain operational until it is relocated to the Con Edison site. Therefor the NYCDEP dewatering permit request will be made for a period of one year with an approximate expiration date of October 2020.

A Dewatering Permit Modification request will be submitted to the NYCDEP Bureau of Wastewater Treatment (BWT). The NYCDEP BWT request letter will consist of a Cover Letter, groundwater quality laboratory analytical results and this summary of the Construction Dewatering Plan. These documents will summarize the scope of the Construction Dewatering, water treatment and sewer discharge activities that will be performed at the Site. The NYCDEP dewatering permit will authorize the discharge of treated groundwater to the combined sewer main located on the northwest corner of the Site (on the northeast corner of the intersection between North 1<sup>st</sup> Street and River Street). The NYCDEP BWT submission cannot be finalized until after the water treatment system is mobilized onsite, and post-treatment effluent sample results (utilizing MW-28 as the influent source) are provided to confirm that the effluent water quality is in compliance with established NYCDEP effluent limits.

A Dewatering Permit Modification request will be submitted to the NYCDEP Bureau of Water and Sewer Operations (BWSO), which will include a Cover Letter summarizing the scope of the Construction Dewatering and sewer discharge, details of the combined sewer site connection, and a flow capacity evaluation for the proposed discharge flow rate for both the sewer connection pipe and the combined sewer main.

A copy of the NYCDEP dewatering permit submission documents will be provided to the NYSDEC after they are submitted to the NYCDEP.

The NYCDEP Dewatering Permit Modification request documents seek authorization to discharge up to 151,200 gallons per day (105 gpm) to the combined sewer. The discharge will utilize the existing 6-inch diameter extra heavy cast iron (EHCI) combined sewer connection pipe located on the northwest corner of the Site as the point of discharge. This house connection will be used as the discharge point to the combined sewer main. This house connection is identified as connection #92910.11 on the Brooklyn Sewer Map page 73. The effluent water will be transferred via the 6-inch diameter house connection to the 12-inch diameter combined sewer main located to the west of the Site (beneath River Street). The proposed Treatment System Layout is illustrated on the Construction Dewatering – Site Layout which is attached as figure 3 and illustrates the locations of the onsite 6-inch diameter house connection to the 12-inch combined sewer line located beneath River Street.

On March 28, 2014, the NYCDEP performed a dye test on the 6-inch diameter house connection. The dye test confirmed that the 6-inch house line is connected to the 12-inch diameter combined sewer main located beneath River Street. Copies of both the sanitary dye test summary letter for the Site (DFO #14-176, DTK-50-14) and the Service Request Detail Report, prepared by the Survey Investigation Unit, will be included with the NYCDEP dewatering permit submission documents.

The 12-inch combined sewer main subsequently connects to a 15-inch combined sewer main one block to the north (below Metropolitan Avenue) which is then connected to a 60-inch diameter combined sewer main. These connections are presented on the Brooklyn Sewer Map Plan 240 as well as an as-built plan, copies of which will be included with the NYCDEP dewatering permit submission documents. This New York City municipal combined sewer main is within the Newtown Creek Water Pollution Control Plant (WPCP) sewer shed.

In accordance with NYCDEP requirements, the Bureau of Wastewater Treatment will be notified in writing prior to beginning the discharge. In the event of heavy wet weather, the rate of discharge to the combined sewer will be reduced to the maximum extent practicable. Following applicable water treatment, the effluent water will be discharged to the combined sewer under a NYCDEP dewatering discharge permit.



## 5 DEMOBILIZATION

---

### 5.1 WELLPOINT SYSTEM DECOMMISSIONING

Once the construction dewatering system is no longer required for Site work, it will be decommissioned, which will include the following activities:

- The suction pump will be shut down and the header intake will be disconnected and removed from the Site;
- The swingjoints will be disconnected from both the wellpoints and the header pipe and will be set aside to be removed from the Site; and,
- The header sleeves will be disconnected, and the header pipe sections will be set aside to be removed from the Site.

The wellpoints will be removed from the subsurface with the same equipment and method used for their installation. Once removed, all wellpoints will be disassembled and removed from the Site. Following removal of the wellpoints, all bore holes will be backfilled with soil. If wellpoint removal is not feasible, the wellpoints will be abandoned in place by cutting them flush to grade and filling them with concrete or grout. Sumps, trenches, ditches, etc. (if utilized) can be removed and backfilled with appropriate materials and the surfaces can be graded to match the surrounding conditions.

---

### 5.2 WATER TREATMENT SYSTEM CLEANING/DEMOBILIZATION

Once the construction dewatering system is decommissioned, the water treatment equipment (frac tank(s), the transfer pump(s), bag filter units) can be purged of standing water. All equipment will then be decontaminated (if necessary) to comply with the respective suppliers' rental agreement and can then be removed from the Site.

---

### 5.3 TREATMENT MEDIA WASTE DISPOSAL

The excavation/dewatering contractor will be responsible for proper handling of all waste generated during the installation of the wellpoint dewatering system, installation of the piezometers, operation of the water treatment system, decommissioning of the wellpoint dewatering system and decontamination of the water treatment system.

All soil cuttings (if any) generated during installation/removal activities, as well as all filtered sediments accumulated within the treatment equipment will be shipped offsite with like contaminated material, or else it will be transferred and stockpiled/stored onsite pending waste characterization and offsite disposal.





## 6 LIMITATIONS

This Construction Dewatering Plan has been prepared for the exclusive use of Kent Riverview LLC for their proposed work on the Former Fyn Paint & Lacquer Co., Inc. Site and any associated agency/permitting authority (i.e., NYSDEC, NYC DEP, NYC DOB, NYC DOT). No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of WSP. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by WSP, shall be at the user's sole risk.

The soil and groundwater conditions in areas between soil borings and wells are interpolated or extrapolated, and the actual soil and groundwater conditions may differ from those considered in this report. Estimated extraction flow rates, projected drawdowns, and projected dewatering system yields are estimated based on calculations using assumed hydraulic conductivity and specific yield data from the 2006 groundwater pumping test. The actual groundwater flow system parameters may vary from those that have been calculated.

WSP warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

Any modifications to the design specifications and/or equipment/components of the Construction Dewatering Plan may negatively impact its performance. The excavation/dewatering contractor (or any other owners' representative) responsible for implementing any modifications to the approved Construction Dewatering Plan would assume all liability(ies) associated with Plan modifications.



## 7 SCHEDULING

The Contractor will be responsible for obtaining all necessary permits (e.g., NYSDEC, NYC DEP, NYC DOB, NYC DOT) required for the installation of the sewer connection. Scheduling for the installation of the sewer connection pipe will be coordinated by the Construction Manager following issuance of the NYCDEP sewer permit.

Scheduling for the installation and operation of the wellpoint dewatering system and associated water treatment system will be coordinated by the Construction Manager. The Construction Manager will coordinate with the excavation/dewatering contractor to perform the installation of the wellpoint dewatering system. The wellpoint dewatering system installation will be coordinated along with the onsite SOE installation (i.e., lateral bracing and tieback installation) as well as the soil excavation activities. The wellpoint dewatering system installation and operation will be performed after the remedial excavation has been advanced to sufficient depth to ensure the wellpoint installation will not encounter subsurface obstructions. The wellpoint dewatering system operation will then commence to facilitate excavation of contaminated material at depths below the static groundwater table elevation.



# BIBLIOGRAPHY

## **Regulatory Guidance Documents**

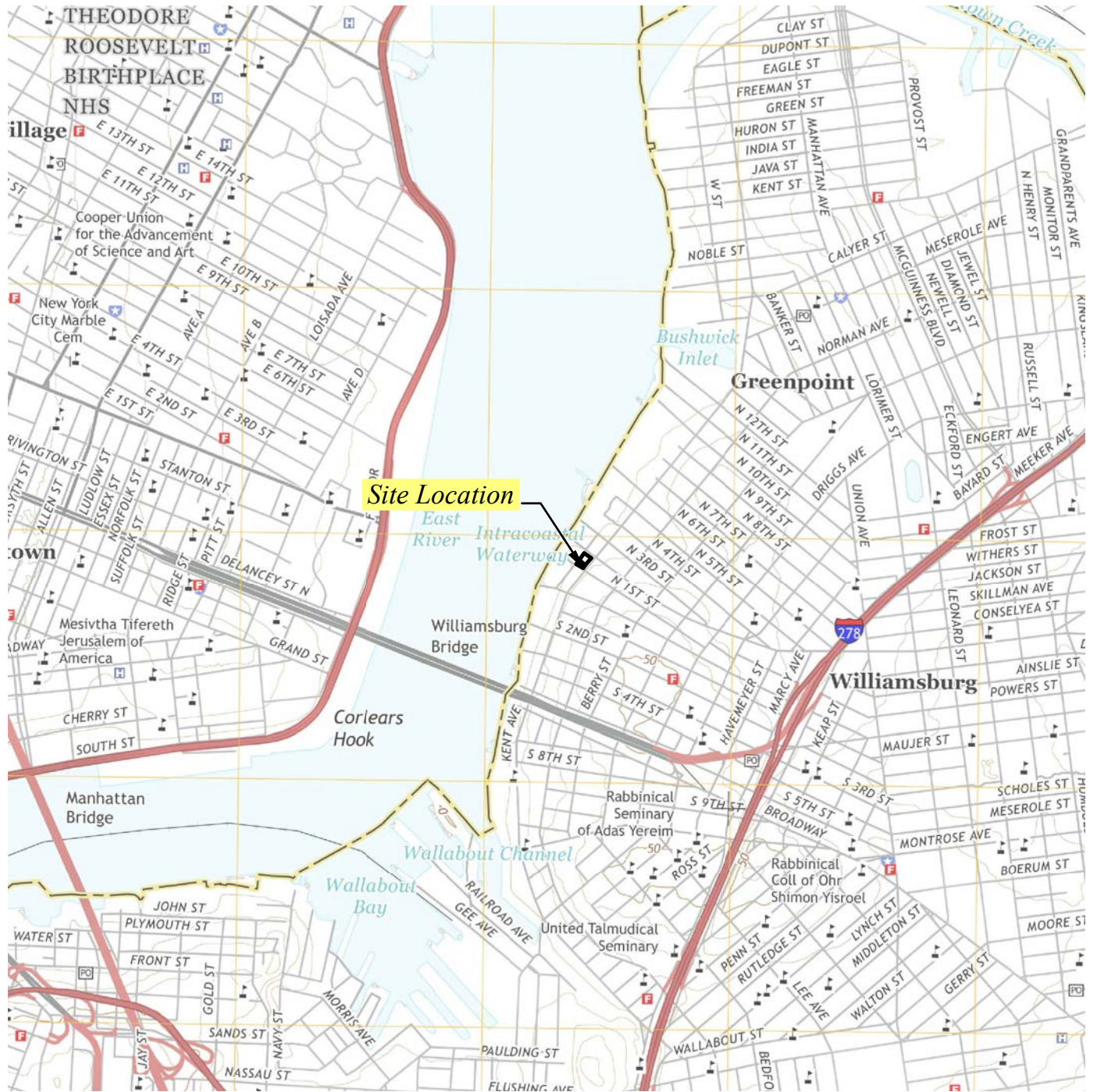
- NYSDEC, Division of Environmental Remediation, May 2004, Draft Brownfield Program Cleanup Guide.
- NYSDEC, Division of Environmental Remediation, December 2002, DER-10, Technical Guidance for Site Investigation and Remediation.
- New York State Department of Environmental Conservation Technical and Operational Guidance Series (1.1.1): Class GA Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.
- Soil Cleanup Objectives listed in NYSDEC (New York State Department of Environmental Conservation) "Part 375" Regulations (6 NYCRR Part 375, Subparts 375-1, 375-3 and 375-6).
- NYSDOH, Center for Environmental Health, October 2006, Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

## **Technical Resource Literature**

- Construction Dewatering and Groundwater Control – New Methods and Applications – Third Edition; Powers, Corwin, Schmall, Kaeck.
- Construction Dewatering-A Guide to Theory and Practice, Powers, J.P. 1981
- Baskerville, C.A., 1994, Bedrock and engineering geologic maps of New York County and parts of Kings and Queens Counties, New York, and parts of Bergen and Hudson Counties, New Jersey: U.S. Geological Survey, Miscellaneous Investigations Series Map I-2306, scale 1:24000.



# FIGURES




SOURCE: USGS TOPOGRAPHIC QUADRANGLE BROOKLYN, NEW YORK (2016).

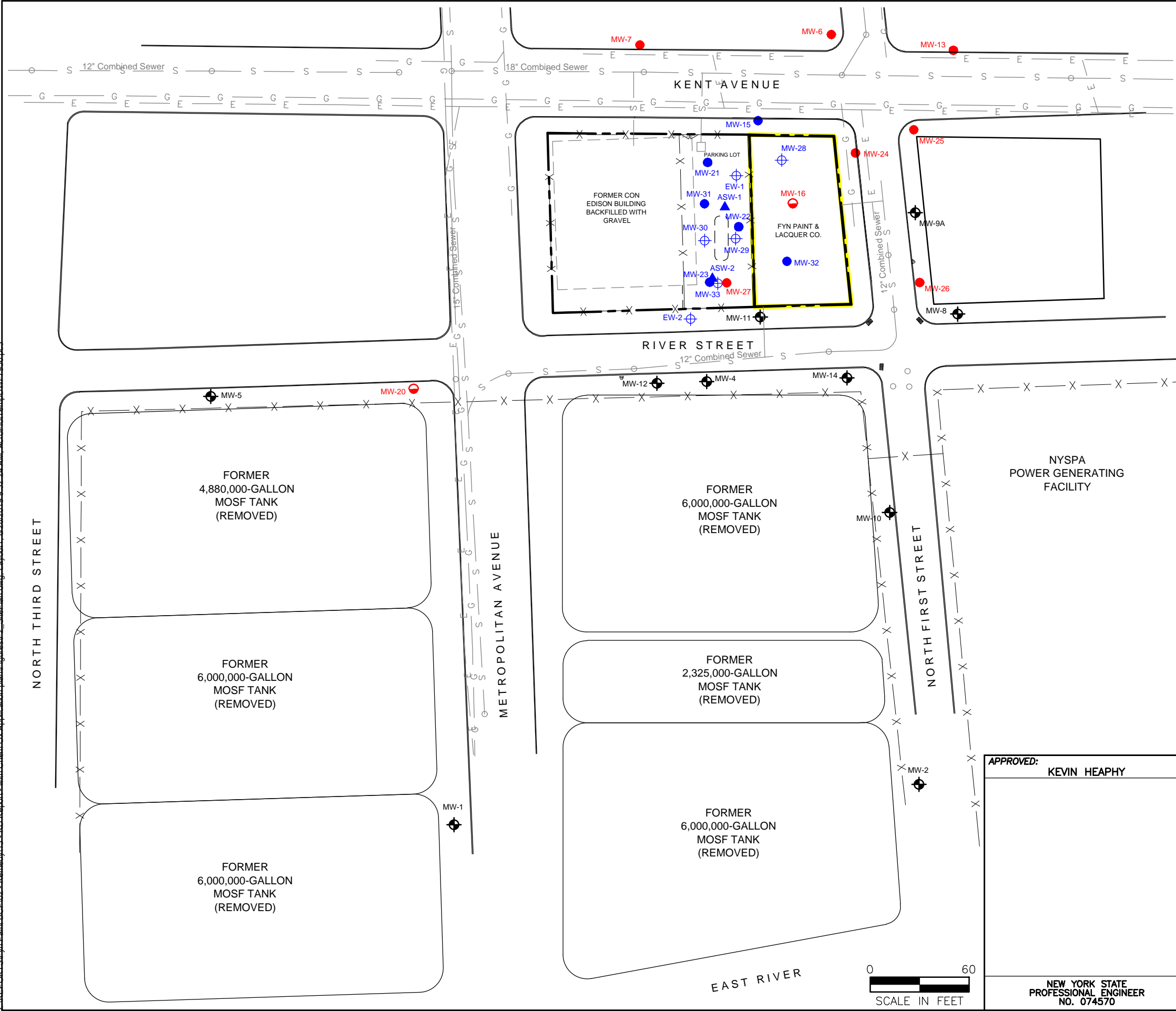


FYN PAINT & LACQUER CO., INC.  
 230 KENT AVENUE  
 BROOKLYN, NEW YORK

SITE LOCATION MAP

DATE	REVISED	PREPARED BY:		
				
		WSP USA 4 Westchester Park Drive Suite 175 White Plains, New York 10604 (914) 694-5711		
<b>DRAWN:</b>	<b>RAC</b>	<b>CHECKED:</b> <b>SG</b>	<b>DATE:</b> <b>04/02/19</b>	<b>FIGURE:</b> <b>1</b>

Z:\REDDITS\Eva\_Baird\BCEP02 - Remedial - with Chem.Ox.Application\plan\Figures\E2\_SitePlan.dwg\_Layout1\_8/28/2019 9:32:24 AM\_AcroPlotTempDIME7956.pcl



**LEGEND**

- PROPERTY LINE
- 4-INCH DIAMETER MONITOR WELL (PVC)
- 2-INCH DIAMETER MONITOR WELL (PVC)
- 2-INCH DIAMETER MONITOR WELL (STAINLESS STEEL)
- 4-INCH DIAMETER EXTRACTION WELL (STAINLESS STEEL)
- 2-INCH DIAMETER EXTRACTION WELL (STAINLESS STEEL)
- 1-INCH DIAMETER EXTRACTION WELL (STAINLESS STEEL)
- 10,000-GALLON UST (ABANDONED IN PLACE)
- CATCH BASIN
- CHAIN LINK FENCE
- HYDRANT
- MANHOLE
- GAS MAIN
- ELECTRICAL DUCT
- COMBINED SEWER MAIN

NOTE:  
 MONITOR WELLS GP-1, GP-2, C-1, C-2 AND C-3 WERE DECOMMISSIONED.  
 MONITOR WELLS MW-3 AND C-4 WERE DESTROYED.

DISCLAIMER:  
 IT IS A VIOLATION OF ARTICLE 130 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OR ADOPTION BY A NEW YORK STATE LICENSED LAND SURVEYOR OR ENGINEER IN ACCORDANCE WITH SECTION 7209 (2), ARTICLE 130, NEW YORK STATE EDUCATION LAW.

**APPROVED:**  
 KEVIN HEAPHY

---

NEW YORK STATE  
 PROFESSIONAL ENGINEER  
 NO. 074570

**FYN PAINT & LACQUER CO., INC.**  
 230 KENT AVENUE  
 BROOKLYN, NEW YORK

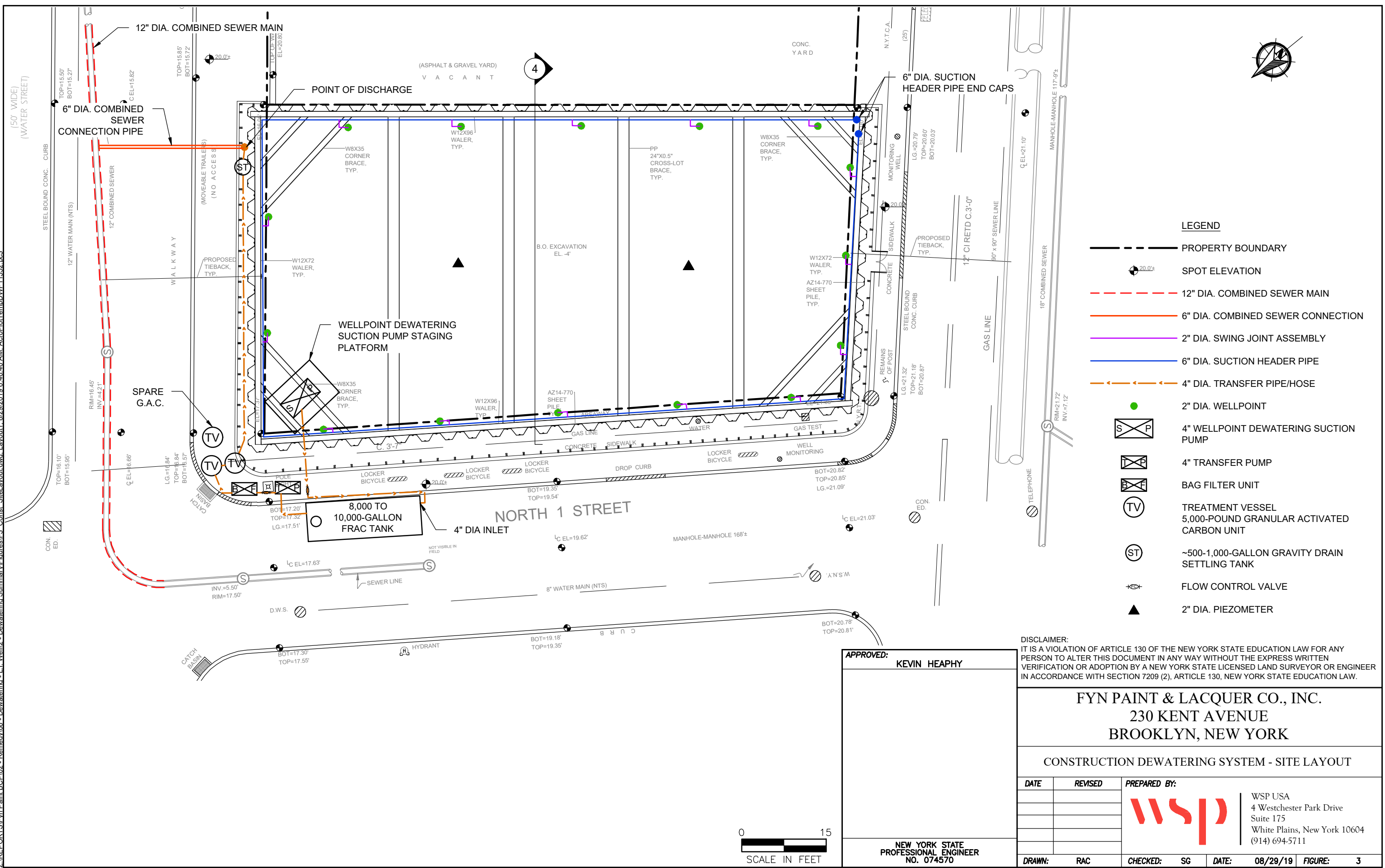
SITE PLAN

DATE	REVISED	PREPARED BY:					
			WSP USA 4 Westchester Park Drive Suite 175 White Plains, New York 10604 (914) 694-5711				
<b>DRAWN:</b>	RAC	<b>CHECKED:</b>	SG	<b>DATE:</b>	08/28/19	<b>FIGURE:</b>	2





Z:\REPORTS\Env Paint\BCP102 - Remed\08 - Dewatering - L.I. Well2 - Dewatering Summary\Figures\F3 - Const. Site Layout.dwg - Layout11\_8/29/2019 6:46:46 AM - AcroPlotTempDWF11552.pc3



DISCLAIMER:  
IT IS A VIOLATION OF ARTICLE 130 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OR ADOPTION BY A NEW YORK STATE LICENSED LAND SURVEYOR OR ENGINEER IN ACCORDANCE WITH SECTION 7209 (2), ARTICLE 130, NEW YORK STATE EDUCATION LAW.

**FYN PAINT & LACQUER CO., INC.**  
230 KENT AVENUE  
BROOKLYN, NEW YORK

**CONSTRUCTION DEWATERING SYSTEM - SITE LAYOUT**

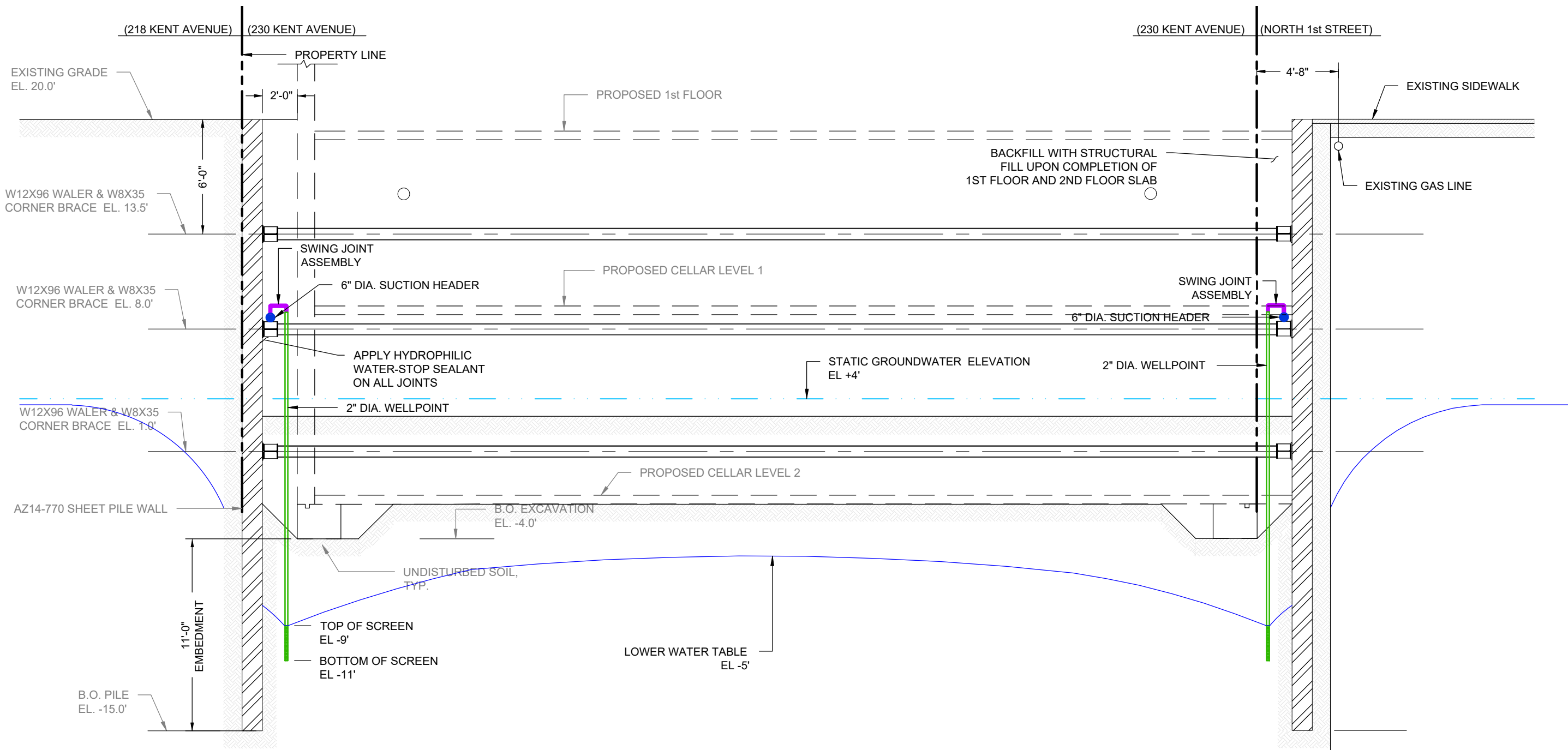
DATE	REVISED	PREPARED BY:
		<b>WSP</b>
		WSP USA 4 Westchester Park Drive Suite 175 White Plains, New York 10604 (914) 694-5711
<b>DRAWN:</b>	RAC	<b>CHECKED:</b> SG
		<b>DATE:</b> 08/29/19
		<b>FIGURE:</b> 3

**APPROVED:**  
**KEVIN HEAPHY**

NEW YORK STATE  
PROFESSIONAL ENGINEER  
NO. 074570



Z:\REPORTS\Env Paint\BCP102 - Remed\08 - Dewatering - I.L. Well\2 - Dewatering Summary\Figures\F4 - Const. CrossSection.dwg - Layout1\_1\_8/29/2019 6:58:57 AM - AcroPlotTempDWF 138366.pcs3



DISCLAIMER:  
IT IS A VIOLATION OF ARTICLE 130 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OR ADOPTION BY A NEW YORK STATE LICENSED LAND SURVEYOR OR ENGINEER IN ACCORDANCE WITH SECTION 7209 (2), ARTICLE 130, NEW YORK STATE EDUCATION LAW.

APPROVED:  
**KEVIN HEAPHY**

NEW YORK STATE  
PROFESSIONAL ENGINEER  
NO. 074570

**FYN PAINT & LACQUER CO., INC.**  
230 KENT AVENUE  
BROOKLYN, NEW YORK

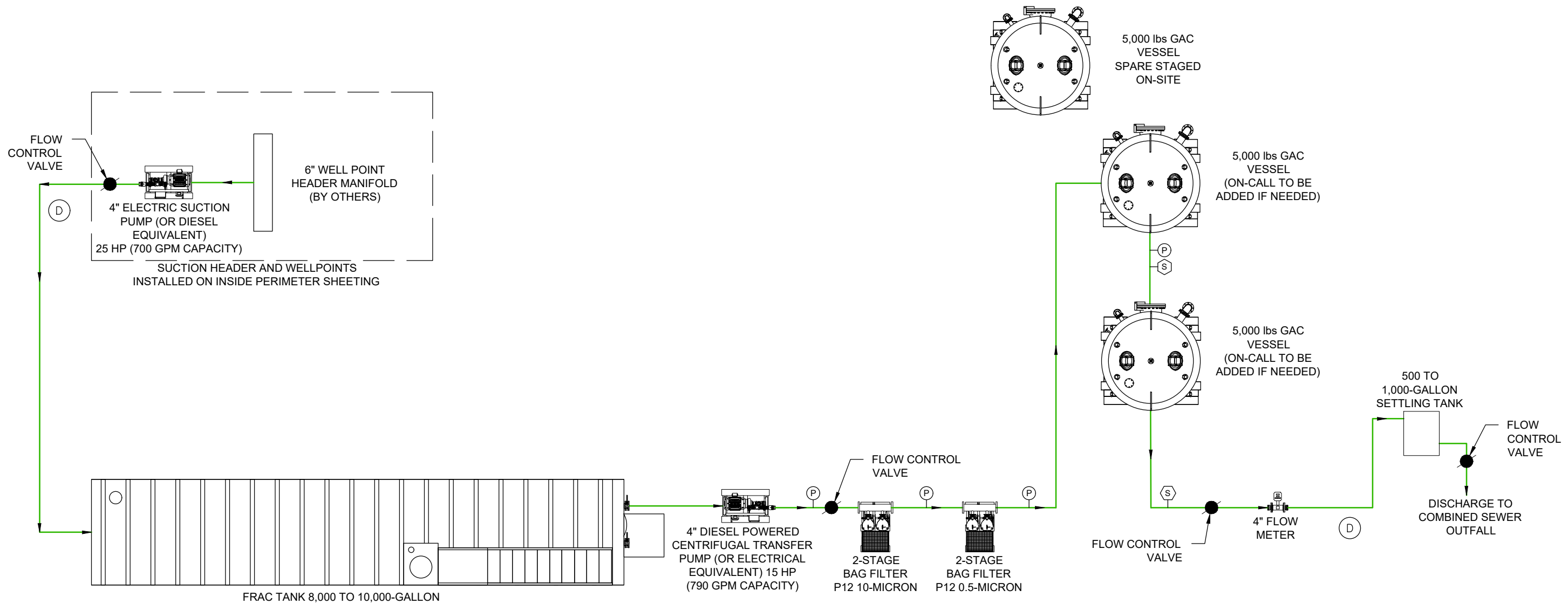
CONSTRUCTION DEWATERING SYSTEM - CROSS SECTION

DATE	REVISED	PREPARED BY:
		<b>WSP</b>
		WSP USA 4 Westchester Park Drive Suite 175 White Plains, New York 10604 (914) 694-5711
DRAWN:	RAC	CHECKED: SG
		DATE: 08/29/19
		FIGURE: 4





Z:\BIDDING\ESM\_Paint\_BCEP\02 - Remediation - Dewatering - L1 Well2 - Dewatering Summary\Figures\ES\_PED.dwg\_Layout1\_8/29/2019 7:18:13 AM\_AcroPlotTempDWE1540.pc3



**LEGEND**

- 4" DIA. PIPE/HOSE
- D PUMP DISCHARGE
- P PRESSURE GAUGE
- S SAMPLE PETCOCK
- FLOW CONTROL VALVE

NOTE:  
FLOW CONTROL VALVES WILL RESTRICT THE EFFLUENT DISCHARGE FLOW RATE TO ENSURE IT DOES NOT EXCEED PERMITTED DISCHARGE RATE OF 105 GPM.

NOT TO SCALE

**APPROVED:**  
KEVIN HEAPHY

---

NEW YORK STATE  
PROFESSIONAL ENGINEER  
NO. 074570

DISCLAIMER:  
IT IS A VIOLATION OF ARTICLE 130 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON TO ALTER THIS DOCUMENT IN ANY WAY WITHOUT THE EXPRESS WRITTEN VERIFICATION OR ADOPTION BY A NEW YORK STATE LICENSED LAND SURVEYOR OR ENGINEER IN ACCORDANCE WITH SECTION 7209 (2), ARTICLE 130, NEW YORK STATE EDUCATION LAW.

**FYN PAINT & LACQUER CO., INC.**  
230 KENT AVENUE  
BROOKLYN, NEW YORK

**DEWATERING SYSTEM - WATER TREATMENT PROCESS  
FLOW DIAGRAM**

DATE	REVISED	PREPARED BY:					
			WSP USA 4 Westchester Park Drive Suite 175 White Plains, New York 10604 (914) 694-5711				
<b>DRAWN:</b>	RAC	<b>CHECKED:</b>	SG	<b>DATE:</b>	08/29/19	<b>FIGURE:</b>	5

# APPENDIX A

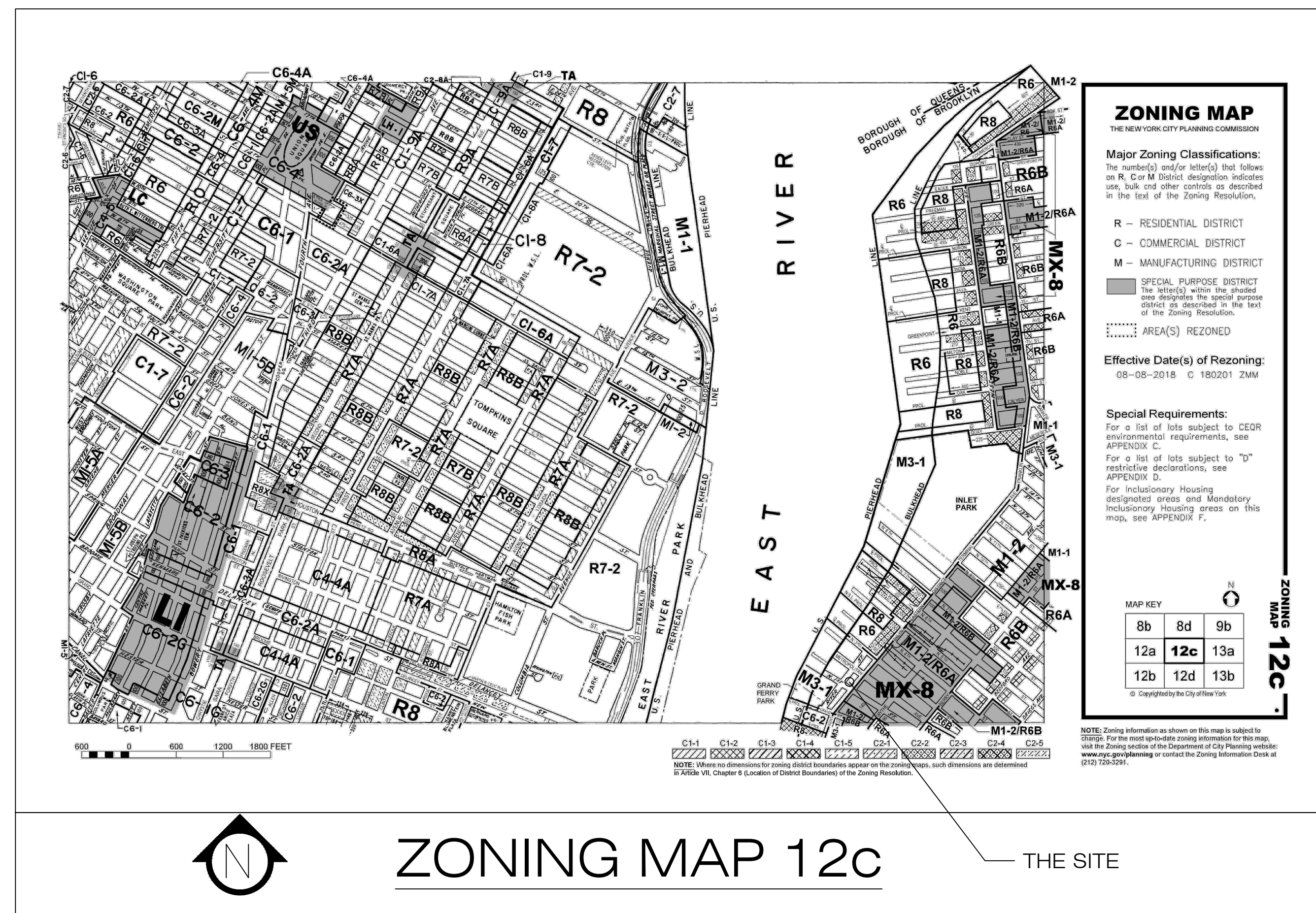


# SITE SAFETY LOGISTIC PLAN

EXCAVATION ON VACANT LOT  
230 KENT AVE BROOKLYN NY 11249  
JOB# 340683576

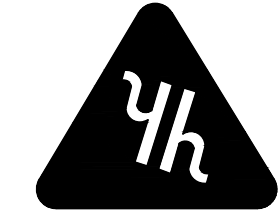
BLOCK #:	2362
LOT #:	1
ZONING:	M3-1 - HEAVY MANUFACTURING
BIN #:	3062426
OCCUP, CLASS,	CO
MAP #:	12c
CB #:	301
NO.OF STORY:	VACANT
HEIGHT:	-
BLDG SF	-

DRAWING LIST	
SHEET #	DESCRIPTION
SSP - 100.00	TITLE SHEET
SSP - 101.00	GENERAL NOTES & INFORMATION
SSP - 102.00	GENERAL SAFETY NOTES
SSP - 103.00	GENERAL EXCAVATION NOTES
SSP - 201.00	SITE PLAN
SSP - 202.00	EXCAVATION PHASE 1
SSP - 203.00	EXCAVATION PHASE 2
SSP - 401.00	STANDARD DETAILS
SSP - 402.00	STANDARD DETAILS & EQUIPMENTS



SITE SAFETY PLAN  
EXCAVATION PHASE

SAFETY DESIGNER



SAFETY DESIGN

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

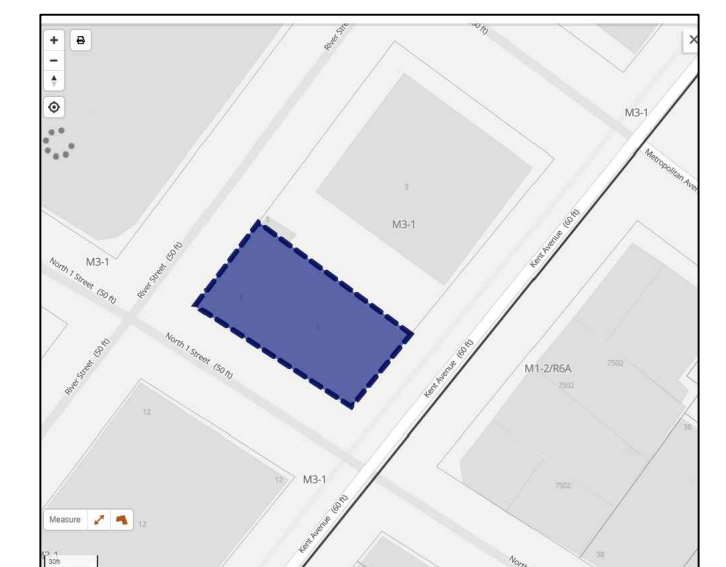
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE:  
TITLE SHEET

SIGNATURE OF PREPARER: *Mari Green*  
DATE: 8/18/2019  
SCALE: AS SHOWN  
DRAWN:  
REVIEWED:  
SHEET NO. 01

SSP-100-00



**PROJECT SCOPE OF WORK:**

PROPOSED EXCAVATION AS PER PLAN.

**INSTRUCTION TO REQUEST START OF WORK.**

FOR ALL SUSPENDED SCAFFOLDING NOTIFICATION MUST BE CALLED IN TO THE CALL CENTER 24 HOUR BEFORE START OF WORK AND AT TIME OF FINAL REMOVAL. THE NUMBER IS (212) 393-2550.

**INCIDENTS NOTIFICATION :**

AS PER 3310.2(7) OF THE NEW YORK CITY BUILDING CODE, SITE SAFETY COORDINATORS, DESIGNATED PERSONS AND SITE SAFETY MANAGERS MUST IMMEDIATELY REPORT INCIDENTS TO THE BUILDING DEPARTMENT. A CALL MUST BE MADE TO THE CALL CENTER 212-602-0431.

**FOR DEMOLITION ONLY:**

A CALL TO THE CALL CENTER 212-227-4416 24 HOUR BEFORE START OF WORK.

**FOR EXCAVATION ONLY:**

A CALL TO THE CALL CENTER 212-227-4416 24 HOUR BEFORE START OF WORK. THEN SEND THE B.E.S.T. SQUAD THEIR 24 HOUR NOTIFICATION.

**FOR ALL NEW BUILDING SITE SAFETY JOBS :**

24 HOURS BEFORE WORKS STARTS, ON COMPANY LETTERHEAD SEND A LETTER OF NOTIFICATION VIA EMAIL TO THE SCAFFOLD SAFETY TEAM ALONG WITH A COPY OF THE PW2. SSTSWSSREMOVAL@BUILDINGS.NYC.GOV

**CLOSE OUT INSTRUCTIONS:**

1. PORTAL REMOVAL OF SIDEWALK SHEDS REQUIRES AN AMENDED PLAN, NOTIFICATION TO THE SCAFFOLD SAFETY TEAM AND AN INSPECTION BY THE SCAFFOLD SAFETY TEAM.
2. PERMANENTLY REMOVING SIDEWALK SHED REQUIRES NOTIFICATION TO THE SCAFFOLD SAFETY TEAM AND AN INSPECTION BY THE SCAFFOLD SAFETY TEAM
3. REMOVAL OF SITE SAFETY REQUIRES NOTIFICATION TO THE SCAFFOLD SAFETY TEAM AND AN INSPECTION BY THE SCAFFOLD SAFETY TEAM.
4. REMOVAL OF SIDEWALK SHED ON UNSAFE LOCAL LAW FACADES REQUIRES NOTIFICATIONS TO FACADE UNIT. CALL (212) 393 2479

**NEW YORK POLICE DEPARTMENT:  
90TH PRECINCT**

211 Union Ave, Brooklyn, NY 11211  
(718) 963-5311

**NEW YORK CITY FIRE DEPARTMENT:  
ENGINE 221**

161 S 2nd St, Brooklyn, NY 11211

**EMS: STATION 35**

332 Metropolitan Ave, Brooklyn, NY 11211  
(718) 384-7039

**NYC DEPARTMENT OF TRANSPORTATION:**

55 Water St, New York, NY 10041  
212-639-9675

**NYC DEPARTMENT OF BUILDINGS:**

280 BROADWAY AVE 3RD FLOOR  
NEW YORK NY 10007  
212 566 4769

**LOCAL LAW 41:**

PRIOR TO PERFORMING ANY WORK ON THE PROJECT ALL WORKERS SHALL HAVE SUCCESSFULLY COMPLETED, WITHIN THE PREVIOUS FIVE CALENDAR YEAR, A TEN HOUR COURSE APPROVED BY THE UNITED STATES DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION IN CONSTRUCTION INDUSTRY SAFETY AND HEALTH, OR BY THE COMMISSIONER COVERING SUBSTANTIALLY THE SAME MATERIAL. SUCCESSFUL COMPLETION OF SUCH TRAINING COURSE SHALL BE EVIDENCED BY 1) PRESENTATION OF A BONA FIDE COURSE COMPLETION CARD, 2) COPY OF SUCH CARD, 3) A TRAINING ROSTER, ATTENDANCE RECORD, OR OTHER VALID PROOF WHICH MAY BE APPROVED BY THE COMMISSIONER. SUCH EVIDENCE SHALL BE READILY AVAILABLE TO THE COMMISSIONER UPON REQUEST.

ALL WORKERS EMPLOYED ON THIS PROJECT WILL RECEIVE A SITE-SPECIFIC SAFETY ORIENTATION PROGRAM SHALL INCLUDE A REVIEW OF ANY HAZARDOUS ACTIVITIES OF THE JOB THAT ARE RELEVANT TO THE TASKS AND ACTIVITIES TO BE PERFORMED. ALL WORKERS MUST ATTEND SUCH A PROGRAM NO LATER THAN SEVEN DAYS AFTER COMMENCING THEIR EMPLOYMENT.





**NOTE:**

- 1) THIS SITE SAFETY PLAN SUBMISSION IS COMPLIANCE WITH THE 2014 BUILDING CODE, CHAPTER 33 AND THE ADMINISTRATIVE CODE, SECTION 28-110.
- 2) SITE SAFETY MANAGEMENT IS IN ACCORDANCE WITH 1-RCNY.3310-01. REVISED
- 3) SITE SAFETY PLAN THAT MEETS THE APPLICABLE REQUIREMENTS OF ARTICLE 110 OF CHAPTER 1 OF TITLE 28 OF THE ADMINISTRATIVE CODE SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST
- 4) BC 3301.3 A SITE SAFETY MANAGER OR SITE SAFETY COORDINATOR MUST BE DESIGNATED AND PRESENT AT THE CONSTRUCTION OR DEMOLITION OF A MAJOR BUILDINGS ACCORDANCE WITH SECTION 3310. SINCE THIS IS NOT A MAJOR BUILDING ONLY A SUPERINTENDENT IS REQUIRED DURING THE CONSTRUCTION.

SCAFFOLD		VEHICLE RAMP	
DOB APPLICATION #		DOB APPLICATION #	
EXPIRATION DATE		EXPIRATION DATE	
SIDEWALK SHED		SIDE OF EXCAVATION	
DOB APPLICATION #		DOB APPLICATION #	
EXPIRATION DATE		EXPIRATION DATE	
CONSTRUCTION FENCE		MATERIAL HOIST	
DOB APPLICATION #		DOB APPLICATION #	
EXPIRATION DATE		EXPIRATION DATE	
TEMPORARY WALKWAY			
DOB APPLICATION #			
EXPIRATION DATE			

**NOTE**

ALL REQUIRED DOB APPLICATION NUMBERS, DOB PERMIT NUMBERS AND EXPIRATION DATES SHALL BE PROVIDED PRIOR TO THE START OF WORK.

GENERAL CONSTRUCTION SIGNAGE	
 REQUIRED CONSTRUCTION SIGNAGE	 SIDEWALK CLOSED USE OTHER SIDE.
 SIDEWALK CLOSED USE TEMPORARY WALKWAY.	 LANE CLOSED MERGE ....

LEGEND	
U. P.	UTILITY POLE
S. S.	STREET SIGN
F. H.	FIRE HYDRANT
S. L.	STREET LIGHT
D. C.	DROP CURB
L. B.	LOCK BICYCLE
O. H. S. W.	OVERHEAD SERVICE WIRE

**SITE SAFETY PLAN**

**EXCAVATION PHASE**

SAFETY DESIGNER



**SAFETY DESIGN**  
65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

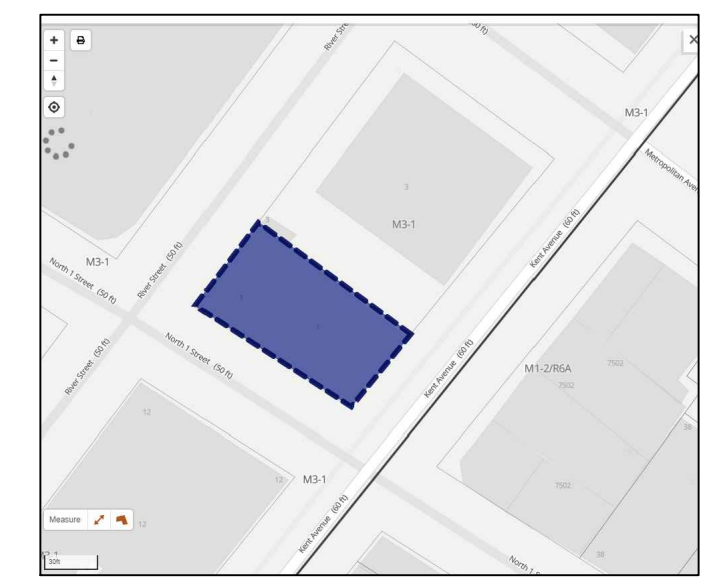
PROJECT

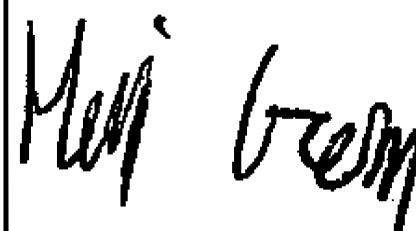
230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE: GENERAL INFORMATION	
SIGNATURE OF PREPARER	DATE: 8/18/2019
	SCALE: AS SHOWN
	DRAWN:
	REVIEWED:
	SHEET NO. 02

**SSP-101-00**

**PROPERTY OWNER :**

YITZCHOK SCHWEID  
KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
347-452-2615

**GENERAL CONTRACTOR :**

JOEL KAUFMAN  
KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
845-656-7574

**SUPERINTENDENT OF CONSTRUCTION**

LEVY I DAHAN  
REGISTRATION # 27474

**NOTE**

THE PERMIT HOLDER MUST IMMEDIATELY NOTIFY THE DEPARTMENT, IN A FORM AND MANNER ACCEPTABLE TO THE DEPARTMENT, OF ANY PERMANENT CHANGE TO THE PRIMARY CONSTRUCTION SUPERINTENDENT.



## SAFEGUARDS AND MAINTENANCE OF SITE

- SITES SHALL BE SAFEGUARDED AND MAINTAINED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 3303 OF NYC BUILDING CODE TO PROTECT THE PUBLIC AND PROPERTY.
- ALL TEMPORARY ELECTRICAL EQUIPMENT AND WIRING SHALL MEET THE REQUIREMENTS OF THE NEW YORK CITY ELECTRICAL CODE, AND SHALL BE MAINTAINED IN COMPLIANCE WITH SUCH REQUIREMENTS.
- TEMPORARY FACILITIES SHALL BE PROVIDED DURING CONSTRUCTION OR DEMOLITION ACTIVITIES IN ACCORDANCE WITH THE NEW YORK CITY PLUMBING CODE.
- ALL AREAS USED BY THE PUBLIC SHALL BE MAINTAINED FREE FROM ICE, SNOW, GREASE, DEBRIS, EQUIPMENT, MATERIALS, PROJECTIONS, TOOLS, OR OTHER ITEMS, SUBSTANCES, OR CONDITIONS THAT MAY CONSTITUTE A SLIPPING, TRIPPING, OR OTHER HAZARD.
- HOSE LINES, WIRES, ROPES, PIPES, CHAINS, AND CONDUITS SHALL BE LOCATED SO THAT THEY WILL NOT CONSTITUTE A TRIPPING HAZARD TO THE PUBLIC, WHERE IT IS NECESSARY TO CARRY SUCH ACROSS SIDEWALKS, OR ANY PUBLIC WAY, THEY SHALL EITHER BE SUSPENDED AT LEAST 8 FEET ABOVE GROUND OR, IF LEFT ON THE GROUND, SUITABLE CHAMFERED PLANKS OR A PEDESTRIAN BRIDGE SHALL BE PROVIDED TO COVER SUCH.
- SUFFICIENT CONTAINERS, INCLUDING BUT NOT LIMITED TO WASTE DUMPSTER, DEBRIS BOXES, AND SKIP BOXES, SHALL BE AVAILABLE FOR THE STORAGE OF ALL DEBRIS OR WASTE. SUCH CONTAINERS SHALL BE MADE OF METAL, PLASTIC, OR OTHER NON-COMBUSTIBLE MATERIAL ACCEPTABLE TO THE COMMISSIONER.
- ALL MATERIAL OR EQUIPMENT NOT BEING USED SHALL BE STORED AT LEAST 10 FEET, MEASURED ALONG ALL HORIZONTAL DIMENSIONS, FROM ALL UNENCLOSED PERIMETERS OF THE BUILDING OR STRUCTURE. SUCH MATERIAL OR EQUIPMENT SHALL BE SECURED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 3303.4.5.1 OF NYC BUILDING CODE.
- CHUTES USED IN ASSOCIATION WITH THE REMOVAL OF MATERIALS SHALL COMPLY WITH SECTIONS 3303.5.5.1 THROUGH 3303.5.5.5 OF NYC BUILDING CODE.
- WHERE PORTABLE FUEL FIRED HEATERS OR OTHER HEATING EQUIPMENT ARE USED TO PROVIDE TEMPORARY HEATING DURING THE PLACING OF CONCRETE FOR A FLOOR, AN ESCAPE HATCH SHALL BE PROVIDED. THE ESCAPE HATCH SHALL EXTEND FROM THE FLOOR WHERE THE CONCRETE IS BEING PLACED AND THROUGH AT LEAST ONE STORY IMMEDIATELY BELOW SUCH FLOOR. THE ESCAPE HATCH SHALL BE LOCATED AS NEAR TO THE CENTER OF THE BUILDING OR STRUCTURE AS PRACTICAL, AS PER BC 3303.6.
- FIRE-FIGHTING EQUIPMENT, FIRE-FIGHTING ACCESS AT THE CONSTRUCTION OR DEMOLITION SITE, AND THE CONDUCT OF ALL CONSTRUCTION OR DEMOLITION OPERATIONS AFFECTING FIRE PREVENTION AND FIRE-FIGHTING SHALL COMPLY WITH THE NEW YORK CITY FIRE CODE AND THE PROVISIONS OF SECTIONS 3303.7.1 THROUGH 3303.7.5.
- A WATER SUPPLY FOR FIRE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE NEW YORK CITY FIRE CODE.
- REQUIRED MEANS OF EGRESS, EXISTING STRUCTURAL ELEMENTS, FIRE PROTECTION DEVICES, AND SANITARY SAFEGUARDS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OR DEMOLITION OPERATIONS IN EXISTING BUILDINGS. REQUIRED MEANS OF EGRESS SHALL NOT BE OBSTRUCTED IN ANY MANNER THAT WOULD DESTROY THE FULL EFFECTIVENESS OF SUCH MEANS OF EGRESS.
- SITES WHERE CONSTRUCTION OR DEMOLITION WORK HAS BEEN INTERRUPTED OR ABANDONED AND DISCONTINUED SHALL BE PROTECTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 3303.13.1 THROUGH 3303.13.3 OF NYC BUILDING CODE.
- NO CONDITION SHALL BE CREATED AS A RESULT OF CONSTRUCTION OR DEMOLITION OPERATIONS THAT WILL INTERFERE WITH NATURAL SURFACE DRAINAGE, WATER COURSES, DRAINAGE DITCHES, ETC., SHALL NOT BE OBSTRUCTED BY REFUSE, WASTE BUILDING MATERIALS, EARTH, STONES, TREE STUMPS, BRANCHES, OR OTHER DEBRIS THAT MAY INTERFERE WITH SURFACE DRAIN AGE OR CAUSE THE IMPONDMENT OF SURFACE WATERS.
- CONCRETE WASHOUT WATER SHALL NOT BE ALLOWED TO ENTER ANY SEWER, CATCH BASIN, DRAIN, OR BODY OF WATER OR TO LEACH INTO THE GROUND.

## PROTECTION OF PEDESTRIANS

- WHERE AUTHORIZED BY THE DEPARTMENT OF TRANSPORTATION, A TEMPORARY WALKWAY OPEN TO THE PUBLIC MAY BE PROVIDED IN THE STREET IN FRONT OF THE SITE. SUCH TEMPORARY WALKWAY SHALL BE PROTECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
- WHERE A MEANS OF INGRESS/EGRESS TO THE PROPERTY REMAINS OPEN TO THE PUBLIC DURING THE COURSE OF CONSTRUCTION OR DEMOLITION, WALKWAYS, PATHWAYS, AND SIMILAR AREAS WITHIN THE PROPERTY LINE THAT PROVIDE A PATH OF TRAVEL BETWEEN THE REQUIRED MEANS OF INGRESS/EGRESS AND THE PUBLIC SIDEWALK OR TEMPORARY WALKWAY SHALL REMAIN OPEN.
- WHERE FOOT BRIDGES ARE UTILIZED AS PART OF A SIDEWALK, WALKWAY, OR PATHWAY, THEY SHALL BE PROVIDED WITH GUARDRAILS FOR THE ENTIRE LENGTH, AND SHALL HAVE CLEATS TO PREVENT SLIPPING, WHERE PLANKS ARE USED TO PAVE THE WALKWAY OF THE FOOT BRIDGE, THE PLANKS SHALL BE LAID CLOSE AND SECURELY FASTENED TO PREVENT DISPLACEMENT. PLANKS SHALL BE OF UNIFORM THICKNESS, AND ALL EXPOSED ENDS OF RAMPS SHALL BE PROVIDED WITH BEVELED FILLERS TO ELIMINATE TRIPPING HAZARDS.
- OBSTRUCTIONS OR OPENINGS LOCATED IN A PUBLIC WAY SHALL BE MARKED AND GUARDED BY BARRIERS, FLAGS, OR SIGNS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
- IN AREAS WHERE SPECIAL DANGER TO THE PUBLIC EXISTS, INCLUDING BUT NOT LIMITED TO VEHICLE ENTRANCES AND EXITS, HOISTING AREAS, POINTS OF STORAGE OF EXPLOSIVES OR HIGHLY FLAMMABLE MATERIAL, BLASTING AREAS, OR DISCHARGE ENDS OF CHUTES, DESCRIPTIVE WARNING SIGNS SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
- WHENEVER ANY WORK IS BEING PERFORMED OVER, ON, OR IN CLOSE PROXIMITY TO A HIGHWAY, STREET, OR SIMILAR PUBLIC WAY, CONTROL AND PROTECTION OF TRAFFIC SHALL BE PROVIDED BY BARRIERS, SIGNALS, SIGNS, FLAGPERSON, OR OTHER DEVICES, EQUIPMENT, AND PERSONNEL IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
- A FLAGPERSON SHALL BE PROVIDED WHENEVER INTERMITTENT OPERATIONS ARE CONDUCTED ON, OR ADJACENT TO, AREAS OPEN TO USE BY PERSONS OTHER THAN WORKERS, OR WHEN DANGEROUS OPERATIONS, SUCH AS BLASTING, MAY AFFECT SUCH AREAS. WHERE REQUIRED BY THE DEPARTMENT OF TRANSPORTATION, DESIGNATED PERSONNEL SHALL ALSO BE PROVIDED IN ADDITION TO FLAG PERSONS.
- NO SIDEWALK SHED SHALL BE INSTALLED WITHOUT A PERMIT IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 1 OF TITLE 28 OF THE ADMINISTRATIVE CODE.
- SIDEWALK SHEDS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 3307.6.4.1 THROUGH SECTION 3307.6.4.11 OF NYC BUILDING CODE.
- A VERTICAL PARAPET AT LEAST 3 FEET 6 INCHES HIGH, AS MEASURED FROM THE DECK OF THE SIDEWALK SHED, SHALL BE CONSTRUCTED ALONG ALL EDGES OF THE SIDEWALK SHED. SUCH PARAPET SHALL CONSIST OF SOLID PLYWOOD, CORRUGATED METAL, A GALVANIZED WIRE SCREEN CONSISTING OF NOT LESS THAN NO. 16 STEEL WIRE GAGE WITH A ½ INCH DEBRIS MESH, OR OTHER EQUIVALENT MATERIAL, AND SHALL BE SECURELY ATTACHED TO THE SHED WITH BRACED UPRIGHTS. TEMPORARY REMOVAL OF A PORTION OF THE PARAPET IS PERMITTED FOR THE HANDLING OF MATERIAL, PROVIDED THE PARAPET IS IMMEDIATELY RESTORED AT THE END OF THE HANDLING OPERATION.
- THE DECK OF THE SIDEWALK SHED SHALL CONSIST OF 2-INCH THICK WOOD PLANK OR EQUIVALENT MATERIAL AND SHALL BE CAPABLE OF SUSTAINING THE LOADS REQUIRED BY SECTION 3307.6.4.2. THE DECK SHALL BE SOLID, OR SHALL CONSIST OF PLANKING LAID CLOSE AND MADE TIGHT, WHERE THE EDGE OF THE SIDEWALK SHED ABUTS A BUILDING OR STRUCTURE, THE DECKING SHALL BE BROUGHT TIGHT TO THE FACE OF THE BUILDING OR STRUCTURE.
- THE PERMIT HOLDER FOR THE SHED SHALL NOTIFY THE DEPARTMENT NO MORE THAN TWO BUSINESS DAYS FOLLOWING THE COMPLETE REMOVAL OF A SIDEWALK SHED.
- ALL SITES WHERE A NEW BUILDING IS BEING CONSTRUCTED, OR A BUILDING IS BEING DEMOLISHED TO GRADE, SHALL BE ENCLOSED WITH A FENCE. FENCES SHALL ALSO BE INSTALLED TO FULLY OR PARTIALLY ENCLOSED SITES, AS NECESSARY, WHERE THERE EXISTS AN OPEN EXCAVATION, AN UNENCLOSED PORTION OF A BUILDING ACCESSIBLE AT GRADE, OR OTHER HAZARD TO THE PUBLIC. SUCH FENCES SHALL BE AT LEAST 8 FEET (2438 MM) HIGH, BUILT SOLID FOR THEIR ENTIRE LENGTH, OUT OF WOOD OR OTHER SUITABLE MATERIAL, AND SHALL BE RETURNED AT THE ENDS TO THE EXTENT NECESSARY TO EFFECTIVELY CLOSE OFF THE SITE. SUCH FENCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH PROVISIONS OF SECTION 3307.7 OF NEW YORK CITY BUILDING CODE.
- FENCES REQUIRED BY THIS SECTION SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF WORK. SUCH REQUIRED FENCES SHALL NOT BE REMOVED UNTIL: 1. THE SITE HAS BEEN FILLED AND GRADED AND ALL HAZARDS TO THE PUBLIC REMOVED, OR 2. THE FAÇADE HAS BEEN ENCLOSED, WITH ALL DOORS AND WINDOWS INSTALLED, AND ALL EXTERIOR WORK, EXCEPT FOR INCIDENTAL WORK INCLUDING BUT NOT LIMITED TO LANDSCAPING, PAINTING, WEATHERPROOFING, OR INSTALLATION OF SIGNS OR FIXTURES, HAS BEEN COMPLETED.

## SCAFFOLDS

- SCAFFOLDS UTILIZED IN CONJUNCTION WITH THE CONSTRUCTION OR DEMOLITION OF A BUILDING OR STRUCTURE SHALL BE ERECTED AND MAINTAINED SO THAT THE SAFETY OF PUBLIC AND PROPERTY WILL NOT BE ENDANGERED BY FALLING MATERIAL OR EQUIPMENT, OR BY COLLAPSE OF THE SCAFFOLD AS PER BC 3314.1.
- SCAFFOLDS SHALL BE INSTALLED, INSPECTED, REPAIRED, MAINTAINED, ADJUSTED, USED, AND REMOVED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE MANUFACTURER, WHERE SUCH SPECIFICATIONS EXIST, AND THE REQUIREMENTS OF SECTIONS 3314.4.1 THROUGH 3314.4.8 OF NYC BC.
- PLATFORMS ON ALL WORKING LEVELS OF A SCAFFOLD SHALL BE FULLY PLANKED OR DECKED BETWEEN THE FRONT UPRIGHTS AND THE GUARDRAIL SYSTEM SUPPORTS IN ACCORDANCE WITH SECTIONS 3314.5.1 THROUGH 3314.5.6 OF NYC BC.
- THE FOOTINGS AND ANCHORAGE FOR EVERY SCAFFOLD SHALL BE SOUND AND RIGID, CAPABLE OF CARRYING THE MAXIMUM LOAD WITHOUT EXCESSIVE SETTLEMENT OR DEFORMATION AND SECURE AGAINST MOVEMENT IN ANY DIRECTION. SUPPORTS SUCH AS BARRELS, BOXES, LOOSE BRICK, LOOSE STONE, OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED. BC 3314.6.
- THE OPEN SIDES AND ENDS OF SCAFFOLD PLATFORMS SHALL BE PROVIDED WITH A GUARDRAIL SYSTEM THAT MEETS THE REQUIREMENTS OF SECTION BC 3314.8.1 AND DEBRIS NETTING THAT MEETS THE REQUIREMENTS OF SECTION BC 3314.8.2.

## PROTECTION OF UNENCLOSED PERIMETERS

- SAFETY NETTING SYSTEMS AND GUARDRAIL SYSTEMS SHALL BE PROVIDED AS REQUIRED BY THIS SECTION TO PROTECT UNENCLOSED PERIMETERS, EXCEPT WHERE THIS SECTION AUTHORIZES THE TEMPORARY REMOVAL OF UNENCLOSED PERIMETER PROTECTION, NO WORK SHALL OCCUR, NOR SHALL MATERIALS BE STORED ON ANY LEVEL, WHERE REQUIRED UNENCLOSED PERIMETER PROTECTION IS NOT INSTALLED.
- VERTICAL SAFETY NETTING MAY BE TEMPORARILY REMOVED IN THE IMMEDIATE AREA WHERE ACTIVE LOADING OR UNLOADING OPERATIONS ARE OCCURRING, OR WHERE PERIMETER WORK IS OCCURRING. THE VERTICAL SAFETY NETS SHALL BE REINSTALLED IMMEDIATELY FOLLOWING THE END OF ACTIVE LOADING OR UNLOADING OPERATIONS, OR ACTIVE WORK, OR AT THE END OF THE WORKDAY, WHICHEVER OCCURS SOONER. VERTICAL SAFETY NETTING SYSTEMS MAY BE REMOVED FROM FLOORS WHERE THE FAÇADE HAS BEEN INSTALLED AND ALL SUCH OPENINGS IN THE FAÇADE, INCLUDING FOR WINDOWS, HAVE BEEN PERMANENTLY ENCLOSED TO A HEIGHT OF AT LEAST 60 INCHES ABOVE THE FLOOR. VERTICAL SAFETY NETTING SYSTEMS MAY BE REMOVED FROM THE ROOF WHERE THE FINAL PARAPET OR GUARDRAIL HAS BEEN INSTALLED.
- GUARDRAIL SYSTEMS MAY BE TEMPORARILY REMOVED IN THE IMMEDIATE AREA WHERE ACTIVE LOADING OR UNLOADING OPERATIONS ARE OCCURRING, OR WHERE PERIMETER WORK IS OCCURRING, PROVIDED THAT: 1. A CONTROLLED ACCESS ZONE IS ESTABLISHED TO PREVENT UNAUTHORIZED PERSONNEL FROM ENTERING THE AREA WHERE THE GUARDRAIL SYSTEM IS REMOVED; AND 2. IMMEDIATELY PRIOR TO THE REMOVAL OF THE GUARDRAIL SYSTEM THE FLOOR IS BROOM SWEEP AND CLEARED OF ALL MATERIALS AND EQUIPMENT TO A DISTANCE OF AT LEAST 10 FEET, IN ALL DIRECTIONS, FROM THE AREA WHERE THE GUARDRAIL SYSTEM WILL BE REMOVED, EXCEPT FOR MATERIAL AND EQUIPMENT RELATED TO THE LOADING OR UNLOADING OPERATION OR PERIMETER WORK OR STORED IN ACCORDANCE WITH SECTION 3303.4.5.2 OF NYC BUILDING CODE.
- THE GUARDRAIL SYSTEM SHALL BE REINSTALLED IMMEDIATELY FOLLOWING THE END OF ACTIVE LOADING OR UNLOADING OPERATIONS, OR ACTIVE WORK, OR AT THE END OF THE WORKDAY, WHICHEVER OCCURS SOONER.
- AS PER BC 3308.8, ALL ALTERNATIVE SAFETY NETTING SYSTEMS AND GUARDRAIL SYSTEMS REQUIRED BY BC 3308 SHALL BE APPROVED BY THE COMMISSIONER.

## MATERIAL PLACEMENT AND INSTALLATION

- STRUCTURAL STEEL (IF BEING USED).
  - STRUCTURAL STEEL ASSEMBLY SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AISC 360 I AND THE REQUIREMENTS OF SECTIONS 3305.2.1 THROUGH 3305.2.8 OF NYC BUILDING CODE.
  - THE PERMANENT FLOORS OF TIERED BUILDINGS OR OTHER STRUCTURES SHALL BE INSTALLED AS SOON AS POSSIBLE AS THE ERECTION OF STRUCTURAL STEEL MEMBERS PROGRESSES. IN NO CASE SHALL THERE BE MORE THAN EIGHT STORIES, FLOORS OR EQUIVALENT LEVELS OR 120 FEET (36 576 MM), WHICHEVER IS LESS, BETWEEN THE WORKING DECK AND THE UPPERMOST PERMANENT FLOOR.
- CONCRETE ONLY (IF BEING USED).
  - CONCRETE FORMWORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 3305.3.1 THROUGH 3305.3.7 OF NYC BUILDING CODE.
  - DESIGN OF FORMWORK, INCLUDING BUT NOT LIMITED TO FORMS, SHORES, AND SHORING FOUNDATIONS, SHALL COMPLY WITH ACI 318, SECTION 6.1.5, AND THE REQUIREMENTS OF SECTIONS 3305.3.2.1 THROUGH 3305.3.2.8 OF NYC BUILDING CODE.
  - FORMWORK SHALL BE INSPECTED AND OBSERVED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 3305.3.3.1 AND 3305.3.3.2 OF NYC BUILDING CODE.
  - CONCRETE FORMWORK, INCLUDING BUT NOT LIMITED TO FORMS, SHORES, AND SHORING FOUNDATIONS, SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE DESIGN DRAWINGS, WHERE SUCH DRAWINGS ARE REQUIRED BY SECTION 3305.3.2.1, AND SHALL ALSO BE CONSTRUCTED TO COMPLY WITH THE REQUIREMENTS OF SECTIONS 3305.3.4.1 THROUGH 3305.3.4.5 OF NYC BUILDING CODE.
  - ANY UNSAFE CONDITION OR NECESSARY ADJUSTMENT REVEALED BY INSPECTION SHALL BE REMEDIED IMMEDIATELY. IF, DURING CONSTRUCTION, ANY WEAKNESS DEVELOPS AND THE FORMWORK SHOWS ANY UNDUE SETTLEMENT OR DISTORTION, THE WORK SHALL BE STOPPED, THE AFFECTED CONSTRUCTION REMOVED IF PERMANENTLY DAMAGED, AND THE FORMWORK STRENGTHENED.
  - THE REMOVAL OF FORMS AND SHORING SHALL COMPLY WITH THE REQUIREMENTS OF SECTIONS 3305.3.5.1 THROUGH 3305.3.5.6 OF NYC BUILDING CODE.
  - BEFORE STARTING CONSTRUCTION, THE CONTRACTOR SHALL DEVELOP A PROCEDURE AND SCHEDULE FOR REMOVAL OF SHORES AND INSTALLATION OF RESHORES AND FOR CALCULATING THE LOADS TRANSFERRED TO THE STRUCTURE DURING THE PROCESS, AS PER SECTION 3305.3.5.1 OF NYC BUILDING CODE.
  - RESHORING SHALL BE PROVIDED TO SUPPORT THE CONSTRUCTION WHERE FORMS AND SHORES ARE STRIPPED BEFORE THE CONCRETE HAS ATTAINED SUFFICIENT STRENGTH TO SUPPORT THE SUPER IMPOSED LOADS DUE TO CONSTRUCTION ABOVE. RESHORING SHALL COMPLY WITH SECTIONS 3305.3.6.1 THROUGH 3305.3.6.8 OF NYC BUILDING CODE.
- ALUMINUM (IF BEING USED).
  - FORMWORK SHALL BE INSPECTED AND OBSERVED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 3305.3.3.1 AND 3305.3.3.2 OF NYC BUILDING CODE.
- MASONRY (IF BEING USED).
- THE REQUIREMENTS OF SECTION 2104.6 OF NYC BUILDING CODE SHALL APPLY.

## FIRE SAFETY

- ALL HANDLING, TRANSPORTING, AND USE OF EXPLOSIVES, AS DEFINED BY THE NEW YORK CITY FIRE CODE, SHALL COMPLY WITH THE NEW YORK CITY FIRE CODE AND SECTION 3307.4.2 OF NYC BC. THE USE OF EXPLOSIVES IS STRICTLY PROHIBITED UNLESS THE WRITTEN CONSENT OF THE COMMISSIONER AND THE FIRE DEPARTMENT IS OBTAINED.
- THE TRANSPORTATION, HANDLING, STORAGE, INSTALLATION, CONNECTION, VENTILATION, AND USE OF ALL VOLATILE FLAMMABLE OILS, FLAMMABLE AND COMBUSTIBLE MIXTURES, COMPRESSED GASES, AND OTHER HAZARDOUS MATERIALS SHALL COMPLY WITH THE NEW YORK CITY FIRE CODE, AND SHALL ALSO BE SAFEGUARDED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 3307.4.2 OF NYC BC.
- ANY STRUCTURE, TEMPORARY CONSTRUCTION, OPERATION, OR EQUIPMENT FOUND TO BE DEFECTIVE OR UNSAFE, AND POSING A RISK TO THE PUBLIC AND PROPERTY, SHALL BE IMMEDIATELY SECURED AND CORRECTED, OR REMOVED FROM THE SITE.
- SITE SAFETY PLAN THAT MEETS THE APPLICABLE REQUIREMENTS OF ARTICLE 110 OF CHAPTER 1 OF TITLE 28 OF THE ADMINISTRATIVE CODE SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE DEPARTMENT UPON REQUEST.

## MATERIAL HANDLING EQUIPMENT

- MATERIAL HANDLING EQUIPMENT SHALL BE INSTALLED, OPERATED, AND MAINTAINED TO ELIMINATE HAZARD TO THE PUBLIC OR TO PROPERTY. IT SHALL BE UNLAWFUL TO OPERATE ANY SUCH EQUIPMENT THAT IS NOT PROVIDED WITH A POSITIVE MEANS FOR PREVENTING THE UNAUTHORIZED OPERATION OF SUCH MACHINE. THE MEANS WHEREBY SUCH MACHINES MAY BE MADE INOPERATIVE SHALL BE ACCEPTABLE TO THE COMMISSIONER.
- ONLY OPERATORS DESIGNATED BY THE PERSON CAUSING SUCH MACHINERY TO BE USED SHALL OPERATE MATERIAL HANDLING MACHINERY. OPERATORS AND SIGNALMEN/SIGNALWOMEN SHALL BE EXPERIENCED AT THE OPERATION THEY PERFORM. THE OPERATOR SHALL BE RESPONSIBLE FOR MAKING THE MACHINE INOPERATIVE BEFORE HE OR SHE LEAVES THE MACHINE.
- THE OWNER OR PERSON DIRECTLY IN CHARGE OF ANY MATERIAL HANDLING EQUIPMENT SHALL IMMEDIATELY NOTIFY THE COMMISSIONER FOLLOWING ANY ACCIDENT INVOLVING MATERIAL HANDLING EQUIPMENT. IN SUCH A CASE, NO PERSON SHALL PERMIT EITHER OF THE FOLLOWING WITHOUT THE PERMISSION OF THE COMMISSIONER: USE OF SUCH MATERIAL HANDLING EQUIPMENT; OR REMOVE OF THE MATERIAL HANDLING EQUIPMENT OR ANY PART THEREOF FROM THE AREA OF THE JOB SITE.
- CONVEYORS SHALL MEET THE REQUIREMENTS OF SECTION 3320.5 OF NYC BUILDING CODE.
- TRUCKS SHALL MEET THE REQUIREMENTS OF SECTION 3320.6 OF NYC BUILDING CODE.
- POWER BUGGIES SHALL MEET THE REQUIREMENTS OF SECTION 3320.7 OF NYC BUILDING CODE.
- LIFT AND FORK TRUCKS SHALL MEET THE REQUIREMENTS OF SECTION 3320.8 OF NYC BUILDING CODE.
- JACKS SHALL MEET THE REQUIREMENTS OF SECTION 3320.11 OF NYC BUILDING CODE.
- EXPLOSIVE POWERED TOOLS, INCLUDING BUT NOT LIMITED TO POWDER-ACTUATED TOOLS AND PROJECTILE TOOLS, USED IN CONNECTION WITH THE CONSTRUCTION OR DEMOLITION OF A BUILDING OR STRUCTURE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION BC 3311 OF NYC BC.

## PROTECTION OF ADJOINING PROPERTY

- THE DEPARTMENT SHALL BE NOTIFIED IMMEDIATELY BY THE PERMIT HOLDER, OR A DULY AUTHORIZED REPRESENTATIVE, OF AN ACCIDENT AT A CONSTRUCTION OR DEMOLITION SITE, OR OF ANY DAMAGE TO ADJOINING PROPERTY CAUSED BY CONSTRUCTION OR DEMOLITION ACTIVITY AT THE SITE.
- ADJOINING PUBLIC AND PRIVATE PROPERTY SHALL BE PROTECTED FROM DAMAGE AND INJURY DURING CONSTRUCTION OR DEMOLITION WORK IN ACCORDANCE WITH THE REQUIREMENTS OF BC 3309. PROTECTION MUST BE PROVIDED FOR FOOTINGS, FOUNDATIONS, PARTY WALLS, CHIMNEYS, SKYLIGHTS AND ROOFS. PROVISIONS SHALL BE MADE TO CONTROL WATER RUN-OFF AND EROSION DURING CONSTRUCTION OR DEMOLITION ACTIVITIES.
- AS PER BC 3309.1.1, WHERE A CONSTRUCTION OR DEMOLITION PROJECT WILL REQUIRE ACCESS TO ADJOINING PROPERTY IN ACCORDANCE WITH THIS SECTION, WRITTEN NOTIFICATION SHALL BE PROVIDED TO THE ADJOINING PROPERTY OWNER AT LEAST 60 CALENDAR DAYS PRIOR TO THE COMMENCEMENT OF WORK. SUCH NOTIFICATION SHALL DESCRIBE THE NATURE OF WORK, ESTIMATED SCHEDULE AND DETAILED DETAILS OF INSURING OR MONITORING TO BE PERFORMED ON THE ADJOINING PROPERTY, PROTECTION TO BE INSTALLED ON THE ADJOINING PROPERTY, AND CONTACT INFORMATION FOR THE PROJECT. WHERE NO RESPONSE IS RECEIVED, A SECOND WRITTEN NOTIFICATION SHALL BE MADE NO MORE THAN 45 CALENDAR DAYS, AND NOT LESS THAN 30 CALENDAR DAYS, PRIOR TO THE COMMENCEMENT OF WORK.
- AS PER BC 3309.2, THE RESPONSIBILITY OF AFFORDING ANY LICENSE TO ENTER ADJOINING PROPERTY SHALL REST UPON THE OWNER OF THE ADJOINING PROPERTY INVOLVED; AND IN CASE ANY TENANT OF SUCH OWNER FAILS OR REFUSES TO PERMIT THE OWNER TO AFFORD SUCH LICENSE, SUCH FAILURE OR REFUSAL SHALL BE A CAUSE FOR THE OWNER TO DISPOSSESS SUCH TENANT THROUGH APPROPRIATE LEGAL PROCEEDINGS FOR RECOVERING POSSESSION OF REAL PROPERTY. NOTHING IN THIS CHAPTER SHALL BE CONSTRUED TO PROHIBIT THE OWNER OF THE PROPERTY UNDERTAKING CONSTRUCTION OR DEMOLITION WORK FROM PETITIONING FOR A SPECIAL PROCEEDING PURSUANT TO SECTION 881 OF THE REAL PROPERTY ACTIONS AND PROCEEDINGS LAW.
- THE FOLLOWING ADDITIONAL REQUIREMENTS SHALL APPLY DURING EXCAVATION:
  - THE PERSON CAUSING THE EXCAVATION SHALL SUPPORT THE VERTICAL AND LATERAL LOAD OF THE ADJOINING STRUCTURE BY PROPER FOUNDATIONS, UNDERPINNING, OR OTHER EQUIVALENT MEANS WHERE THE LEVEL OF THE FOUNDATIONS OF THE ADJOINING STRUCTURE IS AT OR ABOVE THE LEVEL OF THE BOTTOM OF THE NEW EXCAVATION.
    2. WHERE THE EXISTING ADJOINING STRUCTURE IS BELOW THE LEVEL OF THE CONSTRUCTION OR DEMOLITION, PROVISION SHALL BE MADE TO SUPPORT ANY INCREASED VERTICAL OR LATERAL LOAD ON THE EXISTING ADJOINING STRUCTURE CAUSED BY THE CONSTRUCTION OR DEMOLITION.
    3. WHERE THE CONSTRUCTION OR DEMOLITION WILL RESULT IN A DECREASE IN THE FROST PROTECTION FOR AN EXISTING FOUNDATION BELOW THE MINIMUMS ESTABLISHED IN SECTION 1805.3.1, THE EXISTING FOUNDATION SHALL BE MODIFIED AS NECESSARY TO RESTORE THE REQUIRED FROST PROTECTION.
  - WHERE A PARTY WALL WILL BE AFFECTED BY EXCAVATION, REGARDLESS OF THE DEPTH, THE PERSON WHO CAUSES THE EXCAVATION TO BE MADE SHALL PRESERVE SUCH PARTY WALL AT HIS OR HER OWN EXPENSE SO THAT IT SHALL BE, AND SHALL REMAIN, IN A SAFE CONDITION. WHERE AN ADJOINING PARTY WALL IS INTENDED TO BE USED BY THE PERSON CAUSING AN EXCAVATION TO BE MADE, AND SUCH PARTY WALL IS IN GOOD CONDITION AND SUFFICIENT FOR THE USES OF THE EXISTING AND PROPOSED BUILDINGS, IT SHALL BE THE DUTY OF SUCH PERSON TO PROTECT SUCH PARTY WALL AND SUPPORT IT BY PROPER FOUNDATIONS, SO THAT IT SHALL BE AND REMAIN PRACTICALLY AS SAFE AS IT WAS BEFORE THE EXCAVATION WAS COMMENCED.
  - WHENEVER SUBSURFACE OPERATIONS, OTHER THAN EXCAVATION OR FILL, ARE CONDUCTED THAT MAY IMPOSE LOADS OR MOVEMENTS ON ADJOINING PROPERTY, INCLUDING BUT NOT LIMITED TO THE DRIVING OF PILES, COMPACTION OF SOILS, OR SOIL SOLIDIFICATION, THE EFFECTS OF SUCH OPERATIONS ON ADJOINING PROPERTY AND STRUCTURES SHALL BE MONITORED IN ACCORDANCE WITH SECTION 3309.16 OF NYC BC.
  - WHEN ANY CONSTRUCTION OR DEMOLITION OPERATION EXPOSES OR BREACHES AN ADJOINING WALL, INCLUDING LOAD BEARING AND NON-LOAD-BEARING WALLS AS WELL AS PARTY WALLS AND NON-PARTY WALLS, THE PERSON CAUSING THE CONSTRUCTION OR DEMOLITION OPERATION SHALL, AT HIS OR HER OWN EXPENSE, MAINTAIN THE STRUCTURAL INTEGRITY OF SUCH WALLS AND ADJOINING STRUCTURE, MAINTAIN ALL REQUIRED FIRE EXITS AND PASSAGEWAYS OR PROVIDE SUBSTITUTIONS; CUT OFF CLOSE TO THE WALLS ALL BEAMS IN PARTY WALLS, REMOVE STUB ENDS WITHOUT WEAKENING EXISTING MASONRY, CLEAN BEAM POCKETS OF LOOSE MORTAR, BEND OVER ALL WALL ANCHORS AT THE BEAM ENDS IN THE STANDING WALL, AND BRICK-UP ALL OPEN BEAM HOLES WITH SOUND BRICK AND CEMENT MORTAR, DURING DEMOLITION OPERATIONS, WHERE THE FLOOR BEAMS OF THE ADJACENT BUILDING BEAR ON THE PARTY WALL, THE PERSON CAUSING THE DEMOLITION SHALL ASCERTAIN THAT SUCH BEAMS ARE ANCHORED INTO THE WALL AND, WHERE SUCH ANCHORAGE IS LACKING, SHALL PROVIDE ANCHORAGE OR OTHERWISE BRACE THE STANDING WALL; DURING DEMOLITION OPERATIONS, ALL NON-LOAD-BEARING CHIMNEY BREASTS, PROJECTIONS AND ANY OTHER DEBRIS EXPOSED ON PARTY WALLS SHALL BE EXAMINED AND MONITORED. ALL OPENINGS SHALL BE BRICKED UP FLUSH ON THE EXTERIOR SIDE OF THE PARTY WALL. ALL MASONRY THAT IS IN POOR CONDITION SHALL BE POINTED AND PATCHED.
  - WHENEVER ANY BUILDING IS TO BE CONSTRUCTED OR DEMOLISHED ABOVE THE ROOF OF AN ADJOINING BUILDING, IT SHALL BE THE DUTY OF THE PERSON CAUSING SUCH WORK TO PROTECT FROM DAMAGE AT ALL TIMES DURING THE COURSE OF SUCH WORK AND AT HIS OR HER OWN EXPENSE THE ROOF, SKYLIGHTS, OTHER ROOF OUTLETS, AND EQUIPMENT LOCATED ON THE ROOF OF THE ADJOINING BUILDING.
  - NO TREES OUTSIDE THE PROPERTY LINE WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE DISTURBED OR REMOVED WITHOUT THE PERMISSION OF THE DEPARTMENT OF PARKS AND RECREATION. PROTECTION MEETING THE REQUIREMENTS OF THE DEPARTMENT OF PARKS AND RECREATION SHALL BE PROVIDED FOR ALL SUCH TREES, AND WRITTEN NOTIFICATION SHALL ALSO BE MADE TO THE DEPARTMENT OF PARKS AND RECREATION AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF SUCH WORK.
  - AS PER BC 3309.14, WHENEVER EXTERIOR CONSTRUCTION OR DEMOLITION WORK OCCURS, AND SUCH WORK RESULTS IN AN UNENCLOSED PERIMETER, IT SHALL BE THE DUTY OF THE PERSON CAUSING SUCH WORK TO PROTECT FROM DAMAGE, AT ALL TIMES DURING THE COURSE OF SUCH WORK, AT HIS OR HER OWN EXPENSE, ALL WINDOWS ON ADJOINING PRIVATE PROPERTY THAT FACE SUCH WORK AND ARE 20 FEET OR LESS FROM AN UNENCLOSED PERIMETER.

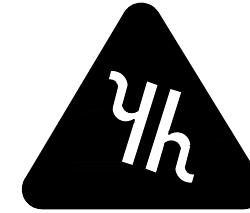
## HOISTING EQUIPMENT

- HOISTING EQUIPMENT, ITS SUPPORTS AND RUNBACK STRUCTURES SHALL BE INSTALLED, OPERATED, AND MAINTAINED TO ELIMINATE HAZARD TO THE PUBLIC OR TO PROPERTY. IT SHALL BE UNLAWFUL TO OPERATE ANY SUCH EQUIPMENT THAT IS NOT PROVIDED WITH A POSITIVE MEANS FOR PREVENTING THE UNAUTHORIZED OPERATION OF SUCH MACHINE.
- THE OWNER OR PERSON DIRECTLY IN CHARGE OF ANY HOISTING EQUIPMENT SHALL IMMEDIATELY NOTIFY THE COMMISSIONER FOLLOWING ANY ACCIDENT INVOLVING HOISTING EQUIPMENT. FOLLOWING AN INCIDENT, NO PERSON SHALL PERMIT EITHER OF THE FOLLOWING, WITHOUT THE PERMISSION OF THE COMMISSIONER: 1. USE OF SUCH HOISTING EQUIPMENT; OR 2. REMOVAL OF THE HOISTING EQUIPMENT OR ANY PART THEREOF FROM THE AREA OF THE JOB SITE.
- HOISTS AND ALL PREMANUFACTURED RUNBACK STRUCTURES SHALL BE APPROVED FOR USE BY THE COMMISSIONER OR OTHER AGENCY ACCEPTABLE TO THE COMMISSIONER. NO OWNER OR OTHER PERSON SHALL AUTHORIZE OR PERMIT THE OPERATION OF ANY CRANE OR DERRICK WITHOUT A CERTIFICATE OF APPROVAL. A CERTIFICATE OF OPERATION AND A CERTIFICATE OF ON-SITE INSPECTION, PERMITS, OR DUPLICATES OF THE PERMITS, SHALL BE POSTED IN A CONSPICUOUS LOCATION IN THE CAR OR ON THE EQUIPMENT. COPIES OF THE WRITTEN PERMIT APPLICATION AND APPROVED CONSTRUCTION DOCUMENTS SHALL BE KEPT AT THE SITE AND MADE AVAILABLE TO THE COMMISSIONER UPON REQUEST.
- HOISTING EQUIPMENT, ITS SUPPORTS AND RUNBACK STRUCTURES SHALL BE DESIGNED, CONSTRUCTED AND INSPECTED IN ACCORDANCE WITH RULES PROMULGATED BY THE COMMISSIONER.
- ALL ROPES USED IN HOISTING EQUIPMENT SHALL MEET THE INSPECTION AND REPLACEMENT REQUIREMENTS SPECIFIED IN RULES PROMULGATED BY THE COMMISSIONER.
- ONLY OPERATORS DESIGNATED BY THE PERSON CAUSING SUCH HOISTING EQUIPMENT TO BE USED SHALL OPERATE SUCH HOISTING MACHINERY. OPERATORS AND SIGNALMEN/SIGNALWOMEN SHALL BE QUALIFIED FOR THE OPERATION THEY PERFORM. THE OPERATOR SHALL BE RESPONSIBLE FOR MAKING THE MACHINE INOPERATIVE BEFORE HE OR SHE LEAVES THE MACHINE.
- AS PER BC 3316.9, THE HOISTING OR LOWERING OF ANY ARTICLE ON THE OUTSIDE OF ANY BUILDING IN THE CITY SHALL BE PERFORMED BY OR UNDER THE DIRECT AND CONTINUING SUPERVISION OF A LICENSED RIGGER.
- MATERIAL HOISTS AND BUCKET HOISTS:
  - THE EQUIPMENT USER OR HIS OR HER DESIGNATED REPRESENTATIVE SHALL OBTAIN A WRITTEN PERMIT ISSUED BY THE COMMISSIONER ON THE BASIS OF CONSTRUCTION DOCUMENTS, DRAWINGS AND SPECIFICATIONS PRIOR TO ERECTING OR INSTALLING ALL POWER-OPERATED, MATERIAL HOISTS, INCLUDING ANY RUNBACK STRUCTURE OR SUPPORT, EXCEPT POWER-OPERATED, NON-GUIDED MATERIAL HOISTS WITH A MAXIMUM CAPACITY OF ONE TON OR LESS AND INSTALLED ON NEW CONSTRUCTION, OR ON ALTERATIONS WHERE THE OPERATION OF THE HOIST IS CONFINED WITHIN THE PROPERTY AND THE SITE IS PROTECTED IN ACCORDANCE WITH BC 3307.
    - NOTWITHSTANDING ANY OTHER PROVISION OF LAW, MATERIAL HOISTS WITH A MANUFACTURER'S CAPACITY OVER ONE TON SHALL BE OPERATED ONLY BY PERSONS HOLDING A CLASS A OR B HOISTING MACHINE OPERATORS LICENSE EXCEPT DURING INSTALLATION, JUMPING, DISMANTLING OR ALTERATION OPERATIONS.
  - PERSONNEL HOISTS:
    - THE EQUIPMENT USER OR HIS OR HER DESIGNATED REPRESENTATIVE SHALL OBTAIN A WRITTEN PERMIT ISSUED BY THE COMMISSIONER ON THE BASIS OF CONSTRUCTION DOCUMENTS, DRAWINGS AND SPECIFICATIONS PRIOR TO ERECTING OR INSTALLING ALL POWER-OPERATED, MATERIAL HOISTS, INCLUDING ANY RUNBACK STRUCTURE OR SUPPORTS.
    - PERSONNEL HOISTS AND THEIR COMPONENTS SHALL BE OPERATED IN ACCORDANCE WITH THIS CODE AND RULES PROMULGATED BY THE COMMISSIONER. WHEN THE HOIST IS EQUIPPED WITH MANUAL CONTROLS, THE HOIST SHALL BE OPERATED BY A COMPETENT QUALIFIED OPERATOR. ONLY THE OPERATOR AUTHORIZED BY THE EQUIPMENT USER SHALL OPERATE THE HOIST.
    - NO PERSON SHALL AT ANY TIME MAKE ANY REQUIRED SAFETY DEVICE OR ELECTRICAL PROTECTIVE DEVICE INOPERATIVE EXCEPT WHEN NECESSARY DURING TESTS, INSPECTIONS AND MAINTENANCE. IMMEDIATELY UPON COMPLETION OF THE TESTS, INSPECTIONS AND MAINTENANCE, SUCH DEVICES SHALL BE RESTORED TO THEIR NORMAL OPERATING CONDITION IN CONFORMANCE WITH THE APPLICABLE REQUIREMENTS OF THIS SECTION.
  - CRANES AND DERRICKS:
    - THE HOISTING MACHINE OPERATOR SHALL BE LICENSED AS REQUIRED BY CHAPTER 4 OF TITLE 28 OF THE ADMINISTRATIVE CODE.
    - RIGGING WORK MUST BE SUPERVISED IN ACCORDANCE WITH SECTION 3316.9.1 AND WHERE REQUIRED, RIGGERS MUST BE LICENSED IN ACCORDANCE WITH CHAPTER 4 OF TITLE 28 OF THE ADMINISTRATIVE CODE.
    - LIFT DIRECTORS SHALL BE DESIGNATED, AND PERFORM THE DUTIES ASSIGNED TO THEM, IN ACCORDANCE WITH RULES PROMULGATED BY THE COMMISSIONER. SUCH DUTIES SHALL INCLUDE, BUT NOT BE LIMITED TO, ENSURING COMPLIANCE WITH APPROVED PLANS, TRAFFIC AND PEDESTRIAN CONTROLS, AND WEATHER RESTRICTIONS.
  - NO OWNER OR OTHER PERSON SHALL AUTHORIZE OR PERMIT THE OPERATION OF ANY CRANE OR DERRICK WITHOUT A CERTIFICATE OF APPROVAL, A CERTIFICATE OF OPERATION AND A CERTIFICATE OF ON-SITE INSPECTION, WHICH SHALL COMPLY WITH BC 3319.4, BC 3319.5, AND BC 3319.6 RESPECTIVELY.
  - TOWER AND CLIMBER CRANES SHALL COMPLY WITH THE REQUIREMENTS OF BC 3319.8.
  - SLINGS CRANES SHALL BE USED IN ACCORDANCE WITH THE REQUIREMENTS OF BC 3319.9 AND ANY RULES PROMULGATED BY THE COMMISSIONER.

## SITE SAFETY PLAN

### EXCAVATION PHASE

SAFETY DESIGNER



### SAFETY DESIGN

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK:

2362

LOT:

1

ZONING:

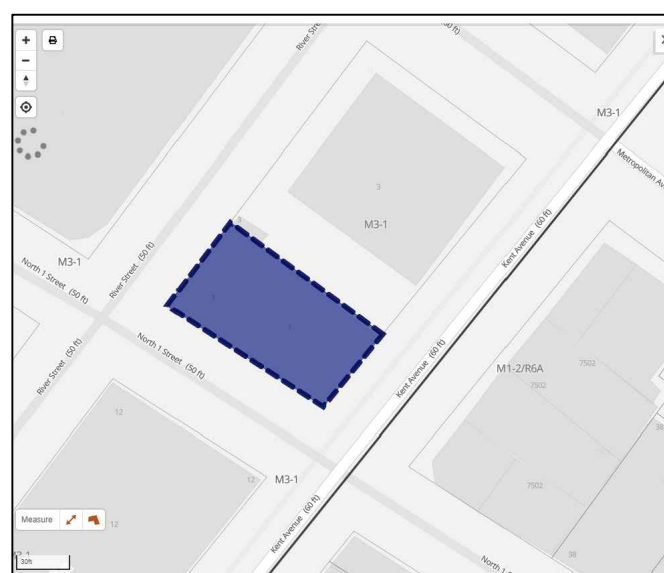
M3-1

BIN:

3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE: GENERAL SAFETY NOTES

SIGNATURE OF PREPARER	DATE:	8/18/2019
	SCALE:	AS SHOWN
	DRAWN:	
	REVIEWED:	
	SHEET NO.:	02

SSP-102-00



**GENERAL:**

1. THESE DRAWING MAY BE USED FOR CONSTRUCTION ONLY IF ^^^^ IS THE SPECIAL INSPECTION AGENCY FOR EXCAVATION-SHEETING, SHORING-AND BRACING AND SOIL SITE PREPARATION.
2. IF ^^^^ AS BEING RELEASED OR WITHDRAWN ITS RESPONSIBILITY FOR SPECIAL INSPECTION AND FIRM OTHER THAN ^^^^ IS ENGAGED BY THE OWNERS, REPRESENTATIVE OR CONTRACTOR FOR SPECIAL INSPECTION OF THE DESIGN SHOWN ON THESE DRAWINGS, THAN WE REQUIRE THAT ^^^^ BE RETAINED REVIEW THE INSPECTION AGENCIES FIELD REPORTS AND FOR SITE VISITS BY OUR PERSONNEL DURING RELEVANT CONSTRUCTION ACTIVITIES.
3. ^^^^ SHALL BE ADDED TO THE PROJECT WRAP AND/OR CONTRACTORS GENERA LIABILITY INSURANCE AS AN ADDITIONAL INSURED.
4. ANY PROPOSED CHANGES TO THESE DRAWING SHALL SUBMITTED IN WRITING TO ^^^^ FOR REVIEW AND CONSTRUCTION.
5. PROPOSED DESIGN CHANGES SHALL CONSIST OF SIGNED AND SEALED DRAWING (TO SCALE). THE DRAWING SHALL BE SUBMITTED TO ^^^^ FOR REVIEW AND CONSTRUCTION.
6. DIFFERENT FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF RA CONSULTANTS IMMEDIATELY .
7. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE UTILITIES AND BELOW GROUND STRUCTURES IN THE AREA OF PRIOR COMMENCEMENT OF WORK
8. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS IN THE FIELD. IF CONDITIONS OBSERVED IN THE FIELD DIFFER FROM THESE DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO EVALUATE THE CONDITION. MODIFICATIONS TO THIS DRAWINGS MAY NECESSARY.
9. THESE DRAWING DONOT ADDRESS SAFETY ISSUES RELATED TO THE EXCAVATION AND SHORING WORK. OTHER SHALL BE RESPONSIBLE FOR SIDE SAFETY AND PROVIDE SAFETY PLAN CONFIRMING TO OSHA AND ALL APPLICABLE LAWS.
10. BARRIERS AND FENCING AROUND SITE MUST BE PROVED BY CONTRACTOR IN ACCORDANCE WITH NEW YORK CITY DEPARTMENT OF BUILDINGS AND ALL APPLICABLE LAWS.
11. IF THE CONDITIONS OBSERVED AS THE EXCAVATION ADVANCES ARE DIFFERENT THEN THE CONDITIONS SHOWN ON THE DESIGN DRAWING, THE CONTRACTOR SHALL STOP WORK AND NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER.
12. OBSERVED MOVEMENTS OF THE SUPPORT OF EXCAVATION OR OTHER STRUCTURES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER.
13. LOOSE AREA OF FOUNDATION WALL OR FOOTING AREA DAMAGED OR LOOSE SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR EVALUATION AND REMEDIAL MEASURES.
14. PINS, WIRE MESH AND PARGING MAY BE REQUIRED TO STABILIZE THE FOUNDATION WALL, OR FOOTING.
15. THE DESIGN ON THESE DRAWINGS ARE INTENT FOR TEMPORARY SUPPORT OF EXCAVATION ONLY.
16. NOTIFY THE DOB 24 - TO 48 - HOURS PRIOR TO EXCAVATION (RULE 52).
17. CONSENT FORM OWNER OF ADJACENT PROPERTY SHALL BE OBTAINED OF REQUIRED WORK EXTENT BEYOND PROPERTY LINE.
18. SIDEWALK CLOSINGS FROM NYDOT IS REQUIRED TO OVER CUT THE SIDEWALK OR TO PLACE SOLDIER PILES IN THE SIDEWALK OR STREET.

**MATERIALS & TESTING:**

1. THE OWNER /CONSTRUCTION MANGER SHALL RETAIN THE SERVICES OF AN INDEPENDENT TESTING LABORATORY/COMPANY.
2. CONCRETE PLACEMENT TIMES SHALL EXCEED 2-HOUR OR AS RECOMMENDED BY THE TESTING COMPANY.
3. PERFORM ONE SLUMP TEST FOR EACH BATCH OF CONCRETE. SLUMP SHALL BE BETWEEN 4- AND 6-INCH FOR UNDERPINNING.
4. MAKE A SET OF 5 (MINIMUM) CYLINDERS EACH DAY CONCRETE IS CAST FOR UNDERPINNING OR GROUT IS BEING FOR SOLIDER PILES.
5. PERFORM COMPRESSION TEST ON 1 CYLINDER AT 7 DAYS AND 1 AT 14 DAYS. IF THE DESIGN STRENGTH IS ACHIEVED AT 14 DAYS, NO FURTHER TESTING IS REQUIRED. OTHERWISE TEST 1 OR 2 CYLINDERS, DEPENDING IF THE DESIGN IS STRENGTH IS ACHIEVED 28 DAYS. 1 OR 2 SAMPLES SHALL BE SAVED FOR 56 DAY TESTING IF THE PREVIOUS FAIL TO MEET THE DESIGN STRENGTH REQUIREMENTS.
6. PROVIDE TESTING RESULTS TO THE CONSTRUCTION MANAGER AND/OR OWNER.
7. IF THE DESIGN STRENGTH REQUIREMENTS ARE MET, THE CONTRACTOR SHALL PERFORM A REMEDIATION AS DIRECTED BY THE CONSTRUCTION MANAGER, AT NO ADDITIONAL COST TO THE OWNER.
8. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1 USING E-70 ELECTRODES.
9. ALL STRUCTURAL STEEL SHALL BR GRADE 50. ASTM A-572.
10. 1-BAG MIX SHALL CONSIST OF 1-94LB. BAG OF CEMENT TO 1CY OF SAND. QUANTITY OF WATER SHALL BE ADEQUATE TO ALLOWED THE MIX TO FLOW.
11. TIMBER LAGGING SHALL BE ROUGH CUT, FULL SIZE CONSTRUCTION GRADE, WITH A MINIMUM ALLOWABLE BENDING STRESS OF 1200-PSI TIMBER SIZES SHOWN ARE ACTUAL SIZES.
12. MISCELLANEOUS STEEL (PLATES AND WEDGES) SHALL BE ASTM A36.

**SOLDIER PILE & LAGGING:**

1. SOLDIER PILE CASING SHALL BE INSTALLED USING INTERNAL FLUSH DUPLEX DRILLING METHOD. CONTRACTOR SHALL ADJUST DRILLING PROCEDURE AS REQUIRED TO PREVENT LOOSE OF GROUND, SETTLEMENT AND / OR LATERAL MOVEMENTS OF BUILDING, UTILITIES AND OTHER STRUCTURES.
2. NO LOOSE OF MATERIAL FROM THE OUTSIDE OF THE SOLDIER PILE WILL PERMITTED. THE CONTRACTOR SHALL ADOPT THE NECESSARY DRILLING PROCEDURES TO PREVENT LOOSE OF MATERIAL FROM AROUND THE OUTSIDE OF THE SOLDIER PILE.
3. STEEL CASING SHALL HAVE A MINIMUM WALL THICKNESS OF 0.50-INCHES. SPLICES IN THE CASING SHALL BE THREADED AND FULLY WELDED.
4. THE BOTTOM OF EACH DRILLED SOLDIER PILE SHALL BE PROTECTED BY A HIGH-STRENGTH CUTTING SHOE WITH HARDENED CUTTING EDGE.
5. NO CONCRETE OR GROUT SHALL BE PLACED AT ANY SOLDIER PILE LOCATION UNTIL TIP ELEVATION AS BEEN CONFIRMED, CLEANED OF MUD AND ANY EXTRANEIOUS MATERIAL, AND INSPECTED AND APPROVED BY THE ENGINEER.
6. CONCRETE OR GROUT SHALL BE PLACED CONTINUOUSLY FOR THE FULL DEPTH OF THE SOLDIER PILE STARTING AT THE BOTTOM OF THE ROCK SOCKET AND UP TO THE DESIGNED CUT OFF ELEVATION. NO COLD JOINT IS ALLOWED.
7. FINAL DETERMINATION OF THE ELEVATION OF THE PILE TIP WILL DETERMINED BY THE ENGINEER.
8. THE ENGINEER MAY DIRECT AND INCREASE IN SOLDIER PILE DEPTH FROM THAT SPECIFIED HEREIN OR AS SHOWN ON THE DRAWING INFERIOR SOIL OR ROCK IS ENCOUNTERED ABOVE THE ORIGINAL TIP ELEVATION.
9. NO SOLDIER PILE SHALL BY OUT OF PLUMB MORE THAN ONE PERCENT OF THESE EMBEDDED LENGTH.
10. IF ANY OF THE ABOVE TOLERANCES ARE EXCEEDDED AND IN THE OPINION OF THE ENGINEER REQUIRED CORRECTIVE MEASURES, SUCH CORRECTIVE MEASURES, INCLUDING COSTS OF ENGINEERING AND REDESIGN, SHALL BE PAID FOR THE CONTRACTOR.
11. BEFORE BRACING IS INSTALLED, MAXIMUM EXCAVATION BELOW BRACING LEVEL, IS 2-FT FOR ANCHORS AND BRAKERS UNLESS NOTED ON DRAWING.
12. LAGGING SHALL BE INSTALLED AS THE EXCAVATION ADVANCES WITH A MAXIMUM DEPTH OF 2-FT PRIOR TO LAGGING.
13. IF ARTERIAL BEHIND LAGGING HAS BEEN LOST OR DISTURBED, LEAVE A 1- TO 1-1/2 INCH SPACE BETWEEN LAGGING BOARDS TO IMMEDIATELY BACKFILL OR GROUT.
14. HAY OR FILTER FABRIC SHALL BE USED TO MINIMIZE MIGRATION OF FINES INTO THE EXCAVATION.

**SOIL AND FOUNDATION WORK**

1. NO SOIL OR FOUNDATION WORK WITHIN THE PROPERTY LINE SHALL COMMENCE UNLESS THE PERMIT HOLDER NOTIFIES THE DEPARTMENT, VIA PHONE OR ELECTRONICALLY, AT LEAST 24 HOURS, BUT NO MORE THAN 48 HOURS PRIOR TO THE COMMENCEMENT OF SUCH WORK. THE NOTIFICATION SHALL STATE THE DATE THAT SUCH SOIL OR FOUNDATION WORK IS TO COMMENCE. SHOULD THE NOTIFICATION DATE FALL ON A WEEKEND OR OFFICIAL HOLIDAY, THE PERMIT HOLDER SHALL NOTIFY THE DEPARTMENT ON THE LAST BUSINESS DAY BEFORE THE COMMENCEMENT DATE. IN THE EVENT THAT THE SOIL OR FOUNDATION WORK DOES NOT BEGIN ON THE DATE PROVIDED IN THE NOTIFICATION TO THE DEPARTMENT, THE PERMIT HOLDER SHALL NOTIFY THE DEPARTMENT OF ITS CANCELLATION NOT MORE THAN 24 HOURS PRIOR TO BUT NO LATER THAN THE DATE FOR WHICH THE SOIL OR FOUNDATION WORK WAS SCHEDULED. AS PER BC 3304.3.1
2. WHEN AN EXCAVATION TO A DEPTH OF 5 FEET TO 10 FEET IS TO BE MADE WITHIN 10 FEET OF AN ADJACENT FOOTING OR FOUNDATION, OR WHEN ANY EXCAVATION OVER 10 FEET IS TO BE MADE ANYWHERE ON A SITE, THE PERSON CAUSING THE EXCAVATION TO BE MADE SHALL PROVIDE WRITTEN NOTICE TO THE OWNERS OF THE ADJOINING PROPERTY NOT LESS THAN 10 DAYS PRIOR TO THE SCHEDULED STARTING DATE OF THE EXCAVATION. THE WRITTEN NOTICE SHALL PROVIDE A DESCRIPTION OF THE WORK TO BE PERFORMED, THE TIMEFRAME AND SCHEDULE, AND THE CONTACT INFORMATION OF THE PERSON CAUSING THE EXCAVATION AND OF THE DEPARTMENT. AS PER BC 3304.3.2
3. EXCAVATED MATERIAL AND SUPERIMPOSED LOADS, INCLUDING BUT NOT LIMITED TO EQUIPMENT AND TRUCKS USED FOR SOIL OR FOUNDATION WORK, SHALL NOT BE PLACED CLOSER TO THE EDGE OF THE EXCAVATION THAN A DISTANCE EQUAL TO ONE AND ONE-HALF TIMES THE DEPTH OF SUCH EXCAVATION UNLESS THE SIDES OF THE EXCAVATION HAVE BEEN SLOPED OR SHEET PILED (OR SHEETED) AND SHORED TO WITHSTAND THE LATERAL FORCE IMPOSED BY SUCH SUPERIMPOSED LOADS.
4. REQUIRED PROTECTION FOR THE SIDES OF THE EXCAVATION SHALL BE INSTALLED AS THE EXCAVATION ADVANCES. THE PLACEMENT OF PERMANENT STRUCTURES OR FILL IN AREAS REQUIRING SUPPORT OF EXCAVATION SHALL NOT BEGIN UNTIL THE SUPPORT OF EXCAVATION HAS BEEN COMPLETED FOR SUCH AREAS.
5. SOIL AND FOUNDATION WORK SHALL BE INSPECTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 3304.5.1 THROUGH 3304.5.3 OF NYC BUILDING CODE.
6. EVERY EXCAVATION SHALL BE PROVIDED WITH AT LEAST ONE SAFE MEANS OF INGRESS AND EGRESS THAT IS KEPT AVAILABLE AT ALL TIMES.
7. THE PERSON CAUSING THE SOIL OR FOUNDATION WORK TO BE PERFORMED SHALL DEWATER THE SITE, AS NEEDED, FOR THE PROGRESS OF THE WORK. MEASURES SHALL BE TAKEN TO PREVENT SETTLEMENT, SLOPE FAILURE, AND DAMAGE TO ADJACENT BUILDINGS, STRUCTURES, AND PROPERTY AFFECTED BY DEWATERING OPERATIONS.

**EXCAVATION, SHORING & UNDERPINNING:**

1. STRUCTURAL CONCRETE FOR UNDERPINNING PIERS SHALL HAVE A MINIMUM DESIGN COMPRESSIVE STRENGTH OF 4000-PSI AT 28 DAYS.
2. CONCRETE PIERS AND DRY PACK SHALL BE ALLOWED TO CURE PRIOR TO JACKING, EXCAVATING AN ADJACENT PIT, OR ADVANCING THE EXCAVATION IN FRONT OF THE PIT.
3. DRY PACK SHALL CONSIST OF ONE PART CEMENT TO TWO PARTS SAND BY VOLUME. WATER SHALL BE ADDED TO PRODUCE A MIXTURE WITH HOLDS ITS SHAPE WHEN FORMED INTO A BALL BY HAND.
4. TIMBER LAGGING SHALL BE ROUGH CUT, FULL SIZE CONSTRUCTION GRADE, WITH A MINIMUM ALLOWABLE BENDING STRESS OF 1200-PSI TIMBER SIZES SHOWN ARE ACTUAL SIZES.
5. GROUTING TO STABILIZE SOIL AT UNDERPINNING PITS SHALL BE PERFORMED USING SODIUM SILICATE OR MICRO-FINE CEMENT. GROUT MIX DESIGN, EQUIPMENT, DRILLING PROCEDURE, AND SEQUENCE SHALL BE PREPARED E THE CONTRACTOR AND SUBMITTED FOR REVIEW.
6. DEPTH OF EXCAVATION BELOW FOOTING AND PREVIOUSLY INSTALLED LAGGING BOARDS SHALL NOT EXCEED 18-INCHES. MAINTAIN TIGHT CONTACT BETWEEN SOIL AND LAGGING BOARDS. IF MATERIAL CAVING INTO EXCAVATION, DECREASE THE UNBRACED EXCAVATION DEPTH AND/OR GROUT THE MATERIAL TO MINIMIZE LOSS.
7. IF MATERIAL BEHIND LAGGING AS BEEN LOST OR DISTURBED, LEAVE A 1-TO 1-1/2 INCH SPACE BETWEEN LAGGING BOARD TO IMMEDIATELY BACKFILL OR GROUT.
8. EXCAVATION FOR UNDERPINNING PIERS MUST BE PERFORMED IN THE DRY. DEWATERING MAY BE NECESSARY PRIOR TO EXCAVATION TO MAINTAIN WATER LEVELS A MINIMUM OF 1-FT BELOW THE PROPOSED SUB-GRADE LEVEL OF THE PIER. HAY OR FILTER FABRIC SHALL BE USED TO MINIMIZED MIGRATION OF FINES INTO THE EXCAVATION.
9. UNDERPINNING PIER SUB-GRADE BEARING MATERIAL SHALL BE EQUAL OR BETTER CLASS THAN THE ORIGINAL BEARING MATERIAL.
10. MAXIMUM PIT WIDTH IS 4-FT UNLESS OTHERWISE NOTED ON THE DRAWING. UNDERPINNING WIDTH MAY REDUCED TO 3-FT OR LESS BASED ON RA CONSULTANTS LLC FIELD OBSERVATIONS.
11. APPROACH PITS FOR UNDERPINNING PITS SHOULD CAUSE MINIMAL DISTURBANCE TO SOIL SUB-GRADE BELOW THE FOOTING. IT IS THE CONTRACTOR RESPONSIBILITY TO DESIGN THE APPROACH PITS AND EXCAVATE PITS FOLLOWING OSHA AND LOCAL LAWS.
12. EXCAVATE PITS SUCH THAT A MINIMUM OF 12-FT OF UNDISTURBED SOIL OR CURED UNDERPINNING PIER IS MAINTAINED BETWEEN OPEN PITS UNTIL ALL UNDERPINNING IS COMPLETE UNLESS APPROVED BY RA CONSULTANTS LLC.
13. DONOT LEAVE PITS OPEN OVERNIGHT OR DURING WEEKEND AND HOLIDAYS.
14. UNDERPINNING PIER THICKNESS SHALL BE 2-FT OR WIDTH OF FOOTING, WHICHEVER GREATER.
15. UNDERPINNING SHALL BE CONSTRUCTED IN ONE VERTICAL LIFT.
16. LINE DRILL BEDROCK ADJACENT TO ALL FOUNDATION WALLS PRIOR TO ROCK REMOVAL.
17. BOTTOM OF UNDERPINNING CAN BEAR ON CLASS 1B BEDROCK OR BETTER ABOVE UNDERPINNING SUB-GRADE LEVEL SHOWN ON THESE DRAWING AS DETERMINED BY RA CONSULTANTS LLC.
18. UNDERPINNING PIERS CAN BE ELIMINATED IF THE THE EXISTING FOOTING IS BEARING ON CLASS 1B BEDROCK OR BETER DETERMINED BY RA CONSULTANTS LLC.

**SPECIAL INSPECTIONS:**

1. A SPECIAL INSPECTOR AND/OR SPECIAL INSPECTION AGENCY SHALL HAVE RESPONSIBILITY AS SET FORTH IN CHAPTER 17 OF THE NEW YORK CITY BUILDING CODE AND ELSEWHERE IN THE CODES WERE SPECIAL INSPECTION ARE REQUIRED. THE RESPONSIBILITIES OF THE SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY AT A SPECIAL INSPECTION SHALL INCLUDED THOSE TASKS AND STANDARDS SET FORTH IN CHAPTER 17OF THE CODE, THE REFERENCE STANDARDS AND ELSEWHERE IN THE CODE, THESE RULE OR ANY RULE OF ANY AGENCY IN CONANATIONS WITH THE WORK I SUBJECT OF SUCH SPECIAL INSPECTION.
2. NECESSARY SPECIAL INSPECTIONS.
  - A) UNDERPINNING (BC 1704.9.1).
  - B) EXCAVATION -SHEETING, SHORING, AND BRACING (BC 1704.19, BC3304.4.1).
  - C) CONCRETE - CAST- IN-PLACE (BC1704.4).
  - D) CONCRETE - TEST CYLINDERS (BC 1905.6).
  - E) CONCRETE - DESIGN MIX (BC 1905.3).
  - F) SOIL - SITE PREPARATION (BC1704.7.1).
  - G) SOIL - INVESTIGATION (BORINGD/TESTBITS) (BC 1704.7.4).
  - H) STRUCTURAL STEEL - WELDING (BC 1704.3.1)

**SITE SAFETY PLAN**

**EXCAVATION PHASE**

SAFETY DESIGNER



**SAFETY DESIGN**  
 65 SOUTH 11TH ST SUITE B-13  
 BROOKLYN NY 11249  
 ATTN: HERSHI GREEN  
 PH: 347-382-0401 / 347-263-3679  
 EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
 164 SOUTH 8 STREET BROOKLYN NY 11211  
 ATTN: YITZCHOK SCHWEID  
 PH: 347-452-2615

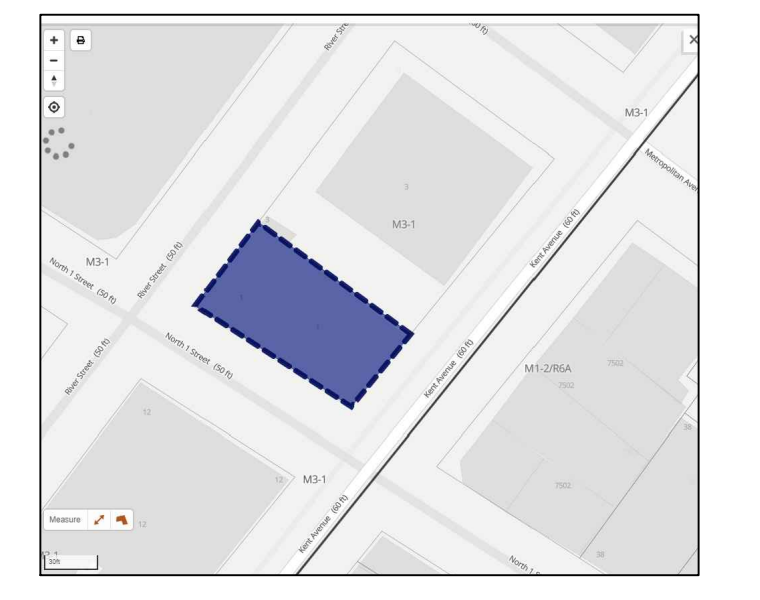
PROJECT

230 KENT AVE  
 BROOKLYN NY 11249  
 ATTN: YITZCHOK SCHWEID  
 PH: 347-452-2615

BLOCK:	2362
LOT:	1
ZONING:	M3-1
BIN:	3062426

CONTRACTOR

KAUFMAN GROUP INC  
 3 TEVERYA WAY #301 MONROE NY 10950  
 ATTN: JOEL KAUFMAN  
 PH: 845-656-7574



DRAWING TITLE: **GENERAL EXCAVATION NOTES**

SIGNATURE OF PREPARER	DATE: 8/18/2019
DRAWN:	SCALE: AS SHOWN
REVIEWED:	
SHEET NO. 02	

*Mari Green*

**SSP-103-00**



SITE SAFETY PLAN  
EXCAVATION PHASE

SAFETY DESIGNER



SAFETY DESIGN

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

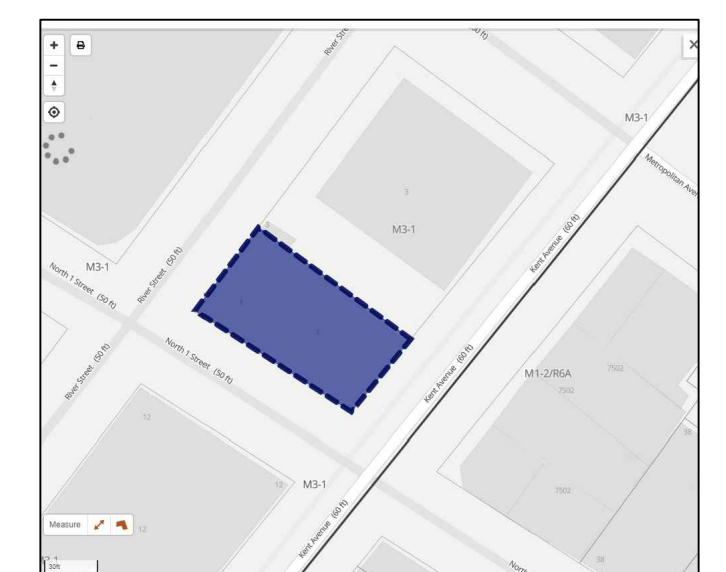
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574

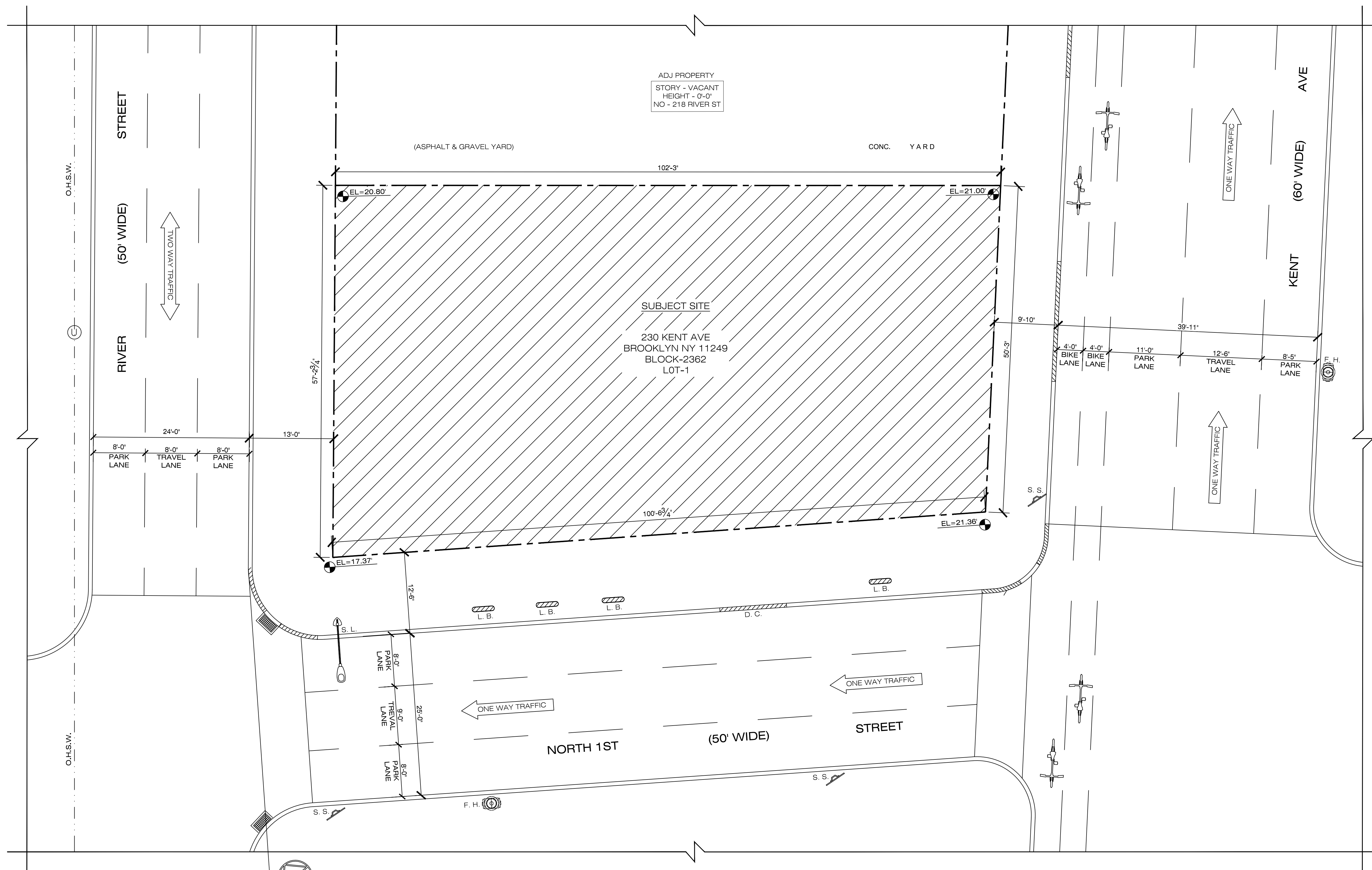


DRAWING TITLE:

SITE PLAN

SIGNATURE OF PREPARER: *Mani Green* DATE: 8/18/2019  
SCALE: AS SHOWN  
DRAWN:  
REVIEWED:  
SHEET NO. 02

SSP-201-00



SITE PLAN  
1/8" = 1'-0"

GENERAL CONSTRUCTION SIGNAGE

- |                               |                                 |
|-------------------------------|---------------------------------|
| REQUIRED CONSTRUCTION SIGNAGE | SIDEWALK CLOSED USE OTHER SIDE. |
| SIDEWALK CLOSED USE WALKWAY.  | LANE CLOSED MERGE ....          |

- NOTE**
- MEANS OF EGRESS SHALL MAINTAINED AT ALL TIMES, LOCATION WILL VARY DUE TO THE WORK PROGRESSION.
  - REQUIRED MEANS OF EGRESS SHALL NOT BE OBSTRUCTED IN ANY MANNER THAT WOULD DESTROY THE FULL EFFECTIVENESS OF SUCH MEANS OF EGRESS.
  - SAFETY NETTING SYSTEMS AND GUARDRAIL SYSTEMS SHALL BE INSTALLED TO PROTECT UNENCLOSED PERIMETERS.
  - OBSTRUCTIONS OR OPENINGS LOCATED IN A PUBLIC WAY SHALL BE MARKED AND GUARDED BY BARRIERS, FLAGS, OR SIGNS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
  - A FLAGPERSON SHALL BE PROVIDED WHENEVER INTERMITTENT OPERATIONS ARE CONDUCTED ON SIDEWALK OR ROADWAY.
  - BARRIERS WILL BE RELOCATED OR REMOVED AS NEEDED.
  - EXCAVATOR, DUMP TRUCK, DEBRIS CONTAINER, WILL BE RELOCATED AS NEED.
  - CONCRETE & CONCRETE PUMP TRUCK, WASH OUT BOX, DELIVERY TRUCK, BOOM TRUCK, WILL BE RELOCATED AS NEED.
  - TOWER CRANE, CRAWLER CRANE, MOUNTED CRANE, WILL BE RELOCATED AS NEED.

LEGEND

	CONSTRUCTION FENCE		STREET SIGN
	PROPERTY LINE		FLAG MAN
	GUARDRAIL		FIRE HYDRANT
	8' CHAIN LINK FENCE		TREE PROTECTION
	3' SWING DOOR		CONTROLLED ZONE
	12' SLIDING DOOR		SIDEWALK SHED
	VEHICULAR TRAFFIC		OVERHEAD PROTECTION
	AGREES/ENTREES		ROOF PROTECTION
	PEDESTRIANS TRAFFIC		CON. BARRIER WITH CH. LINK FENCE
	ENTRANCE & EXIT		PLASTIC BARRIER

LEGEND

U. P. UTILITY POLE	D. C. DROP CURB
S. S. STREET SIGN	L. B. LOCK BICYCLE
F. H. FIRE HYDRANT	O. H. S. W. OVERHEAD SERVICE WIRE
S. L. STREET LIGHT	

**NOTE**  
FOR ALL STRUCTURAL DRAWING & DETAILS SEE APPROVED STRUCTURAL PLANS. (DRAW BY OTHER)



SITE SAFETY PLAN  
EXCAVATION PHASE

SAFETY DESIGNER



**SAFETY DESIGN**  
65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

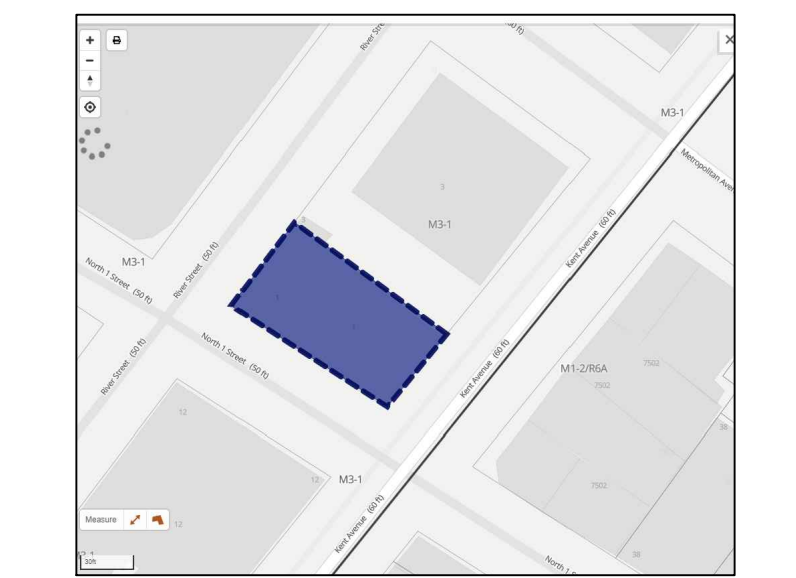
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

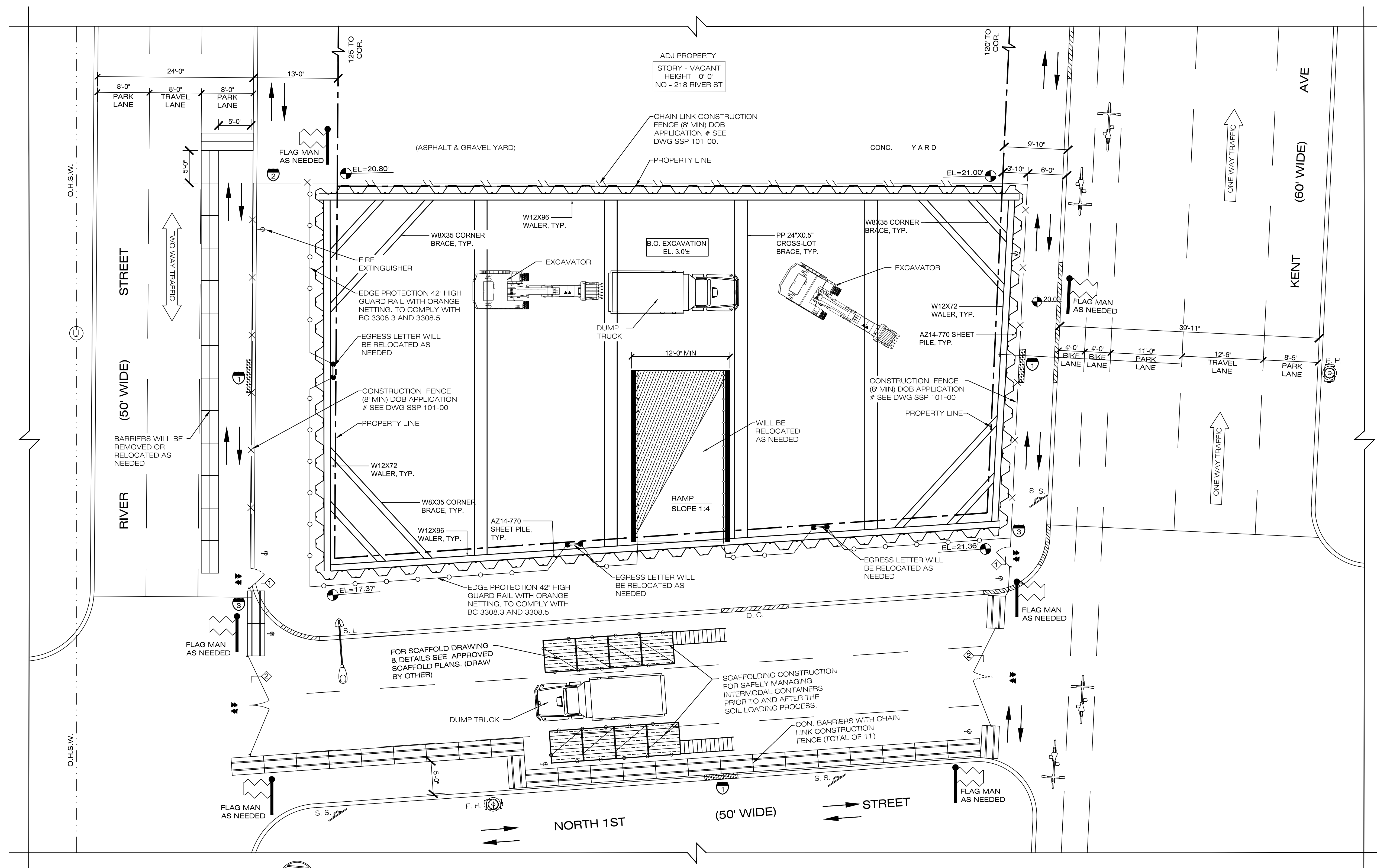
KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE:  
**EXCAVATION PHASE 1**

SIGNATURE OF PREPARER: *Mani Green* DATE: 8/18/2019  
SCALE: AS SHOWN  
DRAWN:  
REVIEWED:  
SHEET NO. 02

**SSP-202-00**



EXCAVATION PHASE 1  
1/8" = 1'-0"

**GENERAL CONSTRUCTION SIGNAGE**

1 REQUIRED CONSTRUCTION SIGNAGE	3 SIDEWALK CLOSED USE OTHER SIDE.
2 SIDEWALK CLOSED USE WALKWAY.	4 LANE CLOSED MERGE ....

**LEGEND**

— x —	CONSTRUCTION FENCE		STREET SIGN
- - - - -	PROPERTY LINE		FLAG MAN
— o —	GUARDRAIL		FIRE HYDRANT
—   —   —	8' CHAIN LINK FENCE		TREE PROTECTION
	3' SWING DOOR		CONTROLLED ZONE
	12' SLIDING DOOR		SIDEWALK SHED
	VEHICULAR TRAFFIC		OVERHEAD PROTECTION
	AGREES/ENTREES		ROOF PROTECTION
	PEDESTRIANS TRAFFIC		CON. BARRIER WITH CH. LINK FENCE
	ENTRANCE & EXIT		PLASTIC BARRIER

- NOTE**
- MEANS OF EGRESS SHALL MAINTAINED AT ALL TIMES, LOCATION WILL VARY DUE TO THE WORK PROGRESSION.
  - REQUIRED MEANS OF EGRESS SHALL NOT BE OBSTRUCTED IN ANY MANNER THAT WOULD DESTROY THE FULL EFFECTIVENESS OF SUCH MEANS OF EGRESS.
  - SAFETY NETTING SYSTEMS AND GUARDRAIL SYSTEMS SHALL BE INSTALLED TO PROTECT UNENCLOSED PERIMETERS.
  - OBSTRUCTIONS OR OPENINGS LOCATED IN A PUBLIC WAY SHALL BE MARKED AND GUARDED BY BARRIERS, FLAGS, OR SIGNS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
  - A FLAGPERSON SHALL BE PROVIDED WHENEVER INTERMITTENT OPERATIONS ARE CONDUCTED ON SIDEWALK OR ROADWAY.
  - BARRIERS WILL BE RELOCATED OR REMOVED AS NEEDED.
  - EXCAVATOR, DUMP TRUCK, DEBRIS CONTAINER, WILL BE RELOCATED AS NEED.
  - CONCRETE & CONCRETE PUMP TRUCK, WASH OUT BOX, DELIVERY TRUCK, BOOM TRUCK, WILL BE RELOCATED AS NEED.
  - TOWER CRANE, CRAWLER CRANE, MOUNTED CRANE, WILL BE RELOCATED AS NEED.

**LEGEND**

U. P. UTILITY POLE	D. C. DROP CURB
S. S. STREET SIGN	L. B. LOCK BICYCLE
F. H. FIRE HYDRANT	O. H. S. W. OVERHEAD SERVICE WIRE
S. L. STREET LIGHT	

**NOTE**

FOR ALL STRUCTURAL DRAWING & DETAILS SEE APPROVED STRUCTURAL PLANS. (DRAW BY OTHER)



SITE SAFETY PLAN  
EXCAVATION PHASE

SAFETY DESIGNER



**SAFETY DESIGN**  
65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

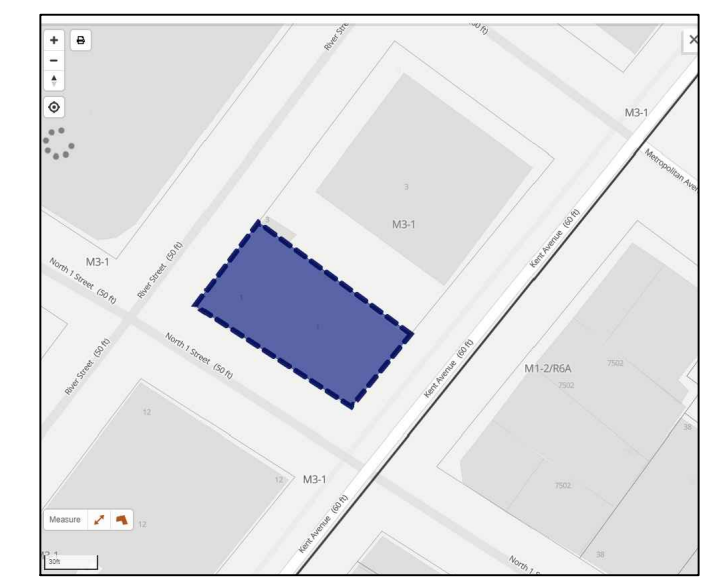
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

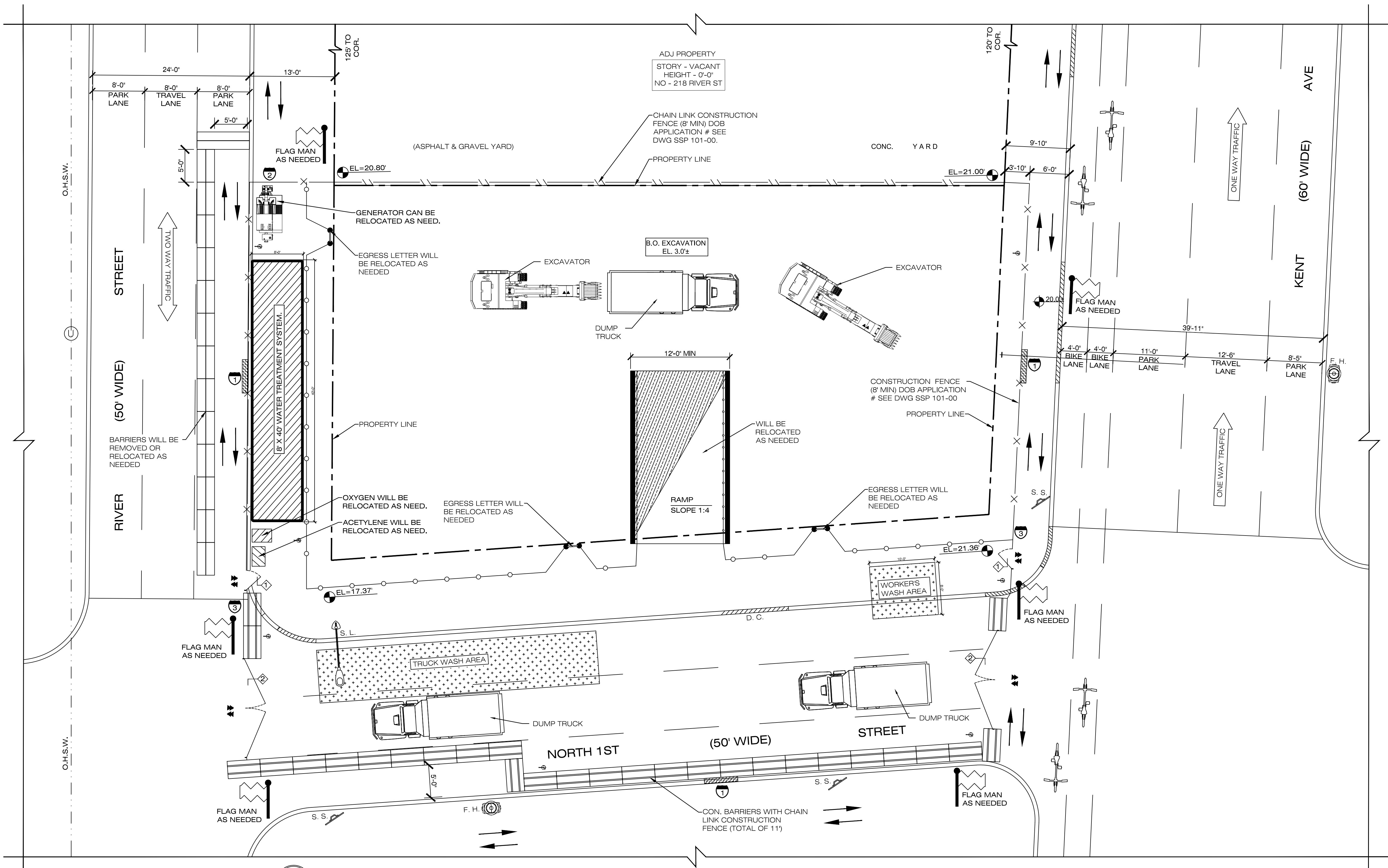
KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE:  
**EXCAVATION PHASE 2**

SIGNATURE OF PREPARER: *Mani Green* DATE: 8/18/2019  
SCALE: AS SHOWN  
DRAWN:  
REVIEWED:  
SHEET NO. 02

SSP-203-00



EXCAVATION PHASE 2  
1/8" = 1'-0"

**GENERAL CONSTRUCTION SIGNAGE**

1 REQUIRED CONSTRUCTION SIGNAGE	3 SIDEWALK CLOSED USE OTHER SIDE.
2 SIDEWALK CLOSED USE WALKWAY.	4 LANE CLOSED MERGE ....

**LEGEND**

—x—	CONSTRUCTION FENCE		STREET SIGN
- - - -	PROPERTY LINE		FLAG MAN
—o—	GUARDRAIL		FIRE HYDRANT
—x—x—	8' CHAIN LINK FENCE		TREE PROTECTION
	3' SWING DOOR		CONTROLLED ZONE
	12' SLIDING DOOR		SIDEWALK SHED
	VEHICULAR TRAFFIC		OVERHEAD PROTECTION
	AGREES/ENTREES		ROOF PROTECTION
	PEDESTRIANS TRAFFIC		CON. BARRIER WITH CH. LINK FENCE
	ENTRANCE & EXIT		PLASTIC BARRIER

**LEGEND**

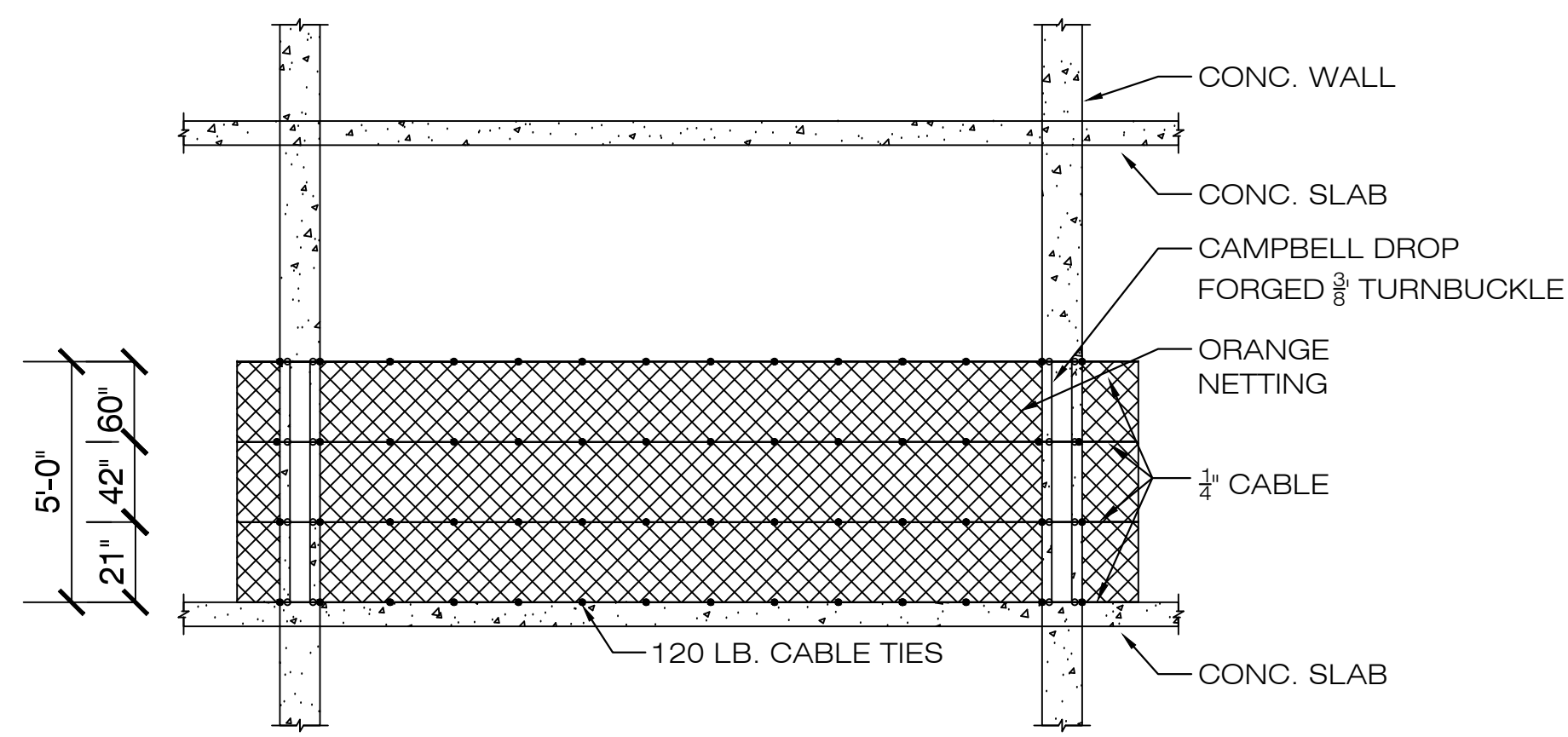
U. P. UTILITY POLE	D. C. DROP CURB
S. S. STREET SIGN	L. B. LOCK BICYCLE
F. H. FIRE HYDRANT	O. H. S. W. OVERHEAD SERVICE WIRE
S. L. STREET LIGHT	

**NOTE**  
FOR ALL STRUCTURAL DRAWING & DETAILS SEE APPROVED STRUCTURAL PLANS. (DRAW BY OTHER)

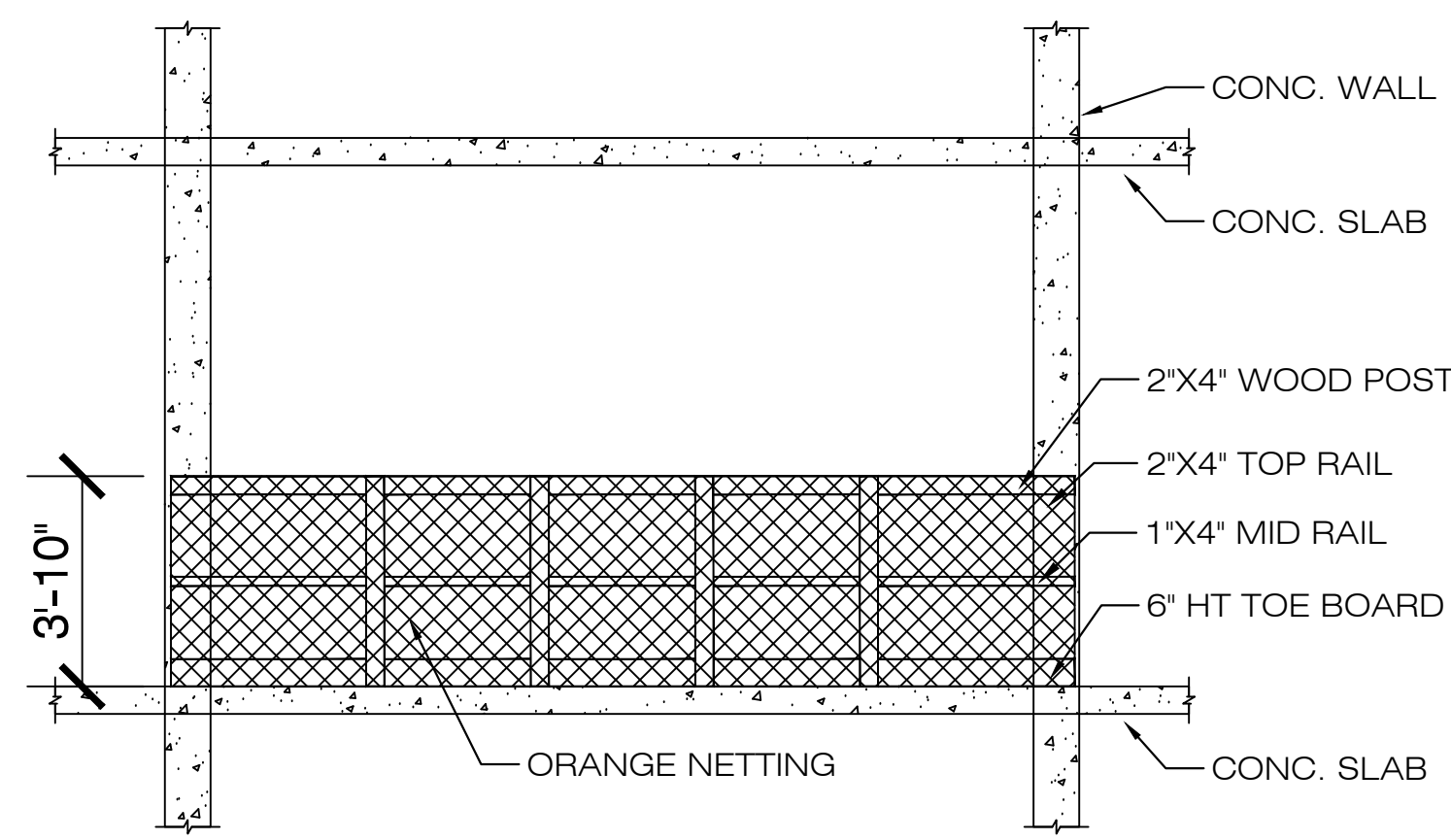
**NOTE**

- MEANS OF EGRESS SHALL MAINTAINED AT ALL TIMES, LOCATION WILL VARY DUE TO THE WORK PROGRESSION.
- REQUIRED MEANS OF EGRESS SHALL NOT BE OBSTRUCTED IN ANY MANNER THAT WOULD DESTROY THE FULL EFFECTIVENESS OF SUCH MEANS OF EGRESS.
- SAFETY NETTING SYSTEMS AND GUARDRAIL SYSTEMS SHALL BE INSTALLED TO PROTECT UNENCLOSED PERIMETERS.
- OBSTRUCTIONS OR OPENINGS LOCATED IN A PUBLIC WAY SHALL BE MARKED AND GUARDED BY BARRIERS, FLAGS, OR SIGNS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF TRANSPORTATION.
- A FLAGPERSON SHALL BE PROVIDED WHENEVER INTERMITTENT OPERATIONS ARE CONDUCTED ON SIDEWALK OR ROADWAY.
- BARRIERS WILL BE RELOCATED OR REMOVED AS NEEDED.
- EXCAVATOR, DUMP TRUCK, DEBRIS CONTAINER, WILL BE RELOCATED AS NEED.
- CONCRETE & CONCRETE PUMP TRUCK, WASH OUT BOX, DELIVERY TRUCK, BOOM TRUCK, WILL BE RELOCATED AS NEED.
- TOWER CRANE, CRAWLER CRANE, MOUNTED CRANE, WILL BE RELOCATED AS NEED.

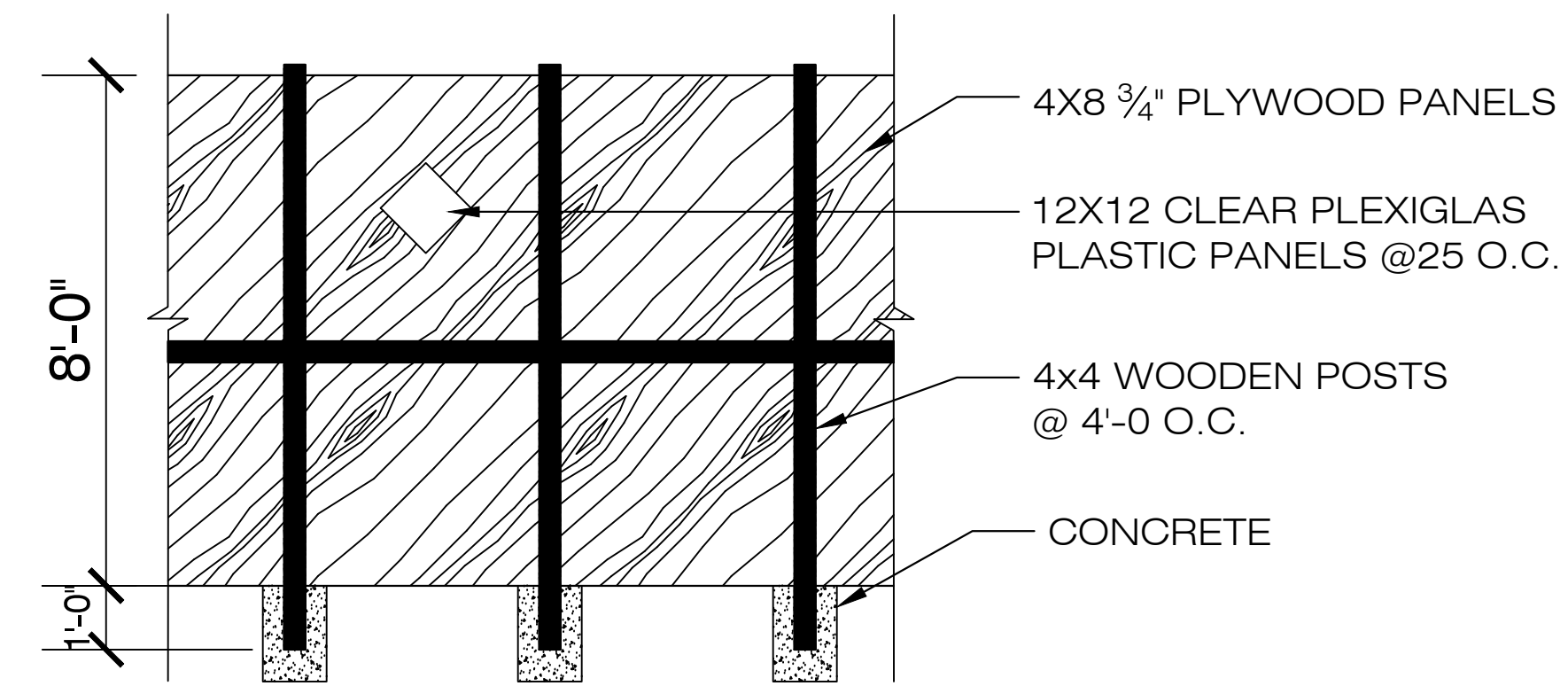




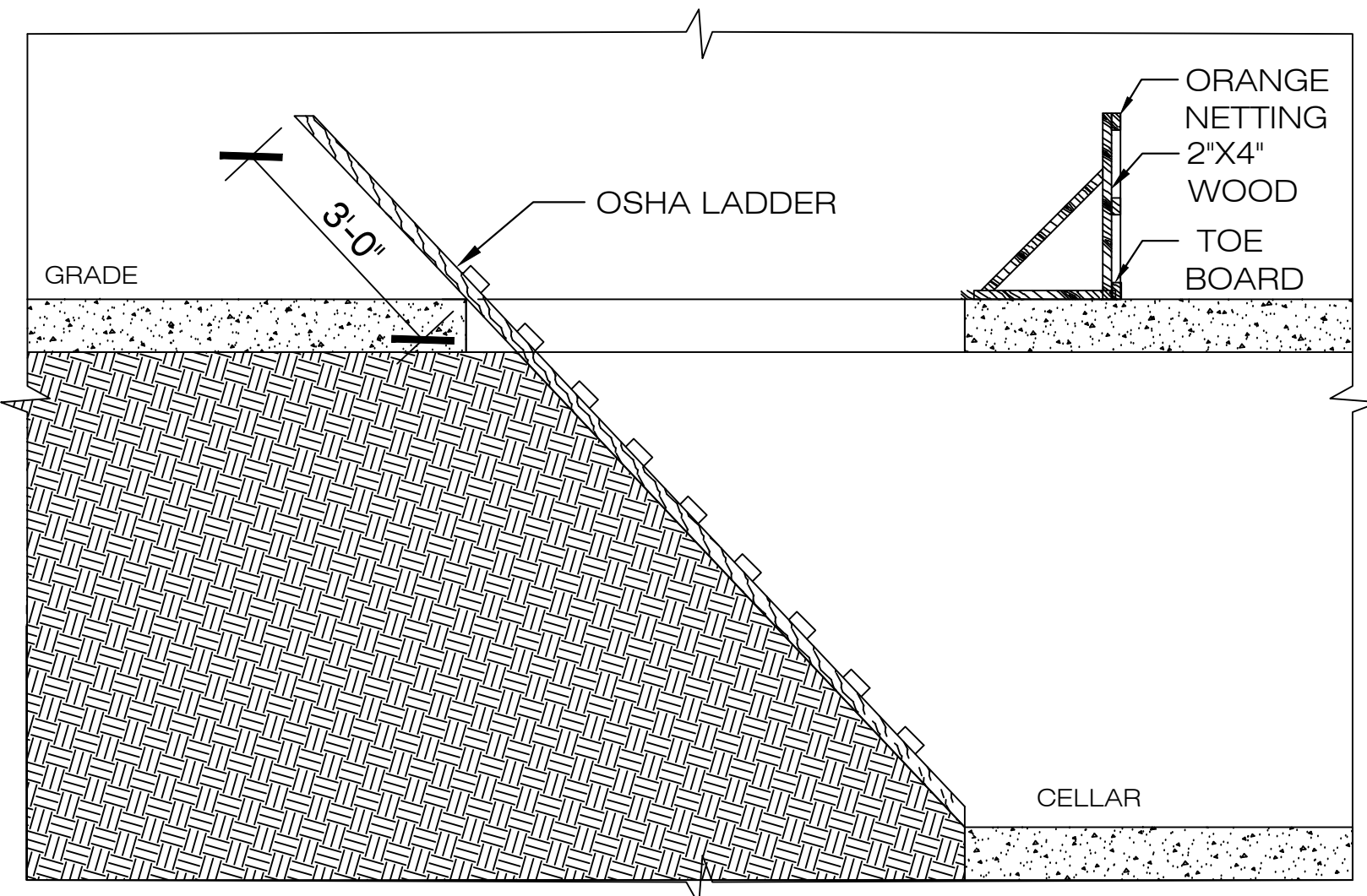
STANDARD CABLE GUARDRAIL



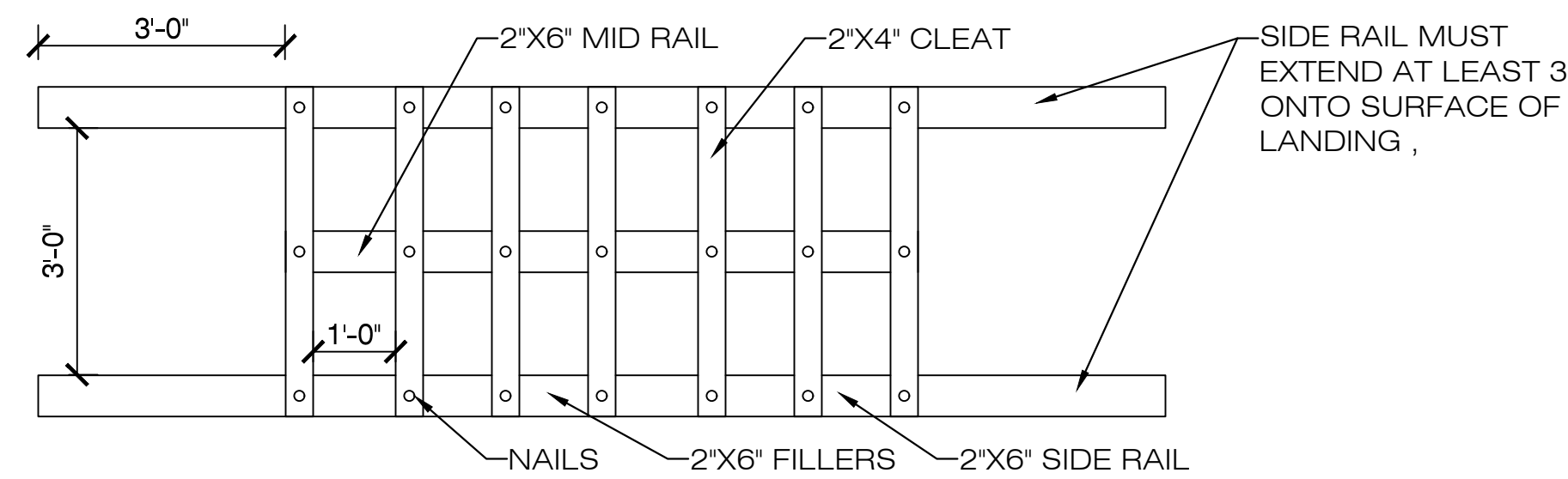
STANDARD WOOD GUARDRAIL



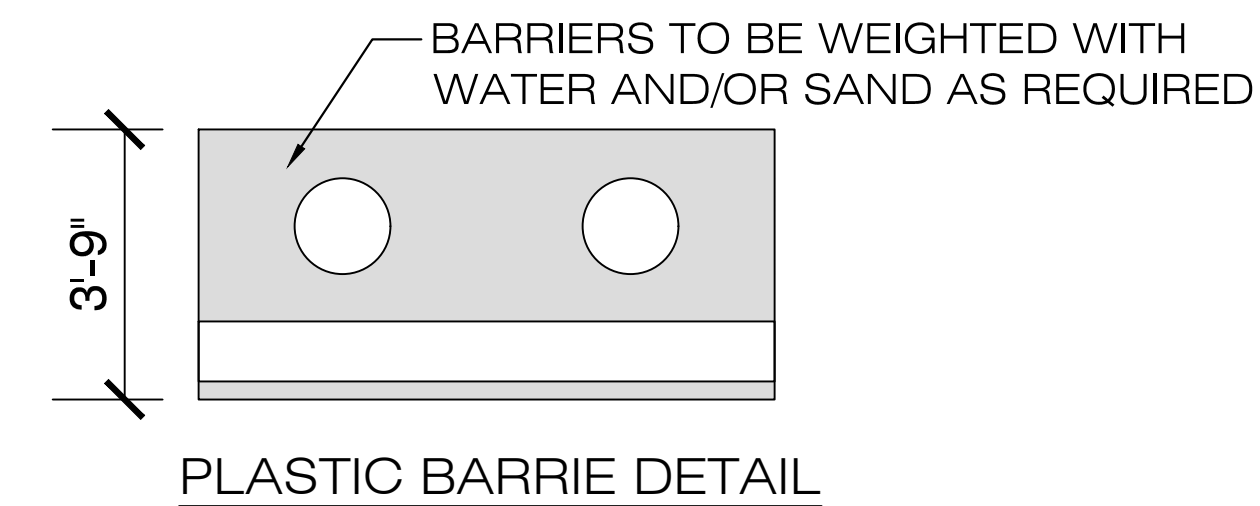
CONSTRUCTION FENCE DETAIL



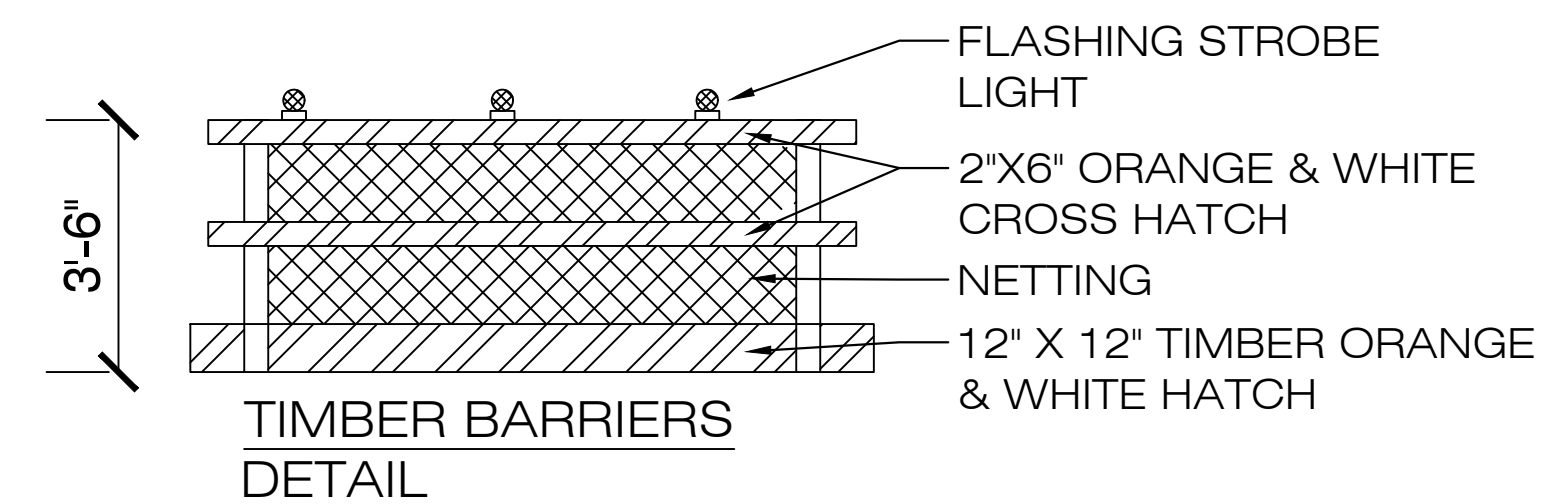
TYP. OSHA LETTER



OSHA EGRESS LETTER DETAIL



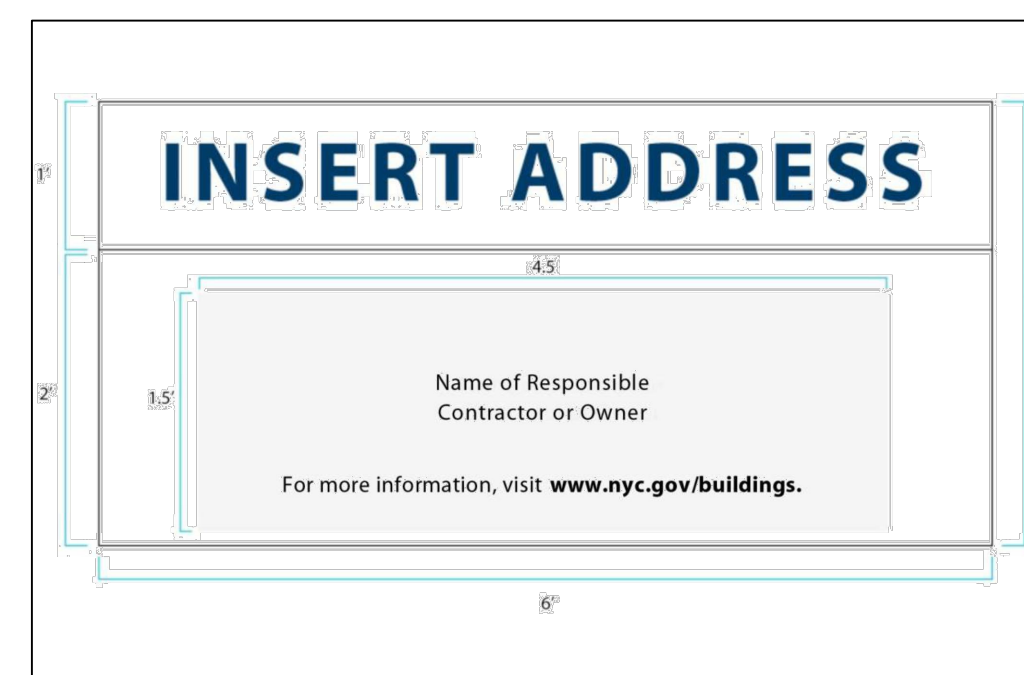
PLASTIC BARRIE DETAIL



TIMBER BARRIERS DETAIL



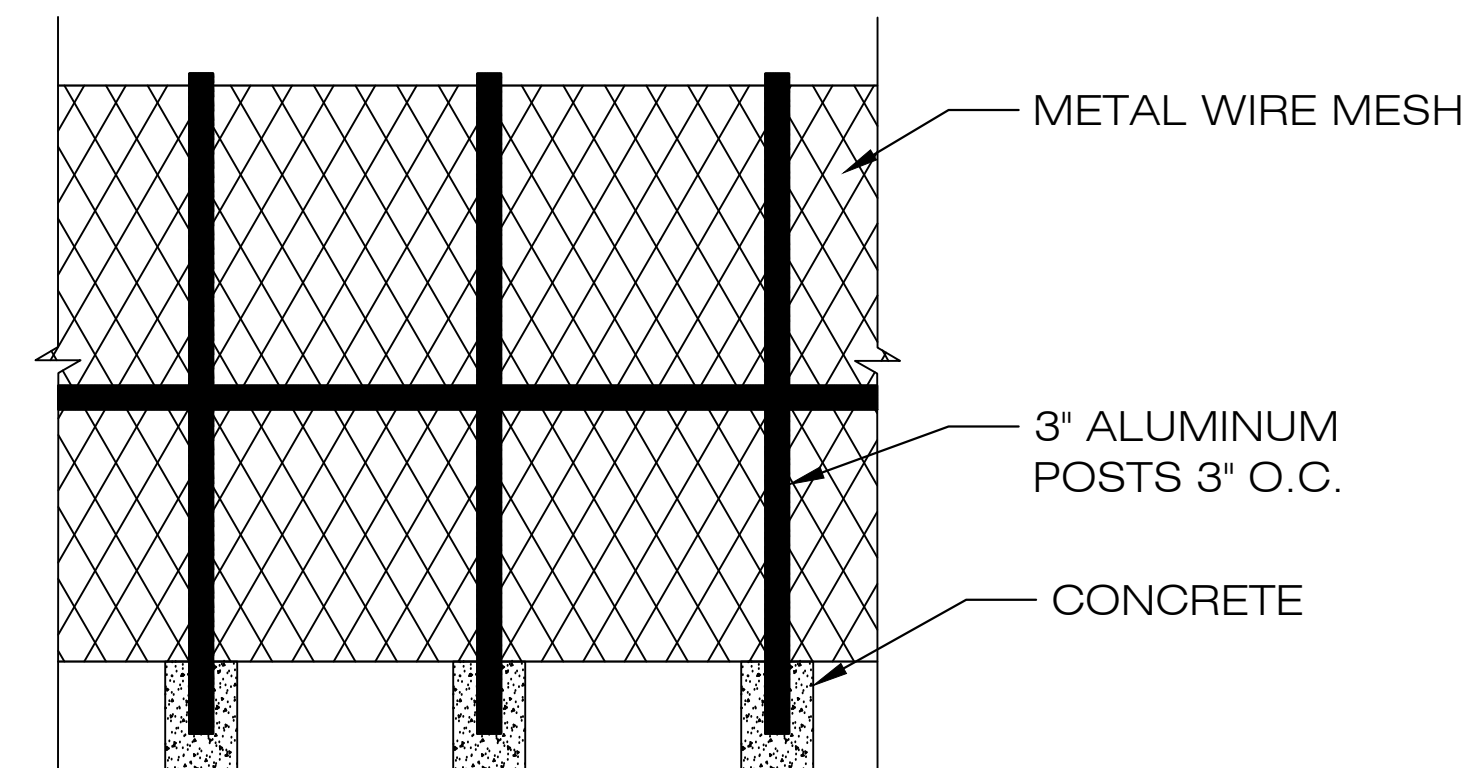
PROJECT INFORMATION PANEL AND SIDE WALK SHED PARAPET POSTING



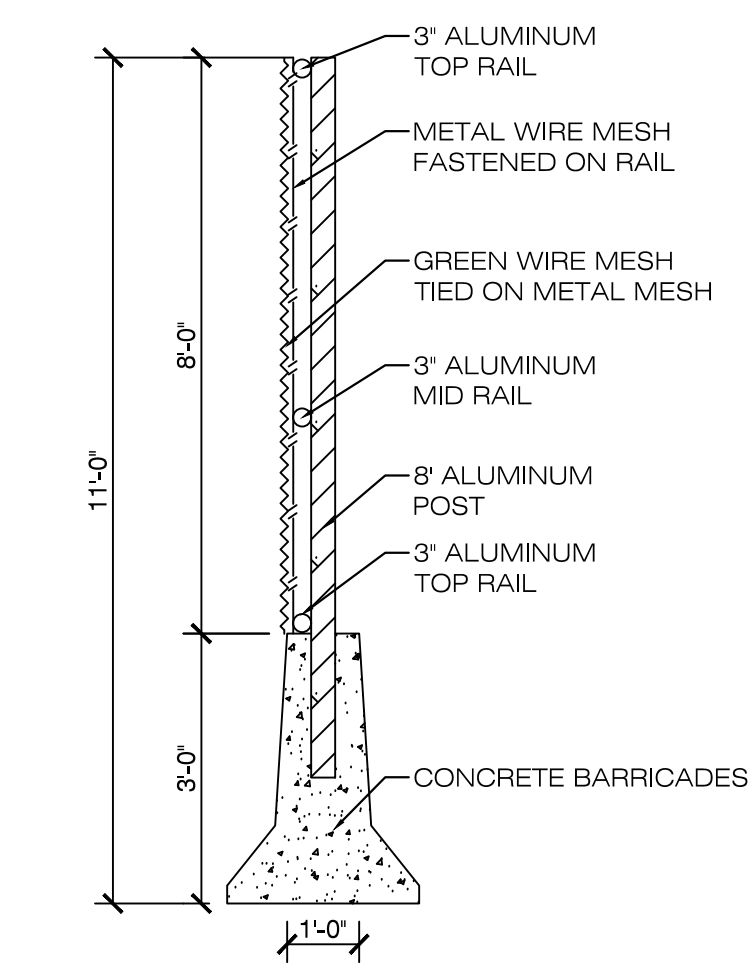
SIDEWALK SHAD PARAPET PANEL LAYOUT



FOR CONSTRUCTION SITS WITH STREET FRONTAGE MORE THAN 60'-0"



CONSTRUCTION FENCE DETAIL



CONCRETE BARRIERS WITH CHAIN LINK FENCE DETAIL

SITE SAFETY PLAN  
EXCAVATION PHASE

SAFETY DESIGNER



SAFETY DESIGN

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

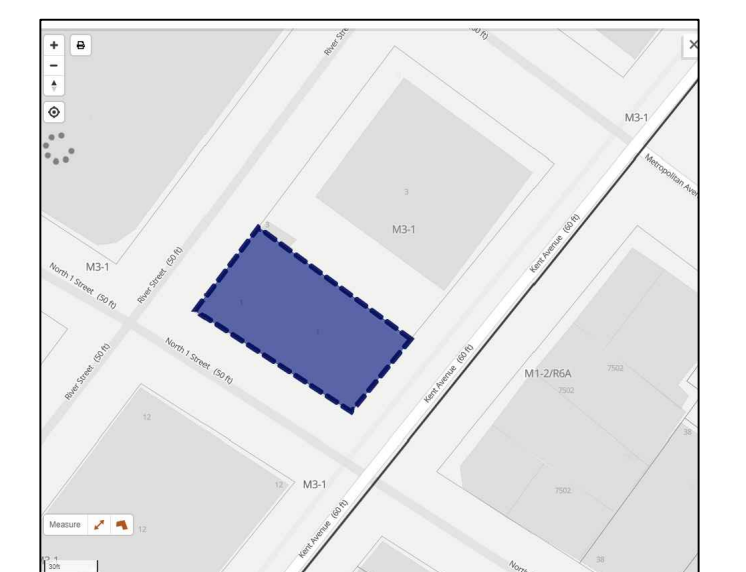
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



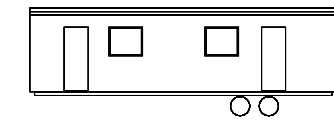
DRAWING TITLE:  
STANDARD DETAILS

SIGNATURE OF PREPARER	DATE: 8/18/2019
SCALE: AS SHOWN	
DRAWN:	
REVIEWED:	
SHEET NO. 02	

SSP-401-00



CONSTRUCTION TRAILER



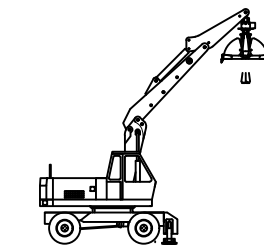
EXCAVATOR



BULLDOZER



EARTH REMOVER



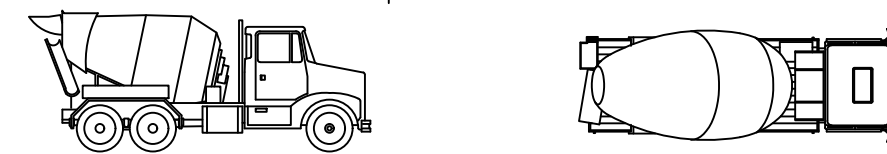
DUMP TRUCK



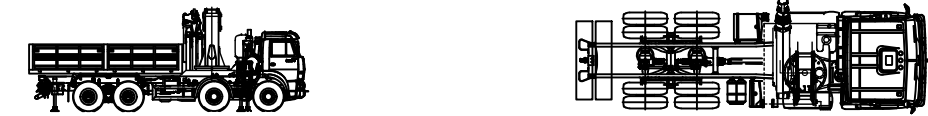
CONCRETE PUMP TRUCK



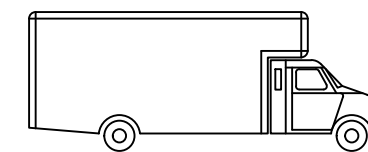
CONCRETE TRUCK



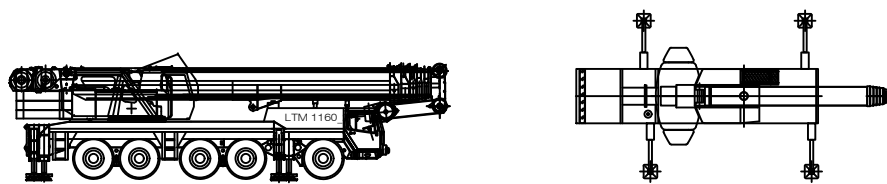
BOOM TRUCK



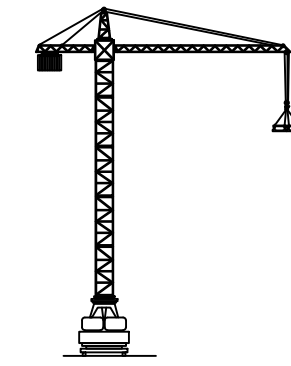
DELIVERY TRUCK



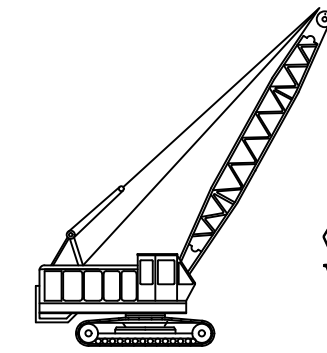
COMMERCIAL TRUCK MOUNTED CRANE



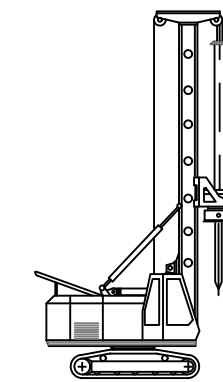
TOWER CRANE



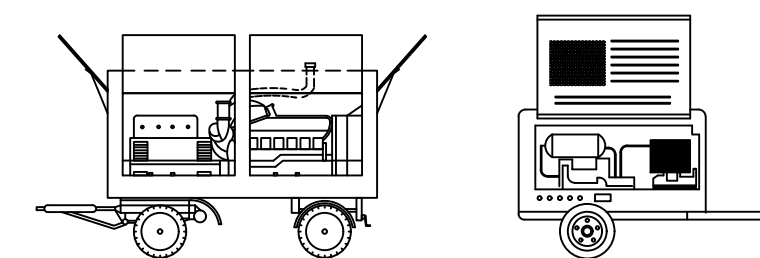
CRAWLER CRANE



SOIL CEMENT DRILLER



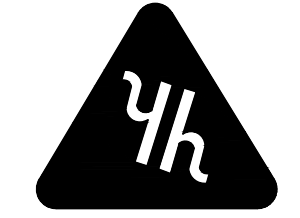
GENERATOR



SITE SAFETY PLAN

EXCAVATION PHASE

SAFETY DESIGNER



SAFETY DESIGN

65 SOUTH 11TH ST SUITE B-13  
BROOKLYN NY 11249  
ATTN: HERSHI GREEN  
PH: 347-382-0401 / 347-263-3679  
EMAIL: INFO@YHSAFETYDESIGN.COM

OWNER

KENT RIVERVIEW LLC  
164 SOUTH 8 STREET BROOKLYN NY 11211  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

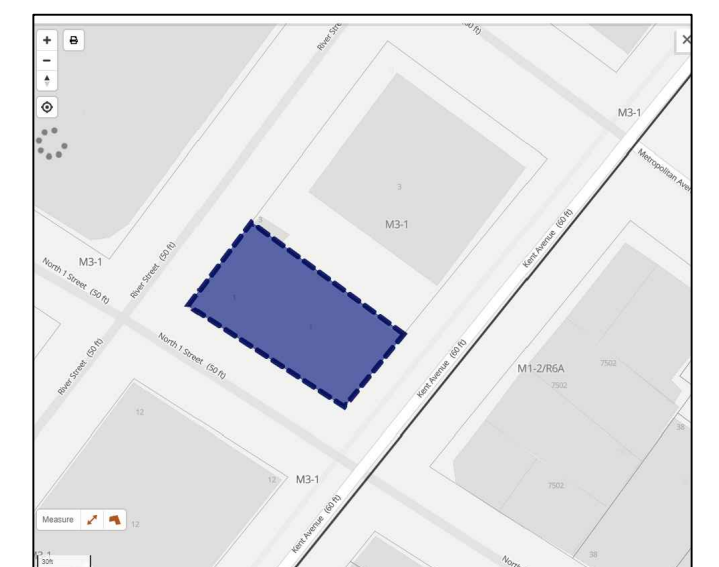
PROJECT

230 KENT AVE  
BROOKLYN NY 11249  
ATTN: YITZCHOK SCHWEID  
PH: 347-452-2615

BLOCK: 2362  
LOT: 1  
ZONING: M3-1  
BIN: 3062426

CONTRACTOR

KAUFMAN GROUP INC  
3 TEVERYA WAY #301 MONROE NY 10950  
ATTN: JOEL KAUFMAN  
PH: 845-656-7574



DRAWING TITLE: STANDARD DETAILS & EQUIPMENTS

SIGNATURE OF PREPARER: *Hersi Green* DATE: 8/18/2019  
SCALE: AS SHOWN  
DRAWN:  
REVIEWED:  
SHEET NO. 02

SSP-402-00

**2006**

**GW PUMPING TEST DATA**

**LEGGETTE, BRASHEARS & GRAHAM, INC.**  
 Professional Ground-Water and Environmental Engineering Services  
 110 Corporate Park Drive, Suite 112  
 White Plains, New York 10604  
 (914) 694-5711  
 Fax: (914) 694-5744

Client: FYN PAINT  
 Location: FYN PAINT & LACQUER / COATED  
 230 KENT AVENUE  
 BROOKLYN, NY

Date: 4/4/06  
 Weather/Comments:  
 Professional: SG/DM/SS/MC

Well	Hour	D.T.H.C	D.T.W.	Thick.	T.D. (ft btoc)	Gal. Evac. Actual	Temp (oC)	pH	Cond. (uS)	D.O.		Time Sampled
										mg/l	%	
MW-4	0636		11.62									
MW-12	0638		10.79									
EW-2	0641		11.65									
MW-14	0643		11.58									
MW-11	0645		11.78									
MW-26	0652		13.03									
MW. 8	0656		13.79									
MW-24	0701		17.15									
MW-7	0706		15.54									
EW-1	0711		15.42									
MW-21	0729	15.40	15.43	0.03								
MW-27	0730		16.65									
MW-23	0735		10.97									
MW-9A	0738	15.63	15.84	0.21								
MW-22	0745		NM									
MW-22	0756	17.00	17.15	0.15								
MW-16	0840		15.53									

\* 1 gal prod removed using peristaltic



# LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

110 CORPORATE PARK DRIVE

SUITE 112

WHITE PLAINS, NY 10604

Sheet 1 of 2

CLIENT FYN PAINT

LOCATION 230 KENT AVENUE

$r = 0.166ft$

WELL NO. EW-1

DRAWDOWN RECOVERY STEP

MEAS. BY \_\_\_\_\_ MEAS. WITH Sonic

DATE 4/4/06

MEAS. PT. TOP OF CASING

ELEV. MEAS. PT. \_\_\_\_\_

ORIFICE " X " "

DTW 15.40 @ 0918 ; Q: \_\_\_\_\_ GPM = \_\_\_\_\_ " ; \_\_\_\_\_ GPM = \_\_\_\_\_ " ; \_\_\_\_\_ GPM = \_\_\_\_\_ " ; \_\_\_\_\_ GPM = \_\_\_\_\_ " ; \_\_\_\_\_ GPM = \_\_\_\_\_ " r \_\_\_\_\_

Hour	Ref. pt.	Meas. pt.	D.T.W.	s	t	Remarks	Hour	Ref. pt.	Meas. pt.	D.T.W.	s	t	Remarks
0918	start				0	230	0938			16.91	1.51	20	
0919			15.64	0.24	1		0940			16.30	0.9	22	READ THIS OFF
0920			15.74	0.34	2		0942			16.69	1.29	24	
0921			15.76	0.36	3		0944			16.91	1.51	26	
0922			16.08	0.68	4		0946			16.95	1.55	28	
0923			16.18	0.78	5		0947			17.40	2.00	29	300 (45gpm)
0924			16.10	0.70	6		0949			17.24	1.84	31	310 (45gpm)
0925			16.04	0.64	7		0950			17.50	2.10	32	
0926			16.26	0.86	8	280	0952			17.50	2.10	34	
0927			16.55	1.15	9	260	0954			17.73	2.33	36	
0928			16.98	1.58	10	250	0956			17.82	2.42	38	
0929			17.06	1.66	11		0958			17.84	2.44	40	
0930			17.09	1.69	12	240	1003			17.55	2.15	45	
0931			17.08	1.68	13		1010			17.76	2.36	52	
0932			17.00	1.60	14	220 (3gpm)	1017			17.01	1.61	59	power-down from 1012-1016
0933			16.96	1.56	15		1022			18.03	2.63	64	
0934			16.90	1.50	16	210 (3gpm)	1027			18.06	2.66	69	
0935			16.95	1.55	17	200 (2gpm)	1038			18.03	2.63	80	4.75 GPM
0936			16.90	1.50	18		1048			18.20	2.80	90	
0937			16.90	1.50	19		1058			18.21	2.81	100	

Sonic metal container

# LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

110 CORPORATE PARK DRIVE

SUITE 112

WHITE PLAINS, NY 10604

DISTANCE =

Sheet 2 of 2

CLIENT EYN PAINT

LOCATION 230 Kent Ave

WELL NO. EW-1

DRAWDOWN RECOVERY STEP MEAS. BY MEAS. WITH Sonic

DATE 4/4/06

MEAS. PT. TOC ELEV. MEAS. PT.

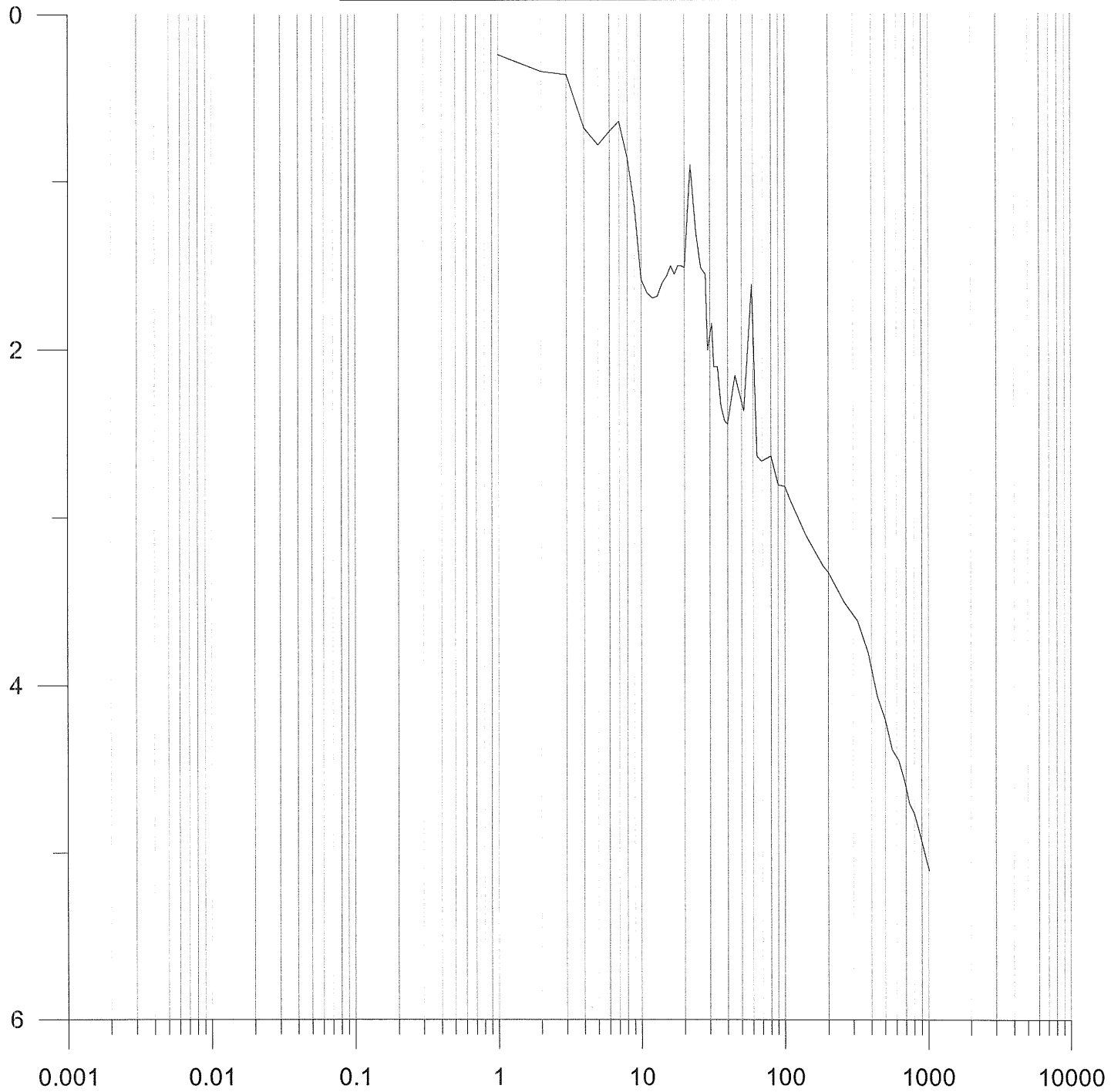
ORIFICE " X "

DTW 1 0 Q: 15.40 GPM = " ; GPM = " ; GPM = " ; GPM = " ; GPM = " r

Initial Measurement 15.40

Hour	Ref. pt.	Meas. pt.	D.T.W.	s	t	Remarks	Hour	Ref. pt.	Meas. pt.	D.T.W.	s	t	Remarks
1108	THICK	JTP	18.30	2.90	110		0219			19.25			Pump OFF
1138			18.50	3.10	140		0220			19.25			
1200			18.68	3.28	184		0231			18.65			
1238			18.72	3.32	200		0232			18.45			
1338			18.90	3.50	260		0233			18.34			310 (4.5 gpm)
1438			19.01	3.61	320		0234			18.27			
1538			19.20	3.80	380		0235			18.24			
1638			19.46	4.06	440		0236			18.21			
1738			19.60	4.20	500		0237			18.19			310 (4.5 gpm)
1838			19.78	4.38	560		0238			18.18			
1938			19.84	4.44	620		0239			18.17			
2038			19.96	4.56	680		0239			18.11			
2138	0.01	20.09	20.10	4.70	740		0239			18.07			
2238	-	-	20.16	4.76	800		0244			18.01			
2338	-	-	20.26	4.86	860		0249			17.99			
0038	-	-	20.36	4.96	920		0254			17.97			
0138	-	-	20.45	5.05	980		0259			17.94			
0210	-	-	20.50	5.10	1020	Pump OFF	0309			17.90			
							0319			17.87			
							0329			17.83			

EW-1 Pumping Well Drawdown Curve







Iona DEC onsite 1145, 4/4/06

\* 1 gal of product removed prior to start (0745)

**LEGGETTE, BRASHEARS & GRAHAM, INC.**  
110 CORPORATE PARK DRIVE, SUITE 112, WHITE PLAINS, NY 10604

Sheet 1 of 1

CLIENT FYN PAINT

WELL NUMBER MW-22  PUMPING OBSERVATION

DATE 4/4/06

GEOGRAPHIC LOCATION BROOKLYN, NY

WATER LEVEL MEASURING POINT T.O.G. REF

ELEVATION OF MEASURING POINT

1 IN.

Hour	Ref. Pt. (ft)	Meas. Pt. (ft)	D.T.W. (ft)	Drawdown (ft)	Time (min.)	Remarks	Hour	Ref. Pt. (ft)	Meas. Pt. (ft)	D.T.W. (ft)	Drawdown (ft)	Time (min.)	Remarks
0756	—	—	<u>17.15</u>	—									
1009	—	—	16.20	+0.95	51								
1032	—	—	16.00	+1.15	74								
1054	—	—	15.90	+1.25	96								
1144	0.01	15.68	15.69	+1.46	146								
1354	0.42	15.40	15.82	+1.33	276								
1542	0.66	15.29	15.95	+1.20	384								
1740	0.34	15.46	15.80	+1.35	502	-BASED PRODUCT							
1940	0.08	15.55	15.63	+1.52	622								
2146	0.08	15.47	15.55	+1.60	748								
2344	—	—	15.41	+1.74	866								
0144	—	—	15.35	+1.80	986	pump off @ 0218							
0305	—	—	15.33	+1.82	1067								
0334	—	—	15.33	+1.82	1096								





**LEGGETTE, BRASHEARS & GRAHAM, INC.**  
 110 CORPORATE PARK DRIVE, SUITE 112, WHITE PLAINS, NY 10604

Sheet 1 of 1

CLIENT

FYN PAINT

WELL NUMBER

MW-27

PUMPING  
 OBSERVATION

DATE

4, 4, 06

GEOGRAPHIC LOCATION

BROOKLYN, NY

WATER LEVEL

MEASURING POINT

T.O.C. Ref

ELEVATION OF  
 MEASURING POINT

1"

Hour	Ref. Pt. (ft)	Meas. Pt. (ft)	D.T.W. (ft)	Drawdown (ft)	Time (min.)	Remarks	Hour	Ref. Pt. (ft)	Meas. Pt. (ft)	D.T.W. (ft)	Drawdown (ft)	Time (min.)	Remarks
0730			16.65	—		* Pump on @ 0918							
1008			16.72	0.07	50								
1027			16.70	0.05	69								
1053			16.68	0.03	95								
1143			16.68	0.03	145								
1353			16.62	+0.03	275								
1541			16.62	+0.03	383								
1737			16.65	0.00	499								
1937			16.70	0.05	619								
2137			16.70	0.05	739								
2342			16.66	0.01	864								
0142			16.62	+0.03	984	Pump off @ 0218							
0304			16.60	+0.05	1066								
0333			16.59	+0.06	1095								

























**FYN PAINT & LACQUER COMPANY  
230 KENT AVENUE  
WILLIAMSBURG, BROOKLYN, NEW YORK**

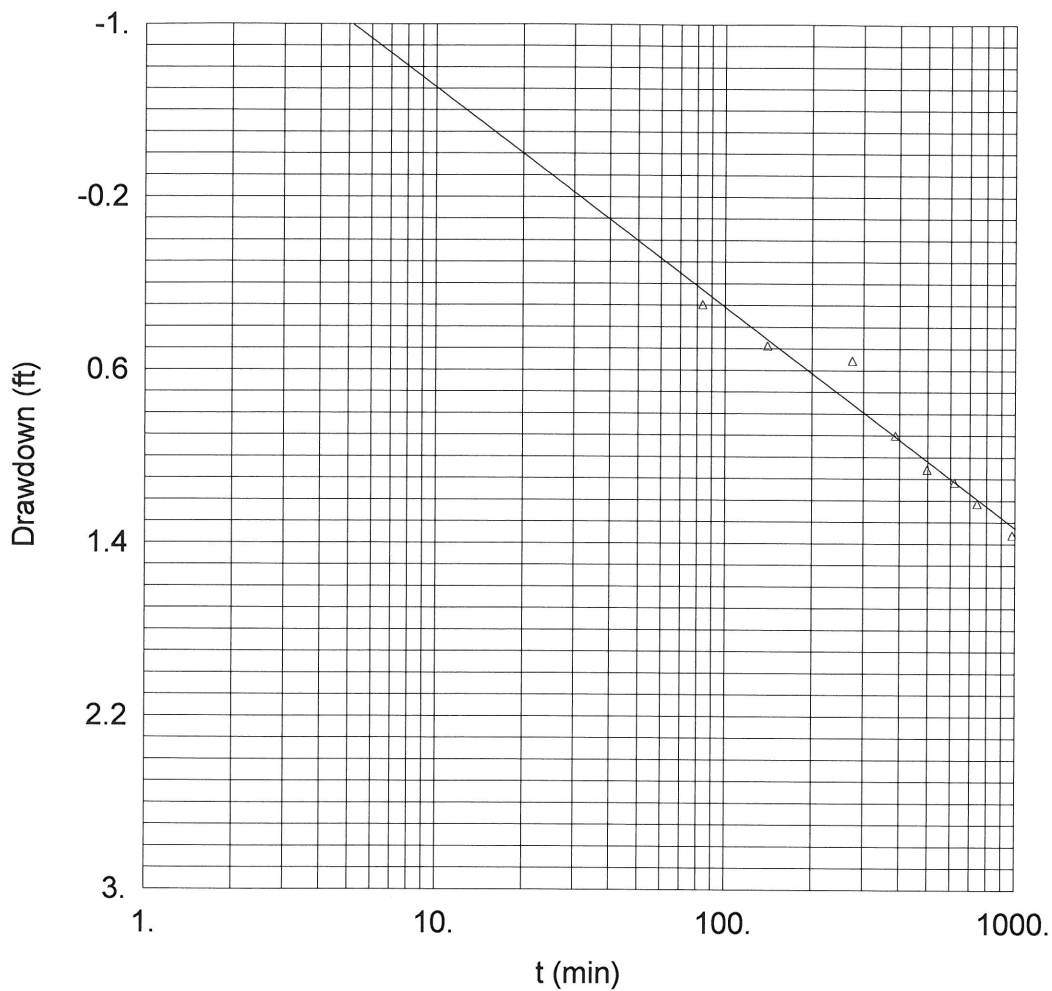
---

**EW-1 PUMPING TEST DATA  
EW-1 Was Pumped For ~16 Hours at 4.75 GPM  
April 4 & 5, 2006**

<b>Well ID</b>	<b>Top of Casing Elevation (feet)</b>	<b>Distance From Pumping Well (feet)</b>	<b>Static Water Level (ft btoc) <sup>1)</sup></b>	<b>Static Water Level Elevation (feet)</b>	<b>Pumping Water Level (ft btoc)</b>	<b>Pumping Water Level Elevation (feet)</b>	<b>Drawdown (feet)</b>
Pumping Well EW-1	18.35	NA <sup>2)</sup>	15.40	2.95	20.45	-2.10	5.05
MW-21	18.37	23	15.43	2.94	17.75	0.62	2.32
MW-24	18.65	59	17.15	1.50	17.23	1.42	0.08

1) - Feet below top of casing

2) - Not applicable



WELL TEST ANALYSIS

2006\Pump Test\Cooper-Jacob - MW-16.aqt

PROJECT INFORMATION

Company: LBG, Inc  
 Client: Fyn Paint  
 Project: 2006 Pump Test  
 Location: Brooklyn, NY  
 Test Well: EW-1  
 Test Date: 4/4/2006

AQUIFER DATA

Saturated Thickness: 50 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-1	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
△ MW-16	29	0

SOLUTION

Aquifer Model: Unconfined

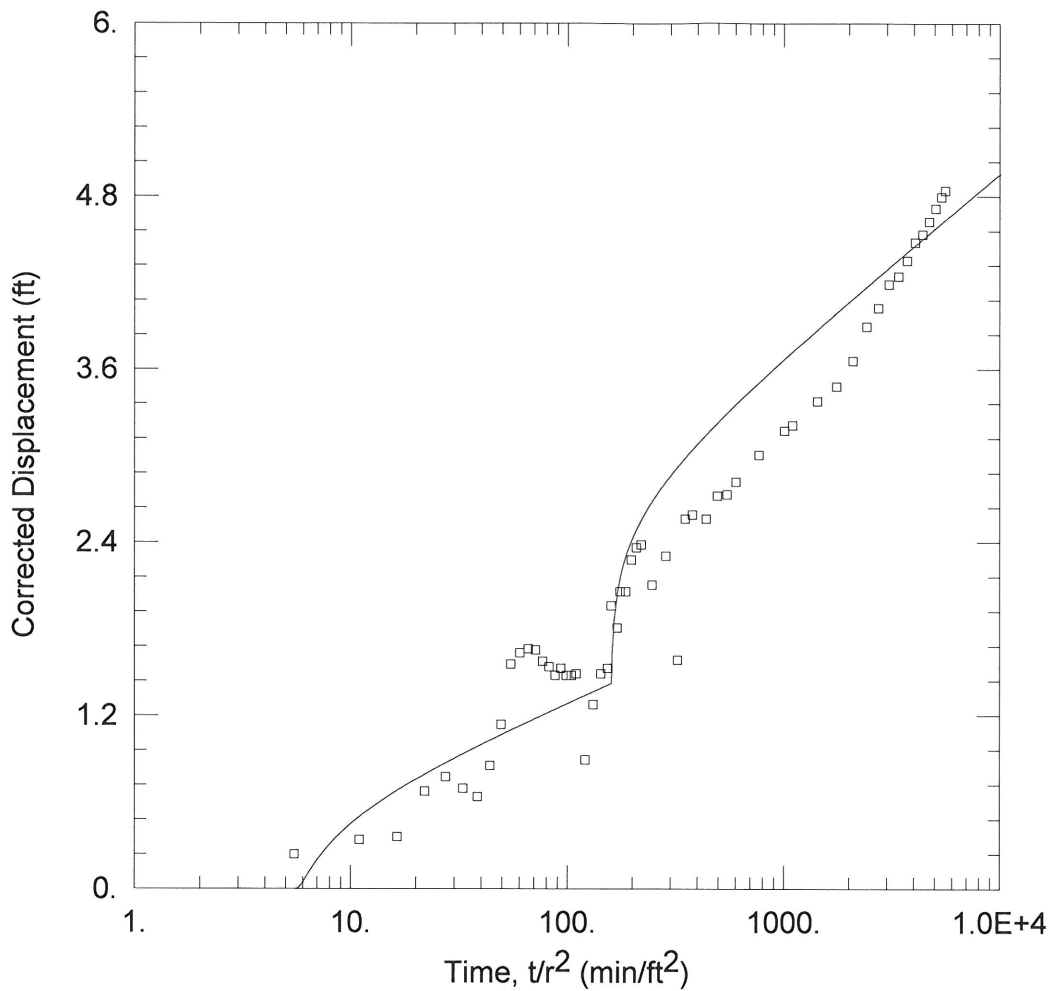
Solution Method: Cooper-Jacob

T = 164.7 ft<sup>2</sup>/day

S = 0.01508







### WELL TEST ANALYSIS

2006\Pump Test\EW-1.aqt

### PROJECT INFORMATION

Company: LBG, Inc  
 Client: Fyn Paint  
 Project: 2006 Pump Test  
 Location: Brooklyn, NY  
 Test Well: EW-1  
 Test Date: 4/4/2006

### WELL DATA

#### Pumping Wells

#### Observation Wells

Well Name	X (ft)	Y (ft)
EW-1	0	0

Well Name	X (ft)	Y (ft)
□ EW-1	0	0

### SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

T = 134.4 ft<sup>2</sup>/day

S = 0.2205

Kz/Kr = 1.

b = 50. ft

**2010**

**DPE PILOT TEST DATA**





FYN PAINT & LACQUER COMPANY  
VCP #V00380-2  
230 KENT AVENUE  
GREENPOINT, BROOKLYN, NEW YORK

DPE Pilot Test Field Sheet

DPE Extraction Point - EW-2

Pilot Test Wellhead Information

Date - July 1, 2010

Extraction Well							Distance From Extraction Well (ft)	Monitoring Points																									
								MW-11		SG-2		SG-3		SSDS		MW-4		MW-23		SG-10		MW-22		SG-9		EW-1		MW-12					
Information	Time	Drop-Tube Setting (ft btoc)	Induced Drawdown (feet)	Vacuum Pressure (*Hg)	Vacuum Flow (SCFM)*	Effluent VOC Concentration (ppm)		45		29		---		---		38		27.5		40		69		81		98.5		43					
								Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)	Induced Vacuum Pressure (*H2O)	Induced Drawdown (feet)
Baseline Depth to Water Measurements (ftbtoc)	710			11.11				13.59		NM		NM		NM		NM		11.46		10.51		NM		DTP - 14.23 DTW - 14.25		NM		16.1		10.45			
Start Pilot Test																																	
Dewater EW-2	800																																
Dewater EW-2	1115	22																															
Start Test	1135	22	NM	14	NM	10.3		NM	NM	-0.4	NM	NM	NM	0	NM	0	---	0.01	---	0	NM	0	---	0.01	NM	0	---	0.01	NM	-0.01	---	0	---
	1150	22	NM	14	NM	11.5		NM	NM	-0.4	NM	0	NM	0	NM	0	0.01	0.01	---	0	NM	0	DTP - 0.14 DTW - 0.14	0	NM	0	0.05	0	0.05	0	-0.01		
	1205	22	NM	14	NM	11.5		NM	NM	-0.4	NM	0	NM	0	NM	0	---	0.01	---	0	NM	0	DTP - 0.14 DTW - 0.14	0	NM	0	0.07	0	0.07	0	---		
	1235	22	NM	14	NM	11		NM	NM	-0.4	NM	0	NM	0	NM	0	---	0.01	---	0	NM	0	DTP - 0.14 DTW - 0.14	0	NM	0	0.05	0	0.05	0	---		
Liquid Ring Pump Up to 28' Hg	1310	22	NM	28	NM	20.1		NM	NM	-0.48	NM	0	NM	0	NM	0	0.01	0	---	0	NM	0	DTP - 0.14 DTW - 0.14	0	NM	0	0.05	0	0.05	0	-0.01		
	1340	22	NM	28	NM	31		NM	NM	-0.46	NM	0	NM	0	NM	0	---	0.01	-0.03	0	NM	0	DTP - 0.14 DTW - 0.14	0	NM	0	0.05	0	0.05	0	---		
	1410	22	NM	28	NM	38.4		0	0.09	-0.46	NM	0	NM	0	NM	0	0.01	0.01	-0.03	0	NM	0	DTP - 0.14 DTW - 0.14	0	NM	0	0.05	0	0.05	0	---		
	1445	22	NM	28	NM	42		0	0.09	-0.45	NM	0	NM	0	NM	0	-0.01	0	-0.04	0	NM	0	DTP - 0.14 DTW - 0.14	0	NM	0	0.05	0	0.05	0	-0.03		
	1515	22	NM	28	NM	50.6		0	---	-0.5	NM	0	NM	0	NM	0	-0.02	0.01	-0.04	0	NM	0	DTP - 0.14 DTW - 0.14	0	NM	0	0.07	0	0.07	0	-0.05		
	1540	22	NM	28	NM	52		0	---	-0.46	NM	0	NM	0	NM	0	-0.05	0	-0.06	0	NM	0	DTP - 0.09 DTW - 0.14	0	NM	0	0.05	0	0.05	0	-0.05		
EW-2 DPE Pilot Test Shut Down	1608																																
EW-2 Recovery	Time	DTW	Time	DTW																													
	1608	24.4	1632	21.18																													
	1609	23.63	1637	20.9																													
	1610	23.48	1647	20.26																													
	1611	23.37	1657	19.59																													
	1612	23.25	1707	18.95																													
	1613	23.16	1722	18																													
	1614	23	1737	17.1																													
	16.15	22.88	1752	16.23																													
	1616	22.78	1807	15.7																													
	1617	22.71	1837	14.81																													
	16.19	22.49	1857	14.45																													
	1621	22.23	1927	14.11																													
	1623	22.19	1957	13.82																													
	1625	21.7																															
	1627	21.51																															

\*Hg - Inches of Mercury  
SCFM - Standard cubic Feet per Minute  
ppm - parts per million  
NM - Not Measured  
\* Flow rate not measured - only using stinger to pull water.

DTP - Depth to Product  
DTW - Depth to Water

FIELD NOTES

0800 - Start Pump - Begin Dewatering
0815 - EW-2 Dewatered - Find Max Vacuum
0845 - Max Vacuum 28" HG on Liquid Ring Pump, 13 SCFM after drawdown, let well recover
1115 - Begin Dewatering EW-2
1135 - Start Test with only stinger at 22 ftbtoc - 21.5" Hg on LRP

**2012**

**EW-1 DPE PILOT TEST DATA**



**FYN PAINT & LACQUER COMPANY, INC.**  
**230 KENT AVENUE**  
**WILLIAMSBURG, BROOKLYN, NEW YORK**

DPE Pilot Test - EW-1  
 Baseline Water-Level Measurements and PID Concentrations - Soil Vapor Points  
 June 20, 2012

Well ID	Total Depth (feet)	Screen		Headspace PID (ppm <sup>2)</sup> )	TOC <sup>3)</sup> Elevation (ft msl) <sup>4)</sup>	Depth to Product (ft btoc) <sup>5)</sup>	Product Thickness (feet)	Depth to Water (ft btoc)	Corrected Ground Water Elevation (ft msl)
		Diameter (inch)	Setting (ft bg) <sup>1)</sup>						
SG-2	23.18	1.00	1.00 to 6.00	NA	NA	-----	-----	NA	NA
SG-9	18.98	1.00	1.00 to 6.00	NA	NA	-----	-----	NA	NA
SG-10	13.30	1.00	1.00 to 6.00	NA	NA	-----	-----	NA	NA
SS-1	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-2	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-3	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-4	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-5	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-6	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-7	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-8	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-9	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-10	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-11	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-12	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-13	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
SS-14	0.25' - 0.5'	0.25"	Open End	NA	NA	-----	-----	NA	NA
DV-1	12.00	1.00	7.00 to 12.00	NM	NM	-----	-----	9.35	NA
DV-2	12.00	1.00	7.00 to 12.00	NM	NM	-----	-----	10.14	NA
DV-3	12.00	1.00	7.00 to 12.00	NM	NM	-----	-----	7.23	NA
SSDS	NA	4"/2"	~ 1.5	NA	NA	-----	-----	NA	NA

- 1) - Feet below grade
- 2) - parts per million
- 3) - Top of Casing
- 4) - Feet above mean sea level
- 5) - Feet below top of casing

NM - Not Measured  
 NA - Not Applicable

Notes: TOC elevations acquired by survey from Bunney Associates (or represent extrapolated values)  
 Groundwater Extraction Well not active at the time of gauging  
 Water observed in DV-1, DV-2 and DV-3 is likely due to contained water resulting from drilling

FYN PAINT & LACQUER COMPANY  
VCP #V00380-2  
230 KENT AVENUE  
GREENPOINT, BROOKLYN, NEW YORK

DPE Pilot Test Field Sheet

DPE Pilot Test Extraction Parameters

DPE Extraction Point - EW-1

Extraction Well Parameters												
Information	Time	Step Duration (Minutes)	Total Duration (Minutes)	Wellhead Readings				Make-up Readings		Extraction Manifold Readings		
				Drop-Tube Setting (ft btoc)	Induced Drawdown (feet)	Vacuum Pressure ("Hg)	Vacuum Flow (ACFM)	Vacuum Pressure ("Hg)	Vacuum Flow (SCFM)	Vacuum Pressure ("Hg)	Vacuum Flow (SCFM)	Effluent VOC Concentration (ppm)
LRP ON	1035	0	0	-----	-----	11.54	13.44	4.46	106*	16	120*	NM
Start SVE Test												
	1048	13	13	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 18 " Hg	1048	0	13	-----	-----	13.00	22*	5.00	238*	18.00	260	NM
	1050	2	15	-----	-----	-----	-----	-----	-----	-----	-----	-----
Backoff LRP to 17 " Hg	1050	0	15	-----	-----	12.00	18.27	5.00	121*	17.00	140	NM
SVE Test Complete	1100	10	25	-----	-----	NM	NM	NM	NM	NM	NM	NM
Start DPE Pilot Test (Begin pulling water)	1112	0	37	14.00	-----	4.65	46*	12.35	94*	17.00	140	NM
	1205	53	90	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 20 " Hg	1205	0	90	15.00	-----	4.70	24*	15.30	96*	20.00	120	NM
	1245	40	130	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 24 " Hg	1245	0	130	15.00	-----	4.70	34*	19.30	106*	24.00	140	NM
Stinger to 16 ' BTOC	1315	30	160	16.00	0.67	4.10*	24*	19.90*	116*	24.00	140*	NM
Stinger to 17.5 ' BTOC	1328	43	173	17.50	2.17	3.50	14*	20.50	126*	24.00	140	44
Stinger to 18 ' BTOC	1345	60	190	18.00	2.67	3.00*	12.5*	21*	87.5*	24.00	100*	NM
Effluent PID reading	1415	90	220	NM	NM	NM	NM	NM	NM	NM	NM	44
Stinger to 19 ' BTOC	1428	103	232	19.00	3.67	2.50*	8.30*	21.50*	71.70*	24.00	80*	NM
Effluent PID reading	1430	105	234	NM	NM	NM	NM	NM	NM	NM	NM	46
Bump LRP to 26 " Hg	1500	0	264	19.00	3.67	3.65	9*	22.35	56*	26.00	65	NM
Effluent PID reading	1530	30	294	NM	NM	NM	NM	NM	NM	NM	NM	135
Stinger to 20 ' BTOC	1550	50	314	20.00	4.67	3.57	6*	22.43	39*	26.00	45	NM
Effluent PID reading	1600	60	324	NM	NM	NM	NM	NM	NM	NM	NM	123
Stinger to 21.5 ' BTOC	1630	90	354	21.50	6.17	3.50	5*	22.50	35*	26.00	40	NM
Stinger to 20 ' BTOC	1635	95	359	20.00	4.67	3.50*	5*	22.50*	35*	26.00	40*	147
Bump LRP to 28 " Hg	1656	0	380	20.00	4.67	4.40*	6*	23.60*	32*	28.00	38*	NM
Stinger to 21 ' BTOC	1720	24	404	21.00	5.67	3.70	5*	24.30	30*	28.00	35.00	118
Stinger to 20.5 ' BTOC	1745	49	429	20.50	5.17	2*	3*	26*	29*	28.00	32.00	NM
(too much water being pulled through stinger)												
Effluent PID reading	1845	109	489	20.50	5.17	NM	NM	NM	NM	NM	NM	144
DPE Test complete	1856	120	500	20.50	5.17	4*	6*	24*	22*	28.00	32*	NM

ft btoc - Feet Below Top of Casing  
"Hg - Inches of Mercury  
SCFM - Standard cubic Feet per Minute

ppm - parts per million  
NM - Not Measured

FIELD NOTES												
Initial Fluid Level Measurements: Depth To Product - ---- ft btoc    Depth To Water - 15.33 ft btoc												
Initial Headspace PID Concentration - NM ppm												
Static Wellhead Vacuum - NM												
* Indicates estimated value												
System pumping rates -	Description	Time	Totalizer (Gallons)	Volume (Gallons)	Cycle Duration (min)	Cycle Discharge rate (gpm)	Volume (Gallons)	Approx. Extraction Rate (gpm)	Volume (Gallons)	Approx. Extraction Rate (gpm)	Approx. Extraction Rate (gpm)	
	Start DPE Pilot Test	1112	28									
	Start Holding Tank Transfer Cycle	1700	1,006	56	3	18.66666667						
	End Holding Tank Transfer Cycle	1703	1,062									
	Start Holding Tank Transfer Cycle	1723	1,118	55	3	18.33333333	111	4.83				
	End Holding Tank Transfer Cycle	1726	1,173						268	3.62		
	Start Holding Tank Transfer Cycle	1814	1,274	56	6	18.66666667						
	End Holding Tank Transfer Cycle	1817	1,330									
	<b>End Pilot Test</b>	<b>1856</b>	<b>1,463</b>									
<b>Total Volume Pumped</b>			<b>1,435</b>									
<b>Total Duration (minutes)</b>			<b>464</b>									
<b>Average Extraction Rate over whole test (gpm)</b>			<b>3.09</b>									
Effluent air sample collected at 1856												





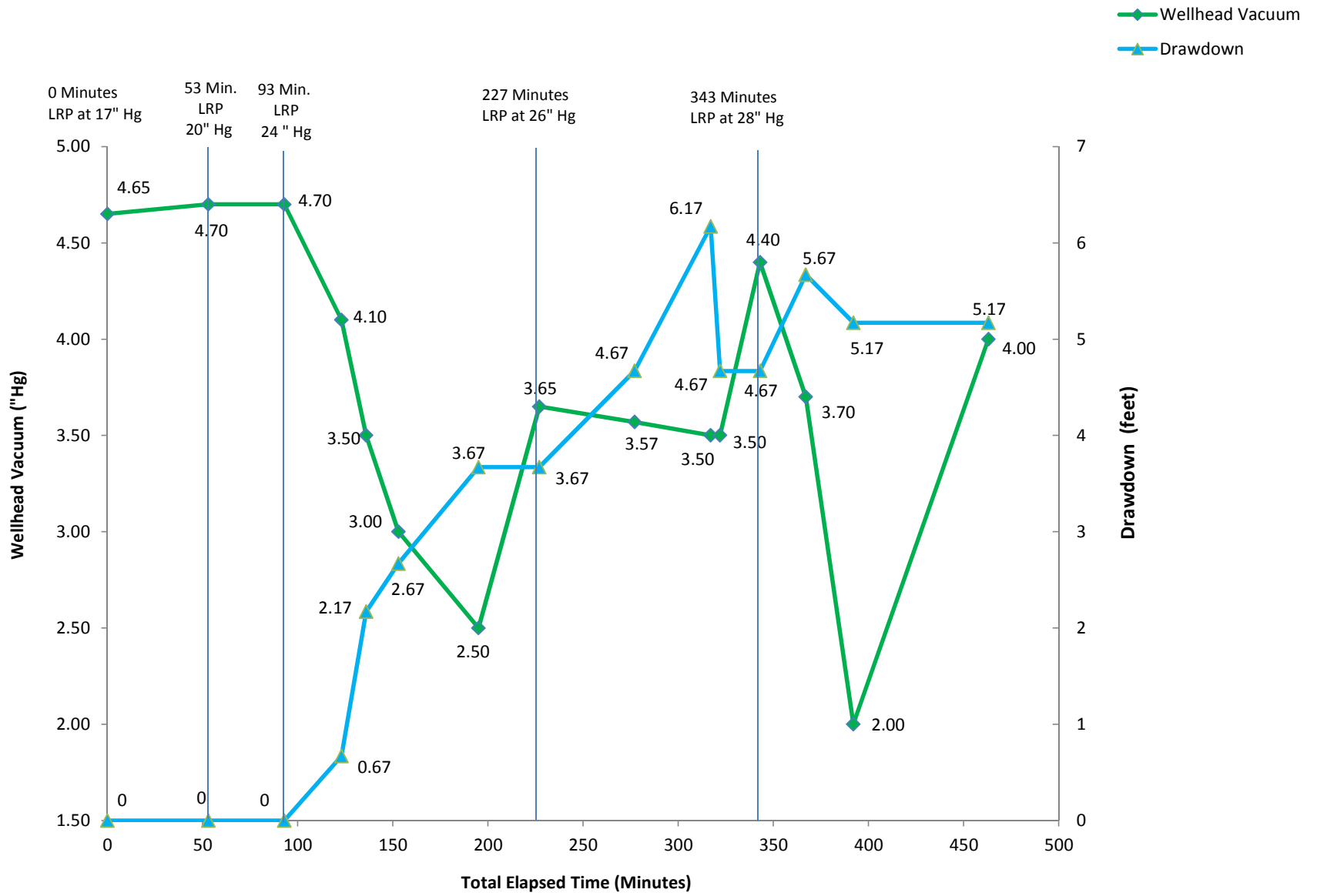








# EW-1 DPE Pilot Test



**2012**

**EW-2 DPE PILOT TEST DATA**

**FYN PAINT & LACQUER COMPANY, INC.**  
**230 KENT AVENUE**  
**WILLIAMSBURG, BROOKLYN, NEW YORK**

DPE Pilot Test - EW-2  
 Baseline Water-Level Measurements and PID Concentrations - Soil Vapor Points  
 June 25, 2012

Well ID	Total Depth (feet)	Screen		Headspace PID (ppm <sup>2)</sup> )	TOC <sup>3)</sup> Elevation (ft msl) <sup>4)</sup>	Depth to Product (ft btoc) <sup>5)</sup>	Product Thickness (feet)	Depth to Water (ft btoc)	Corrected Ground Water Elevation (ft msl)
		Diameter (inch)	Setting (ft bg) <sup>1)</sup>						
SG-2	23.18	1.00	1.00 to 6.00	NM	NA	-----	-----	NA	NA
SG-9	18.98	1.00	1.00 to 6.00	NM	NA	-----	-----	NA	NA
SG-10	13.30	1.00	1.00 to 6.00	NM	NA	-----	-----	NA	NA
SS-1	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-2	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-3	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-4	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-5	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-6	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-7	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-8	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-9	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-10	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-11	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-12	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-13	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
SS-14	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NA	NA
DV-1	12.00	1.00	7.00 to 12.00	175.0	NM	-----	-----	8.38	NA
DV-2	12.00	1.00	7.00 to 12.00	0.0	NM	-----	-----	10.06	NA
DV-3	12.00	1.00	7.00 to 12.00	3.6	NM	-----	-----	7.22	NA
SSDS	NA	4"/2"	~ 1.5	NM	NA	-----	-----	NA	NA

- 1) - Feet below grade
- 2) - parts per million
- 3) - Top of Casing
- 4) - Feet above mean sea level
- 5) - Feet below top of casing

NM - Not Measured  
 NA - Not Applicable

Notes: TOC elevations acquired by survey from Bunney Associates (or represent extrapolated values)  
 Groundwater Extraction Well not active at the time of gauging  
 Water observed in DV-1, DV-2 and DV-3 is likely due to contained water resulting from drilling



FYN PAINT & LACQUER COMPANY  
VCP #V00380-2  
230 KENT AVENUE  
GREENPOINT, BROOKLYN, NEW YORK

DPE Pilot Test Field Sheet

DPE Pilot Test Extraction Parameters

DPE Extraction Point - EW-2

Extraction Well Parameters												
Information	Time	Step Duration (Minutes)	Total Duration (Minutes)	Wellhead Readings				Make-up Readings		Extraction Manifold Readings		
				Drop-Tube Setting (ft btoc)	Induced Drawdown (feet)	Vacuum Pressure ("Hg)	Vacuum Flow (ACFM)	Vacuum Pressure ("Hg)	Vacuum Flow (SCFM)	Vacuum Pressure ("Hg)	Vacuum Flow (SCFM)	Effluent VOC Concentration (ppm)
Start SVE Test	903	0	0	4.50	-----	14.78	22.00	0.22	18.00	15.00	40.00	NM
	905	2	2	4.50	-----	14.70	21.00	0.30	19.00	15.00	40.00	NM
	907	4	4	4.50	-----	13.40	21.60	1.60	18.40	15.00	40.00	NM
	909	6	6	4.50	-----	13.25	20.70	1.75	19.30	15.00	40.00	NM
	915	12	12	4.50	-----	14.90	22.50	0.10	17.50	15.00	40.00	NM
	923	20	20	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 16" Hg	923	0	20	4.50	-----	13.45	19.75	2.55	30.25	16.00	50.00	NM
	927	4	24	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 17" Hg	927	0	24	4.50	-----	16.00	26.00*	1.00	59.00*	17.00	85.00	NM
End SVE Test	935	8	32	4.50	-----	14.50	22.00*	3.50	38.00*	18.00	60.00	NM
(Start pulling water)												
Start DPE Pilot Test	938	0	35	11.24	-----	11.90	28*	5.10	42*	17.00	70.00	25.3
Effluent PID Reading	955	17	52	NM	NM	NM	NM	NM	NM	NM	NM	8.1
Effluent PID Reading	1055	77	112	NM	NM	NM	NM	NM	NM	NM	NM	6.0
	1138	120	155	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 21 " Hg	1138	0	155	11.24	-----	12.30	40*	8.70	35*	21.00	75.00	NM
Stinger to 18 ' BTOC	1200	22	177	18.00	6.76	12.30	64*	8.70	36*	21.00	100.00	16.1
Stinger to 21 ' BTOC	1240	62	217	21.00	9.76	16.80	78*	4.20	22*	21.00	100.00	NM
Effluent PID Reading	1255	77	232	NM	NM	NM	NM	NM	NM	NM	NM	13.5
	1338	120	275	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 24 " Hg	1338	0	275	21.00	9.76	15.00	74*	9.00	46*	24.00	120.00	NM
Effluent PID Reading	1355	17	292	NM	NM	NM	NM	NM	NM	NM	NM	13.7
Effluent PID Reading	1455	77	352	NM	NM	NM	NM	NM	NM	NM	NM	8.1
	1538	119	394	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 28 " Hg	1538	0	394	21.00	9.76	15.90	84*	12.10	56*	28.00	140*	NM
Effluent PID Reading	1555	17	411	NM	NM	NM	NM	NM	NM	NM	NM	16.1
Effluent PID Reading	1655	77	471	NM	NM	NM	NM	NM	NM	NM	NM	8.9
End DPE Pilot Test	1745	127	521	21.00	9.76	16.35	96*	11.65	64*	28.00	160*	NM

† btoc - Feet Below Top of Casing  
"Hg - Inches of Mercury  
SCFM - Standard cubic Feet per Minute

ppm - parts per million  
NM - Not Measured

FIELD NOTES	
Initial Fluid Level Measurements: Depth To Product -	---- ft btoc    Depth To Water - 11.24 ft btoc
Initial Headspace PID Concentration -	0.0 ppm
Static Wellhead Vacuum -	NM
*Indicates an estimated value	
Start of test delayed due to rain and lightning	
Heavy rain from 1640 to 1700 - several wells were flooded during subsequent flooding	
Totalizer at beginning of test: 2,428 Gallons	
Totalizer at end of test: 2,616 Gallons	
Total pumped: 188 Gallons	
Effluent air sample collected at 1540	

































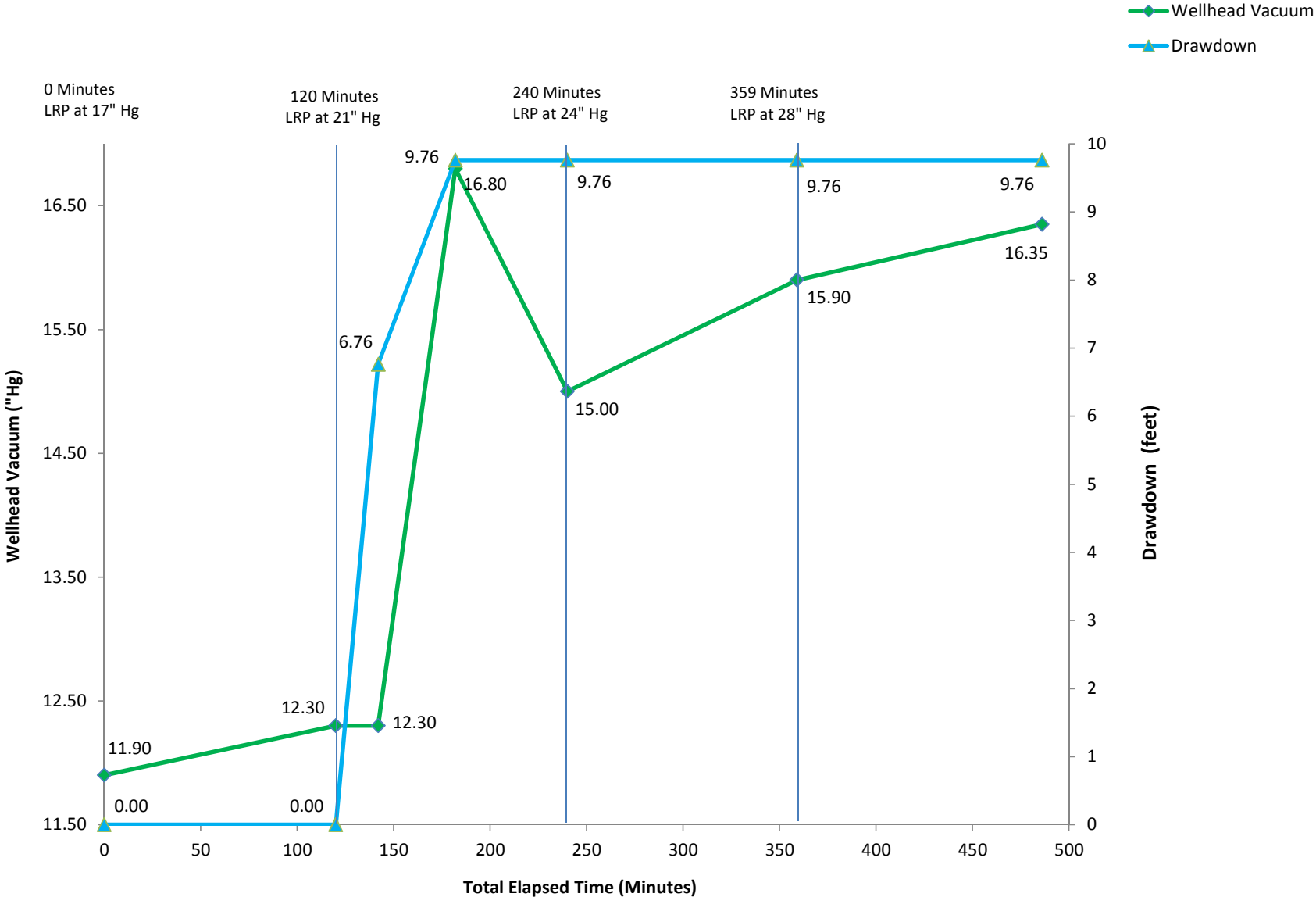








# EW-2 DPE Pilot Test



**2012**

**MW-15 DPE PILOT TEST DATA**

**FYN PAINT & LACQUER COMPANY, INC.**  
**230 KENT AVENUE**  
**WILLIAMSBURG, BROOKLYN, NEW YORK**

**DPE Pilot Test - MW-15**  
**Baseline Water-Level Measurements and PID Concentrations - Monitoring Wells**

June 26, 2012

Well ID	Total Depth (feet)	Screen		Headspace PID (ppm <sup>2)</sup> )	TOC <sup>3)</sup> Elevation (ft msl) <sup>4)</sup>	Depth to Product (ft btoc) <sup>5)</sup>	Product Thickness (feet)	Depth to Water (ft btoc)	Corrected Ground Water Elevation (ft msl)
		Diameter (inch)	Setting (ft bg) <sup>1)</sup>						
MW-1	23.18	4.00	5.00 to 23.00*	NM	9.91	-----	-----	NM	NA
MW-2	18.98	4.00	5.00 to 20.00*	NM	9.99	-----	-----	NM	NA
MW-3	13.30	4.00	1.00 to 16.00*	NM	NM	-----	-----	NM	NA
MW-4	26.40	4.00	10.00 to 30.00*	NM	14.78	-----	-----	NM	NA
MW-5	18.78	4.00	10.00 to 20.00	NM	12.60	-----	-----	NM	NA
MW-6	28.93	2.00	10.00 to 30.00	4.5	22.20	-----	-----	18.29	3.91
MW-7	28.15	2.00	10.00 to 30.00	NM	20.42	-----	-----	NM	NA
MW-8	23.65	4.00	15.00 to 25.00	NM	17.03	-----	-----	NM	NA
MW-9A	27.99	4.00	11.00 to 31.00	NM	18.65	-----	-----	NM	NA
MW-10	28.32	4.00	9.00 to 29.00	NM	13.44	-----	-----	NM	NA
MW-11	26.05	4.00	9.00 to 29.00	0.0	17.06	-----	-----	13.40	3.66
MW-12	22.90	4.00	9.00 to 24.00	NM	14.29	-----	-----	NM	NA
MW-13	29.35	2.00	10.00 to 30.00	NM	22.05	-----	-----	NM	NA
MW-14	27.05	4.00	8.00 to 28.00	NM	15.37	-----	-----	NM	NA
MW-15	29.06	4.00	10.00 to 30.00	2.9	20.08	16.49	0.08	16.57	3.58
MW-16	32.94	2.00	-----	38.0	20.08	-----	-----	15.58	4.50
MW-20	13.30	2.00	5.00 to 15.00	NM	12.99	-----	-----	NM	NA
MW-21	22.40	2.00	12.00 to 22.00	15.7	20.22	-----	-----	15.21	5.01
MW-22	18.42	2.00	9.00 to 19.00	49.0	20.54	-----	-----	9.47	11.07
MW-23	17.72	2.00	7.00 to 17.00	0.7	20.35	-----	-----	9.39	10.96
MW-24	23.32	2.00	13.50 to 23.50	0.0	20.53	-----	-----	17.11	3.42
MW-25	28.00	4.00	10.00 to 30.00	NM	20.66	-----	-----	NM	NA
MW-26	21.10	2.00	10.00 to 20.00	NM	17.55	-----	-----	NM	NA
MW-27	65.22	2.00	55.00 to 65.00	0.9	20.41	-----	-----	16.65	3.76
MW-28	32.05	4.00	18.00 to 38.00	9.9	20.65	-----	-----	17.17	3.48
MW-29	30.30	4.00	5.00 to 30.00	255.0	NM	15.86	0.19	16.05	NA
MW-30	29.61	4.00	5.00 to 30.00	1.6	NM	-----	Film	15.65	NA
MW-31	30.28	2.00	5.00 to 25.00	1.2	NM	-----	-----	15.71	NA
MW-32	29.52	2.00	5.00 to 30.00	0.5	NM	-----	-----	15.23	NA
EW-1	31.39	4.00	12.00 to 32.00	144.0	20.23	-----	-----	15.34	4.89
EW-2	25.36	4.00	5.00 to 25.00	171.0	15.11	-----	-----	11.69	3.42
ASW-1	39.53	1.00	40.00 to 42.00	2.0	20.54	-----	-----	15.84	4.70
CE-4	19.15	2.00	5.00 to 20.00	NM	10.05	-----	-----	NM	NA

- 1) - Feet below grade
- 2) - parts per million
- 3) - Top of Casing
- 4) - Feet above mean sea level
- 5) - Feet below top of casing
- NM - Not Measured

NA - Not Applicable  
\* - Monitor Wells MW-1 to MW-4 were installed by Miller Environmental Group, Inc.  
Notes: TOC elevations acquired by survey from Bunney Associates  
Corrected groundwater elevations derived using an assumed product density of 0.87  
Groundwater Extraction Well not active at the time of gauging  
Historical wells GP-1, GP-2, CE-1, CE-2 and CE-3 were abandoned/decommissioned



FYN PAINT & LACQUER COMPANY  
VCP #V00380-2  
230 KENT AVENUE  
GREENPOINT, BROOKLYN, NEW YORK

DPE Pilot Test Field Sheet

DPE Pilot Test Extraction Parameters

DPE Extraction Point - MW-15

Extraction Well Parameters												
Information	Time	Step Duration (Minutes)	Total Duration (Minutes)	Wellhead Readings				Make-up Readings		Extraction Manifold Readings		
				Drop-Tube Setting (ft btoc)	Induced Drawdown (feet)	Vacuum Pressure ("Hg)	Vacuum Flow (ACFM)	Vacuum Pressure ("Hg)	Vacuum Flow (SCFM)	Vacuum Pressure ("Hg)	Vacuum Flow (SCFM)	Effluent VOC Concentration (ppm)
Start SVE Test	835	0	0	10.00	-----	1.65	46.00	8.35	8*	10.00	42	173
	845	10	10	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 12" Hg	845	0	10	10.00	-----	1.87	52.00	10.13	10*	12.00	50	225
	855	10	20	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 14" Hg	855	0	20	10.00	-----	2.00	55.00	12.00	14*	14.00	55	184
	905	10	30	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 16" Hg	905	0	30	10.00	-----	2.00	55.00	14.00	18*	16.00	57	211
	910	5	35	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 17" Hg	910	0	35	10.00	-----	2.08	54.00	14.92	20*	17.00	60	205
	917	7	42	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 20" Hg	917	0	42	10.00	-----	2.11	59.00	17.89	26*	20.00	28	196
	927	10	52	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 22" Hg	927	0	52	10.00	-----	2.12	58.00	19.88	32*	22.00	10	170
	937	10	62	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 24" Hg	937	0	62	10.00	-----	1.88	55.00	22.12	36*	24.00	52	162
	947	10	72	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 26" Hg	947	0	72	10.00	-----	1.52	45.00	24.48	36*	26.00	57	124
End SVE Test	950	3	75	-----	-----	-----	-----	-----	-----	-----	-----	-----
Start DPE Pilot Test	1000	0	85	18.00	1.43	0.56	32.00	21.44	28*	22.00	60	138
Stinger to 19' BTOC	1120	80	165	19.00	2.43	0.38	28*	21.62	42*	22.00	70	312
	1200	120	205	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 24" Hg	1200	0	205	19.00	2.43	0.42	30*	23.58	40*	24.00	70	296
Effluent PID Reading	1230	30	235	-----	-----	-----	-----	-----	-----	-----	-----	265
Effluent PID Reading	1335	95	300	-----	-----	-----	-----	-----	-----	-----	-----	302
	1400	120	325	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 26" Hg and Drop stinger to 20' BTOC	1400	0	325	20.00	3.43	0.30	38*	25.70	22*	26.00	60	336
Effluent PID Reading	1415	15	340	-----	-----	-----	-----	-----	-----	-----	-----	369
Effluent PID Reading	1520	80	405	-----	-----	-----	-----	-----	-----	-----	-----	371
	1600	120	445	-----	-----	-----	-----	-----	-----	-----	-----	-----
Bump LRP to 28" Hg and drop stinger to 24' BTOC	1600	0	445	24.00	7.43	0.08	68*	27.92	12*	28.00	80	330
Effluent PID Reading	1645	45	490	-----	-----	-----	-----	-----	-----	-----	-----	596
End DPE Pilot Test	1800	120	565	24.00	7.43	0.12	61*	27.88	14*	28.00	75	740

ft btoc - Feet Below Top of Casing  
"Hg - Inches of Mercury  
SCFM - Standard cubic Feet per Minute

ppm - parts per million  
NM - Not Measured

FIELD NOTES						
Initial Fluid Level Measurements: Depth To Product - 16.49 ft btoc    Depth To Water - 16.57 ft btoc						
Initial Headspace PID Concentration - 2.9 ppm						
Static Wellhead Vacuum - NM    1400 - make up air added at the stinger ferno location.						
* Indicates estimated value    1600 - LRP cannot overcome head with stinger at depth greater than 24' BTOC						
System pumping rates -	Description	Time	Totalizer (Gallons)	Volume (Gallons)	Duration (min)	Approx. Extraction Rate (gpm)
	Start DPE Pilot Test	1000	2,616			
	Totalizer Reading	1314	2,893			
	Totalizer Reading	1342	2,961			
	Totalizer Reading	1402	3,032			
	Totalizer Reading	1502	3,111			
	End Holding Tank Transfer Cycle	1506	3,192	1,030	238	4.33
	End Pilot Test	1800	4,062			
<b>Total Volume Pumped</b>			<b>1,446</b>			
<b>Total Duration (minutes)</b>			<b>480</b>			
<b>Average Extraction Rate over whole test (gpm)</b>			<b>3.01</b>			
Effluent air sample collected at 1545						











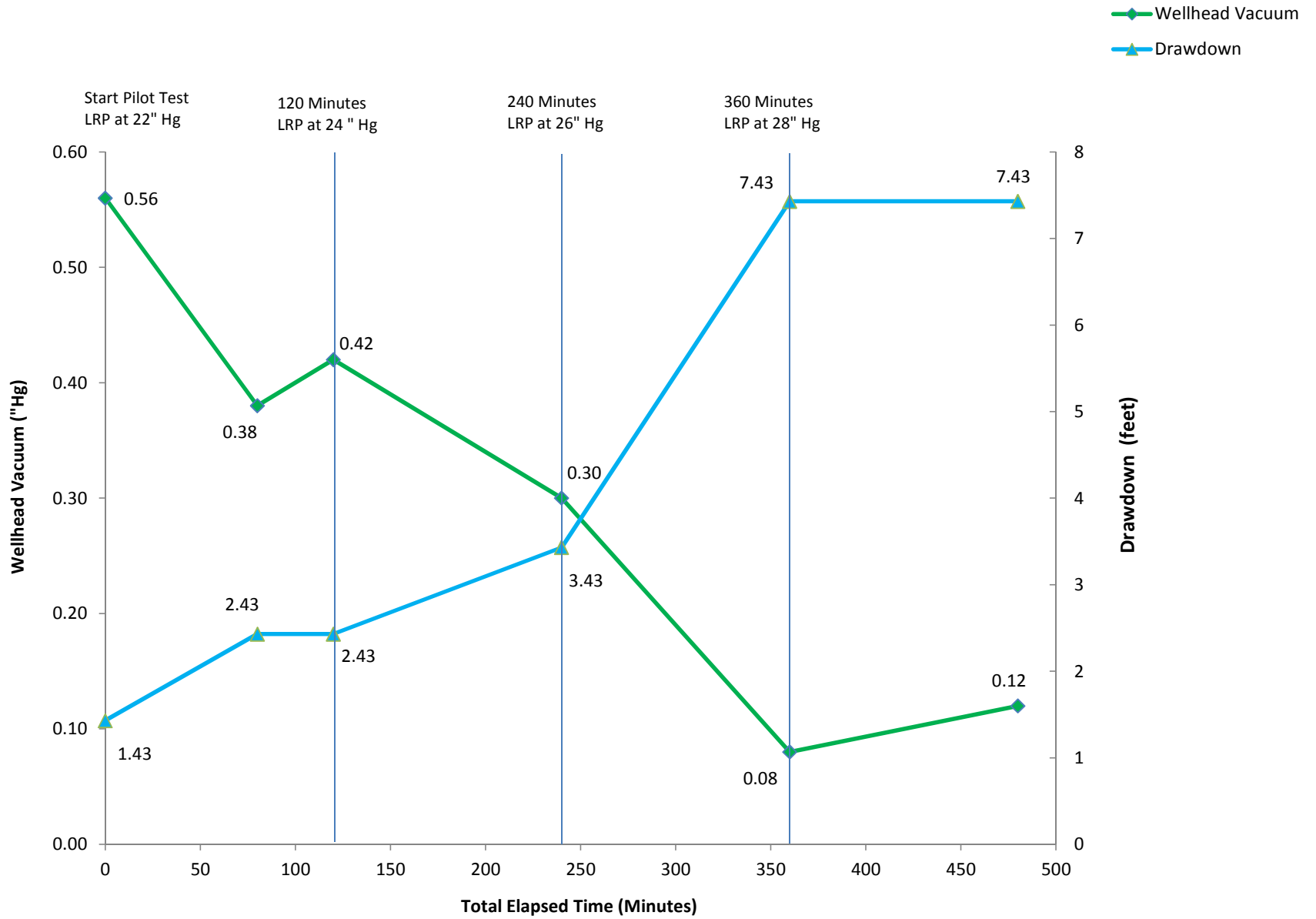








# MW-15 DPE Pilot Test





**2012  
MULTI-POINT  
DPE PILOT TEST DATA**

**FYN PAINT & LACQUER COMPANY, INC.**  
**230 KENT AVENUE**  
**WILLIAMSBURG, BROOKLYN, NEW YORK**

Combined DPE Pilot Test - EW-1, MW-22, MW-29, MW-30 & MW-31  
 Baseline Water-Level Measurements and PID Concentrations - Soil Vapor Points

June 27, 2012

Well ID	Total Depth (feet)	Screen		Headspace PID (ppm <sup>2)</sup> )	TOC <sup>3)</sup> Elevation (ft msl) <sup>4)</sup>	Depth to Product (ft btoc) <sup>5)</sup>	Product Thickness (feet)	Depth to Water (ft btoc)	Corrected Ground Water Elevation (ft msl)
		Diameter (inch)	Setting (ft bg) <sup>1)</sup>						
SG-2	23.18	1.00	1.00 to 6.00	NM	NA	-----	-----	NM	NA
SG-9	18.98	1.00	1.00 to 6.00	NM	NA	-----	-----	NM	NA
SG-10	13.30	1.00	1.00 to 6.00	NM	NA	-----	-----	NM	NA
SS-1	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-2	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-3	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-4	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-5	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-6	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-7	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-8	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-9	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-10	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-11	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-12	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-13	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
SS-14	0.25' - 0.5'	0.25"	Open End	NM	NA	-----	-----	NM	NA
DV-1	12.00	1.00	7.00 to 12.00	120	NM	-----	-----	8.18	NA
DV-2	12.00	1.00	7.00 to 12.00	0.3	NM	-----	-----	9.98	NA
DV-3	12.00	1.00	7.00 to 12.00	6.7	NM	-----	-----	7.17	NA
SSDS	NA	4"/2"	~ 1.5	NM	NA	-----	-----	NM	NA

- 1) - Feet below grade
- 2) - parts per million
- 3) - Top of Casing
- 4) - Feet above mean sea level
- 5) - Feet below top of casing

NM - Not Measured  
 NA - Not Applicable

Notes: TOC elevations acquired by survey from Bunney Associates (or represent extrapolated values)  
 Groundwater Extraction Well not active at the time of gauging  
 Water observed in DV-, DV-2 and DV-3 is likely due to contained water resulting from drilling

















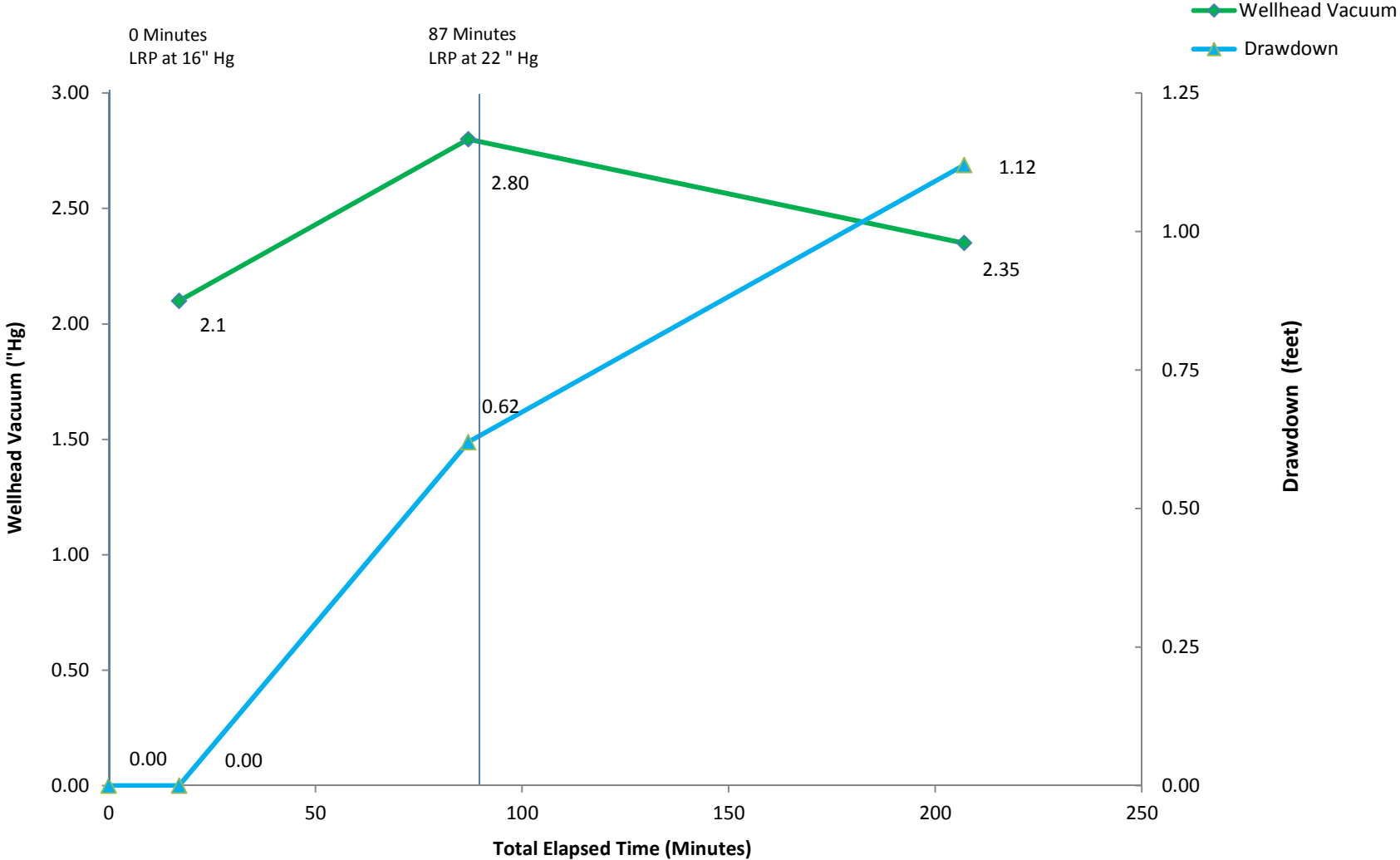




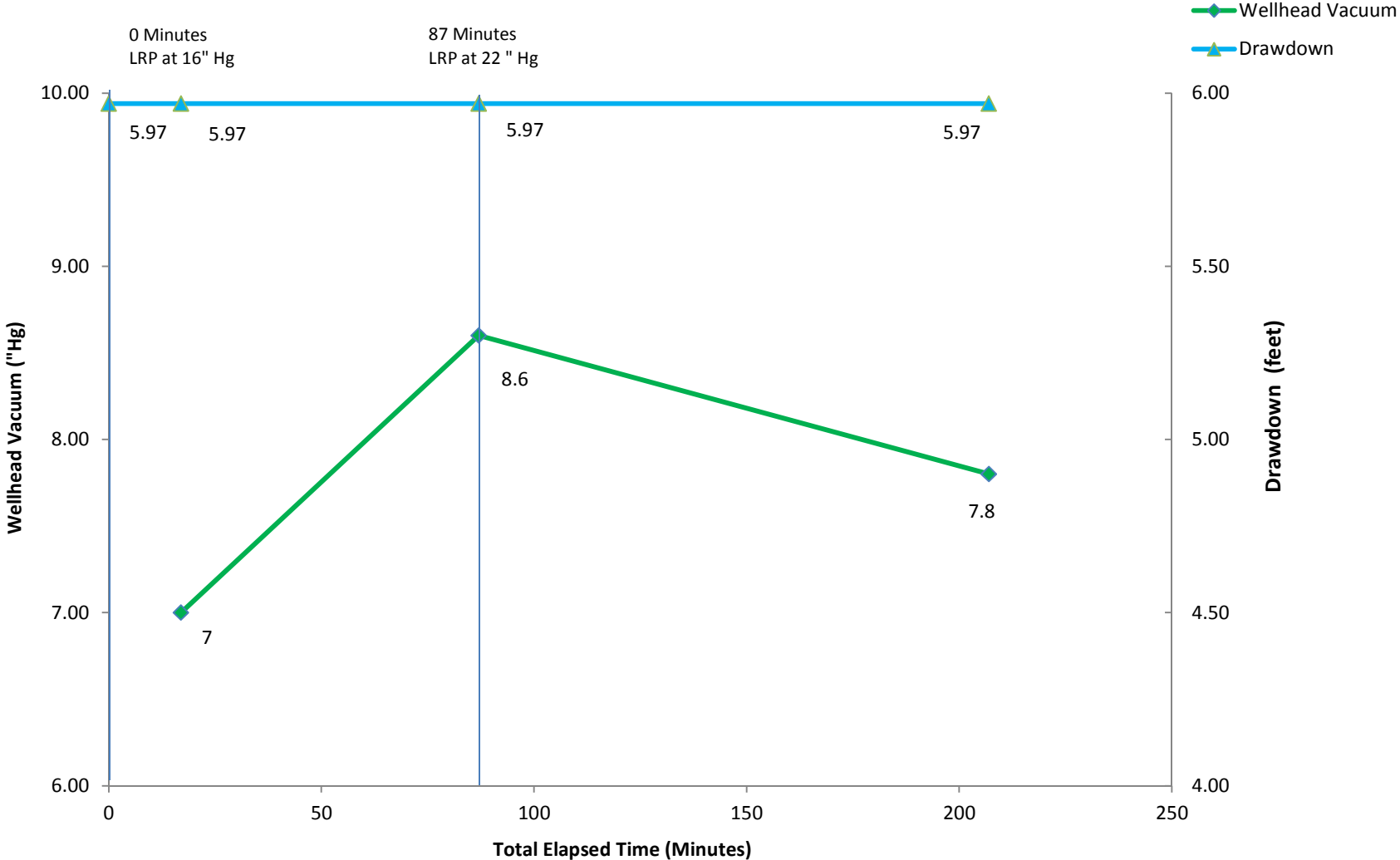




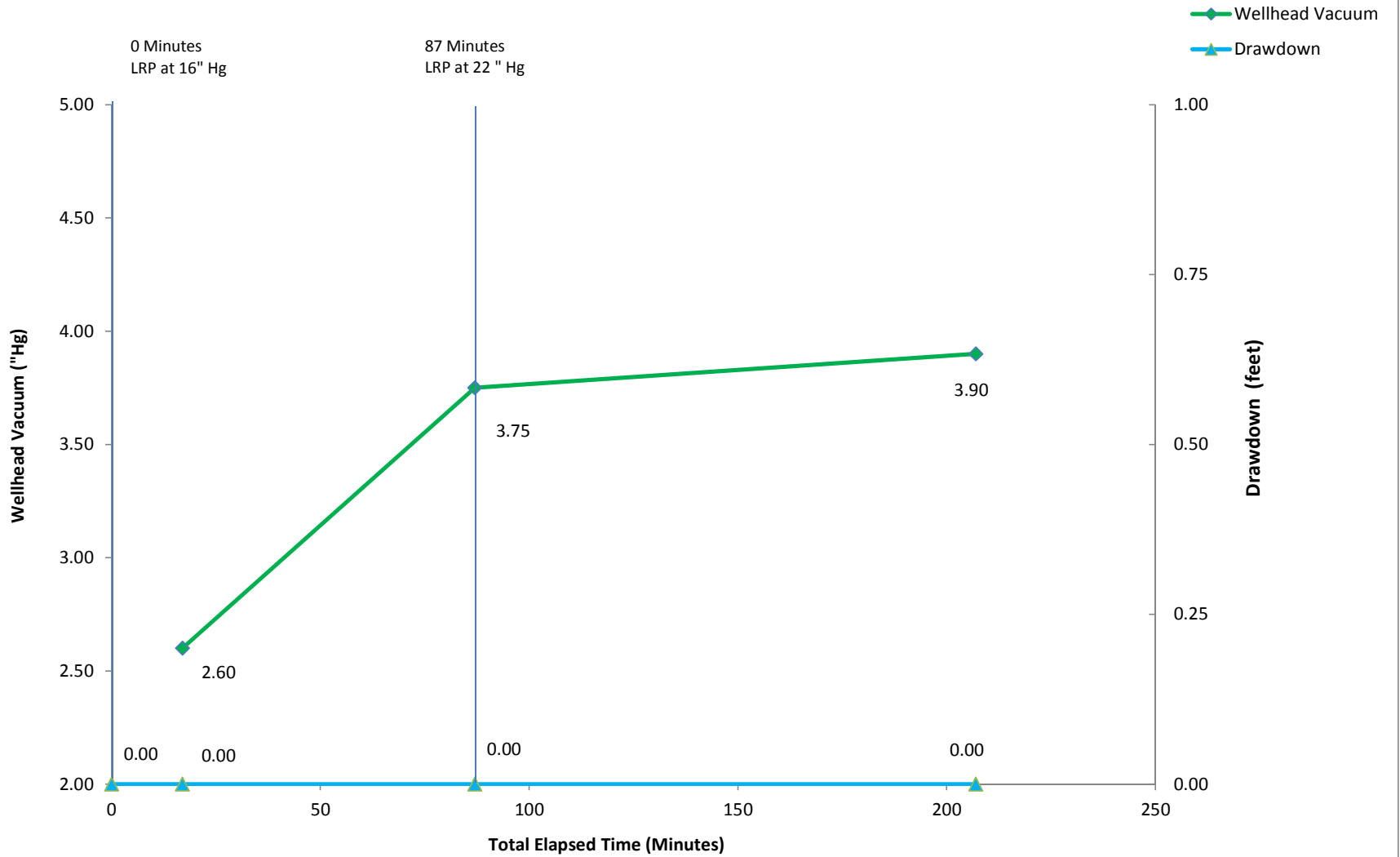
# Multi-Point DPE Pilot Test Extraction Point EW-1



# Multi-Point DPE Pilot Test Extraction Point MW-22



# Multi-Point DPE Pilot Test Extraction Point MW-31





# APPENDIX B



**Diesel Configuration:  
Model 2.5JPE-Dz3-F(W)**

Deutz D2011L03 air/oil cooled diesel engine, 46 cont. hp @ 2800 rpm  
Full instrument panel with safety shutdowns

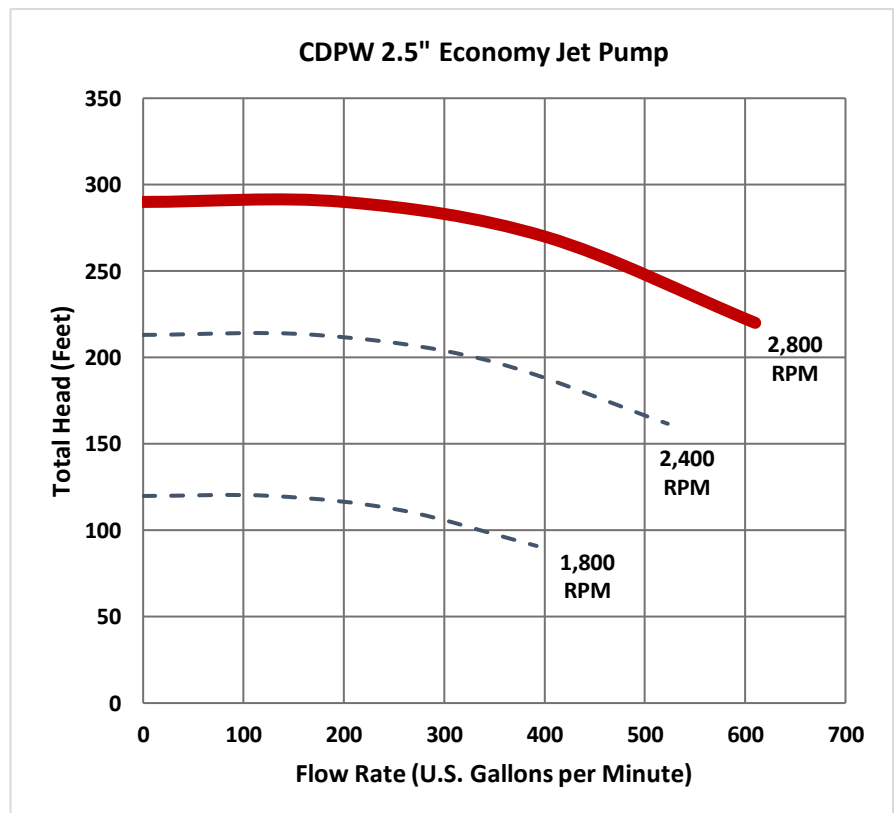


The ideal pump for:

- Wellpoint hand jetting
- Irrigation for golf courses and agriculture
- Washing of crushed rock and industrial equipment
- Water blasting applications

**Specifications:**

- Up to 290' (125 psi) head pressure
- 600 GPM cast iron centrifugal pump
- 4" Suction x 3" Discharge (discharge bushed to 2-1/2" MNPT)
- Manual hand primer
- Integral fuel tank / frame, 23-gallon capacity
- Single point lifting bale
- Optional: wheel mount with highway lights, fenders



“The finest dewatering pumps and wellpoint equipment since 1923”



# Complete Dewatering 2.5JPE-Dz3-F(W) 3" High Pressure Economy Jet Pump

## SPECIFICATIONS

(All specifications subject to change without notice)

### Pump Component

Make: ..... Complete Dewatering  
 Model: ..... Berkeley B-series, end suction centrifugal, SAE coupled  
 Casing: ..... Cast Iron  
 Impeller: ..... Fully enclosed 10.5" dia.  
 Seal: ..... Packing or mechanical seal  
 Coupling: ..... Direct coupled, SAE mount  
 Suction, Discharge: ..... 4" x 3" NPT tread, bushed to 2-1/2" MNPT, cam-lock or Bauer fittings optional

### Performance:

Pumping Capacity: ..... to 600 gpm (2271 l/m)  
 Head Capacity: ..... to 290' (88 m)  
 ..... to 125 psi

### Diesel Engine

Make / Model: ..... Deutz D2011L03  
 Isuzu/Perkins/Hatz/Kohler also available  
 Type: ..... 3-cylinder air/oil cooled diesel, naturally aspirated  
 Horsepower: ..... 46 hp continuous at 2800 rpm  
 Control Panel: ..... Murphy control panel with engine temp, oil pressure, voltage, tachometer, hour meter gauges; safety shutdowns on critical engine conditions.  
 Fuel Filters: ..... Dual fuel filter system with fuel/water separator

### Frame

Type: ..... Integral fuel cell / frame  
 Material: ..... 6" x 1/4" steel box tube, welded and pressure tested  
 Fuel Capacity: ..... 23 gallons (86 liters); approx. 12-18 hours run time between refueling. Can also be used with an auxiliary fuel tank.  
 Clean out ports: ..... (4), one on each corner  
 Fuel filler: ..... 4" filler neck with lockable cap, sediment screen, mechanical fuel gauge  
 Battery hold-down: ..... External, lockable bar  
 Lifting bale: ..... Single point, balanced  
 Paint: ..... All components are cleaned, then primed with an epoxy primer. Components are then painted with an industrial grade enamel. Custom colors are available.

### Priming System

Primer: ..... Complete CP9 hand primer  
 Suction lift: ..... up to 17' (5.2m)  
 Suction hose: ..... up to 25 ft. of 4" diameter hose with foot valve and strainer (order separately)

### Wheel Mount Option

Axle: ..... Single axle, 2200# rated Torflex torsion axle.  
 Tires: ..... 205/70/R14, Highway rated, load range C  
 Fenders: ..... Steel bolt on replaceable  
 Tow Hitch: ..... To match your towing vehicle (ball, pintel, lunette eye) with safety chains  
 Leveling: ..... Drop down posts on all corners of the pump, front wind-down jack stand  
 Brakes (optional): ..... Hydraulic surge or electric with battery backup and charger

### Dimensions

Frame Mount: ..... Length 5.4' (65", 165 cm)  
 Width 3.5' (42", 107 cm)  
 Height 4.5' (54", 137 cm)  
 Weight 1400 lbs. (640 kg)  
 Wheel Mount: ..... Length 10' (120", 304 cm)  
 Width 6.3' (76", 193 cm)  
 Height 5.5' (66", 168 cm)  
 Weight 1900 lbs. (865 kg)

### Options

Wheel mounts and trailer options  
 Automatic priming system  
 Increased fuel capacity  
 "Whisper Pack" full or partial enclosures

### Warranty

CDPW Inc. warranties the entire unit for one year parts and labor against defects in product or workmanship. Engine warranties are carried by the manufacturer, and may exceed one year.

## Steel Self Jetting Wellpoints



### Self-Jetting Wellpoint w/ PVC Screen

part # 301

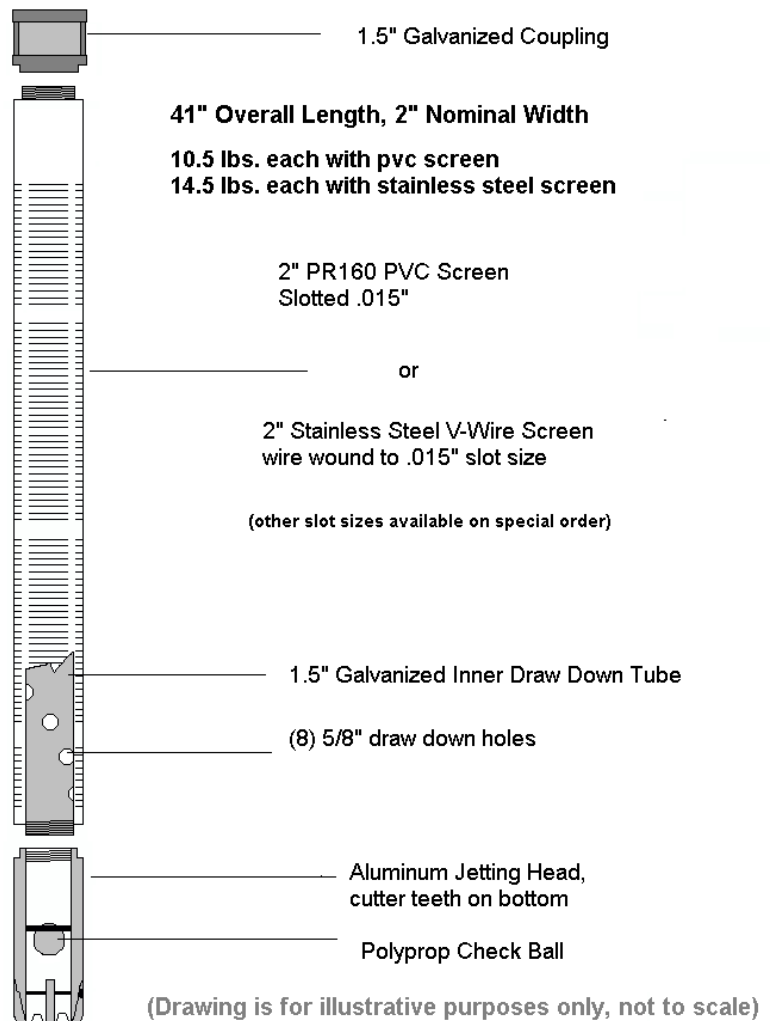
Fabricated around a 1.5" galvanized inner pipe, the Complete Wellpoint features a PVC plastic 0.015" slotted filter screen, a jet head with a plastic ball valve for jetting and a saw-toothed tip to penetrate hardpan layers or other tough ground strata. The top coupling threads to standard 1.5" riser pipe.



### Self-Jetting Wellpoint w/ SS Screen

part # 301-SS

All the great features of our well known PVC screen steel self-jetting wellpoint, but upgraded with a 0.015" Stainless Steel mesh filter screen. The top coupling threads to standard 1.5" riser pipe.



## Aluminum Welltop

O-ring style part # 302

Grommet style part # 302-GR



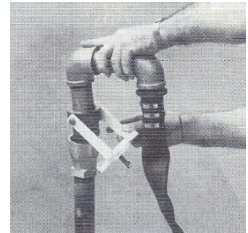
Used with the steel self jetting wellpoints, the aluminum welltop threads onto your 1 1/2" steel riser pipe and serves as the welltop connection point for your swing joint assembly. Part 302 has a 2" nominal opening that fits swing joints with o-ring style elbows. Part 302-GR has a 1 1/2" nominal opening that accepts a rubber header grommet (sold separately) for swing joints used in a rubber grommet type wellpoint system. The wide hex at the bottom of the welltop allows for the use of our wellpoint removal tool or nylon choker to grip the wellpoint more securely when removing the wellpoint from the ground.

## Jetting Adapter Steel Wellpoint Puller



### **Jetting Adapter** part # 313

Connected to the high pressure jetting hose from the jetting pump, the jetting adapter makes set-up for 'jetting in' the steel wellpoints a simple operation. The O-ring equipped jet fitting pushes into the Complete welltop on the wellpoint/riser

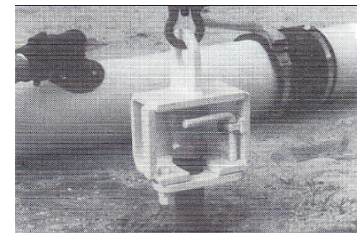


assembly and a spring-secured bracket slips under the welltop to provide a leak-free pressure connection of the wellpoint riser pipe to the jet pump. When the wellpoint is jetted in, the bracket is swung clear and the jet fitting pulled from the welltop, for use on the next wellpoint. No tools are required.



### **Steel Wellpoint Puller** part # 314

This fitting, attached to a crane or other lifting mechanism, makes removal of the installed wellpoint a quick and simple job. The bracket simply slips under the welltop, the locking gate securing pin is positioned, and the wellpoint and riser pipe are then lifted straight out of the ground. The puller releases with a one-hand operation and is ready for use on the next wellpoint.



### **Swing joint assemblies**

O-ring style part # 307

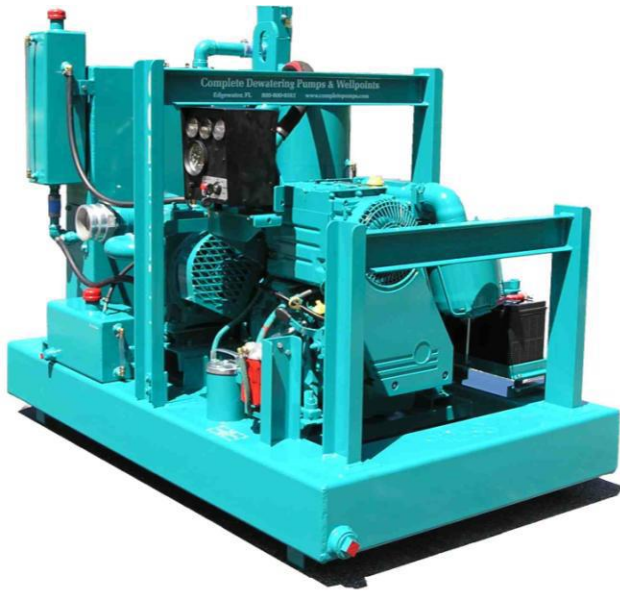
Grommet style part # 307-GR



We carry both our proprietary o-ring style swing joint (left) and the grommet fitting swing joint with tapered ends (right).



**"The finest dewatering pumps and wellpoint equipment since 1923"**



The ideal pump for small dewatering projects:

- Utility line connections
- Utility line repairs
- Small tank installations
- Swimming pool installations
- Lift station installations
- Wellpoint systems
- Sock underdrain

#### Diesel Configuration:

##### Model 4VAWP-Dz2C3-F(W)

Deutz F2L-2011 air/oil cooled diesel engine  
17 cont. hp @ 1800 rpm  
Full instrument panel with safety shutdowns

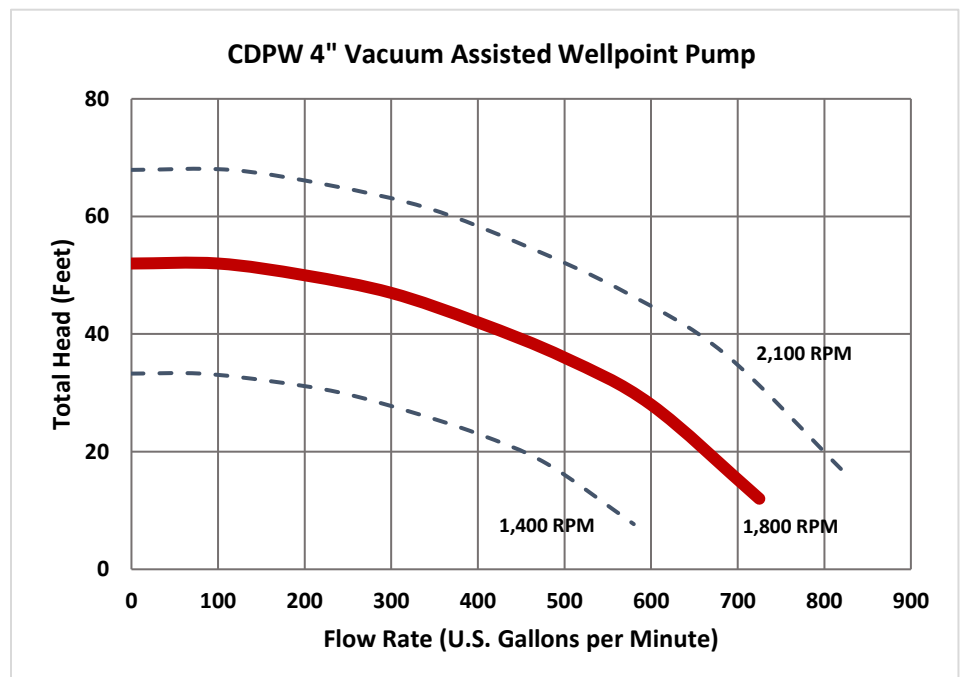
#### Electric Configuration:

##### Model 4VAWP-E25C3-F(W)

25 HP, 1800 rpm, 460 volt, 3 phase TEFC motor  
30.4 FL Amps @ 460 volts, 1.15 SF  
Fusible control panel with external disconnect,  
magnetic contactor, heater strip overloads

#### Specifications:

- 750 GPM cast iron centrifugal pump
- 6" Suction x 4" Discharge
- up to 24' suction lift
- C3 vacuum pump, 60 cfm air handling, air cooled
- Closed loop vacuum oil recovery system with intercooler
- Air/water separation tank with peeler valve assembly
- Integral fuel tank / frame, 52-gallon capacity
- Single point lifting bale
- Optional: wheel mount with highway lights, fenders



“The finest dewatering pumps and wellpoint equipment since 1923”



# Complete Dewatering 4VAWP-Dz2C3-F(W) 4" Vacuum Assisted Wellpoint Pump

## SPECIFICATIONS

(All specifications subject to change without notice)

### Pump Component

Make: ..... Complete Dewatering  
 Model: ..... CW4, 4" end suction centrifugal,  
 long coupled  
 Casing: ..... Cast Iron  
 Impeller: ..... Semi-open 7.00", 5-vane, bronze  
 Seal: ..... Carbon / Ceramic  
 Coupling: ..... Long coupled, doughnut type  
 elastomeric element  
 Suction, Discharge: ..... 6" x 4" nominal straight pipe,  
 cam-lock or Bauer fittings optional

### Performance:

Pumping Capacity: ..... to 700 gpm (3185 l/m)  
 Head Capacity: ..... to 52' (15.8 m)  
 Suction Lift: ..... to 24' (7.3 m)  
 Solids Capacity: ..... to 1-1/8" spherical (2.85 cm)

### Diesel Engine

Make / Model: ..... Deutz F2L-2011  
 John Deere/Perkins/Hatz/Kohler also available  
 Type: ..... 2-cylinder air/oil cooled diesel,  
 naturally aspirated  
 Horsepower: ..... 17 hp continuous at 1800 rpm  
 Control Panel: ..... Murphy control panel with engine  
 temp, oil pressure, voltage, tachometer, hour  
 meter gauges; safety shutdowns on critical engine  
 conditions.  
 Fuel Filters: ..... Dual fuel filter system with  
 fuel/water separator

### Vacuum System

Vacuum Pump: ..... Complete C3-OF rotary vane,  
 air cooled, oil lubricated  
 Air Handling: ..... 68 cfm  
 (alternate; C5 vacuum pump 130 cfm)  
 Lubrication: ..... Single point oiler w/ closed loop  
 vacuum pump oil recovery system  
 Oil capacity: ..... 48 quarts, 15/40 wt.  
 Vacuum system: ..... Suction priming constant vacuum  
 system with a large steel air/water separation tank,  
 stainless steel peeler valve float mechanism,  
 manifold trap moisture capture system, vacuum oil  
 recovery tank w/ stainless steel vacuum oil demist  
 element.

### Frame

Type: ..... Integral fuel cell / frame  
 Material: ..... 8" x 1/4" steel box tube, welded  
 and pressure tested  
 Fuel Capacity: ..... 52 gallons (197 liters);  
 approx. 24 hours run time between refueling. Can  
 also be used with an auxiliary fuel tank.  
 Clean out ports: ..... (4), one on each corner  
 Fuel filler: ..... 4" filler neck with lockable  
 cap, sediment screen  
 Battery hold-down: ..... External, lockable bar  
 Lifting bale: ..... Single point, balanced  
 Paint: ..... All components are cleaned,  
 then primed with an epoxy primer. Components are  
 then painted with an industrial grade enamel.  
 Custom colors are available.

### Wheel Mount Option

Axle: ..... Single axle, 3500# rated  
 Torflex torsion axle.  
 Tires: ..... 225/75/R15, Highway rated,  
 load range D  
 Fenders: ..... Steel bolt on replaceable  
 Tow Hitch: ..... To match your towing vehicle  
 (ball, pintel, lunette eye) with safety chains  
 Leveling: ..... Drop down posts on all  
 corners of the pump, front wind-down jack stand  
 Brakes (optional): ..... Hydraulic surge or electric  
 with battery backup and charger

### Dimensions

Frame Mount: ..... Length 6.3' (75", 191 cm)  
 Width 3.3' (40", 102 cm)  
 Height 5.0' (60", 153 cm)  
 Weight 2200 lbs. (1000 kg)  
 Wheel Mount: ..... Length 10.0' (120", 305 cm)  
 Width 6.7' (80", 202 cm)  
 Height 6.0' (72", 182 cm)  
 Weight 2500 lbs. (1130 kg)

### Options

Increased fuel capacity  
 Vacuum pump upgrade  
 "Whisper Pack" full or partial enclosures

### Warranty

CDPW Inc. warranties the entire unit for one year parts and labor  
 against defects in product or workmanship. Engine warranties are  
 carried by the manufacturer, and may exceed one year.



# Blue Camlock Hose

Size	Maximum Pressure	Weight Per Foot	Width Laying Flat	Approx Wall Thickness
1 1/2"	80 psi	.17 lbs	2 1/2"	0.055"
2"	80 psi	.23 lbs	3 1/8"	0.060"
3"	70 psi	.40 lbs	4 11/16"	0.063"
4"	70 psi	.52 lbs	6 1/4"	0.063"
6"	50 psi	.85 lbs	9 3/8"	0.071"

## Features

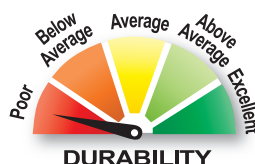
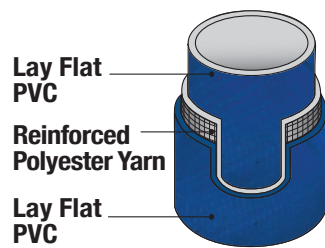
- 30 Day warranty
- Female aluminum camlock fitting
- Male aluminum camlock fitting
- Tube - Blue lay flat PVC
- Reinforcement - Polyester yarn
- Galvanized band clamps
- Type of use - water
- Outside temperature - 150°F to -14° F
- Available in 50 or 100 foot sections



**Used for open ended discharge applications only. Not intended for use as a fire hose, closed applications or with a nozzle.**



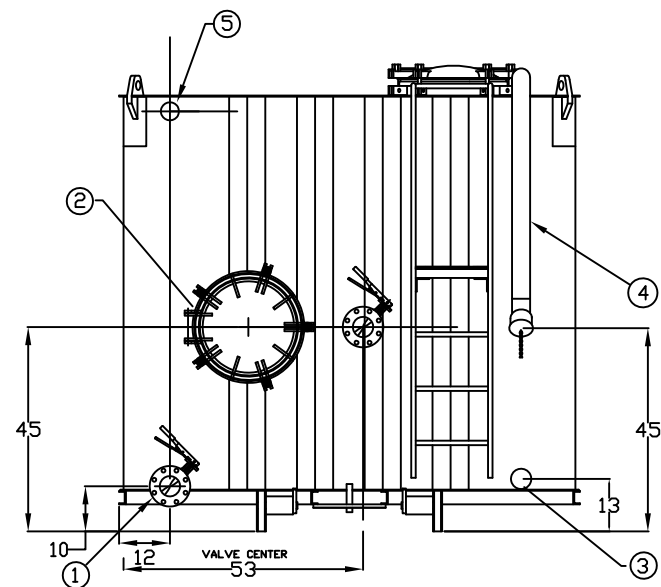
**Warning - Hose is not rated for air or any other liquids. Test ratings are for water use only with camlock couplings installed. Not intended for use as a fire hose, closed applications or with Nozzle. Used for open ended discharge applications only.**



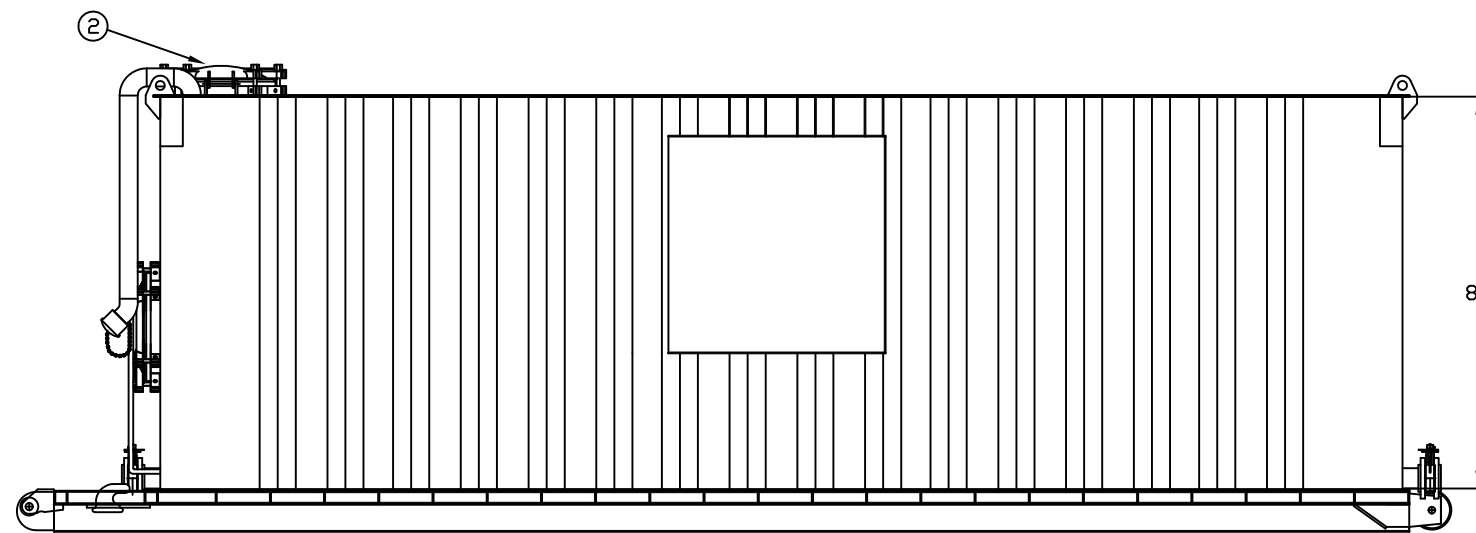
**Any hose found to be defective due to materials and / or workmanship shall be replaced at no charge up to 30 days. In general, hose warranties cover manufacturing defects leading to hose failure. Wear through and abuse are not covered by warranty.**



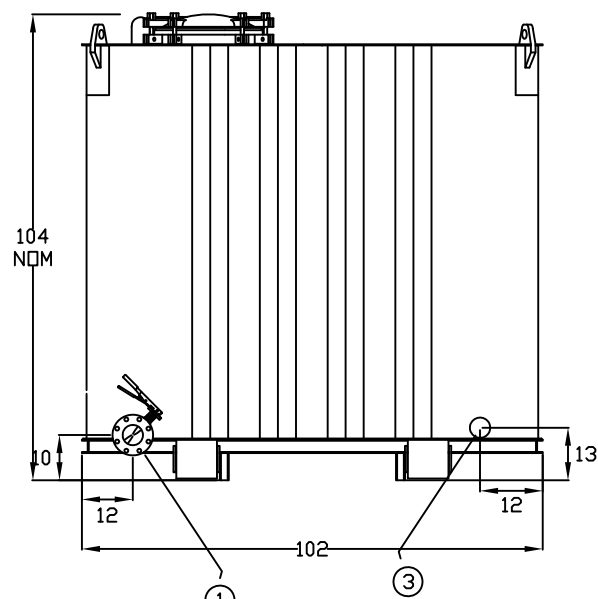
# APPENDIX C



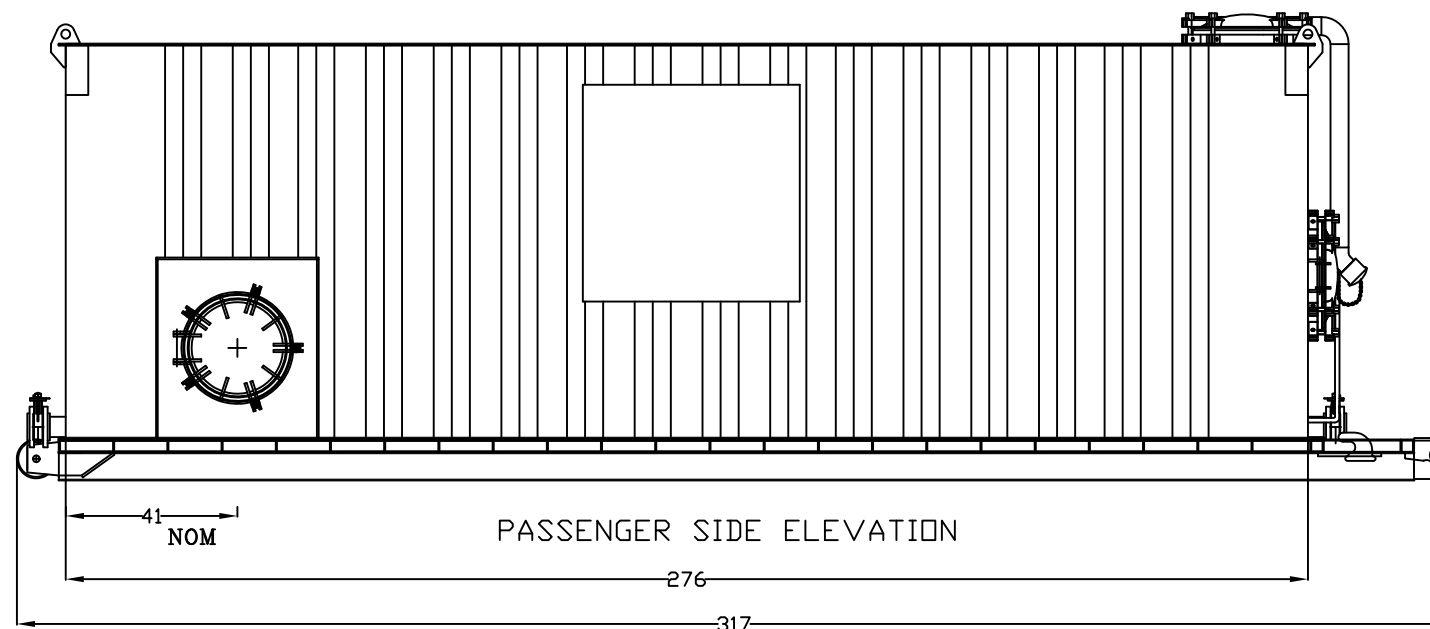
FRONT VIEW



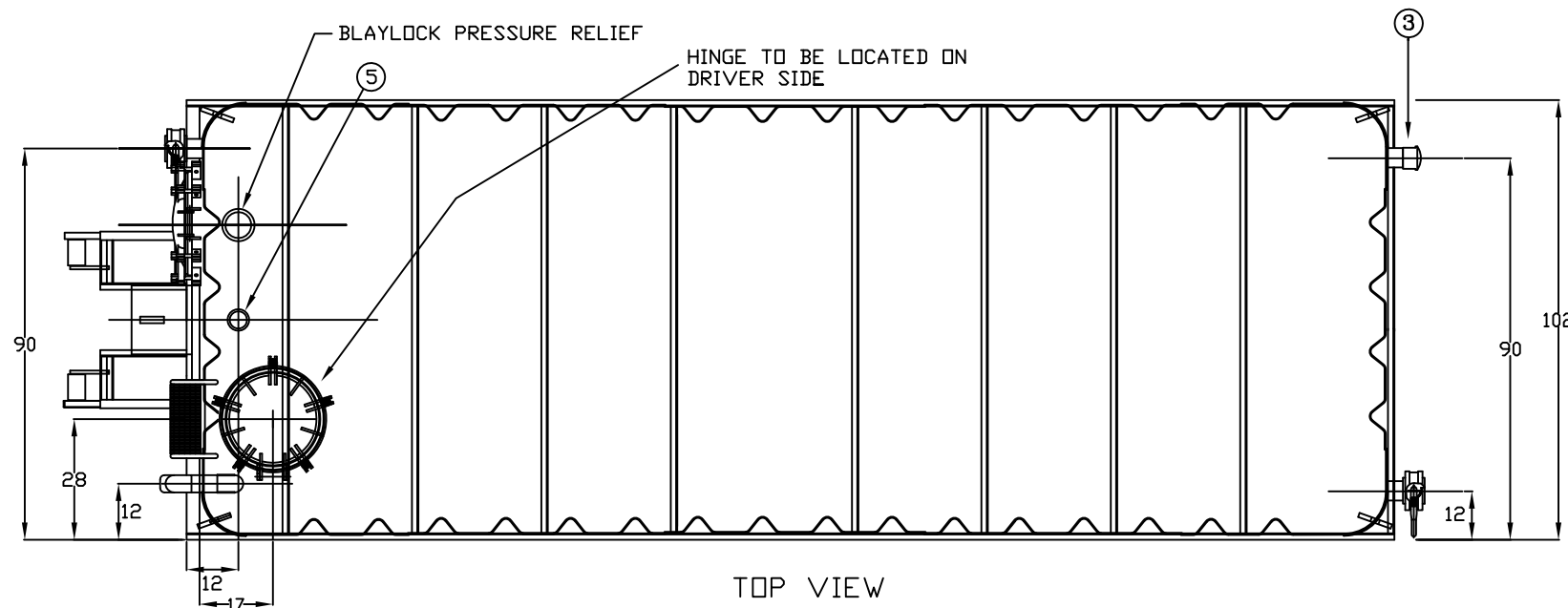
DRIVER'S SIDE ELEVATION



REAR VIEW



PASSENGER SIDE ELEVATION



TOP VIEW

ITEM	QTY	DESCRIPTION
1	3	4" 150# threaded flange with cap & chain
2	3	21" manway
3	2	4" NPT male with cap & chain
4	1	3" NPT male with cap & chain (fill line)
5	2	4" half coupling with plug & chain

**SPECIFICATIONS:**

- 1) Tank Capacity: 10,000 gallons (238 BBL)
- 2) Tank Weight: 12,700 lbs. (empty)



**NOTES:**

- 1. This drawing is a baseline representation for this model of tank. Variations between this drawing and the actual equipment in the field can and do exist, primarily with appurtenance locations, sizes and quantities. Consult your local BakerCorp representative if specific needs exist.
- 2. THIS TANK IS NOT DESIGNED FOR TRANSPORTING LIQUIDS. It should be moved only when empty.
- 3. Tanks of this type may have an internal lining (coating) on the wetted surfaces.
- 4. This tank is equipped with a pressure/vacuum relief valve set at 1.0 lbs/sq. in. pressure and 0.4 oz/sq.in. vacuum.

The information contained herein is proprietary to BakerCorp and shall not be reproduced or disclosed in whole or in part, or used for any design or manufacture except when user obtains direct written authorization from BakerCorp.				3020 OLD RANCH PARKWAY SEAL BEACH, CA 90740-2751	
G		SCALE:	SIZE	ORIGINAL DWG. DATE	
F		Do Not Scale	B	31JUL02	
E		DRAWN BY:	APPROVED BY:	CAT/CLASS	
D		P.J.B.	-	--	
C		TITLE			SHEET
B		MODERN MFG. 10K TANK			1 OF 1
A	Corrected volume and weight	5/1/07	PJB	DRAWING NO.	REV.
REV.	DESCRIPTION	DATE	BY	S-9-M0002-1-	A

# Sewage and Trash Pump

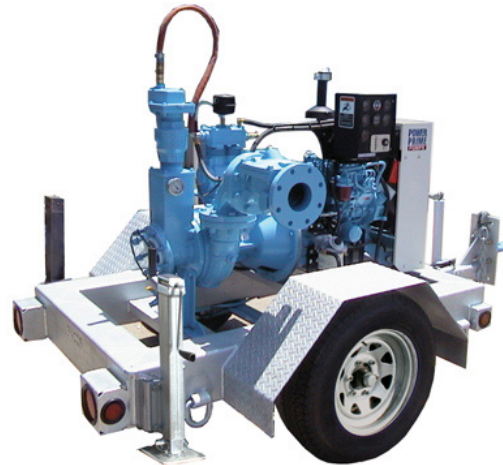
DV100

## Overview:

The 4" suction x 4" discharge self-priming centrifugal DV100 trash pump provides up to a maximum of 790 gallons per minute pumping and up to 115 feet of head. This pump is usually mounted on a trailer and features the standard PowerPrime Clean Prime Venturi priming system which allows it to run continuously, unattended and even run dry.

## Features:

- Continuous self-priming
- Runs dry unattended
- 12 volt, electric start with auto-start capable control panel
- Flex coupled to diesel engine
- 24-hour minimum capacity fuel tank
- Compressor fitted to operate the air-ejector priming system
- Cast iron wet end with open impellers
- Replaceable wear plates
- SAE Mounted



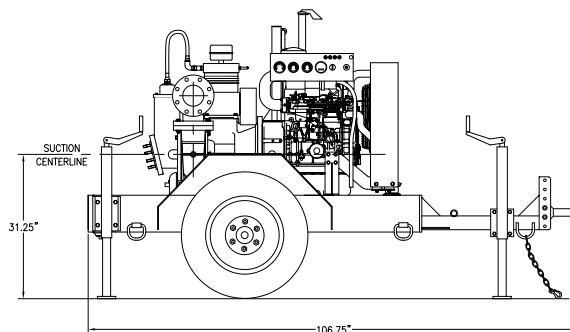
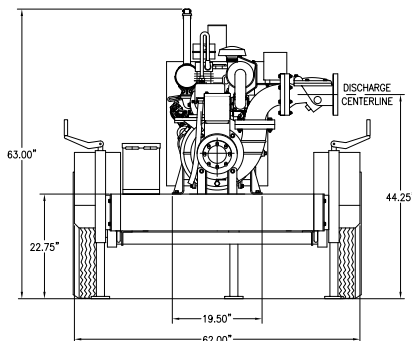
The DV100 is also available sound attenuated.

## Specs:

Maximum Flow	790 GPM
Maximum Head	115 feet
Pump Size	4" x 4"
Maximum Solids Handling	1.75 inches
Dry weight	1,900lbs.
Footprint: Trailer mounted model	106.75" x 62"
Fuel tank	40 or 60 gallon
Fuel consumption	1.2 gph @ 2,200 RPM

## Accessories:

- Spillguard
- Suction and Discharge Hoses
- Fuel Nurse Tank



**PUMPS • TANKS • FILTRATION • PIPE • SPILLGUARDS**

Rain for Rent is a registered trademark of Western Oilfields Supply Company. Features and specifications are subject to change without notice.

**Liquid Ingenuity®**  
800-742-7246  
rainforrent.com



# Rain For Rent

CURVE: 01-0133-02-05

PUMP : DV-100

ALL INFORMATION CONTAINED IN OR DISCLOSED BY THIS DOCUMENT IS CONSIDERED CONFIDENTIAL AND PROPRIETARY BY RAIN FOR RENT. ALL DISCLOSURES OF DESIGN INFORMATION AND REPRODUCTION OF THIS DOCUMENT AND ALL SALES RIGHTS ARE EXCLUSIVELY RESERVED BY AND TO RAIN FOR RENT AND COMMUNICATION OF THIS INFORMATION TO OTHERS IS PROHIBITED WITHOUT THE PRIOR WRITTEN CONSENT OF RAIN FOR RENT

SUCTION  
4"

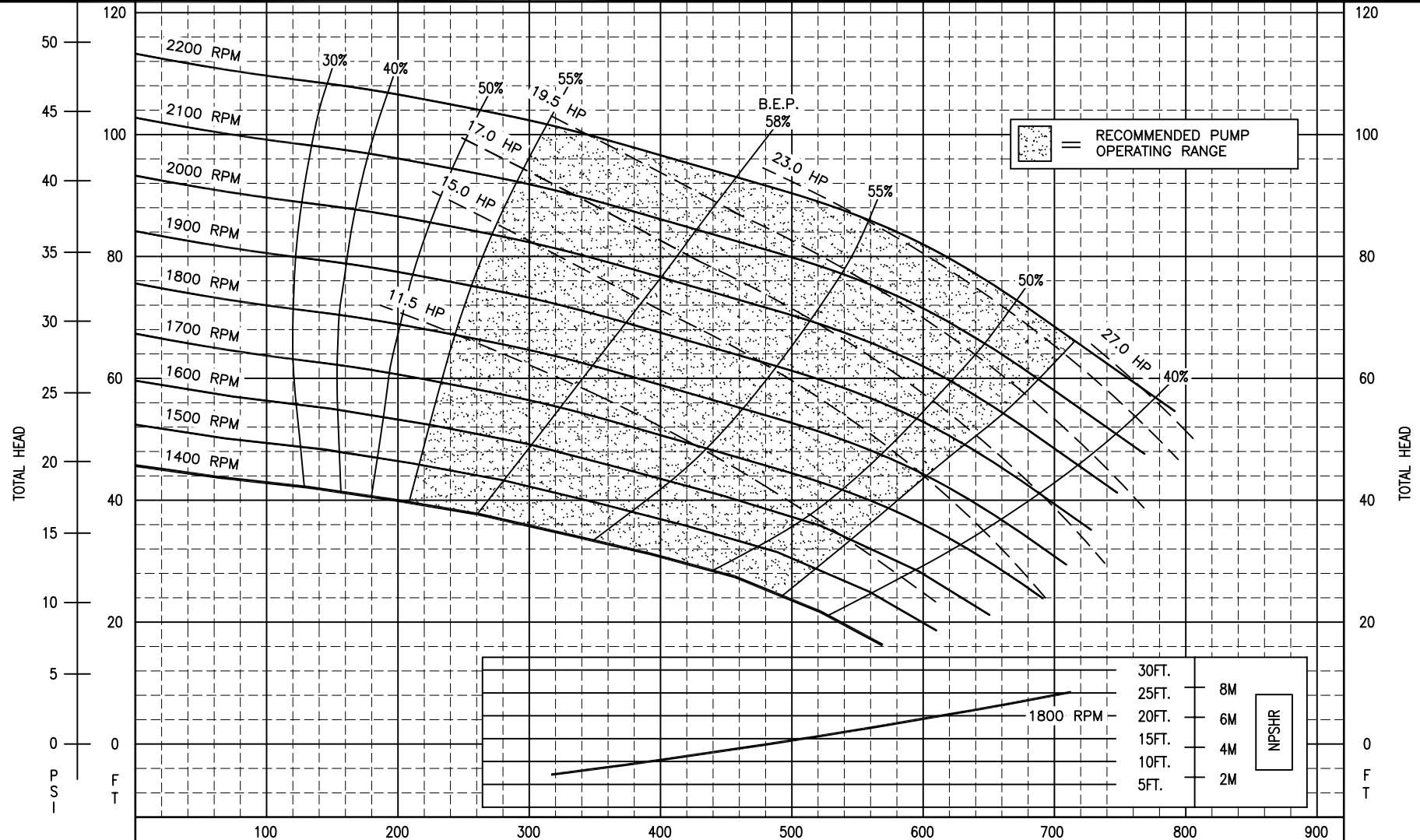
DISCHARGE  
4"

MAX. SPHERE  
1.77

IMPELLER  
3 VANE

IMPELLER  
8.7"

IMPELLER &  
WEAR RINGS  
316 S/S



FLOW - CLEAR WATER PERFORMANCE (US GPM)

-PUMP PERFORMANCE CURVES DO NOT INCLUDE CHECK VALVE LOSSES

-POWER CURVES INCLUDE AIR COMPRESSOR POWER CONSUMPTION

**CONFIDENTIAL**





## 2-stage Bag Filter Unit 1090 Specification Sheet

888.993.1179 proact-usa.com

### Innovative Air & Water Treatment Solutions



#### General Specifications:

- 100 gpm continuous operational flow rate
- 200 gpm maximum flow rate
- 100 psi maximum pressure

#### Main Equipment:

- Rosedale LCO series
- Two 8.6 in. OD cylinder housings
- Inlet/outlet housing pressure gauges

#### Dimensions:

- 30 in. wide by 36 in. long by 48 in. tall
- Size P-12 bag filter elements
- Weight: 370 lb.

#### Features:

- Stainless steel housings
- Easy-open lids
- Buna-N O-ring gasket
- Manifold allows continuous operation while servicing one filter at a time
- Various connection types available

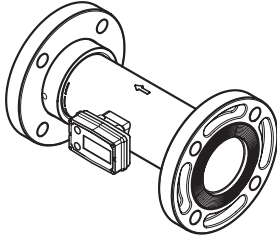
**At ProAct Services, our mission is to innovatively provide environmental air and water treatment solutions with exceptional service guided by prideful workmanship, superior concern for safety and commitment to client satisfaction.**

*CONFIDENTIALITY NOTICE: The information in this document is legally protected and supplied with the understanding that they will be held confidentially and not disclosed to third parties without the prior written consent of ProAct Services Corporation. U. S. export laws may also apply, and export or re-export of this information is prohibited.*

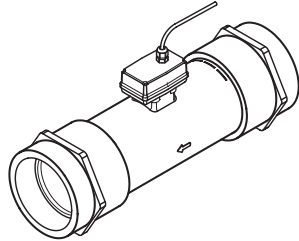
# TM Series Electronic Water Meters



## User Manual



TM Meter with Computer Display



TM Digital Pulse Meter

### TABLE OF CONTENTS

English .....	1
Español .....	9
Deutsch .....	16
Italiano .....	23
Français .....	30

### ENGLISH

#### IMPORTANT NOTICE

Use TM Series meters with water and other chemicals compatible with wetted components (see Specifications Section). Do not use to meter fuel or incompatible chemicals. TM Series meters are available with either a computer for local electronic display, or a conditioned signal output module to provide a digital signal to customer interfacing equipment. TM Series meters with computer display measure in gallons or litres. Refer to the Calibration Section for details.

These meters are not legal for trade applications.

TM Series meters are very sensitive to electric noise if operated within 1 to 2 inches of some electric motors or other sources of electronic noise.

### INSTALLATION

#### Connections

Install your meter in-line either horizontally or vertically or at the end of the hose adjacent to the nozzle. Installation to metal connections is not recommended. Install as follows:

1. Plan to install turbine with a minimum straight pipe length as follows:
  - Upstream from the turbine, allow a minimum straight pipe length of 10 times the internal diameter of the turbine.
  - Downstream from the turbine, allow a minimum straight pipe length of 5 times the internal diameter of the turbine.
2. For Spigot (Pipe) End use only primer and solvents approved for PVC gluing.

Cut to Length The meter housing can be shortened by the customer. Each meter has a "dotted" line feature molded on the top surface of the housing tube. The housing can be cut up to this line without harming any internals.

Most glue on fittings will fit without interfering with the computer display area. However, the customer should check all parts before attempting cut.

For NPT Fittings wrap all connections with 3 to 4 wraps of thread tape. Make sure the tape does not intrude into the flow path.

3. Attach meter with arrow pointed in the direction of fluid flow.
4. For NPT Fittings - Hand tighten the meter at the housing ends. Do not use a wrench or similar tool to tighten. This can damage the housing.
5. For ANSI or DIN Flange Fittings - Customer to provide:
  - Ring Gaskets or Full-Face Gaskets approved for use with type flange installed (ANSI or DIN) and the fluid being monitored (2 required).
  - 5/8" bolts and nuts for ANSI flanges. Four per side for 3-inch meters; eight per side for 4-inch meters.
  - 16 mm bolts and nuts for DIN flanges. Eight per side for 3-inch and 4-inch meters.
  - Torque bolts using a star pattern to 25 ft-lbs. Supplied flanges are two-piece Van Stone style and allow the meter to be oriented regardless of the mating flanges position.

For best results, always verify accuracy before use.

**⚠ WARNING**  
Compatibility of this product's material and the process fluid and/or environment should be considered prior to putting into service.

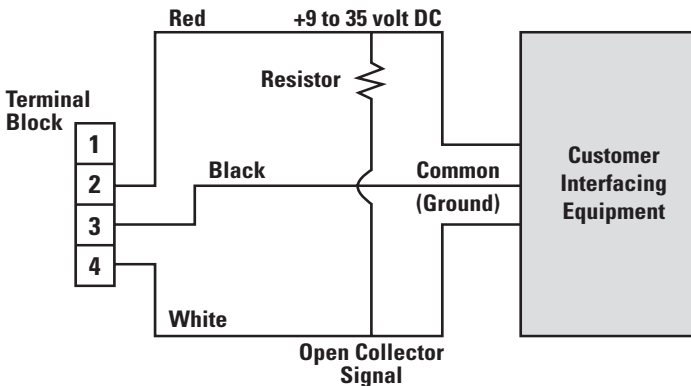
**⚠ WARNING**  
Product should never be operated outside its published specifications for temperature or pressure. See specifications for your model.

**⚠ WARNING**  
Make sure flow and pressure have been eliminated from process pipe prior to installing or removing product.

**⚠ WARNING**  
Always use appropriate thread sealant or flange gaskets when connecting product to process piping.

**Wiring Diagram 1**

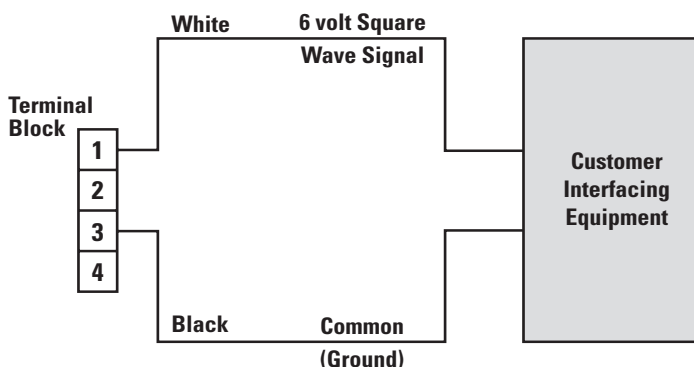
**OPEN COLLECTOR SIGNAL OUTPUT**



- The terminal block is identified as follows:**
- Pin #1** 6 volt square wave (not used)
  - Pin #2** +9 to 35 volt DC Input
  - Pin #3** Common Ground
  - Pin #4** Open Collector signal Output

## Wiring Diagram 2

### SQUARE WAVE OUTPUT



The terminal block is identified as follows:

**Pin #1** 6 volt square wave

**Pin #2** +9 to 35 volt DC Input (not used)

**Pin #3** Common Ground

**Pin #4** Open Collector signal Output (not used)

#### **CAUTION**

To protect against leakage, seal all pipe threads with an appropriate sealing compound. Make sure the sealing compound does not intrude into the flow path.

NOTE: If connecting to new male pipe threads, burrs and curls can adversely affect accuracy. Correct the problem prior to turbine installation.

NOTE: Do not over tighten the flange bolts. This may cause the gasket to be compressed into the flow stream and may decrease the accuracy of the meter.

#### **CAUTION**

Installation near high electromagnetic fields and high current fields is not recommended and may result in inaccurate readings.

### Conditioned Signal Output Module Wiring

This conditioned signal output module can be wired to provide an open collector signal output or 6-volt square wave output.

### Open Collector Signal Output

To achieve an open collector signal output, reference Wiring Diagram 1. The terminal block is located on the back side of the module. The module is factory assembled for open collector signal output. Please provide the (820 ohm minimum) resistor.

Ten feet (3 m) of cable is provided with the module. Trim it to desired length or extend it as necessary. Distances up to 5,000 feet (1,524 m) can be achieved for open collector signal output.

### Square Wave Output

To achieve square wave output, reference Wiring Diagram 2 and use an Electronic Digital Meter Battery Kit (sold separately) for battery power. The terminal block and battery location are located on the back side of the module. Access as follows:

1. Remove the four Phillips-head screws from the front of the module and lift the module from the turbine.
2. To change terminal block connections, loosen the appropriate screws. Reconnect the wires in the proper positions and tighten the screws.
3. Install the batteries. Make sure the positive post is in the correct position.
4. Position the module on the turbine housing. To avoid moisture damage, make sure the seal is fully seated. Tighten the four screws on the front of the module.

Ten feet (3 m) of cable is provided with the module. Trim the cable to desired length or extend it as necessary.

### Verify Meter Accuracy

Before using, check the meter's accuracy and verify calibration.

1. Make sure there is no air in the system by starting the flow until it runs steadily. Then, stop or divert the flow using a valve or nozzle.
2. Meter an exact known volume into an accurate container. For best results, meter with one continuous full stream.
3. Check the volume against the display or recording equipment. If the amount metered is accurate, further calibration is not necessary. If not, refer to the Calibration Section for further instructions.

## OPERATION

### Computer Display – Batch and Cumulative Totals

The computer maintains two totals. The Cumulative Total provides continuous measurement and cannot be manually reset. The Batch Total can be reset to measure flow during a single use. The Cumulative Total is labeled with TOTAL 1, Batch Total is labeled TOTAL 2 BATCH.

When the Cumulative Total reaches a display reading of 999,999 the computer will highlight an X10 icon. This indicates to the operator that a zero must be added to the 6 digits shown. When the next rollover occurs, the computer will highlight an X100 icon. This indicates to the operator that two zeroes must be added to the 6 digits shown.

Press the DISPLAY button briefly to switch between the TOTAL 1, TOTAL 2 BATCH and FLOWRATE. Press DISPLAY briefly to display the TOTAL 2 BATCH. Hold the DISPLAY button for 3 seconds to reset the Batch Total to zero.

When fluid is flowing through the meter, a small propeller icon is highlighted.

NOTE: Totalization counts total units without differentiating between gallons, litres or field calibrated units.

### Flowrate Feature

To use this feature, press and release DISPLAY until FLOWRATE icon appears. The factory set time base will be highlighted to the right of FLOWRATE (M = minutes, H = hours, D = days). When FLOWRATE is invoked, the display will be indicating rate of flow.

### Activate the Meter

Computer is on continuously and always ready to perform. The computer is powered by field replaceable batteries. When display becomes dim, faded or the low battery message appears (see below), the batteries need to be replaced. Reference the Maintenance Section for details.



### Factory and Field Calibration

All calibration information is visible to the user as icons on the top line of the display, above the numeric digits.

All units are configured with a “factory” calibration. Both gallons and litres are available (“GL” or “LT” will be displayed). While holding the CALIBRATE button, briefly press DISPLAY to toggle between gallons and litres. This factory calibration (indicated with FAC) is permanently programmed into the computer and is not user adjustable.

NOTE: Your computer may have other units of measure programmed into it. If so, holding the CALIBRATE button and momentarily pressing the DISPLAY button will toggle through all factory set units. Other possible units are: IGL (imperial gallon), QT (quart), CF (cubic feet), CM (cubic meter), BL (42 gal. barrel), CC (cubic centimeter) or OZ (ounce).



Switching between different units will not corrupt the Total's contents. For example, in GL mode, the computer totalizes 10.00 gallons, if the user switches to LT mode, the display will read 37.85 litres (the same volume, different unit).

The "field" calibration may be set by the user, and can be changed or modified at any time using the calibration procedure described below in the Calibration Section. Totals or flowrate derived from the field calibration are invoked when the FAC icon is no longer visible on the top line of the display.

## CALIBRATION

### Verify Accuracy Before Beginning Field Calibration

For the most accurate results, dispense at a flowrate which best simulates your actual operating conditions. Avoid "dribbling" more fluid or repeatedly starting and stopping the flow. This can result in less accurate calibrations.

Make sure you meet the meter's minimum flowrate requirements:

#### TM Series Meters

3 inch meter	30 GPM (113.6 LPM)
4 inch meter	40 GPM (151.4 LPM)

The use of a uniformly dependable, accurate calibration container is recommended for the most accurate results. Due to high flowrate, it is strongly recommended that calibration be completed with a combination of volume and weight using fine resolution scales.

For best results, the meter should be installed and purged of air before field calibration.

### Field Calibration with Computer Display

Field Calibration and Factory Calibration are defined in the Operation Section. Factory calibration settings are programmed into each computer during manufacturing, using water at 70° F (21° C). Readings using the Factory Calibration (FAC) may not be accurate in some situations, for example, under extreme temperature conditions, non-standard plumbing configurations or with fluids other than water.

### Field Calibration Procedures (Correction Factor Method)

1. To calibrate, press and hold the CALIBRATE and DISPLAY buttons for about 3 seconds until you see FLdCAL. Release both buttons and you will see CF - 00.0. You are now in the field calibration mode and values from -99.9% to +99.9% can be entered.
2. The +/- position appears either as an "underscore" character for plus, or as a "hyphen" character for minus. The DISPLAY button selects the position and the CALIBRATE button toggles this character.
3. The DISPLAY button can then be pushed to select the numeric positions. Press the CALIBRATE button to scroll from 0 to 9. Enter the percentage of change you want the display to correct. When satisfied with the value, press both CALIBRATE and DISPLAY buttons simultaneously. CALEnd will be displayed and unit will go back to normal operation, less the FAC (factory calibration) icon.
4. All enabled units-of-measure remain visible and selectable – the entered correction will be applied to all enabled units.
5. To return to factory calibration (FAC), press and hold both CALIBRATE and DISPLAY buttons for about 3 seconds until FAcCAL is displayed. Then release buttons. Unit should return to normal operation and FAC icon is visible.

### Calibration with Conditioned Signal Output Module

The K-factor of your meter appears on the calibration report as the number of pulses per gallon. The factor is determined during production using water at 70° F (21° C). This K-factor may be used for "single point" calibration and provide acceptable accuracy. However, readings may not be accurate when using this calibration method in some situations. For example, extreme temperature conditions, non-standard plumbing configurations or with fluids other than water.

## MAINTENANCE

Proper handling and care will extend the life and service of the meter.

### Turbine Rotor

The meter is virtually maintenance-free. However, it is important the rotor moves freely. Keep the meter clean and free of contaminants.

The rotor can be removed for cleaning and inspection. Begin by unscrewing the nose cone from the outlet end of the meter. A 1/4" square socket extension can be used. Remove the lock and flat thrust washers. Rotor can then be removed from shaft. Note orientation because rotor is not bi-directional. Remove debris or deposits using soft brush or small probe. Reassemble in reverse order.

#### **⚠ CAUTION**

**Blowing compressed air through the turbine assembly could damage the rotor.**

#### **⚠ CAUTION**

**Do not allow liquids to dry inside the turbine.**

#### **⚠ CAUTION**

**Handle the rotor carefully. Small scratches or nicks can affect accuracy.**

NOTE: Make sure the arrow on the turbine outlet is pointed in the direction of fluid flow.

### Battery Replacement

The computer display is powered by two 3-volt lithium batteries which may be replaced while the meter is installed. When batteries are removed or lose power, the batch and cumulative totals and the field and factory calibrations are retained.

#### **⚠ WARNING**

**(Battery) – Avoid mechanical or electrical abuse. Batteries may explode or cause burns, if disassembled, crushed or exposed to fire or temperatures in excess of 212°F (100°C). Do not short circuit or install with incorrect polarity. DO NOT INCINERATE.**

#### **⚠ CAUTION**

**Batteries should ONLY be replaced with P/N 113520-1 Kit (Includes two each P/N 902004-2 Batteries). Do not mix old with new. Do not use other brands or technologies.**

**Open battery cells should be disposed of in accordance with local regulations. Lithium batteries are best disposed of as a non-hazardous waste when fully or mostly discharged. EPA does not list or exempt Lithium as a hazardous waste. If waste lithium batteries are still fully charged or only partially discharged, they can be considered a reactive hazardous waste because of unconsumed lithium remaining in the battery. Such batteries may qualify as "Universal Waste" in many jurisdictions within the U.S. and thus can be shipped for disposal or recycling in accordance with Universal Waste requirements.**

If the display becomes dim, blank or the low battery message appears (see below), replace the batteries as follows:

## LobAtt

1. Remove the four Phillips-head screws from the face of the meter and lift the faceplate from the turbine.
2. Remove the old batteries and clean any corrosion from the terminals.
3. Install new batteries. Make sure the positive post is in the correct position.
4. When the batteries are replaced, the faceplate will power ON. Check the display to ensure normal functions have resumed before assembling again.
5. Reseat batteries, if necessary, and position the faceplate on the turbine housing. To avoid moisture damage, make sure the seal is fully seated. Tighten the four screws on the faceplate.

# SPECIFICATIONS

## Inlet and Outlet:

### Spigot (Pipe) End Models:

TM300/TM300-P 3 inch Schd. 80,  
Spigot (Pipe)

TM400/TM400-P 4 inch Schd. 80,  
Spigot (Pipe)

### NPT Models:

TM300-N/TM300-N-P 3 inch NPT

TM400-N/TM400-N-P 4 inch NPT

### ANSI Flange Models:

TM300-F/TM300-F-P 3 inch 150#  
ANSI Flange

TM400-F/TM400-F-P 4 inch 150#  
ANSI Flange

### DIN Flange Models:

TM300-D/TM300-D-P 3 inch PN10/PN16  
DIN Flange

TM400-D/TM400-D-P 4 inch PN10/PN16  
DIN Flange

**Design Type:** Turbine

## Wetted Components:

Housing: PVC

Journal Bearings: PEEK

Shaft: Stainless Steel

Rotor and Nose Cone: Acetal

Washers: Stainless Steel

## Max. Working Pressure:

TM300 (All Models): 225 PSIG @ 73° F

TM400 (All Models): 225 PSIG @ 73° F  
(Non CE), 135 PSIG @ 73° F  
(CE applications)

## U.S. Measurement

**Unit of Measure:** Gallon

### Flow Range:

3 inch: 40-400 GPM  
(Linearity:  $\pm 3.0\%$  of Reading)

30-600 GPM  
(Accuracy:  $\pm 2.0\%$  Full Scale)

4 inch: 60-600 GPM  
(Linearity:  $\pm 3.0\%$  of Reading)

40-800 GPM  
(Accuracy  $\pm 2.0\%$  Full Scale)

### Accuracy with Computer:

$\pm 3.0\%$  of reading (Accuracy can be improved with field calibration)

**Operating Temperature:** +32° to +140° F  
(Do not allow fluid to freeze inside meter.)

**Battery Life:** 5 years

**Storage Temperature:** -40° to +158° F

### Product Weight - lbs.:\*

	Spigot (Pipe)	NPT	ANSI Flange	DIN Flange
3 inch:	2.4	3.9	5.8	6.5
4 inch:	3.7	6.1	9.2	8.8

### Dimensions - Inches (L x H x W):\*\*

Spigot (Pipe): 3 inch: 11.5 x 5.34 x 3.5  
4 inch: 13.5 x 6.34 x 4.5

NPT: 3 inch: 14.7 x 5.78 x 4.37  
4 inch: 17.0 x 6.7 x 5.87

### ANSI Flange:

3 inch: 12.0 x 7.5 x 7.5  
4 inch: 14.0 x 9.0 x 9.0

### DIN Flange:

3 inch: 12.0 x 8.0 x 8.0  
4 inch: 14.0 x 8.5 x 8.5

\* Add .3 lbs. for Conditioned Signal Module.

\*\* Add 1.1 inches to height for Conditioned Signal module.

## Metric Measurement

**Unit of Measure:** Litre

### Flow Range:

3 inch: 151-1514 LPM  
(Linearity:  $\pm 3.0\%$  of Reading)

113-2271 LPM  
(Accuracy:  $\pm 2.0\%$  Full Scale)

4 inch: 227-2271 LPM  
(Linearity:  $\pm 3.0\%$  of Reading)

151-3028 LPM  
(Accuracy  $\pm 2.0\%$  Full Scale)

### Accuracy with Computer:

$\pm 3.0\%$  of reading (Accuracy can be improved with field calibration)

**Operating Temperature:** 0° to +60° C  
(Do not allow fluid to freeze inside meter.)

**Battery Life:** 5 years

**Storage Temperature:** -40° to +70° C

### Product Weight - kgs:\*

	Spigot (Pipe)	NPT	ANSI Flange	DIN Flange
3 inch:	1.09	1.77	2.63	2.95
4 inch:	1.68	2.77	4.17	3.99

## Dimensions - cm (L x H x W):\*\*

Spigot (Pipe): 3 inch: 29.2 x 13.6 x 8.9  
4 inch: 34.3 x 16.1 x 11.4

NPT: 3 inch: 37.3 x 14.7 x 11.1  
4 inch: 43.2 x 17.0 x 14.9

ANSI Flange:  
3 inch: 30.5 x 20.3 x 20.3  
4 inch: 35.6 x 22.9 x 22.9

DIN Flange:  
3 inch: 30.5 x 20.3 x 20.3  
4 inch: 35.6 x 21.6 x 21.6

\* Add .14 kg to weight for Conditioned Signal Module.

\*\* Add 2.8 cm to height for Conditioned Signal module.

## PARTS

The following replacement parts and accessories are available for the TM Series meters:

Part No.	Description
113435-1	Conditioned Signal Output Module
113520-1	Battery Replacement Kit
12517601	Gasket
12519001	Computer Mount Assembly
901002-52	Seal
125518-01	3 in. (Spigot) Turbine Assy Kit
125518-02	3 in. (NPT) Turbine Assy Kit
125518-03	3 in. (Flange) Turbine Assy Kit
125520-01	4 in. (Spigot) Turbine Assy Kit
125520-02	4 in. (NPT) Turbine Assy Kit
125520-03	4 in. (Flange) Turbine Assy Kit
125519-01	3 in. Computer Assy Kit
125521-01	4 in. Computer Assy Kit
125518-04	3 in. (DIN Flange, PVC) Turbine Assy Kit
125520-05	4 in. (DIN Flange, PVC) Turbine Assy Kit

## SERVICE

For warranty consideration, contact your local distributor. If you need further assistance, contact the GPI Customer Service Department at:

**1-888-996-3837**

You will need to:

- Provide information from the decal on your meter.
- Receive a Return Authorization number.
- Flush any fluid from the meter before shipping to the factory.

If possible leave customer installed fittings or ample length of bare pipe for reinstallation.

## CAUTION

**Do not return the meter without specific authority from the GPI Customer Service Department. Due to strict regulations governing transportation, handling, and disposal of hazardous or flammable liquids, GPI will not accept meters for rework unless they are completely free of liquid residue.**

## WEEE DIRECTIVE



The Waste Electrical and Electronic Equipment (WEEE) directive (2002/96/EC) was approved by the European Parliament and the Council of the European Union in 2003. This symbol indicates that this product contains electrical and electronic equipment that may include batteries, printed circuit boards, liquid crystal displays or other components that may be subject to local disposal regulations at your location. Please understand those regulations and dispose of this product in a responsible manner.

## RoHS Compliant (2011/65/EU)

This product is in compliance with the RoHS Directive of the European Parliament and of the Council on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

**Environmental Rating: IP65**

## AVISO IMPORTANTE

Utilizar los medidores de los Series del TM con agua y otros productos químicos que son compatibles con los componentes que se exponen al líquido (véase la sección de especificaciones). No utilizar este medidor con combustible u otros productos químicos incompatibles. Los medidores de la serie de TM están disponibles con una computadora para la visualización electrónica local, o un módulo de salida condicionado de la señal que proporcione una señal numérica al equipo de interconexión del cliente. Los medidores de las Series TM miden en galones o litros. Referirse a la sección de la calibración para mayores detalles.

Estos medidores no son legales para las aplicaciones comerciales.

Los medidores de las Series TM son muy sensibles a interferencia electrónica si funcionan a 1 o 2 pulgadas de algunos motores electrónicos o de otras fuentes del uso electrónico.

## INSTALACIÓN

### Conexiones

Instalar su medidor en línea, u horizontalmente, o verticalmente, o en el extremo de la manguera adyacente al inyector. No se recomienda la instalación a las conexiones de metal. Siga estos pasos para instalar:

1. Planee instalar la turbina con una longitud mínima de la pipa recta de esta manera:
  - Contra la corriente de la turbina, permita a una longitud mínima de la pipa recta de 10 veces el diámetro interno de la turbina.
  - Con la corriente de la turbina, permita una longitud mínima de la pipa recta de 5 veces el diámetro interno de la turbina.
2. Para Espita (Enchufe macho) Fin utilizar solamente los solventes aprobados para pegar PVC.

Corte a la Longitud de Encargo. La caja del medidor puede ser acortado por el cliente. Cada medidor tiene un "punteado" característica de línea moldeada en la superficie superior del tubo de la vivienda. La vivienda puede ser cortada a esta línea sin dañar ninguna internos.

La mayoría de pegamento en los accesorios caben sin interferir con el área de pantalla de ordenador. Sin embargo, el cliente deberá comprobar todas las partes antes de intentar cortar.

Para Accesorios NPT envolver todas las conexiones de 3 a 4 vueltas de cinta de hilo. Asegúrese de que la cinta no inmiscuirse en la trayectoria del flujo.

3. Unir el medidor con la flecha señalada en la dirección del flujo.
4. Para las Conexiones del NPT utilizar solamente sus manos para apretar las conexiones del medidor. No utilizar una llave inglesa o una herramienta similar para apretar. Esto puede dañar la cubierta.
5. Adaptadores de brida ANSI o DIN - El cliente debe suministrar:

- Juntas de anillo o juntas de cara completa aprobadas para su uso con el tipo de brida instalada (ANSI o DIN) y el líquido que se desea supervisar (se requieren 2).
- Tuercas y pernos de 5/8" para bridas ANSI. Cuatro para cada lado para medidores de 3 pulgadas; ocho para cada lado para medidores de 4 pulgadas.
- Tuercas y pernos de 16 mm para bridas DIN. Ocho para cada lado para medidores de 3 y 4 pulgadas.
- Apriete los pernos hasta 25 pies-libras usando un patrón de estrella. Las bridas provistas son de estilo Van Stone de dos piezas y permiten orientar el medidor independientemente de la ubicación de las bridas coincidentes.

Para obtener mejores resultados, verifique siempre la precisión antes de su uso.

### ADVERTENCIA

**Antes de la puesta en servicio, se deben tener en cuenta la compatibilidad del material de este producto y el líquido y/o el entorno del proceso.**

### ADVERTENCIA

**Al operar el producto nunca se deben exceder las especificaciones publicadas para la temperatura o la presión. Consulte las especificaciones para su modelo.**



### **⚠ ADVERTENCIA**

**Compruebe que se hayan eliminado el flujo y la presión de la tubería de proceso antes de instalar o retirar el producto.**

### **⚠ ADVERTENCIA**

**Utilice siempre sellador de roscas o juntas de brida adecuados al conectar el producto a la tubería de proceso.**

### **⚠ PRECAUCIÓN**

**A fin de brindar protección contra pérdidas, selle todas las roscas de la tubería con un compuesto sellador adecuado. Compruebe que el compuesto sellador no se introduzca en el paso del flujo.**

NOTA: Si se conecta a roscas macho de tubería nuevas, las rebabas y las curvaturas pueden afectar negativamente la precisión. Corrija el problema antes de instalar la turbina.

NOTA: No apriete excesivamente los pernos de brida. Si lo hace, puede hacer que se comprima la junta hacia el caudal de flujo y se puede reducir la precisión del medidor.

### **⚠ PRECAUCIÓN**

**Se debe evitar la instalación en proximidades de campos electromagnéticos potentes y campos de corriente potentes, ya que puede generar lecturas imprecisas.**

## **Señal de Salida Condicionada Cableado De Módulo**

Este módulo de Señal de salida condicionada se puede conectar para proporcionar una salida de colector abierta o de señal de onda cuadrada de 6-voltios.

### **Señal de Salida de Colector Abierto**

Para alcanzar una señal de salida de colector abierto, refierase por favor al digrama eléctrico 1. El bloque de terminales está situado en el lado trasero del módulo. El módulo viene montado de fábrica para señal de colector abierta. Por favor proporcionar el resistor de un mínimo de 820 ohmios.

Diez pies (3 m) de cable se proporcionan con el módulo. Ajustar el cable a la longitud deseada o extender el cable cuanto le sea necesario. Se puede alcanzar una señal de salida de colector abierto hasta distancias de 5.000 pies (1,524 m).

## **Salida de Corrente de Onda Cuadrada**

Para lograr una salida de corriente de onda cuadrada, refierase por favor al digrama eléctrico 2 y utilice un kit electrónico de batería del medidor digital (vendido por separado) para la fuente de energía de la batería. El bloque de terminales y la localización de la batería están situados en el lado trasero del modulo. Acceda al módulo de la siguiente manera:

1. Quitar los cuatro tornillos de cabeza Phillips del frente del módulo. Levantar el módulo de la turbina.
2. Para cambiar las conexiones del bloque de terminales, aflojar los tornillos apropiados. Volver a conectar los alambres en las posiciones apropiadas y apretar los tornillos.
3. Instalar las baterías. Cerciorarse de que el poste positivo esté en la posición correcta.
4. Colocar el módulo en la cubierta de la turbina. Para evitar daños causados por la humedad, cerciorarse de que el anillo esté asentado completamente. Apretar los cuatro tornillos en el frente del módulo.

Diez pies (3 m) de cable se proporcionan con el módulo. Ajustar el cable a la longitud deseada o extender el cable cuanto le sea necesario.

## **Verificar la Exactitud del Metro**

Antes de usar, comprobar la exactitud del metro y verificar la calibración.

1. Cerciorarse de que no haya aire en el sistema comenzando el flujo hasta que funciona constantemente. Entonces, detener o desviar el flujo mediante una válvula o la boquilla.
2. Con el medidor, mida un volumen exacto en un envase exacto. Para mejores resultados, medir con una corriente completa y continua.
3. Comprobar el volumen con lo indicado en la pantalla o el equipo de grabación. Si la cantidad medida es exacta, no es necesario mayor calibración. Si no, referir a la sección de la calibración.

## Pantalla de la Computadora – Lotes y Totales Acumulativos

El computador mantiene dos totales. El total acumulativo proporciona la medida continua y no puede ser reajustado manualmente. El total de hornada se puede reajustar para medir el flujo durante una sola vez. El total acumulativo se etiqueta con el TOTAL 1 LOCKED. Esto indica que el total está bloqueado y no puede ser puesto a cero manualmente. El total acumulado se etiqueta con TOTAL 1, lote total se etiqueta TOTAL 2 BATCH.

Cuando el total acumulado llega a una lectura de la pantalla de la computadora 999.999 resaltar un icono de X10. Esto indica al operador que un cero se debe agregar a los 6 dígitos que se muestran. Cuando el traspaso se produzca la próxima vez, el equipo se hará hincapié en un icono X100. Esto indica al operador que dos ceros se debe agregar a los 6 dígitos que se muestran.

Pulse brevemente el botón DISPLAY para cambiar entre el TOTAL 1, TOTAL 2 BATCH y la configuración FLOWRATE. Pulse brevemente DISPLAY para mostrar un total de TOTAL 2 BATCH. Mantenga pulsado el botón DISPLAY durante 3 segundos para restablecer el lote total a cero.

Cuando el líquido fluye a través del medidor, un icono de hélice está resaltado.

NOTA: Totalization cuenta las unidades totales sin distinguir entre los galones, los litros o las unidades calibradas de campo.

## Atributo del Índice de Flujo

Para utilizar esta función, pulse el botón DISPLAY y la FLOWRATE hasta que el icono aparece. La fábrica del conjunto de base de tiempo se pondrá de relieve a la derecha del caudal de agua (M = minutos, h = horas, D = días). Cuando el caudal de agua fluye, en la pantalla se indica la velocidad de flujo.

## Para Activar el Contador

El ordenador está encendido continuamente y siempre dispuesto a operar. El equipo es alimentado por baterías reemplazables de campo. Cuando la pantalla se vuelve opaco, desteñido o el mensaje de batería baja (vea más abajo), las baterías necesitan ser reemplazadas. Referencia de la sección de mantenimiento para más detalles.

## Calibración de Campo de Fábrica

Toda la información de calibración es visible para el usuario como iconos en la línea superior de la pantalla, por encima de los dígitos numéricos.

Todas las unidades están configurados con una calibración de fábrica. Ambos galones y litros están disponibles (“GL” o “LT” se mostrará). Mientras mantiene el botón CALIBRATE, pulse DISPLAY para cambiar entre galones y litros. Esta calibración de fábrica (se indica con FAC) está programada permanentemente en la computadora y no es ajustable por el usuario.

NOTA: El equipo puede tener otras unidades de medida programada en ella. Si es así, manteniendo pulsado el botón CALIBRATE y momentáneamente pulsando el botón DISPLAY, se activará a través de todas las unidades de conjunto de la fábrica. Otras unidades posibles son: IGL (galón imperial), QT (cuarto), CF (pies cúbicos), CM (metros cúbicos), BL (42 gal. Barril), CC (centímetros cúbicos) o OZ (onzas).

El cambiar entre diferentes unidades no dañará el Total. Por ejemplo, en el modo de GL, el equipo totaliza 10,00 galones, si el usuario cambia a modo de LT, la pantalla se leerá 37,85 litros (el mismo volumen, las diferentes unidades).

Los “campos” de calibración pueden ser configurados por el usuario, y puede ser cambiado o modificado en cualquier momento mediante el procedimiento de calibración se describe a continuación en la sección de calibración. De los totales o caudal de agua derivada de la calibración de campo se invoca cuando el icono de la FAC ya no es visible en la línea superior de la pantalla.

## CALIBRACIÓN

### Favor de Verificar la Precisión Antes de Iniciar la Calibración de Campo

Para resultados más exactos, dispense un índice de flujo que simule lo mejor posible sus condiciones de funcionamiento reales. Evite “de gotear” más líquido o en varias ocasiones, o el comenzar y de parar el flujo. Estas acciones darán lcomo resultado calibraciones menos exactas.

Cerciórese de reunir todos los requisitos mínimos del índice de flujo del medidor:

#### Serie TM Metros

3 metros pulgadas	1 GPM (3,8 LPM)
4 metros pulgadas	40 GPM (151,4 LPM)

Se recomienda para resultados más exactos de la calibración el uso de un envase uniforme, confiable, y exacto. Debido al alto índice de flujo, se recomienda que la calibración esté terminada con una combinación de volumen y de peso usando escalas de alta resolución.

Para mejores resultados, el medidor se debe instalar y purgar del aire antes de la calibración de campo.

### Calibración de Campo con Ordenador de Pantalla

La calibración de campo y de fábrica se definen en la Sección de Operaciones. Parámetros de calibración de fábrica son personalizados programado en cada equipo durante la fabricación, el uso de agua a 70° F (21° C). Lecturas utilizando la calibración de fábrica (FAC), puede no ser exacta en algunas situaciones, por ejemplo, bajo condiciones de temperatura extrema, las configuraciones de plomería estándar o con otros líquidos distintos del agua.

### Procedimientos de Calibración de Campo (Método de Factor de Corrección)

1. Para calibrar, presione y mantenga los botones de CALIBRATE y DISPLAY durante unos 3 segundos hasta que aparezca FLd-CAL. Suelte los botones y podrás ver CF - 00.0. Ahora está en el modo de calibración de campo y los valores de -99,9% a 99,9% pueden ser introducidos.
2. El + / - posición aparece como subrayan un "carácter" de más, o como un carácter "hyphen" para menos. El botón DISPLAY selecciona la posición y el botón CALIBRATE cambia este personaje.
3. El botón DISPLAY puede ser empujado a seleccionar las posiciones numéricas. Pulse el botón CALIBRATE para desplazarse desde 0 hasta 9. Introduzca el porcentaje de cambio que desea que la pantalla correcta. Cuando esté satisfecho con el valor, pulse dos CALIBRATE y DISPLAY botones simultáneamente.

CALEnd se mostrará y la unidad volverá al funcionamiento normal, menos el icono de la FAC (calibración de fábrica).

4. Todas las unidades habilitadas de medida siguen siendo visibles y seleccionables - dentro en la corrección se aplicará a todas las unidades habilitadas.
5. Para volver a la calibración de fábrica (FAC), presione y mantenga CALIBRATE y DISPLAY de botones de la pantalla durante unos 3 segundos hasta que aparezca FACCAL. Luego suelte botones. La unidad debe volver al funcionamiento normal y el icono de FAC visible.

### Calibración Con el Módulo de Señal de Salida Condicionada

El factor K de su medidor aparece en el informe de la calibración como el número de pulsos por galón. El factor se determina durante la producción usando el agua a 70° F (21° C). Este factor K se puede utilizar para la calibración de "un solo punto" y proporcionará una exactitud aceptable. Sin embargo, las lecturas pueden no ser exactas cuando usted utiliza este método de la calibración en algunas situaciones. Por ejemplo, las condiciones extremas de temperatura, las configuraciones de plomería estándar o con otros líquidos distintos del agua.

## MANTENIMIENTO

La utilización y el cuidado apropiados amplían la vida y el servicio del medidor.

### Rotor de Turbina

El medidor prácticamente no tiene necesidad de mantenimiento. Sin embargo, es importante que los movimientos del rotor ocurran libremente. Mantener el medidor limpio y libre de contaminantes.

El rotor se puede quitar para la limpieza y la inspección. Comience por desenroscar la ojiva del extremo de salida del medidor. Un enrosque de 1/4" cuadrado de extensión se pueden utilizar. Quitar el bloqueo y las arandelas de empuje plana. El rotor puede ser removido del eje. Fijese en la orientación porque el rotor no es bi-direccional. Retirar los escombros o los depósitos con un cepillo suave o una pequeña sonda. Vuelva a montar en orden inverso.

**⚠ PRECAUCIÓN**

El aire comprimido a través del montaje de la turbina podría dañar el rotor.

**⚠ PRECAUCIÓN**

No permita que los líquidos se sequen en el interior de la turbina.

**⚠ PRECAUCIÓN**

Manipule el rotor cuidadosamente. Las rayas y picaduras pequeñas pueden afectar a la precisión.

NOTA: Compruebe que la flecha que está en la salida de la turbina esté orientada en el sentido del flujo de líquido.

### Reemplazo de la Batería

La pantalla de la computadora funciona a través de dos baterías del litio de 3-voltios que pueden ser substituidas mientras que el medidor está instalado. Cuando las baterías se retiran o pierden fuerza, el lote, y el total acumulado y el de campo, y la calibración de fábrica se conservan.

**⚠ ADVERTENCIA**

(Batería) – Evite el uso mecánico o eléctrico indebido. Las baterías pueden explotar o causar quemaduras, si se las desarma, aplasta o expone al fuego o a temperaturas que superen los 212° F (100°C). No cortocircuite ni instale con la polaridad incorrecta. **NO QUEMARE EN INCINERADOR.**

**⚠ PRECAUCIÓN**

Las baterías se deben reemplazar ÚNICAMENTE por el kit P/N 113520-1 (incluye dos de cada una P/N 902004-2). No mezcle baterías viejas con las nuevas. No utilice otras marcas o tecnologías.

Las celdas de baterías abiertas deben desecharse de conformidad con las normativas locales. Las baterías de litio es mejor desecharlas como residuos no peligrosos cuando están completa o mayormente descargadas. La EPA no menciona ni exceptúa al litio como residuo peligroso. Si las baterías de litio a desechar están aún completamente cargadas o sólo parcialmente descargadas, se las puede considerar como un residuo reactivo peligroso debido al litio sin consumir que queda en la batería. Tales baterías pueden calificar como “Residuos universales” en numerosas jurisdicciones de los Estados Unidos y así pueden enviarse para desecharlas o reciclarlas de conformidad con los requisitos para los Residuos universales.

Si la pantalla se vuelve oscura, en blanco o el mensaje de batería baja (vea más abajo), reemplazar las baterías de la siguiente manera:



1. Quitar los cuatro tornillos de la cara del metro y levantar la placa frontal de la turbina.
2. Quitar las viejas baterías y limpiar cualquier corrosión de los terminales.
3. Instalar las baterías nuevas. Cerciorarse de que el poste positivo esté en la posición correcta.
4. Cuando se substituyen las baterías, la placa frontal estará encendida. Compruebe la exhibición para asegurarse de que las funciones normales han resumido antes de montar otra vez.
5. Volver a sentar las baterías, en caso necesario, colocar la placa frontal en la cubierta de la turbina. Evite el daño causado por la humedad, cerciorarse de que el anillo esté asentado completamente. Apretar los cuatro tornillos en la placa frontal.

## ESPECIFICACIONES

### Entrada y Enchufe:

<u>Espita (Enchufe macho)</u>	<u>Fin del Sistema:</u>
TM300/TM300-P	3 pulgadas Schd. 80, Espita (Enchufe macho)
TM400/TM400-P	4 pulgadas Schd. 80, Espita (Enchufe macho)

### Modelos NPT:

TM300-N/TM300-N-P	3 pulgadas NPT
TM400-N/TM400-N-P	4 pulgadas NPT

### Modelos de brida ANSI:

TM300-F/TM300-F-P	3 pulgadas, 150# ANSI Brida
TM400-F/TM400-F-P	4 pulgadas, 150# ANSI Brida

### Modelos de brida DIN:

TM300-D/TM300-D-P	3 pulgadas PN10/PN16 Brida DIN
TM400-D/TM400-D-P	4 pulgadas PN10/PN16 Brida DIN

**Tipo del Diseño:** Turbina

## Componentes Húmedos:

Vivienda: PVC  
Cojinetes: PEEK  
Eje: Acero Inoxidable  
Del Rotor y la Nariz de Cono: Acetal  
Arandelas: Acero Inoxidable

## Máxima Presión de Trabajo:

TM300 (Todos los modelos):  
225 PSIG @ 73° F

TM400 (Todos los modelos):  
225 PSIG @ 73° F  
(Non CE), 135 PSIG @ 73° F  
(CE aplicaciones)

## Brida ANSI:

3 pulgadas: 12,0 x 7,5 x 7,5  
4 pulgadas: 14,0 x 9,0 x 9,0

## Brida DIN:

3 pulgadas: 12,0 x 8,0 x 8,0  
4 pulgadas: 14,0 x 8,5 x 8,5

\* Añadir £ .3. acondicionado para la señal del módulo.

\*\* Añadir 1,1 pulgadas a la altura del módulo de la señal acondicionado.

## Medidas de Estados Unidos

Unidad de la Medida: Galón

### Rango de Flujo:

3 pulgadas 40-400 GPM (Linealidad:  
±3,0% de la lectura)  
30-600 GPM (Linealidad:  
±2,0% a escala completa)

4 pulgadas 60-600 GPM (Linealidad:  
±3,0% de la lectura)  
40-800 GPM (Linealidad:  
±2,0% a escala completa)

**Exactitud con la Computadora:** ±3.0% de la lectura (la exactitud se puede mejorar con la calibración del campo)

### Temperatura de Funcionamiento:

+32° a +140° F (No permitir que el líquido se congele dentro del metro.)

**Duración de la Batería:** 5 años

### Temperatura del Almacenaje:

-40° a +158° F

### Peso del Producto - lbs.:\*

	Espita		Brida	Brida
	(Enchufe Macho)	NPT	ANSI:	DIN:
3 pulgadas	2,4	3,9	5,8	6,5
4 pulgadas	3,7	6,1	9,2	8,8

### Dimensiones - Pulgadas (L x H x W):\*\*

#### Espita (Enchufe macho):

3 pulgadas: 11,5 x 5,34 x 3,5  
4 pulgadas: 13,5 x 6,34 x 4,5

#### NPT:

3 pulgadas: 14,7 x 5,78 x 4,37  
4 pulgadas: 17,0 x 6,7 x 5,87

## Medida Métrica

Unidad de la Medida: Litro

### Rango de flujo:

3 pulgadas 151-1514 LPM (Linealidad:  
±3,0% de la lectura)  
113-2271 LPM (Exactitud:  
±2,0% a escala completa)

4 pulgadas 227-2271 LPM (Linealidad:  
±3,0% de la lectura)  
151-3028 LPM (Precisión:  
±2,0% a escala completa)

**Exactitud con la Computadora:** ±3.0% de la lectura (la exactitud se puede mejorar con la calibración del campo)

### Temperatura de Funcionamiento:

0° a +60° C (No permitir que el líquido se congele dentro del metro.)

**Duración de la Batería:** 5 años

### Temperatura del Almacenaje:

-40° a +70° C

### Peso del Producto - kgs:\*

	Espita		Brida	Brida
	(Enchufe Macho)	NPT	ANSI:	DIN:
3 pulgadas	1,09	1,77	2,63	2,95
4 pulgadas	1,68	2,77	4,17	3,99

### Dimensiones - cm (L x H x W):\*\*

#### Espita (Enchufe macho):

3 pulgadas: 29,2 x 13,6 x 8,9  
4 pulgadas: 34,3 x 16,1 x 11,4

#### NPT:

3 pulgadas: 37,3 x 14,7 x 11,1  
4 pulgadas: 43,2 x 17,0 x 14,9

#### Brida ANSI:

3 pulgadas: 30,5 x 20,3 x 20,3  
4 pulgadas: 35,6 x 22,9 x 22,9



### Brida DIN:

3 pulgadas: 30,5 x 20,3 x 20,3

4 pulgadas: 35,6 x 21,6 x 21,6

\* Añadir .14 kg de peso, para acondicionado de señal del módulo.

\*\* Añadir 2,8 cm a la altura del módulo de la señal acondicionado.

## PIEZAS

Las piezas y los accesorios siguientes de reemplazo están disponibles para los medidores de los Series del TM:

Parte No.	Descripción
113435-1	Señal de salida del módulo acondicionado
113520-1	Kit de sustitución de baterías
12517601	Junta
12519001	Monte de la Asamblea PC
901002-52	Sello
125518-01	3 pulgadas (Espita) Kit de Turbina
125518-02	3 pulgadas (NPT) Kit de Turbina
125518-03	3 pulgadas (Brida) Kit de Turbina
125520-01	4 pulgadas (Espita) Kit de Turbina
125520-02	4 pulgadas (NPT) Kit de Turbina
125520-03	4 pulgadas (Brida) Kit de Turbina
125519-01	3 pulgadas Kit de Computadora
125521-01	4 pulgadas Kit de Computadora
125518-04	3 pulgadas (Brida DIN, PVC) Kit de ensamblado de turbina
125520-05	4 pulgadas (Brida DIN, PVC) Kit de ensamblado de turbina

## SERVICIO

Para la consideración de la garantía, contacte con su distribuidor local. Si usted necesita ayuda adicional, contacte con el departamento de servicios al cliente de GPI:

**1-888-996-3837**

Usted necesitará:

- Proporcionar la información de la etiqueta en su medidor.
- Recibir un número de la autorización de devolución.

- Limpiar cualquier líquido con un chorro de agua del medidor antes de enviar a la fábrica.

Si es posible, dejar las guarniciones instaladas por el cliente o una longitud amplia de la pipa pelada para la reinstalación.

### PRECAUCIÓN

No devolver el metro sin la autoridad específica del departamento de servicios al cliente de GPI. Debido a las regulaciones terminantes gubernamentales GPI no aceptará los medidores para la reanudación a menos que estén totalmente libres de residuos líquidos peligrosos o inflamables, o líquidos de todos tipos durante el transporte, la dirección, y la disposición.

### WEEE DIRECTIVA



La Directiva 2002/96/CE del Parlamento Europeo y del Consejo de la Unión Europea sobre Residuos de Aparatos Eléctricos y Electrónicos (RAEE) fue aprobada por el Parlamento Europeo y el Consejo de la Unión Europea en 2003. Este símbolo indica que este producto contiene equipo eléctrico y electrónico que puede incluir baterías, tableros de circuito impresos, indicadores de cristal líquido u otros componentes que pueden estar sujetos a regulaciones locales de desecho. Por favor informese acerca de estas reglas y desecho de este producto de manera responsable.

### Cumple con la Directiva RoHS (2011/65/EU)

El presente producto cumple con la Directiva RoHS del Parlamento Europeo y del Consejo sobre restricciones a la utilización de determinadas sustancias peligrosas en aparatos eléctricos y electrónicos.

**Calificación ambiental: IP65**

## WICHTIGE HINWEISS

Die TM Series Meßinstrumente mit Wasser und anderen Chemikalien benutzen, die mit Bestandteilen kompatibel sind, die die Flüssigkeit (Spezifikationen Abschnitt sehen). Dieses Meßinstrument mit Kraftstoff oder anderen inkompatiblen Chemikalien nicht benutzen. TM Series Meßinstrumente sind entweder mit einem Computer für lokale elektronische Anzeige oder einer konditionierten Signalausgabebaugruppe vorhanden, die ein digitales Signal zu Kunde Schnittstellenmodul. TM Series mißt in Gallonen oder Litern. Auf den Kalibrierungsabschnitt für Einzelheit beziehen.

Diese Meßinstrumente sind nicht für den Handel zulässig.

TM Series Meßinstrumente sind gegen elektronische Störung sehr empfindlich, wenn sie innerhalb 2,5 bis 5 cm einiger Elektromotoren oder anderer Quellen des elektronischen Gebrauches bedient werden.

## AUFSTELLUNG

### Anschlüsse

Ihr Meßinstrument inline entweder am Ende des Schlauches neben der Düse horizontal oder vertikal anbringen. Installation zu Metallanschlüssen wird nicht empfohlen. Diesen Schritten folgen, um anzubringen:

1. Planen, die Turbine mit einer minimalen Länge geraden Rohres anzubringen:
  - Gegen den Strom von der Turbine, einer minimalen Länge des geraden Rohres von 10mal dem internen Durchmesser der Turbine erlauben.
  - Stromabwärts von der Turbine, eine minimale Länge des geraden Rohres von 5mal dem inneren Durchmesser der Turbine erlauben.
2. Für Zapfen (Rohr) Ende nur Spachtelmasse und Lösungsmittel verwenden, die zum Kleben von PVC erlaubt sind.

Cut um benutzerdefinierte Länge kann durch den Kunden verkürzt werden. Jeder Zähler hat eine punktierten Linie-Funktion auf der

Oberseite des Gehäuses Schlauch geformt. Das Gehäuse kann geschnitten werden bis zu dieser Linie ohne Beeinträchtigung eines Einbauten.

Die meisten Kleber auf Möbel passen, ohne sich mit dem Computer-Display-Bereich. Allerdings sollte der Kunde alle Teile zu überprüfen, bevor geschnitten.

Bei NPT Fittings alle Verbindungen Wrap mit 3 bis 4 Packungen der Befestigungsgewinde. Vergewissern Sie sich, die Kassette nicht einmischen in die Fließweg.

3. Das Meßinstrument mit dem Pfeil anbringen, der in die Richtung des Flusses zeigt.
4. Für NPT Befestigungen nur Ihre Hände benutzen um die Pipe-Verbindung. Wenn Sie die Anschlüsse festziehen, sich erinnern, keine Werkzeuge zu benutzen.
5. Bei ANSI- oder DIN-Flanschverschraubungen – vom Kunden beizustellen:

- Ringdichtungen oder Flachdichtungen zugelassen für den Einsatz mit dem montierten Flanschtyp (ANSI oder DIN) und die zu überwachende Flüssigkeit (2 erforderlich).
- 5/8"-Schrauben und -Mutter für ANSI-Flansche. Vier pro Seite bei 3-Zoll-Messinstrumenten, acht pro Seite bei 4-Zoll-Messinstrumenten.
- 16-mm-Schrauben und -Mutter für DIN-Flansche. Acht pro Seite bei 3-Zoll- und 4-Zoll-Messinstrumenten.
- Schrauben über Kreuz mit 25 ft-lbs festziehen. Gelieferte Flansche sind zweiteilige „Van Stone“-Ausführungen und ermöglichen eine Ausrichtung des Messinstruments unabhängig von der Passflanschposition.

Vor der Verwendung stets die Genauigkeit überprüfen, um optimale Ergebnisse zu erhalten.

### **⚠️ WARNUNG**

**Die Kompatibilität des Werkstoffs dieses Produkts und der Prozessflüssigkeit und/oder der Umgebung müssen vor der Inbetriebsetzung berücksichtigt werden.**

### **⚠️ WARNUNG**

**Produkt darf niemals außerhalb seiner veröffentlichten Vorgaben für Temperatur oder Druck betrieben werden. Siehe technische Daten für Ihr Modell.**

### **⚠️ WARNUNG**

**Vor Montage oder Entfernen des Produkts sicherstellen, dass kein Druck und Durchfluss im Prozessrohr vorliegt.**

### **⚠️ WARNUNG**

**Beim Anschluss des Produkts an Prozessrohrleitungen immer entsprechendes Gewindedichtmittel oder Flanschdichtungen verwenden.**

### **⚠️ VORSICHT**

**Zum Schutz vor Leckage alle Rohrgewinde mit einer entsprechenden Dichtmasse abdichten. Sicherstellen, dass die Dichtmasse nicht den Durchflussweg stört.**

HINWEIS: Beim Anschluss an neue Rohraußengewinde können Grate und Bördel die Genauigkeit beeinträchtigen. Das Problem vor der Turbinenmontage beheben.

HINWEIS: Die Flanschschrauben nicht zu fest anziehen. Hierdurch kann die Dichtung in den Durchflussstrom gedrückt werden, wodurch die Genauigkeit des Messinstruments verringert werden kann.

### **⚠️ VORSICHT**

**Montage in der Nähe starker elektromagnetischer Felder oder starker Stromfelder wird nicht empfohlen und kann zu falschen Messwerten führen**

## **Konditioniertes Signal Ausgeben Baugruppenverdrahtung**

Diese konditionierte Signalausgabebaugruppe kann verdrahtet werden, um einen geöffneten Kollektorsignal-Ausgang oder Welle des Quadrats 6-volt Ausgang zur Verfügung zu stellen.

## **Öffnen Kollektor-Signal-Ausgang**

Um einen geöffneten Kollektor Ausgang zu erzielen, Bezugsbauschahtplan 1 signalisieren. Der Klemmenblock ist auf der Rückseite des Moduls. Das Modul ist die Fabrik, die für geöffneten Kollektorsignalausgang. Zusammengebaut wird Den (820-Ohm-Minimum) Widerstand bitte zur Verfügung stellen.

10 Fuß (3 m) Kabel wird mit dem Modul. Versehen Das Kabel zur gewünschten Länge trimmen oder das Kabel wie benötigt verlängern. Abstände bis 5.000 Fuß (1,524 m) könne für geöffneten Kollektorsignalausgang erzielt werden.

## **Quadratischer Welle Ausgang**

Um Quadratischen Welle Ausgang zu erzielen, Bezugsbauschahtplan 2 signalisieren und einen elektronischen Digital Meßinstrument-Batterie-Installationsatz (separat verkauft) für die Batterieleistung benutzen. Der Klemmenblock und die Batterieposition sind auf der Rückseite des Moduls. Zugang wie folgt:

1. Die vier Kreuzkopfschrauben von der Frontseite des Moduls entfernen. Das Modul von der Turbine anheben.
2. Um die Klemmenblockanschlüsse zu ändern, die passenden Schrauben lösen. Die Leitungen in den korrekten Positionen wieder anschließen und die Schrauben festziehen.
3. Die Batterien anbringen. Sicherstellen, daß der positive Pfosten in der richtigen Position ist.
4. Das Modul auf das Turbinegehäuse in Position bringen. Um Feuchtigkeit Beschädigung zu vermeiden, sicherstellen daß der dichtung völlig setzt. Die vier Schrauben an der Frontseite des Moduls festziehen.

10 Fuß (3 m) Kabel wird mit dem Modul versehen. Das Kabel zur gewünschten Länge trimmen oder das Kabel wie benötigt verlängern.

## **Meßinstrument Genauigkeit Überprüfen**

Bevor Sie verwenden, die Genauigkeit des Meßinstruments überprüfen und die Kalibrierung überprüfen.

1. Überprüfen, daß es keine Luft in der Anlage gibt, indem Sie den Fluß beginnen, bis er ständig läuft. Dann, zu stoppen oder umzuleiten den Fluss mit einem Ventil oder eine Düse.
2. Das Meßinstrument ein genau bekanntes Volumen in einen genauen Behälter abgeben lassen. Für beste Resultate mit einem ununterbrochenen vollen Strom messen.
3. Das Volumen gegen die Anzeige Oder die Aufnahmeausrüstung überprüfen. Wenn die Menge, die gemessen wird, genau ist,

ist weitere Kalibrierung nicht notwendig. Wenn nicht, auf den Kalibrierungsabschnitt für weitere Anweisungen beziehen.

die Batterien ausgetauscht werden. Verweisen Sie auf die Wartung Abschnitt für Details.

# LobAtt

## BETRIEB

### Computer-Display – Batch-und Gesamtsummen

Der Computer verwaltet zwei Summen. Der kumulierte Betrag stellt die kontinuierliche Messung und kann nicht manuell zurückgesetzt werden. Der Batch Insgesamt kann zurückgesetzt werden, fließen in einer einzigen Anwendung zu messen. Der kumulierte Betrag ist mit TOTAL 1 bezeichnet, ist Batch Total beschriftet TOTAL 2 BATCH.

Wenn der kumulierte Betrag erreicht eine Anzeige Lesung 999.999 der Computer wird ein X10-Symbol zu markieren. Dies deutet darauf hin, dass dem Betreiber eine Null an die 6 gezeigten Ziffern hinzugefügt werden. Wenn die nächste Rollover auftritt, wird der Computer ein Highlight X100-Symbol. Diese zeigt dem Bediener, dass zwei Nullen an die 6 gezeigten Ziffern hinzugefügt werden.

Drücken Sie die DISPLAY-Taste kurz, um zwischen den insgesamt 1, TOTAL 2 BATCH und FLOWRATE. Drücken Sie DISPLAY, um die kurz TOTAL 2 BATCH. Halten Sie die DISPLAY-Taste für 3 Sekunden wieder auf die Batch-Total auf Null.

Wenn die Flüssigkeit fließt durch das Messgerät, ein kleiner Propeller-Symbol markiert ist.

Hinweis: Summierung zählt Einheiten insgesamt, ohne Unterscheidung zwischen Gallonen, Liter oder das Feld kalibriert Einheiten.

### Durchfluss Funktion

Um diese Funktion, drücken Sie DISPLAY verwenden, bis FLOWRATE-Symbol erscheint. Die Fabrik eingestellten Zeit wird auf Basis des Rechts der FLOWRATE hervorgehoben werden (M = Minuten, H = Stunden, d = Tage). Wenn FLOWRATE aufgerufen wird, wird das Display um darauf hinzuweisen, Fließgeschwindigkeit.

### Aktivieren Sie die Meter

Computer wird weiterhin kontinuierlich und immer bereit zu erfüllen. Der Computer ist durch Feld-powered austauschbaren Batterien. Wenn die Anzeige schwach, schwach oder die Batterie-Meldung angezeigt wird (siehe unten), müssen

### Betriebs-und Kalibriersoftware

Alle Kalibrier-Informationen für den Benutzer sichtbar als Symbole in der oberen Zeile des Displays, über die Ziffern.

Alle Einheiten sind mit einer "Fabrik" Kalibrierung konfiguriert werden. Beide Gallonen und Liter stehen zur Verfügung ( "GL" oder "LT" wird angezeigt). Halten Sie die Schaltfläche CALIBRATE, drücken Sie kurz DISPLAY, um zwischen Gallonen und Liter zu wechseln. Diese Fabrik-Kalibrierung (mit FAC angegeben) ist fest in den Computer programmiert und kann nicht vom Benutzer einstellbar.

HINWEIS: Ihr Computer ist möglicherweise auch andere Maßeinheiten in sie programmiert. Wenn ja, hält die Schaltfläche CALIBRATE und momentan Drücken der DISPLAY-Taste wird durch alle werkseitig eingestellt Einheiten zu wechseln. Andere mögliche Einheiten sind: IGL (Imperial Gallonen), QT (Quart), CF (Kubikmeter), CM (Kubikmeter), BL (42 gal. Barrel), CC (Kubikzentimeter) oder OZ (Unzen).

Wechseln zwischen verschiedenen Einheiten werden nicht beschädigt die Total-Inhalten. Zum Beispiel, im OpenGL-Modus, den Computer summiert 10,00 Gallone, wenn der Benutzer schaltet in den LT, erscheint auf dem Display 37,85 Liter (das gleiche Volumen, verschiedene Einheit) zu lesen.

Das "Feld" Kalibrierung kann vom Anwender eingestellt werden und kann geändert werden, oder jederzeit über das Kalibrierverfahren um nachstehend beschriebenen Abschnitt der Kalibrierung. Summen bzw. aus dem Bereich Kalibrierung Durchfluss abgeleitet werden aufgerufen, wenn der FAC-Symbol nicht mehr sichtbar in der oberen Zeile des Displays wird.

## KALIBRIERUNG

### Stellen Sie Sicher, Genauigkeit vor Anfang Feld Kalibrierung

Für die genauesten Resultate an einer Fließgeschwindigkeit zu führen, die gut Ihre tatsächlichen Betriebsbedingungen. Simuliert Vermeiden, mehr

Flüssigkeit “zu tröpfeln” oder wiederholt den Fluß zu beginnen und zu stoppen. Dieses kann weniger genaue Kalibrierungen ergeben.

Stellen Sie Treffen die minimalen Fließgeschwindigkeitanforderungen des Meßinstruments sicher:

### TM Series Meßinstrumente

3-Zoll-Meter	30 GPM (113,61 LPM)
4-Zoll-Meter	40 GPM (151,41 LPM)

Der Gebrauch eines gleichmäßig zuverlässigen, genauen Kalibrierung Behälters wird in hohem Grade für die genauesten Resultate empfohlen. Wegen der hohen Fließgeschwindigkeit, wird es stark empfohlen, daß Kalibrierung mit einer Kombination des Volumens und des Gewichts mit feine Auflösung Skalen durchgeführt wird.

Für beste Resultate sollte das Meßinstrument angebracht werden und bereinigt worden von der Luft vor Kalibrierung auffangen.

## Feld Kalibrierung mit Computer-Display

Field Kalibrierung und Kalibrierung sind an der Operation Abschnitt definiert. Werkskalibrierung Einstellungen sind in jedem Computer während der Herstellung programmiert, unter Verwendung von Wasser bei 70° C (21° C). Messwerte mit Hilfe der Factory Calibration (FAC) ist möglicherweise nicht in einigen Situationen richtig, zum Beispiel unter extremen Temperaturbedingungen, Nicht-Standard-Sanitär-Konfigurationen oder mit anderen Medien als Wasser.

## Feld Kalibrierung Handlungsweisen (Korrektur-Faktor-Methode)

1. So kalibrieren, drücken und halten Sie die CALIBRATE und DISPLAY-Taste etwa 3 Sekunden, bis Sie FLdCAL. Lassen Sie beide Tasten, und Sie werden sehen, CF - 00,0. Sie befinden sich nun im Bereich der Betriebsart Kalibrierung und Werte von -99,9% auf 99,9% eingegeben werden.
2. Die +/- Position wird entweder als ein “Unterstrich”-Zeichen für Plus, oder als ein Zeichen “hyphen” für Minus. Die DISPLAY-Taste wählt die Position und die CALIBRATE-Taste schaltet diesen Charakter.
3. Die DISPLAY-Taste können dann geschoben werden, um den numerischen Positionen zu

wählen. Drücken Sie die Taste, um CALIBRATE 0 bis 9 zu blättern. Geben Sie den Prozentsatz der Änderung, die Sie wollen, dass die Anzeige zu korrigieren. Wenn Sie zufrieden sind mit dem Wert, drücken Sie beide CALIBRATE und DISPLAY Tasten gleichzeitig. CAEnd wird angezeigt und Gerät zurück zum normalen Betrieb, abzüglich der FAC (Werkskalibrierung)-Symbol.

4. Alle aktiven Einheiten-of-Maßnahme bleiben sichtbar und wählbar - die eingegebenen Korrektur wird auf alle aktivierten Einheiten angewendet werden.
5. Um wieder auf die werkseitigen Kalibrierung (FAC), drücken und halten Sie beide CALIBRATE und DISPLAY-Taste etwa 3 Sekunden, bis FACCAL angezeigt wird. Dann Entriegelungstasten. Einheit sollte Rückkehr zum normalen Betrieb und die FAC-Symbol sichtbar.

## Kalibrierung mit konditionierter Signal-Ausgabebaugruppe

Der K-Faktor Ihres Meßinstruments erscheint auf dem Kalibrierung Report als die Zahl Impulsen pro Gallone. Der Faktor wird während der Produktion mit Wasser an 70° F (21° C) festgestellt. Dieser K-Faktor kann für Kalibrierung “des einzelnen Punktes” verwendet werden und wird eine annehmbare Genauigkeit liefern. Jedoch können die Messwerte möglicherweise nicht genau sein, wenn Sie diese Kalibrierung Methode in einigen Situationen verwenden. Zum Beispiel, extreme Temperaturen, Nicht-Standard-Sanitär-Konfigurationen oder mit anderen Medien als Wasser.

## WARTUNG

Die korrekte Behandlung und die Wartung verlängern das Leben und den Service des Meßinstruments.

## Turbinenrotor

Das Meßinstrument ist praktisch wartungsfrei. Jedoch ist es wichtig, dass sich der Rotor frei bewegen kann. Das Meßinstrument sauber halten und von Verunreinigung freihalten.

Der Rotor kann für die Reinigung und Inspektion entfernt werden. Beginnen Sie mit dem Abschrauben der Nase Kegel aus der Steckdose Ende des Zählers. A 1/4” Vierkant Socket-Erweiterung verwendet werden kann. Entfernen



Sie die Sperre und flach Anlaufscheiben. Der Rotor kann dann von der Welle entfernt werden. Notieren Sie sich die Orientierung, weil der Rotor ist nicht bidirektional. Entfernen Sie den Schmutz oder Ablagerungen mit einem weichen Pinsel oder kleine Sonde. Der Zusammenbau erfolgt in umgekehrter Reihenfolge.

### **⚠ VORSICHT**

Pressluft durch die Turbine blasen kann den Rotor beschädigen.

### **⚠ VORSICHT**

Flüssigkeiten nicht an der Innenseite der Turbine trocknen lassen.

### **⚠ VORSICHT**

Den Rotor vorsichtig behandeln. Kleine Kratzer oder Kerben können die Genauigkeit beeinträchtigen.

HINWEIS: Sicherstellen, dass der Pfeil am Turbinenausstritt in Richtung der Medienströmung weist.

## **Batterie Austausch**

Das Computeranzeige wird durch zwei 3-Volt Lithium Batterien angetrieben, die ausgetauscht werden können, während das Meßinstrument installiert ist. Wenn die Batterien entfernt werden oder verlieren Macht, die Batch- und Gesamtsummen und das Feld und Werkskalibrierungen beibehalten werden.

### **⚠ WARNUNG**

**(Batterie)–Mechanischen oder elektrischen Missbrauch vermeiden. Batterien können explodieren oder Verbrennungen hervorrufen, wenn sie zerlegt, zerdrückt oder Feuer bzw. Temperaturen über 212°F (100°C) ausgesetzt werden. Nicht kurzschließen oder verpolt anschließen. NICHT VERBRENNEN.**

### **⚠ VORSICHT**

Batterien dürfen NUR mit Satz T/N 113520-1 ersetzt werden (enthält jeweils zwei Batterien T/N 902004-2). Keine alten mit neuen Batterien mischen. Keine anderen Marken oder Technologien verwenden.

**Offene Batteriezellen müssen gemäß allen einschlägigen Vorschriften entsorgt werden. Lithiumbatterien werden am Besten im vollständig oder größtenteils entladenen Zustand als nicht gefährlicher Abfall entsorgt. Die US EPA führt Lithium nicht als gefährlicher Abfall und schließt Lithium nicht als gefährlicher Abfall aus. Wenn gebrauchte Lithiumbatterien noch vollständig geladen oder nur teilweise entladen sind, können sie als reaktiver gefährlicher Abfall eingestuft werden, da unverbrauchtes Lithium in der Batterie verbleibt. Diese Batterien lassen sich ggf. als „Universalabfall“ in vielen Rechtssprechungen der USA einstufen und können daher zur Entsorgung oder Verwertung in Übereinstimmung mit den Anforderungen für Universalabfälle transportiert werden.**

Wenn die Anzeige schwächer wird, leer oder die Batterie-Meldung (siehe unten), ersetzen Sie die Batterien wie folgt:

**LobAtt**

1. Die vier Kreuzschlitzschrauben von der Vorderseite des Meßinstruments entfernen und die Frontplatte von der Turbine anheben.
2. Die alten Batterien entfernen und jede mögliche Korrosion von den Klemmen säubern.
3. Neue Batterien anbringen. Überprüfen, daß der positive Pfosten in der richtigen Position ist.
4. Wenn die Batterien ausgetauscht sind, zeigt die Frontplatte "POWER ON". Die Anzeige überprüfen, um normale Funktionen sicherzustellen, bevor Sie wieder zusammenbauen.
5. Falls nötig, Batterieeinsetzung berichtigen, und die Frontplatte auf das Turbinegehäuse in Position bringen. Um Feuchtigkeitsbeschädigung zu vermeiden, überprüfen, daß der Dichtung völlig sitzt. Die vier Schrauben an der Frontplatte festziehen.

## SPEZIFIKATIONEN

### Einlass- und Auslass:

#### Zapfen (Rohr) End Modelle:

TM300/TM300-P 3-Zoll-Planm. 80,  
Zapfen (Rohr)

TM400/TM400-P 4 Zoll Planm. 80,  
Zapfen (Rohr)

#### NPT-Modelle:

TM300-N/TM300-N-P 3 Zoll NPT

TM400-N/TM400-N-P 4 Zoll NPT

#### ANSI-Flanschmodelle:

TM300-F/TM300-F-P 3 Zoll 150# ANSI  
Flansch

TM400-F/TM400-F-P 4 Zoll 150# ANSI  
Flansch

#### DIN-Flanschmodelle:

TM300-D/TM300-D-P 3 Zoll PN10/PN16  
DIN-Flansch

TM400-D/TM400-D-P 4 Zoll PN10/PN16  
DIN-Flansch

**DesignBaumuster:** Turbine

### Benetzte Komponenten:

Gehäuse: PVC

Journal Bearings: PEEK

Welle: Edelstahl

Rotor- und Nose Cone: Acetal

Unterlegscheiben: Edelstahl

### Max. Betriebsdruck:

TM300 (alle Modelle): 225 psig @ 73° F

TM400 (alle Modelle):

225 psig @ 73° F (Non CE),

135 psig @ 73° F (CE Anwendungen)

## U.S. Maß

**Maßeinheit der Maßnahme:** Gallone

### Flußstrecke:

3 Zoll: 40-400 GPM (Linearität: ± 3,0%  
vom Messwert)

30-600 GPM (Genauigkeit: ± 2,0%  
Komplett)

4 Zoll: 60-600 GPM  
(Linearität: ± 3,0 vom Messwert)

40-800 GPM  
(Genauigkeit ± 2,0% Komplett)

**Genauigkeit mit Computer:** ± 3.0% des Lesens  
(Genauigkeit kann mit verbessert werden  
auffangen Kalibrierung)

**Betriebstemperatur:** +32° zu +140° F  
(Flüssigkeit nicht innerhalb des Meßinstru-  
ments einfrieren lassen.)

**Lebensdauer der Batterie:** 5 Jahre

**SpeicherTemperatur:** -40° zu +158° F

### Größe und Gewicht - lbs.:\*

	Zapfen (Rohr)	NPT	ANSI- Flansch	DIN- Flansch
3 Zoll	2,4	3,9	5,8	6,5
4 Zoll	3,7	6,1	9,2	8,8

### Abmessungen - Zoll (W x H x L):\*\*

#### Zapfen (Rohr):

3 Zoll: 11,5 x 5,34 x 3,5

4 Zoll: 13,5 x 6,34 x 4,5

#### NPT:

3 Zoll: 14,7 x 5,78 x 4,37

4 Zoll: 17,0 x 6,7 x 5,87

#### ANSI-Flansch:

3 Zoll: 12,0 x 7,5 x 7,5

4 Zoll: 14,0 x 9,0 x 9,0

#### DIN-Flansch:

3 Zoll: 12,0 x 8,0 x 8,0

4 Zoll: 14,0 x 8,5 x 8,5

\* In ,3 lbs. für konditionierte Signal-Modul.

\*\* 1,1 Zoll Zu Höhe für aufbereitete Signal-Modul.

## Metrisches Maß

**Maßeinheit:** Liter

### Flußstrecke:

3 Zoll: 151-1514 LPM

(Linearität: ±3,0% vom Messwert)

113-2271 LPM

(Genauigkeit: ±2,0% Komplett)

4 Zoll: 227-2271 LPM

(Linearität: ±3,0% vom Messwert)

151-3028 LPM

(Genauigkeit ±2,0% Komplett)

**Genauigkeit mit Computer:** ±3.0% des Lesens  
(Genauigkeit kann mit verbessert werden  
auffangen Kalibrierung)

**Betriebstemperatur:** 0° zu +60° C  
(Flüssigkeit nicht innerhalb des Meßinstru-  
ments einfrieren lassen.)

**Lebensdauer der Batterie:** 5 Jahre

**SpeicherTemperatur:** -40° zu +70° C

## Größe und Gewicht - kgs.:

	Zapfen (Rohr)	NPT	ANSI- Flansch	DIN- Flansch
3 Zoll	1,09	1,77	2,63	2,95
4 Zoll	1,68	2,77	4,17	3,99

## Abmessungen - cm (L x B x H):\*\*

### Zapfen (Rohr):

3 Zoll:	29,2 x 13,6 x 8,9
4 Zoll:	34,3 x 16,1 x 11,4

### NPT:

3 Zoll:	37,3 x 14,7 x 11,1
4 Zoll:	43,2 x 17,0 x 14,9

### ANSI-Flansch:

3 Zoll:	30,5 x 20,3 x 20,3
4 Zoll:	35,6 x 22,9 x 22,9

### DIN-Flansch:

3 Zoll:	30,5 x 20,3 x 20,3
4 Zoll:	35,6 x 21,6 x 21,6

\* .14 kg hinzufügen zu Gewicht für Conditioned Signal-Modul.

\*\* 2,8 cm Höhe für die aufbereitete Signal-Modul.

## TEILE

Die folgenden Ersatzteile und die Zusatzgeräte sind für die TM Series Meßinstrumente vorhanden:

### Teilenummer Beschreibung

113435-1	Aufbereitete Signal-ausgabebaugruppe
113520-1	Batterie Wiedereinbau Installationssatz
12517601	Dichtung
12519001	Versammlung
901002-52	Dichtung
125518-01	3 Zoll (Zapfen) Turbine installationssatz
125518-02	3 Zoll (NPT) Turbine installationssatz
125518-03	3 Zoll (Flansch) Turbine installationssatz
125520-01	4 Zoll (Zapfen) Turbine installationssatz
125520-02	4 Zoll (NPT) Turbine installationssatz
125520-03	4 Zoll (Flansch) Turbine installationssatz
125519-01	3 Zoll Computer installationssatz
125521-01	4 Zoll Computer installationssatz
125518-04	3 Zoll (DIN-Flansch, PVC) Turbinenmontagesatz
125520-05	4 Zoll (DIN-Flansch, PVC) Turbinenmontagesatz

## SERVICE

Für Garantiansprüche mit Ihrem lokalen Verteiler in Verbindung treten. Wenn Sie weitere Unterstützung benötigen, mit der GPI-Kundendienstabteilung in Verbindung treten:

**1-888-996-3837**

Sie benötigen:

- Informationen vom Abziehbild auf Ihrem Meßinstrument zur Verfügung stellen.
- Eine Rückholermächtigungszahl empfangen.
- Jede mögliche Flüssigkeit vom Meßinstrument spülen, bevor Sie zur Fabrik versenden.

Wenn möglich, Abnehmer-angebrachte Befestigungen oder eine reichliche Länge des Rohres für Wiedereinbau belassen.

### **⚠ VORSICHT**

**Das Meßinstrument nicht ohne die spezifische Berechtigung der GPI-Kundendienstabteilung zurückbringen. Wegen der strengen Regelungen des Transportes, der Behandlung und der Beseitigung der gefährlichen oder feuergefährlichen Flüssigkeiten, nimmt GPI nicht Meßinstrumente für Überarbeitung an, es sei denn, dass sie vom flüssigen Überrest vollständig frei sind.**

## WEEE RICHTLINIE



Der Richtlinie 2002/96/EG über Elektro- und Elektronik-Altgeräte (WEEE) des Europäischen Parlaments bzw. des EU-Ministerrats. Dieses symbol zeigt an, daß dieses Produkt elektrische und elektronische Ausrüstung, die Batterien mit einschließen kann, Printplatte verschalt, Flüssigkristall-Sichtanzeigen oder andere Bestandteile enthält, die abhängig von Einheimischerverordnung Regelungen sein können. Bitte verstehen Sie jene Regelungen wenn Sie dieses Produkt sich entledigen.

## RoHS-Konformität (2011/65/EU)

Dieses Produkt ist mit der RoHS-Richtlinie des Europäischen Parlaments und des Rates über die Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten konform.

**Schutzart: IP65**

## AVVISO IMPORTANTE

Usare i tester dei Series del TM con acqua ed altri prodotti chimici che sono compatibili con le parti che sono esposti a liquido (vedere la sezione di specifiche). Non utilizzare questo tester con combustibile o altri prodotti chimici incompatibili. I tester di serie de TM sono disponibili con un calcolatore per visualizzazione elettronica locale, o un modulo di uscita condizionato del segnale che fornisce un segnale numerico all'apparecchiatura di collegamento del cliente. I Series di TM misura la misura con un contatore nei galloni o nei litri. Riferirsi alla sezione di taratura per i particolari.

Questi tester non sono per le applicazioni commerciali.

I tester dei Series del TM sono molto sensibili ad interferenza elettronica se sono funzionati all'interno di 1 - 2 pollici di alcuni motori elettrici o di altre fonti di uso elettronico

## INSTALLAZIONE

### Collegamenti

Installare il vostro tester in linea orizzontalmente o verticalmente o all'estremità del tubo flessibile adiacente all'ugello. L'installazione ai collegamenti del metallo non è suggerita. Seguire questi punti per installare:

1. Progettare installare la turbina con una lunghezza minima del tubo dritto:
  - A monte dalla turbina, concedere ad una lunghezza minima di un tubo dritto di 10 volte il diametro interno della turbina.
  - A valle dalla turbina, concedere ad una lunghezza minima di un tubo dritto di 5 volte il diametro interno della turbina.

2. Per **Rubinetto (Tubo) scade** usare soltanto più solventi approvati per l'incollatura del PVC.

**Tagliati a custom lunghezza.** La custodia metro può essere abbreviato da parte del cliente. Ogni metro ha una "puntata" funzione di linea modellata sulla superficie superiore del tubo di alloggi. La custodia può essere ridotto fino a questa linea senza danneggiare alcuna struttura interna.

Colla maggior parte sugli accessori si adatta senza interferire con l'area dello schermo del computer. Tuttavia, il cliente deve verificare tutte le sue parti prima di tentare di taglio.

Per **NPT Raccordi** a capo tutte le connessioni da 3 a 4 involucri di nastro thread. Assicurarsi che il nastro non intramettersi nel percorso del flusso.

3. Fissare il tester con la freccia indicata nel senso del flusso.
4. Per i **Montaggi del NPT** utilizzare soltanto le vostre mani per stringere i collegamenti. Non utilizzare gli attrezzi per stringere. Ciò può causare danni.
5. Per i **raccordi flangiati ANSI o DIN** – Il cliente deve fornire:
  - Guarnizioni ad anello o guarnizioni integrali omologate per l'uso con il tipo di flangia installata (ANSI o DIN) e con il fluido da monitorare (quantità richiesta: 2).
  - Bulloni da 5/8" e dadi per flange ANSI. Quattro per lato per strumenti da 3 pollici; otto per lato per strumenti da 4 pollici.
  - Bulloni da 16 mm e dadi per flange DIN. Otto per lato per strumenti da 3 e da 4 pollici.
  - Serrare i bulloni a 3,45 kgm (25 ft-lbs) procedendo in ordine diametralmente opposto. Le flange fornite sono del tipo Van Stone in due parti e consentono l'orientamento dello strumento indipendentemente dalla posizione di accoppiamento delle flange.

Per garantire risultati ottimali, verificarne sempre la precisione prima dell'uso.

### **⚠ ATTENZIONE**

**Prima della messa in servizio occorre valutare la compatibilità del materiale di questo prodotto e il fluido di processo e/o l'ambiente.**

### **⚠ ATTENZIONE**

**Non usare mai il prodotto fuori dai limiti di temperatura o pressione specificati. Fare riferimento alle specifiche del modello interessato.**

### **⚠ ATTENZIONE**

**Prima di procedure all'installazione o alla rimozione del prodotto, scaricare il fluido e la pressione dalle tubazioni di processo.**

### **⚠ ATTENZIONE**

**Al collegamento del prodotto alle tubazioni di processo utilizzare sempre frenafiletto o guarnizioni per flange di tipo idoneo.**

### **⚠ ATTENZIONE**

**Per evitare possibili perdite, sigillare tutte le filettature passo gas con un sigillante idoneo, accertandosi che lo stesso non ostacoli il flusso del fluido.**

NOTA: in caso di collegamento a nuove filettature passo gas maschie, eventuali bave ed irregolarità possono compromettere la precisione. Eliminarle prima dell'installazione della turbina.

NOTA: non serrare eccessivamente i bulloni delle flange; questo potrebbe causare la compressione delle guarnizioni contro il flusso del fluido, riducendo la precisione dello strumento.

### **⚠ ATTENZIONE**

**L'installazione in prossimità di forti campi elettromagnetici e di campi con correnti ad alta intensità è sconsigliata e può dar luogo a letture imprecise.**

## **Segnale Condizionato Produrre Cablaggio di Modulo**

Questo modulo di segnale condizionato del può essere legato per fornire del collettore dell' segnale aperta o dell'onda del quadrato di 6-volti.

## **Collettore dell'Segnale Aperta**

Per raggiungere Collettore dell' Segnale Aperta, Riferiscasi allo schema elettrico di riferimento 1. Il blocchetto terminali è situato dal lato posteriore del modulo. Il modulo è fabbrica montata per collettore dell' segnale aperta. Fornire prego il resistore di minimo di 820 Ohm.

Dieci piedi (3 m) di cavo è fornito del modulo. Assettare il cavo alla lunghezza voluta o estendere il cavo come necessario. Le distanze fino a 5.000 piedi (1,524 m) possono essere realizzate per l'collettore dell' segnale aperta.

## **Segnale Dell'Onda Quadrata**

Per raggiungere segnale Dell'Onda Quadrata, Riferiscasi allo schema elettrico di riferimento 2 ed usare un corredo elettronico della batteria del tester di Digital (venduto esclusivamente) per la potenza della batteria. Il blocchetto terminali e la posizione della batteria sono situati dal modulo. Accesso come segue:

1. Rimuovere le quattro viti Phillips dalla parte anteriore del modulo. Alzare il modulo dalla turbina.
2. Per cambiare i collegamenti del blocchetto terminali, allentare le viti adatte. Ricollegare i legare nelle posizioni adeguate e stringere le viti.
3. Installare le batterie. Assicurarsi che l'alberino positivo è nella posizione corretta.
4. Posizionare il modulo sull'alloggiamento della turbina. Evitare danni dell'umidità, assicurarsi che l'anello completamente è messo. Stringere le quattro viti sulla parte anteriore del modulo.

Dieci piedi (3 m) di cavo è fornito del modulo. Assettare il cavo alla lunghezza voluta o estendere il cavo come necessario.

## **Verificare L'Esattezza Del Tester**

Prima di utilizzare, controllare l'esattezza del tester e verificare la taratura.

1. Assicurarsi che non ci è aria nel sistema iniziando la quantità di fluido fino a che non funzioni costantemente. Poi, fermare o deviare il flusso con una valvola o ugelli.
2. Per mezzo del tester, misurare un volume conosciuto esatto in un contenitore esatto. Per i risultati migliori, misurare con un flusso pieno continuo.
3. Controllare il volume contro l'esposizione o l'apparecchiatura di registrazione. Se l'importo misurato è esatto, ulteriore calibratura non è necessaria. Se non, riferirsi alla sezione di taratura per ulteriori istruzioni.



## Visualizzatore del Computer - Partita e Totali Cumulativi

Il computer effettua due totali. Il totale cumulativo fornisce la misura continua e non può essere ripristinato manualmente. Il totale in lotti può essere ripristinato per misurare il flusso durante il monouso. Il totale cumulato è etichettato con TOTAL 1, Batch totale è etichettato TOTAL 2 BATCH.

Quando il totale cumulato raggiunge una lettura del display di 999.999 computer metterà in evidenza l'icona X10. Ciò indica l'operatore che uno zero deve essere aggiunto il 6 cifre indicate. Quando il cambio di data successiva verifica, il computer metterà in evidenza l'icona X100. Ciò indica l'operatore che due zeri deve essere aggiunto il 6 cifre indicate.

Premere brevemente il tasto DISPLAY per passare tra il TOTAL 1, TOTAL 2 BATCH e FLOWRATE impostazioni. Premere brevemente DISPLAY per visualizzare la TOTAL 2 BATCH Tenere premuto il pulsante DISPLAY per 3 secondi per ripristinare il Batch totale a zero.

Quando è fluido che scorre attraverso il contatore, una piccola icona elica viene evidenziata.

NOTA: Totalization conta le unità totali senza differenziare fra i galloni, i litri o le unità campotatura.

## Caratteristica Indice di Flusso

Per utilizzare questa funzione, premere e rilasciare DISPLAY fino FLOWRATE appare l'icona. La fabbrica di base di tempo sarà evidenziato al diritto della FLOWRATE (M = minuti, H = ore, D = giorno). Quando FLOWRATE è richiamato, il display sarà che indica la velocità di flusso.

## Per Attivare il Misuratore

Computer è sempre acceso e sempre pronto a eseguire. Il computer è alimentato da batterie sostituibili campo. Quando il display diventa debole, sbiadite o il messaggio di batteria scarica viene visualizzato (vedi sotto), le batterie devono essere sostituite. Riferimento alla sezione Manutenzione per ulteriori dettagli.

**LOBAtt**

## Calibratura del Campo e Della Fabbrica

Tutte le informazioni di calibrazione è visibile all'utente come icone sulla linea superiore del display, sopra le cifre numeriche.

Tutte le unità sono configurati con una taratura di "fabbrica". Entrambi i litri e litri sono disponibili ("GL" o "LT" verrà visualizzato). Tenendo premuto il pulsante CALIBRATE, premere brevemente DISPLAY per passare tra litri e litri. Questa calibrazione di fabbrica (indicato con FAC) è programmato in modo permanente nel computer e non è regolabile dall'utente.

NOTA: Il computer può avere altre unità di misura programmato in esso. In tal caso, tenendo premuto il pulsante CALIBRATE e per un momento premendo il pulsante DISPLAY sarà scorrere tutte le unità di fabbrica. Altre unità possibili sono: IGL (gallone imperiale), QT (Quart), CF (metri cubi), CM (metro cubo), BL (42 gal. Barile), CC (centimetro cubo) o OZ (once).

I contenuti di commutazione tra diverse unità non rovinerà la Total. Ad esempio, in modalità GL, il computer totalizza 10,00 litri, se l'utente passa alla modalità di LT, il display leggerà 37,85 litri (lo stesso volume, differenti unità).

Il "campo" di taratura può essere impostato dall'utente, e può essere cambiato o modificato in qualsiasi momento, utilizzando la procedura di taratura descritta di seguito nella sezione di calibrazione. Totali o portata derivata dalla taratura campo vengono richiamati quando l'icona FAC non è più visibile sulla riga superiore del display.

## CALIBRATURA

### Prima di Verificare l'Accuratezza All'inizio del Taratura di Campo

Per i risultati più esatti, erogare ad un debito che simula il più bene le vostre condizioni di gestione reali. Evitare di "gocciolare" più liquido o ripetutamente iniziare ed arrestare il flusso. Queste azioni provocheranno le calibrature meno esatte.

Vi assicurate raduno i requisiti minimi di debito del tester:

#### Tester Di Series di TM

3 metro pollici	30 GPM (113,6 LPM)
4 metro pollici	40 GPM (151,4 LPM)

Usando un contenitore credibile e ed esatto di taratura altamente è suggerito per i risultati più esatti. Dovuto l' alto debito, è suggerito vivamente che la calibratura è completata con una combinazione di volume e di peso usando le scale di alta risoluzione.

Per i risultati migliori, il tester dovrebbe essere installato ed eliminato l'inceppo di aria prima della taratura del campo.

## Taratura di Campo con Visualizzatore del Computer

Taratura di Campo e di calibrazione di fabbrica sono definite nella sezione operativa. Impostazioni di calibrazione di fabbrica sono programmati in ogni computer durante la produzione, utilizzando l'acqua a 70° F (21° C). Letture utilizzando la taratura di fabbrica (FAC), non possono essere precisi in alcune situazioni, per esempio, in condizioni di temperatura estreme, configurazioni non standard o idraulico con liquidi diversi dall'acqua.

## Procedura di Taratura di Campo (Metodo di Fattore di Correzione)

1. Per calibrare, tenere premuto il pulsante CALIBRATE e DISPLAY per circa 3 secondi fino a visualizzare FLdCAL. Rilasciare entrambi i tasti e vedrete CF - 00.0. Ora siete in modalità di calibrazione in campo e di valori da -99,9% a 99,9% possono essere inseriti.
2. Il +/- posizione appare sia come un segno di sottolineatura "carattere" di più, o come un carattere "hyphen" per meno. Il tasto DISPLAY sceglie la posizione e il pulsante CALIBRATE commuta questo personaggio.
3. Il tasto DISPLAY può essere spinto a selezionare le posizioni numerico. Premere il pulsante CALIBRATE per passare da 0 a 9. Inserisci la percentuale di cambiamento che si desidera la visualizzazione da correggere. Quando siete soddisfatti con il valore, premere entrambi i CALIBRATE e DISPLAY i pulsanti contemporaneamente. CALEnd verrà visualizzata e l'unità tornerà al funzionamento normale, meno l'icona FAC (taratura di fabbrica).
4. Tutte le unità permesso-di-misura rimangono visibili e selezionabili – la correzione è entrato sarà applicato a tutti i abilitati unità.

5. Per tornare alla taratura di fabbrica (FAC), premere e tenere premuti i pulsanti di CALIBRATE e DISPLAY per circa 3 secondi fino a quando FACCAL viene visualizzato. Quindi rilasciare i pulsanti. Unità dovrebbe tornare al normale funzionamento e l'icona FAC visibili.

## Calibratura con il Modulo di Segnale Condizionato Produrre

Il fattore K del vostro tester compare sul rapporto di calibratura come il numero di impulsi per il gallone. Il fattore è determinato durante la produzione usando l'acqua a 70° F (21° C). Questo fattore K può essere usato per "la calibratura del singolo punto" e fornirà un'esattezza accettabile. Tuttavia, le letture non possono essere esatte quando usate questo metodo di calibratura in alcune situazioni. Ad esempio, le condizioni di temperatura estreme, configurazioni non standard o idraulico con liquidi diversi dall'acqua.

## MANUTENZIONE

Il maneggiamento e la cura adeguati estenderanno la durata ed il servizio del tester.

## Rotore di Turbina

Il tester è virtualmente manutenzione-free. Tuttavia, è liberamente importante i movimenti del rotore. Mantenere il tester pulito ed esente dagli agenti inquinanti.

Il rotore può essere rimosso per la pulizia e l'ispezione. Iniziate svitando l'ogiva dal terminale di uscita del contatore. A 1/4" estensione dei zoccolo quadrati può essere utilizzato. Rimuovere il blocco e le rondelle di spinta piatto. Il rotore può essere rimosso dal pozzo. Nota: l'orientamento, perché il rotore non è bi-direzionale. Rimuovere i detriti e depositi utilizzando una spazzola morbida o piccola sonda. Rimontare in ordine inverso.

### **ATTENZIONE**

**Appiattito fornisc tramite il complessivo della turbina ha potuto danneggiare il rotore.**

### **ATTENZIONE**

**Non lasciare seccare i liquidi all'interno della turbina.**

## **⚠ ATTENZIONE**

**Maneggiare il rotore con cura. Eventuali rigature o solcature, anche solo superficiali, possono pregiudicare la precisione.**

NOTA – Accertarsi che la freccia sull'uscita della turbina sia orientata nella direzione di flusso del fluido.

## **Rimontaggio Della Batteria**

Il visualizzatore del computer è alimentato da due batterie del litio 3-volt che possono essere sostituite mentre il tester è installato. Quando le batterie vengono rimosse o di perdere il potere, la partita e totali cumulativi e il tarature di campo e di fabbrica vengono conservati.

## **⚠ ATTENZIONE**

**(Batteria) – Non esporla ad eccessivi carichi meccanici o elettrici. L'eventuale scomposizione e lo schiacciamento delle batterie o la loro esposizione a fiamme o temperature superiori a 100°C (212°F) potrebbe provocarne l'esplosione o possibili ustioni. Non provocare cortocircuiti o installarle senza rispettarne la corretta polarità. NON BRUCIARLE.**

## **⚠ ATTENZIONE**

**Sostituire le batterie SOLTANTO con il kit codice P/N 113520-1 (ciascuno comprende due batterie codice 902004-2). Non usare contemporaneamente batterie vecchie e nuove. Non utilizzare marche o tecnologie di tipo diverso.**

**Smaltire le batterie e celle aperte in conformità alle normative locali. Per le batterie al litio, notevolmente o completamente scariche, è consigliabile smaltirle come rifiuti non pericolosi. L'EPA non elenca o esclude il litio dai rifiuti pericolosi. Le batterie al litio, se sono ancora completamente cariche o solo parzialmente scariche, possono essere considerate come un rifiuto pericoloso reattivo a causa del litio residuo rimasto nella batteria. Tali batterie potrebbero essere classificate come "rifiuti generici" dalle normative vigenti in numerosi Stati degli Stati Uniti e possono quindi essere spedite per lo smaltimento o il riciclaggio in conformità alle prescrizioni previste per tali rifiuti.**

Se il Visualizzatore diventa debole, vuoto o il messaggio di batteria scarica viene visualizzato (vedi sotto), sostituire le batterie nel modo seguente:

# LoBAtt

1. Rimuovere le quattro viti della Phillips-testa dalla faccia del tester ed alzare la piastra frontale dalla turbina.
2. Rimuovere le vecchie batterie e liberare tutta la corrosione dai terminali.
3. Installare le nuove batterie. Assicurarsi che l'alberino positivo è nella posizione corretta.
4. Quando le batterie sono sostituite, la piastra frontale alimenterà SOPRA. Controllare l'esposizione per accertare le funzioni normali hanno ripreso prima del montaggio ancora.
5. Riposizionare le batterie, se necessario e posizionare la piastra frontale sull'alloggiamento della turbina. Evitare danni dell'umidità, assicurarsi che l'anello completamente è messo. Stringere le quattro viti sulla piastra frontale.

## **SPECIFICHE**

### **Entrata ed Uscita:**

Rubinetto (Tubo) End Modelli:

TM300/TM300-P 3 pollici Schd. 80,  
Rubinetto (Tubo)

TM400/TM400-P 4 pollici Schd. 80,  
Rubinetto (Tubo)

NPT Modelli:

TM300-N/TM300-N-P 3 pollici NPT  
TM400-N/TM400-N-P 4 inch NPT

Modelli di flange ANSI :

TM300-F/TM300-F-P 3 pollici 150#  
ANSI Flange

TM400-F/TM400-F-P 4 pollici 150#  
ANSI Flange

Modelli di flange DIN:

TM300-D/TM300-D-P 3 pollici  
PN10/PN16  
Flangia DIN  
TM400-D/TM400-D-P 4 pollici  
PN10/PN16  
Flangia DIN

**Tipo di Disegno:** Turbina

## Componenti Umidi:

Corpo: PVC  
Journal Bearings: PEEK  
Albero: Acciaio Inox  
Rotore e Nose Cone: Acetal  
Rondelle: Acciaio Inossidabile

## Max. Pressione di Lavoro:

TM300 (Tutti i modelli): 225 psig @ 73° F

TM400 (Tutti i modelli):  
225 psig @ 73° F (Non CE),  
135 psig @ 73° F (applicazioni CE)

## Misura Degli Stati Uniti

**Unità Della Disura:** Gallone

### Range di Flusso:

3 pollici: 40-400 GPM  
(Linearità: ± 3.0% della lettura)

30-600 GPM  
(Precisione: ± 2.0% Completo)

4 pollici: 60-600 GPM  
(Linearità: ± 3,0% of Lettura)

40-800 GPM  
(Precisione ± 2.0% Completo)

**Esattezza Con il Computer:** ±3.0% di lettura  
(esattezza può essere migliorata con la calibratura del campo)

**Temperatura di Funzionamento:** +32° a +140° F  
(Non lasciare che il liquido congeli all'interno del tester.)

**Durata Della Batteria:** 5 anni

**Temperatura di Immagazzinaggio:**  
-40° a +158° F

### Peso del Prodotto - lbs.:

	Rubinetto (Tubo)	NPT	Flangia ANSI	Flangia DIN
3 pollici:	2,4	3,9	5,8	6,5
4 pollici:	3,7	6,1	9,2	8,8

### Dimensioni - Pollici (L x H x W): \*\*

#### Rubinetto (Tubo):

3 pollici: 11,5 x 5,34 x 3,5  
4 pollici: 13,5 x 6,34 x 4,5

#### NPT:

3 pollici: 14,7 x 5,78 x 4,37  
4 pollici: 17,0 x 6,7 x 5,87

#### Flangia ANSI :

3 pollici: 12,0 x 7,5 x 7,5  
4 pollici: 14,0 x 9,0 x 9,0

#### Flangia DIN:

3 pollici: 12,0 x 8,0 x 8,0  
4 pollici: 14,0 x 8,5 x 8,5

\* Aggiungi ,3 £. per Condizionata Signal Module.

\*\* Aggiungere 1,1 pollici di altezza per il modulo del segnale condizionata.

## Misura Metrica

**Unità Della Misura:** Litro

### Range di Flusso:

3 pollici: 151-1514 LPM  
(Linearità: ± 3.0% della Lettura)

113-2271 LPM  
(Precisione: ± 2.0% Completo)

4 pollici: 227-2271 LPM  
(Linearità: ± 3,0% della Lettura)

151-3028 LPM  
(Precisione ± 2.0% Completo)

**Esattezza con il Computer:** ± 3.0% di lettura  
(esattezza può essere migliorata con la calibratura del campo)

### Temperatura di Funzionamento:

0° a +60° C (Non lasciare che il liquido congeli all'interno del tester.)

**Durata Della Batteria:** 5 anni

**Temperatura di Immagazzinaggio:**  
-40° a +70° C

### Peso del Prodotto - kgs:\*

	Rubinetto (Tubo)	NPT	Flangia ANSI	Flangia DIN
3 pollici:	1,09	1,77	2,63	2,95
4 pollici:	1,68	2,77	4,17	3,99

### Dimensioni - cm (L x H x W): \*\*

#### Rubinetto (Tubo):

3 pollici: 29,2 x 13,6 x 8,9  
4 pollici: 34,3 x 16,1 x 11,4

#### NPT:

3 pollici: 37,3 x 14,7 x 11,1  
4 pollici: 43,2 x 17,0 x 14,9

#### Flangia ANSI:

3 pollici: 30,5 x 20,3 x 20,3  
4 pollici: 35,6 x 22,9 x 22,9

#### Flangia DIN:

3 pollici: 30,5 x 20,3 x 20,3  
4 pollici: 35,6 x 21,6 x 21,6

- \* Aggiungi ,14 kg di peso per Condizionata Signal Module.
- \*\* Aggiungere 2,8 centimetri di altezza per il modulo del segnale condizionata.

## PARTI

Le seguenti parti ed accessori di ricambio sono disponibili per i tester dei Series del TM:

Parte No.	Descrizione
113435-1	Del segnale di uscita condizionata Module
113520-1	La sostituzione della batteria Kit
12517601	Guarnizione
12519001	Computer Mount Assembly
901002-52	Seal
125518-01	3 pollici (Rubinetto) Corredo della turbina
125518-02	3 pollici (NPT) Corredo della Turbina
125518-03	3 pollici (Flangia) Corredo della Turbina
125520-01	4 pollici (Rubinetto) Corredo della Turbina
125520-02	4 pollici (NPT) Corredo della Turbina
125520-03	4 pollici (Flangia) Corredo della Turbina
125519-01	3 pollici Corredo del Computer
125521-01	4 pollici Corredo del Computer
125518-04	3 pollici (flangia DIN, PVC) kit gruppo turbina
125520-05	4 pollici (flangia DIN, PVC) kit gruppo turbina

## SERVIZIO

Per considerazione della garanzia, mettersi in contatto con il vostro distributore locale. Se avete bisogno di ulteriore assistenza, mettersi in contatto con il reparto di servizio del cliente di GPI a:

**1-888-996-3837**

Avrete bisogno di:

- Fornire le informazioni dalla decalcomania sul vostro tester.
- Ricevere un numero di ritorno di autorizzazione.
- Irrigare tutto il liquido dal tester prima della spedizione alla fabbrica.

Se possibile, lasciare i montaggi cliente-installati o una lunghezza ampia del tubo nudo per reinstallazione.

### ⚠ ATTENZIONE

**Non restituire il tester senza l'autorità specifica dal reparto di servizio del cliente di GPI. dovuto le regolazioni rigorose governare il trasporto, il maneggiamento e l'eliminazione dei liquidi pericolosi o infiammabili, GPI non accetterà i tester per la ripresa a meno che siano completamente esenti da residuo liquido.**

## WIII DIRETTIVA



La direttiva 2002/96/EC del Parlamento europeo e del Consiglio dell'Unione europea sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE) è stato approvato dal Parlamento europeo e del Consiglio dell'Unione europea. Questo simbolo indica che questo prodotto contiene l'apparecchiatura elettrica ed elettronica che può includere le batterie, i bordi stampati del circuito, i display a cristalli liquidi o altri componenti che possono essere conformi alle regolazioni locali di eliminazione. Prego capire quelle regolazioni e disfare di questo prodotto in un modo responsabile.

## Conforme alle prescrizioni RoHS (2011/65/EU)

Questo prodotto è conforme alla Direttiva RoHS del Parlamento Europeo del Consiglio per la limitazione dell'uso di determinate sostanze pericolose nelle apparecchiature elettriche ed elettroniche.

**Classificazione ambientale: IP65**



## NOTIFICATION IMPORTANTE

Utilisez les compteurs de Séries de TM avec l'eau et d'autres produits chimiques qui sont compatibles avec les composants qui sont exposés au fluide (voir la section de caractéristiques). N'utilisez pas ce compteur avec du carburant ou d'autres produits chimiques incompatibles. Les compteurs de la série de TM sont disponibles avec un ordinateur pour la visualisation électronique locale, ou module du signal de sortie conditionné qui fournit un signal numérique à l'équipement d'interface de client. Les Séries de TM dosent la mesure en gallons ou litres. Référez-vous à la section de calibrage pour des détails.

Ces compteurs ne sont pas légaux pour les applications commerciales.

Les compteurs de Séries de TM sont très sensibles à l'interférence électronique s'ils sont actionnés à moins de 1 à 2 pouces de quelques moteurs électriques ou d'autres sources de bruit électronique.

## INSTALLATION

## Raccordements

Installez votre compteur en ligne horizontalement ou verticalement ou à l'extrémité du tuyau à côté du bec. L'installation aux raccordements en métal n'est pas recommandée. Suivez ces étapes pour installer:

1. Projetez installer la turbine avec une longueur minimum de pipe droite:
  - En amont de la turbine, permettez à une longueur minimum de la pipe droite de 10 fois le dia diamètre interne de la turbine.
  - En aval de la turbine, permettez à une longueur minimum de la pipe droite de 5 fois le diamètre interne de la turbine.
2. Pour des Robinet (Pipeau) Fin employez seulement mieux habillé et les dissolvants approuvés pour le collage de PVC.

Coupées à la longueur Le logement compteur peut être raccourci par le client. Chaque compteur a un "pointillé" fonctionnalité de ligne moulage sur la surface supérieure du

tube de logement. Le logement peut être découpé à cette ligne sans nuire à toute internes.

La plupart de la colle sur des appareils d's'adaptera sans interférer avec la zone d'affichage de l'ordinateur. Cependant, le client doit vérifier toutes les parties avant d'essayer de couper.

Pour les raccords NPT envelopper toutes les connexions avec 3 à 4 enveloppements de ruban fil. Assurez-vous que la bande ne s'immisent pas dans la voie d'écoulement.

3. Attachez le compteur avec la flèche dirigée dans la direction de l'écoulement.
4. Pour des Raccordements de NPT utilisez vos mains pour serrer le compteur aux extrémités des raccordements. N'utilisez aucun outil pour serrer. Ceci peut endommager le logement.
5. Pour les raccords à bride ANSI ou DIN – A fournir par le client :
  - Joints toriques ou joints complets homologués pour être utilisés avec le type de bride installé (ANSI ou DIN) et avec le fluide contrôlé (2 nécessaires).
  - Boulons et écrous 5/8" pour brides ANSI. Quatre par côté pour les débitmètres 3 pouces, huit par côté pour les débitmètres 4 pouces.
  - Boulons et écrous 16 mm pour les brides DIN. Huit par côté pour les débitmètres 3 pouces et 4 pouces.
  - Serrez les boulons en croix en appliquant un couple de 25 ft-lbs. Les brides fournies sont des brides Van Stone en deux parties qui permettent d'orienter le débitmètre quelle que soit la position des brides correspondantes.

Pour obtenir les résultats les meilleurs, vérifiez toujours la précision avant l'utilisation.

**⚠ ADVERTISSEMENT**

**La compatibilité du matériau de ce produit, du fluide de procédé et/ou de l'environnement doit être étudiée avant de le mettre en service.**

**⚠ ADVERTISSEMENT**

**Le produit ne doit jamais être utilisé en dehors de ses spécifications publiées de température ou de pression. Voir les spécifications pour votre modèle.**

### **⚠ ADVERTISSEMENT**

Vérifiez que le débit et la pression ont été supprimés dans le tuyau de procédé avant d'installer ou d'enlever le produit.

### **⚠ ADVERTISSEMENT**

Utilisez toujours un mastic d'étanchéité de filetage approprié ou des joints de bride pour raccorder le produit à la tuyauterie du procédé.

### **⚠ ATTENTION**

Pour éviter les fuites, appliquez sur tous les filetages de tuyau un produit d'étanchéité approprié. Vérifiez que le produit d'étanchéité ne pénètre pas dans le circuit d'écoulement.

NOTE : Si l'on raccorde un tuyau neuf à filetages mâles, les bavures et les boucles peuvent affecter la précision. Corrigez le problème avant d'installer la turbine.

NOTE : Ne serrez pas trop les boulons de bride. Sinon le joint sera comprimé dans le circuit d'écoulement, ce qui peut diminuer la précision du débitmètre.

### **⚠ ATTENTION**

L'installation près de champs électromagnétiques intenses et près de champs de courant intenses n'est pas recommandée et peut entraîner des mesures imprécises.

## **Le Signal de Sortie Conditionné le Câblage de Module**

Ce module du signal de sortie conditionné peut être installé pour fournir un signal ouvert collecteur de sortie ou un signal carré de sortie de 6-V.

## **Le Signal Ouvert Collecteur de Sortie**

Pour obtenir un signal ouvert collecteur de sortie, référez le diagramme de câblage 1. Le bloc terminal est situé de l'arrière du module. Le module est usiné assemblée pour le signal ouvert collecteur de sortie. Fournissez la résistance (de minimum de 820 ohms).

Dix pieds (3 m) de câble est fourni avec le module. Coupez le câble à la longueur désirée ou prolongez le câble selon les besoins. Les distances jusqu'à 5.000 pieds (1,524 m) peuvent être obtenues pour le signal ouvert collecteur de sortie.

## **Le Signal Carré de Sortie**

Pour obtenir le signal carré de sortie, référez le diagramme de câblage 2 et utilisez un kit électronique de batterie de compteur numérique (vendu séparément) pour la puissance de batterie. Le bloc terminal et l'endroit de batterie sont situés de l'arrière du module. Accès comme suit:

1. Enlevez les quatre vis Phillips de l'avant du module. Soulevez le module de la turbine.
2. Pour changer les raccordements du block terminal, desserrez les vis appropriées. Rebranchez les fils en les positions appropriées et serrez les vis.
3. Installez les batteries. Assurez-vous que le poteau positif est en la position correcte.
4. Placez le module sur le logement de la turbine. Pour éviter les dommages d'humidité, vérifiez que la rondelle est entièrement sécurisée. Serrez les quatre vis sur l'avant du module.

Dix pieds (3 m) de câble est fourni avec le module. Coupez le câble à la longueur désirée ou prolongez le câble selon les besoins.

## **Vérifiez L'Exactitude de Compteurs**

Avant l'utilisation, vérifiez l'exactitude du compteur et vérifiez le calibrage.

1. Assurez-vous qu'il n'y a aucun d'air dans le système en commençant l'écoulement de fluide jusqu'à ce qu'il fonctionne de façon constante. Ensuite, arrêter ou détourner l'écoulement à l'aide d'une valve ou de la tuyère.
2. Mesurez un volume connu exact dans un récipient précis. Pour les meilleurs résultats, dosez avec un plein jet continu.
3. Vérifiez le volume contre l'écran ou l'équipement d'enregistrement. Si la quantité dosée est précise, le calibrage n'est pas nécessaire. Si pas, référez-vous à la section de calibrage pour des instructions complémentaires.

## L'Ecran d'Ordinateur - La Groupe et les Totaux Cumulatifs

Le compteur maintient deux totaux. Le total cumulatif fournit la mesure continue et ne peut pas être manuellement remis à zéro. Le total de contrôle peut être remis à zéro pour mesurer l'écoulement pendant un à usage unique. Le total cumulé est étiqueté avec TOTAL 1, Batch totale est étiqueté TOTAL 2 BATCH.

Lorsque le total cumulé atteint une lecture de 999,999 affichage de l'ordinateur mettra l'accent sur une icône X10. Cela indique à l'opérateur d'un zéro doit être ajoutée à la 6 chiffres affichés. Lorsque le prochain retournement se produit, l'ordinateur mettra l'accent sur une icône X100. Cela indique à l'opérateur que deux zéros, il faut ajouter les 6 chiffres affichés.

Appuyer brièvement sur la touche DISPLAY pour basculer entre le TOTAL 1, TOTAL 2 BATCH lot et les de FLOWRATE. Appuyez brièvement sur DISPLAY pour afficher le TOTAL 2 BATCH. Maintenez la touche DISPLAY pendant 3 secondes pour réinitialiser le lot total à zéro.

Lorsque le liquide coule à travers le compteur, une icône de petite hélice est en surbrillance.

NOTE : Le compte totalization nombre toutes les unités sans différencier entre les gallons, les litres ou les unités champ-calibrées.

## La Caractéristique du Débit

Pour utiliser cette fonction, appuyez sur la touche DISPLAY de libération avant que l'icône FLOWRATE apparaît. L'usine de définir la base de temps sera mis en évidence à la droite du débit (M = minutes, H = heures, d = jours). Cuand FLOWRATE est invoquée, l'affichage sera en indiquant le taux d'écoulement.

## Optivez le Compteur

L'ordinateur est allumé en permanence et toujours prêt à accomplir. L'ordinateur est alimenté par le champ batteries remplaçables. Lorsque l'écran devient terne, sans éclat ou le message Batterie faible apparaît (voir ci-dessous), les piles doivent être remplacées. De référence de la section maintenance pour plus de détails.

## L'étalonnage de l'Usine

Toutes les informations d'étalonnage sont visibles pour l'utilisateur sous forme d'icônes sur la ligne supérieure de l'écran, au-dessus des chiffres.

Toutes les unités sont configurées avec une "fabrique" d'étalonnage. Les deux litres et des litres sont disponibles ("GL" ou "LT" est affiché). Tout en maintenant le bouton de CALIBRATE, appuyez brièvement sur DISPLAY pour alterner entre des litres et des litres. Cette étalonnage en usine (indiqué avec AEC) est programmée de manière permanente dans l'ordinateur et n'est pas réglable par l'utilisateur.

REMARQUE: Votre ordinateur mai ont d'autres unités de mesure programmé dedans. Si c'est le cas, en tenant le bouton de CALIBRATE et en appuyant momentanément sur le bouton pour DISPLAY à travers des unités réglage d'usine tous. D'autres unités possibles sont: IGL (gallon impérial), QT (une pinte), CF (pieds cubes), CM (mètre cube), BL (42 gal. Baril), CC (centimètre cube) ou OZ (once).

Sommaire La commutation entre les différentes unités ne seront pas corrompre le Total. Par exemple, en mode GL, l'ordinateur totalise 10,00 gallons, si l'utilisateur passe à LT mode, l'affichage indiquera 37,85 litres (le même volume, autre unité).

Le champ étalonnage mai fixé par l'utilisateur, et peuvent être changés ou modifiés à tout moment en utilisant la procédure d'étalonnage décrite ci-dessous dans la section de calibrage. Certains totaux ou de débit provenant de l'étalonnage sur le terrain sont invoquées lorsque l'icône FAC n'est plus visible sur la ligne supérieure de l'écran.

## CALIBRAGE

### Vérifier l'Exactitude Avant Début d'Étalonnage de Camp

Pour les résultats les plus précis, distribuez au débit qui simule mieux vos conditions de fonctionnement réelles. Évitez "de ruisseler" plus de fluide ou à plusieurs reprises de commencer et arrêter l'écoulement. Ces actions auront comme conséquence des calibrages moins précis.

Assurez-vous de répondre aux conditions minimum du débit du compteur:

#### Série TM Meters

3 mètres pouces	30 GPM (113,6 LPM)
4 mètres pouces	40 GPM (151,4 LPM)

L'utilisation d'un récipient uniformément sûr et précis de calibrage est fortement recommandé pour les résultats les plus précis. En raison du débit élevé, on lui recommande vivement que le calibrage de champ soit accompli avec combinaison de volume et de poids en utilisant des balances de résolution fine.

Pour les meilleurs résultats, le compteur devrait être installé et purgé d'air avant le calibrage de champ.

## Étalonnage sur le Terrain Avec Système d’Affichage

Champ d'étalonnage et de calibrage d'usine sont définis dans la section d'opération. Paramètres de calibrage d'usine sont programmés dans chaque ordinateur lors de la fabrication, en utilisant l'eau à 70° F (21° C).

Lectures en utilisant la calibration usine (FAC) mai ne pas être exactes dans certaines situations, par exemple, dans des conditions extrêmes de température, des configurations non standard ou de plomberie avec d'autres fluides que l'eau.

## Champ de Calibrage (Mode de Correction du Facteur)

1. Pour étalonner, appuyez et maintenez les boutons de CALIBRATE et DISPLAY pendant environ 3 secondes jusqu'à ce que vous voyez FLdCAL. Relâchez les deux boutons et vous pourrez voir des CF - 00.0. Vous êtes maintenant en mode étalonnage sur le terrain et les valeurs de -99,9% à +99,9% peuvent être entrées.
2. La touche +/- la position apparaît soit comme un trait de soulignement "caractère" pour les articles, ou comme un caractère "hyphen" pour moins. Le bouton DISPLAY choisit la position et le bouton de CALIBRATE permet de basculer ce personnage.
3. Le bouton DISPLAY peut alors être poussé à choisir les positions numériques. Appuyez sur le bouton de CALIBRATE et défile de 0 à 9. Saisissez le pourcentage de changement que vous souhaitez que l'affichage correct. Lorsque vous êtes satisfait avec la valeur, appuyez sur les deux CALIBRATE et DISPLAY des boutons simultanément. CALend sera affiché et unité revenir à un fonctionnement normal, moins le FAC (calibrage d'usine) icône.
4. Toutes les unités ont permis de mesure restent visibles et sélectionnables – la correction entré sera appliquée à tous les permis aux unités.

5. Pour revenir à la calibration d'usine (FAC), appuyez et maintenez enfoncé les CALIBRATE et DISPLAY les boutons pendant environ 3 secondes jusqu'à ce que FACAL est affiché. Puis boutons de déverrouillage. Unité devrait revenir à un fonctionnement normal et FAC icône visible.

## Le Calibrage Avec le Signal de Sortie Conditionné

Le K-facteur de votre compteur apparaît sur le rapport de calibrage comme les nombres d'impulsions par gallon. Le facteur est déterminé pendant la production en utilisant l'eau à 70° F (21° C). Ce K-facteur peut être utilisé pour le calibrage de "Point Seul" et fournira une exactitude acceptable. Cependant, les indications ne peuvent être pas précises quand vous utilisez cette méthode de calibrage dans quelques situations. Par exemple, les conditions de température extrêmes, des configurations non standard ou de plomberie avec d'autres fluides que l'eau.

## ENTRETIEN

La manipulation et le soin appropriés prolongeront la vie et le service du compteur.

## Rotor De Turbine

Le compteur est pratiquement exempt d'entretien. Cependant, il est important que les rotor bouge librement. Maintenez le compteur propre et exempt des contaminations.

Le rotor peut être enlevé pour le nettoyage et l'inspection. Commencez par dévisser le cône de nez de l'extrémité de sortie du compteur. A 1/4" extension socket carré peut être utilisé. Enlever le verrou et rondelles plates. Le rotor peut alors être retiré de l'arbre. Notez l'orientation parce que le rotor n'est pas bi-directionnel. Retirer les débris ou des dépôts en utilisant une brosse douce ou une petite sonde. Remonter en sens inverse.

### ATTENTION

**Soufflage d'air comprimé à la turbine pourrait endommager le rotor.**

### ATTENTION

**Ne laissez pas les liquides sécher à l'intérieur de la turbine.**

## **⚠ ATTENTION**

Manipulez le rotor avec précaution. De petites éraflures ou entailles peuvent affecter la précision.

NOTE – Vérifiez que la flèche sur la sortie de la turbine est pointée dans le sens d'écoulement du fluide.

## **Le Remplacement de la Batterie**

L'écran d'ordinateur est actionné par deux batteries du lithium 3-volt qui peuvent être remplacées tandis que le compteur est installé. Quand les batteries sont enlevées ou perdre de la puissance, le lot et les totaux cumulatifs et le terrain et des étalonnages en usine sont conservés.

## **⚠ AVERTISSEMENT**

**(Batterie) – Evitez les sollicitations mécaniques ou électriques excessives. Les batteries peuvent exploser ou provoquer des brûlures si elles sont démontées, écrasées ou exposées à un feu ou à des températures dépassant 212°F (100°C). Ne les court-circuitiez pas et ne les installez pas avec une polarité incorrecte. NE LES INCINÉREZ PAS.**

## **⚠ ATTENTION**

Les batteries ne doivent être remplacées **QUE** par un Kit P/N 113520-1 (comprenant chacun deux Batteries P/N 902004-2). Ne mélangez pas les anciennes batteries avec des batteries neuves. N'utilisez pas d'autres marques ou d'autres technologies de batterie.

Les cellules de batterie ouvertes doivent être éliminées en respectant les réglementations locales. Les batteries au lithium peuvent être éliminées en tant que déchet non dangereux lorsqu'elles sont complètement ou presque complètement déchargées. L'agence de l'environnement (EPA) n'a pas inscrit ou exempté le lithium en tant que déchet dangereux. Si des batteries au lithium usagées sont encore complètement chargées ou ne sont que partiellement déchargées, elles peuvent être considérées comme un déchet dangereux réactif en raison du lithium non consommé restant dans la batterie. De telles batteries peuvent être qualifiées comme "déchets universels" dans de nombreuses juridictions à l'intérieur des U.S. et peuvent donc être expédiées pour élimination ou recyclage en respectant les exigences concernant les déchets universels.

Si l'affichage devient faible, blanc ou le message Batterie faible apparaît (voir ci-dessous), remplacer les piles comme suit:

# LobAtt

1. Enlevez les quatre vis de "Phillips" d'avant du compteur et soulevez et la plaque avant de la turbine.
2. Enlevez les vieilles batteries et nettoyez toute corrosion des bornes.
3. Installez les nouvelles batteries. Assurez-vous que le poteau positif est en position correcte.
4. Quand les batteries sont remplacées, la plaque actionnerait ON. Vérifiez l'affichage pour assurer des fonctions normales ont repris avant de se réunir encore.
5. Repositionnez les batteries, si nécessaire, et placez la plaque avant sur le logement de turbine. Pour éviter des dommages d'humidité, vérifiez que l'anneau entièrement sécurise. Serrez les quatre vis sur l'avant de la plaque.

## **CARACTÉRISTIQUES**

### **Entrée et Sortie:**

Robinet (Pipeau) End Modèles:

TM300/TM300-P  
3 pouces Heure prog. 80,  
Robinet (Pipeau)

TM400/TM400-P  
4 pouces Heure prog. 80,  
Robinet (Pipeau)

NPT Modèles:

TM300-N/TM300-N-P 3 pouces NPT  
TM400-N/TM400-N-P 4 pouces NPT

Modèles de bride ANSI :

TM300-F/TM300-F-P 3 pouces 150#  
ANSI Bride  
TM400-F/TM400-F-P 4 pouces 150#  
ANSI Bride

Modèles de bride DIN :

TM300-D/TM300-D-P 3 pouces  
PN10/PN16  
Bride DIN  
TM400-D/TM400-D-P 4 pouces  
PN10/PN16  
Bride DIN

**Type de Plan:** Turbine



## Composants Humides:

Logement: PVC  
Journal à billes: PEEK  
Joint d'arbre: Acier inoxydable  
Rotor et Nose Cone: Acétal  
Rondelle: Acier inoxydable

## Max. Pression de Service:

TM300 (Tous Modèles): 225 PSIG @ 73° F

TM400 (Tous Modèles):  
225 PSIG @ 73° F (Non CE),  
135 PSIG @ 73° F (CE applications)

## Mésure des Etats Unis

**Unité de Mesure:** Gallon

### Plage de débit:

3 pouces: 40-400 GPM  
(Linéarité: ±3,0% de Lecture)  
30-600 GPM  
(Précision: ± 2,0% Pleine Échelle)

4 pouces: 60-600 GPM  
(Linéarité: ±3,0% de Lecture)  
40-800 GPM  
(Précision ±2,0% Pleine Échelle)

### L'Exactitude Avec l'Ordinateur:

±3.0% de la lecture (l'exactitude peut être améliorée avec le calibrage de champ)

### La Température de Fonctionnement:

+32° à +140° F (Ne laissez pas le fluide de geler à l'intérieur du compteur.)

**Autonomie de la Batterie:** 5 années

### La Température de Stockage:

-40° à +158° F

### Poids de Produit-Livre - lbs.: \*

	Robinet (Pipeau)	NPT	Bride ANSI	Bride DIN
3 pouces:	2,4	3,9	5,8	6,5
4 pouces:	3,7	6,1	9,2	8,8

### Dimensions - pouces (L x H x P): \*\*

Robinet (Pipeau):	
3 pouces:	11,5 x 5,34 x 3,5
4 pouces:	13,5 x 6,34 x 4,5

NPT:	
3 pouces:	14,7 x 5,78 x 4,37
4 pouces:	17,0 x 6,70 x 5,87

Bride ANSI:	
3 pouces:	12,0 x 7,5 x 7,5
4 pouces:	14,0 x 9,0 x 9,0

### Bride DIN:

3 pouces: 12,0 x 8,0 x 8,0  
4 pouces: 14,0 x 8,5 x 8,5

\* Ajouter .3 lbs. pour Conditioned du module de signalisation.

\*\* Ajouter 1,1 pouces à la hauteur de signal du module conditionné

## Mesure Métrique

**Unité de Mesure:** Litre

### Plage de Débit:

3 pouces: 151-1514 LPM  
(Linéarité: ± 3,0% de Lecture)  
113-2271 LPM  
(Précision: ± 2,0% Pleine Échelle)  
4 pouces: 227-2271 LPM  
(Linéarité: ± 3,0% de Lecture)  
151-3028 LPM  
(Précision ± 2,0% Pleine Échelle)

**L'exactitude Avec l'Ordinateur:** ±3.0% de la lecture (l'exactitude peut être améliorée avec le calibrage de champ)

### La Température de Fonctionnement:

0° à +60° C (Ne laissez pas le fluide de geler à l'intérieur du compteur.)

**Autonomie de la Batterie:** 5 années

### La Température de Stockage:

-40° à +70° C

### Poids du Produit - kgs: \*

	Robinet (Pipeau)	NPT	Bride ANSI	Bride DIN
3 pouces:	1,09	1,77	2,63	2,95
4 pouces:	1,68	2,77	4,17	3,99

### Dimensions - cm (L x H x P): \*\*

Robinet (Pipeau):	
3 pouces:	29,2 x 13,6 x 8,9
4 pouces:	34,3 x 16,1 x 11,4

NPT:	
3 pouces:	37,3 x 14,7 x 11,1
4 pouces:	43,2 x 17,0 x 14,9

Bride ANSI:	
3 pouces:	30,5 x 20,3 x 20,3
4 pouces:	35,6 x 22,9 x 22,9

Bride DIN:	
3 pouces:	30,5 x 20,3 x 20,3
4 pouces:	35,6 x 21,6 x 21,6

\* Ajouter ,14 kg de poids pour le module de signalisation conditionné.

\*\* Ajouter 2,8 cm à la hauteur signal du module conditionné.

## PIÈCES

Les pièces et les accessoires de rechange suivants sont disponibles pour les compteurs de Séries de TM :

### Le Numéro

de Pièce	La Description
113435-1	Sortie conditionné du module de signalisation
113520-1	Ensemble de batterie de remplacement
12517601	Garniture
12519001	Assemblée de Montage d'Ordinateur
901002-52	Joint
125518-01	3 po (Spigot) Ensemble de Turbine
125518-02	3 po (NPT) Ensemble de Turbine
125518-03	3 po (Bride) Ensemble de Turbine
125520-01	4 po (Spigot) Ensemble de Turbine
125520-02	4 po (NPT) Ensemble de Turbine
125520-03	4 po (Bride) Ensemble de Turbine
125519-01	3 po Ensemble d'Ordinateur
125521-01	4 po Ensemble d'Ordinateur
125518-04	3 po (bride DIN, PVC) Kit ensemble turbine
125520-05	4 po (bride DIN, PVC) Kit ensemble turbine

## SERVICE

Pour la considération de garantie, contactez votre distributeur local. Si vous avez besoin d'aide, contactez le service à la clientèle de GPI à :

**1-888-996-3837**

Vous aurez besoin :

- Fournissez les informations du décalque sur votre compteur.
- Recevez un nombre de retour d'autorisation.
- Rincez n'importe quel fluide du compteur avant l'expédition à l'usine.

S'il est possible, laissez les garnitures installées par client ou de la longueur suffisante de la pipe pour la réinstallation.

### **⚠ ATTENTION**

**Ne renvoyez pas le compteur sans autorité spécifique du département de service à la clientèle de GPI. En raison des règlements stricts régir le transport, la manipulation, et la disposition des liquides dangereux ou inflammables, GPI n'acceptera pas des compteurs pour la reprise à moins qu'ils soient complètement exempts de résidu liquide.**

## WEEE DIRECTIVE



Le Waste Electrical and Electronic Equipment (WEEE) directive (2002/96/EC) a été approuvée par le Parlement Européen et le Conseil de l'Union Européenne en 2003. Ce symbole indique que ce produit contient l'équipement électrique et électronique qui peut inclure les batteries, les cartes électroniques les affichages à cristaux liquides ou d'autres composants qui peuvent être sujets à des règlements locaux de disposition à votre endroit. Veuillez comprendre ces règlements et débarrassez-vous de ce produit d'une façon responsable.

## Conformité à la directive RoHS (2011/65/EU)

Ce produit est conforme à la directive RoHS du Parlement européen et du Conseil de l'Europe concernant les limitations d'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques.

**Classification environnementale : IP65**

## Declaration of Conformity

Manufacturer's Name: Great Plains Industries, Inc.  
Manufacturer's Address: 5252 East 36th Street North  
Wichita, KS USA 67220-3205

Declares, that the product:  
Product Name: Conditioned Signal Module  
TM Series Water Meter/Pulse Out

Model Numbers: 0N-0278      TM\*\*\*-B-P  
TM\*\*\*-P      TM\*\*\*-D-P  
TM\*\*\*-N-P      TM\*\*\*-F-P

*Model numbers include all combinations of an  
alpha-numeric series as illustrated above.*

Conform to the following Standards:  
EMC: EN 61000-6-2 (2005)  
EN 61000-6-3 (2007)

### Supplementary Information:

"The products comply with the requirements of the EMC Directive 2004/108/EC and RoHS 2 Directive 2011/65/EU." This product has insufficient internal volume size or pressure ratings to meet a pressure directive.

This product is not recommended for custody transfer or application where levying by consumption takes place.

I the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Signature:  
Full Name:  
Position:

Place:



Victor Lukic  
President  
Great Plains Industries, Inc.  
Wichita, KS USA  
January 2013



5252 East 36th Street North  
Wichita, KS USA 67220-3205  
316-686-7361 | FAX: 316-686-6746  
888-996-3837 | [www.GPIometers.net](http://www.GPIometers.net)

**GREAT PLAINS INDUSTRIES, INC.**

## Declaration of Conformity

Manufacturer's Name: Great Plains Industries, Inc.  
Manufacturer's Address: 5252 East 36th Street North  
Wichita, KS USA 67220-3205

Declares, that the product:

Product Name: TM Series Water Meter  
Model Numbers: TM050 TM200  
TM075 TM300  
TM100 TM400  
TM150

*Model numbers may include the suffix "-N", "-B", "-F" or "-D" to indicate thread or flange type.*

Conform to the following Standards:

EMC: EN 61000-6-2 (2005)  
EN 61000-6-3 (2007)

Supplementary Information:

"The products comply with the requirements of the EMC Directive 2004/108/EC and RoHS 2 Directive 2011/65/EU." This product has insufficient internal volume size or pressure ratings to meet a pressure directive.

This product is not recommended for custody transfer or application where levying by consumption takes place.

I the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Signature:

Full Name:

Position:

Place:



Victor Lukic

President

Great Plains Industries, Inc.

Wichita, KS USA

January 2013



5252 East 36th Street North  
Wichita, KS USA 67220-3205  
316-686-7361 | FAX: 316-686-6746  
888-996-3837 | [www.GPIimeters.net](http://www.GPIimeters.net)

**GREAT PLAINS INDUSTRIES, INC.**

## Limited Warranty Policy

Great Plains Industries, Inc. 5252 E. 36<sup>th</sup> Street North, Wichita, KS USA 67220-3205, hereby provides a limited warranty against defects in material and workmanship on all products manufactured by Great Plains Industries, Inc. This product includes a 1 year warranty. Manufacturer's sole obligation under the foregoing warranties will be limited to either, at Manufacturer's option, replacing or repairing defective Goods (subject to limitations hereinafter provided) or refunding the purchase price for such Goods theretofore paid by the Buyer, and Buyer's exclusive remedy for breach of any such warranties will be enforcement of such obligations of Manufacturer. The warranty shall extend to the purchaser of this product and to any person to whom such product is transferred during the warranty period.

The warranty period shall begin on the date of manufacture or on the date of purchase with an original sales receipt. This warranty shall not apply if:

- A. the product has been altered or modified outside the warrantor's duly appointed representative;
- B. the product has been subjected to neglect, misuse, abuse or damage or has been installed or operated other than in accordance with the manufacturer's operating instructions.

To make a claim against this warranty, contact the GPI Customer Service Department at 316-686-7361 or 888-996-3837. Or by mail at:

Great Plains Industries, Inc.  
5252 E. 36<sup>th</sup> St. North  
Wichita, KS, USA 67220-3205

The company shall, notify the customer to either send the product, transportation prepaid, to the company at its office in Wichita, Kansas, or to a duly authorized service center. The company shall perform all obligations imposed on it by the terms of this warranty within 60 days of receipt of the defective product.

**GREAT PLAINS INDUSTRIES, INC., EXCLUDES LIABILITY UNDER THIS WARRANTY FOR DIRECT, INDIRECT, INCIDENTAL AND CONSEQUENTIAL DAMAGES INCURRED IN THE USE OR LOSS OF USE OF THE PRODUCT WARRANTED HEREUNDER.**

The company herewith expressly disclaims any warranty of merchantability or fitness for any particular purpose other than for which it was designed.

This warranty gives you specific rights and you may also have other rights which vary from U.S. state to U.S. state.

Note: In compliance with MAGNUSON MOSS CONSUMER WARRANTY ACT – Part 702 (governs the resale availability of the warranty terms).



5252 East 36th Street North  
Wichita, KS USA 67220-3205  
316-686-7361 | FAX: 316-686-6746  
888-996-3837 | [www.GPIimeters.net](http://www.GPIimeters.net)

***GREAT PLAINS INDUSTRIES, INC.***





Office 231.843.2711  
 Fax 231.843.4081  
 Proact-usa.com  
 4990 West First Street  
 Ludington, MI 49431

**Project Number:** 1908-024.R1  
**Customer:** WSP USA  
**Site:** Fyn Paint, Brooklyn, NY  
**Date:** 8/21/19

**Design Basis:** Flow rate: 105 gpm  
 Project duration: 1 months  
 Water temperature: 55 °F (assumed)

Contaminant	Influent Conc. <sup>(a)</sup> (ug/L)	Effluent Criteria <sup>(b)</sup> (ug/L)
Acetone	840	50
Benzene	12	134
Toluene	23,400 <sup>(c)</sup>	74
Ethylbenzene	2,472	380
Xylenes	15,900 <sup>(c)</sup>	74
2-Butanone (MEK)	23	50
Isopropylbenzene	24	NA
n-Propylbenzene	4	NA
1,2,4-Trimethylbenzene	19	NA
1,3,5-Trimethylbenzene	6	NA

- (a) Based on the average of concentrations in five wells: MW-16, MW-28, MW-32, MW-11, and MW-15.
- (b) Based on the NYSDEC TOG Ambient Groundwater Quality Standards.
- (c) Guaging indicates no free product is present onsite.  
 Bold values indicate the exceedance of discharge limits.

**Recommendations:** Pre-Filters (to remove suspended solids)

2-Stage bag filters (10-micron nominal) *followed by* another 2-Stage bag filters (0.5-micron nominal)

Equalization/Settling Tank (to equalize the flow and remove settleable solids)

10,000-gallon rectangular frac tank

- The retention time is calculated to be approximately 95 minutes at 105 gpm.

Liquid Phase Carbon Adsorbers (to remove dissolved hydrocarbons)

Three 6-ft diameter vessels in series, each with 5,000 lbs of granular activated carbon

- **Acetone will not be effectively removed by carbon adsorption, and must be allowed to pass through the carbon adsorbers.**
- Toluene is the critical contaminant.
- All the three adsorbers are predicted to last 39 days of continuous operation at 105 gpm or ~ 5.9 million gallons of water (see the modeling output below).

Post-Filters (to remove fine particulates)

2-Stage bag filters (1-micron high efficiency)

- The post-filters are recommended for the removal of fine particulates that may be associated with free-phase product.

Effluent Tank (for gravity flow to point of discharge)

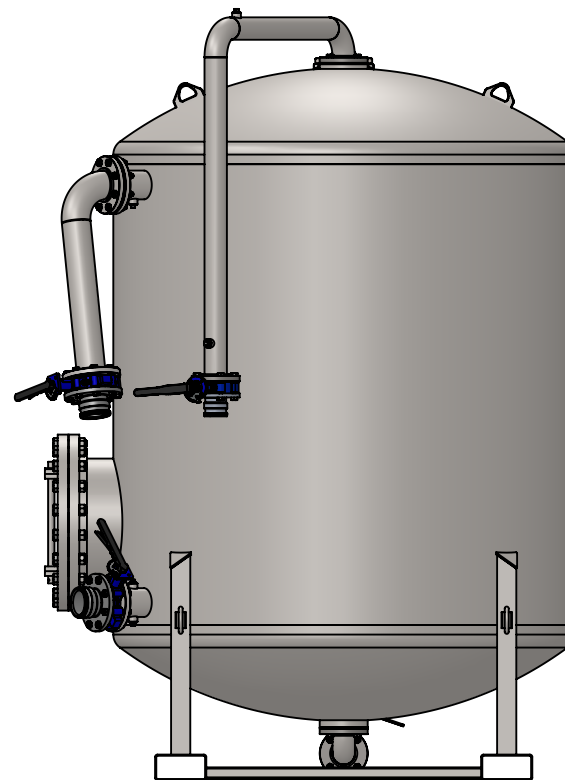
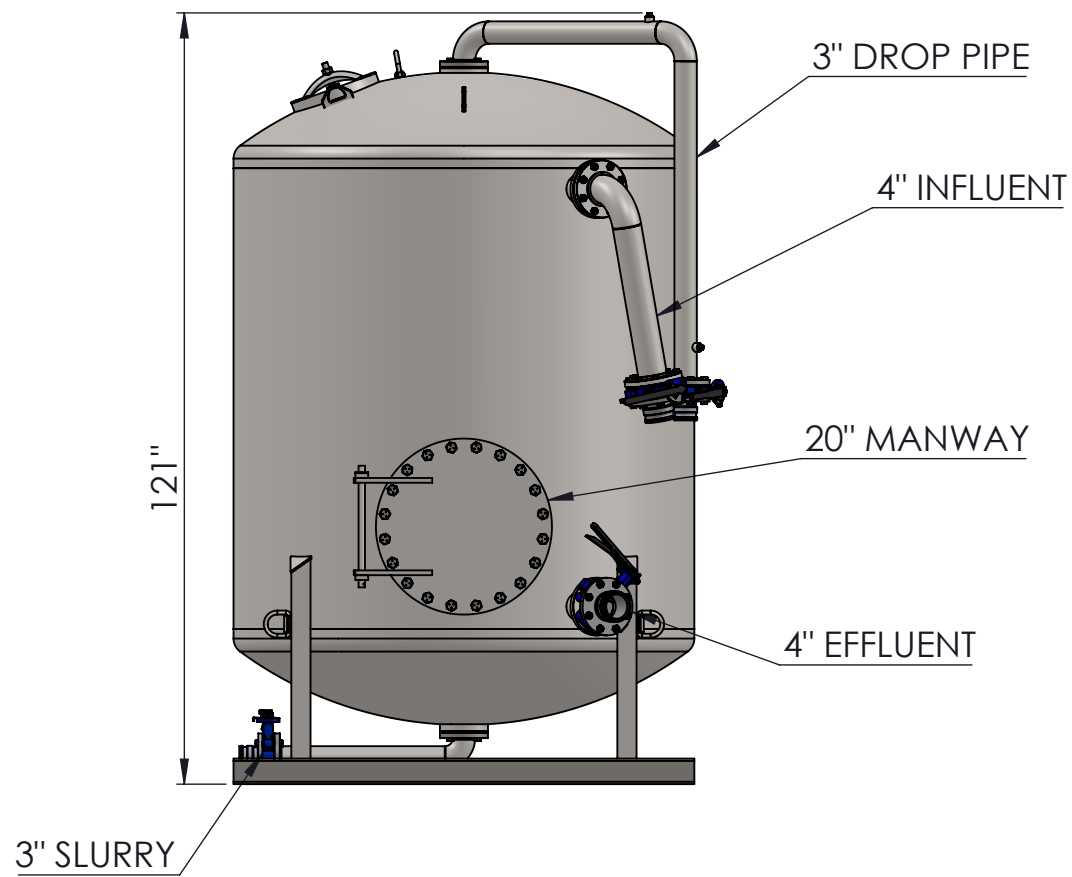
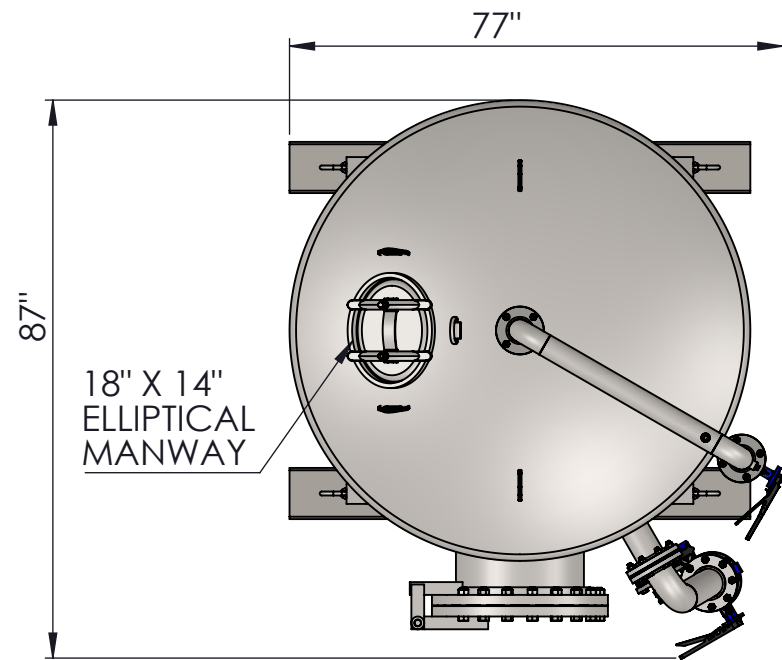
1,000-gallon holding tank

- The retention time is calculated to be 10 minutes at 105 gpm.

**NOTICE**

**THIS DOCUMENT AND ITS CONTENTS ARE PROPRIETARY TO EVOQUA WATER TECHNOLOGIES, AND MAY NOT BE COPIED, DISTRIBUTED OR USED BY ANYONE, IN WHOLE OR IN PART, WITHOUT THE EXPRESS AUTHORIZATION OF EVOQUA.**

**THE CONTENT OF THIS DOCUMENT HAS BEEN DEVELOPED BY EVOQUA TO ADDRESS SPECIFIC FACTUAL INFORMATION. IT MAY BE BASED ON INFORMATION AND ASSUMPTIONS THAT ARE NOT DISCLOSED WITHIN THIS DOCUMENT, BUT REFLECT EVOQUA'S KNOWLEDGE AND EXPERIENCE. THE INFORMATION IN THIS DOCUMENT SHOULD NOT BE USED OR RELIED UPON BY ANYONE WITHOUT THE COOPERATION OR ASSISTANCE OF EVOQUA TO FULLY UNDERSTAND ITS INTENDED APPLICATION AND USE.**



- NOTE:
1. TOTAL VOLUME:  
ABOUT 214 CUBIC FEET  
ABOUT 1605 GALLONS
  2. TOTAL AMOUNT OF CARBON:  
ABOUT X LB
  3. OVERALL HEIGHT WITH AIR  
BLEED IS 132"

SIZE B	SCALE 1:30	REV A
DRW: JLD		SHEET 1-2
DATE 12/20/2017		



ALL INFORMATION CONTAINED IN THIS DOCUMENT ARE PROPRIETARY AND CONFIDENTIAL AND THE PROPERTY OF PROACT SERVICES CORPORATION. PATENT PENDING

SALES DRAWING  
6 FT DIAMETER LIQUID VESSEL A  
DRAWING NO. 30000178

A

B

C

D

E

F

1

2

3

4

5

6

1

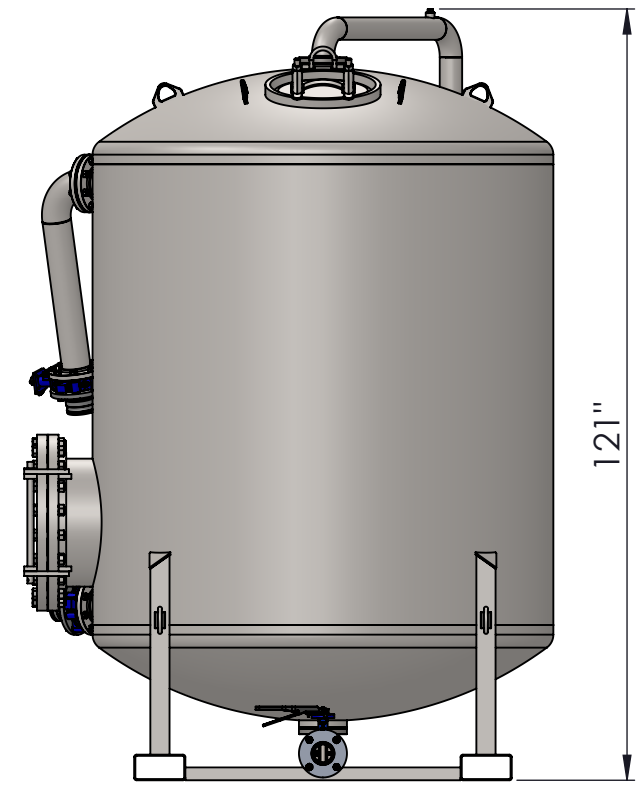
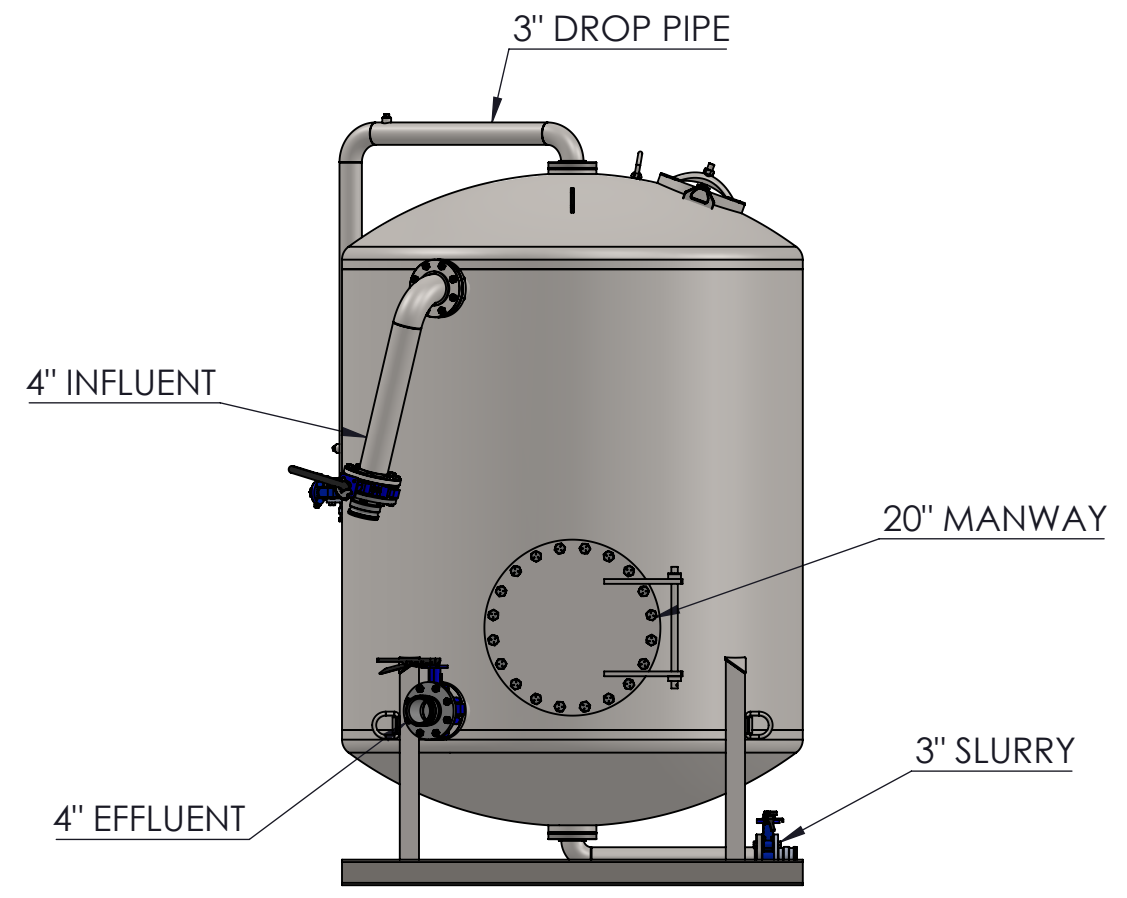
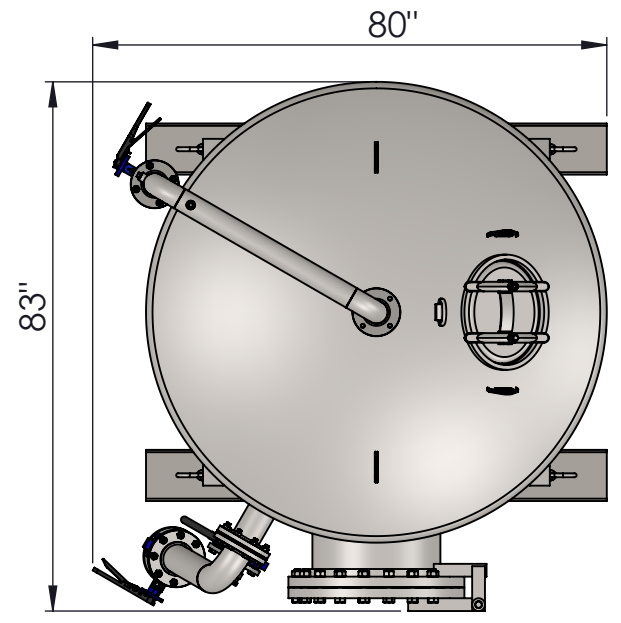
2

3

4

5

6



NOTE:  
 1. TOTAL VOLUME:  
 ABOUT 214 CUBIC FEET  
 ABOUT 1605 GALLONS  
 2. TOTAL AMOUNT OF CARBON:  
 ABOUT X LB  
 3. OVERALL HEIGHT WITH AIR  
 BLEED IS 132"

SIZE B	SCALE 1:30	REV A
DRW: JLD		SHEET 2-2
DATE 12/20/2017		



ALL INFORMATION  
 CONTAINED IN THIS  
 DOCUMENT ARE  
 PROPRIETARY AND  
 CONFIDENTIAL AND  
 THE PROPERTY OF  
 PROACT SERVICES  
 CORPORATION.  
 PATENT PENDING

SALES DRAWING  
 6 FT DIAMETER LIQUID VESSEL B  
 DRAWING NO. 30000178

A

B

C

D

E

F

LIQUID-PHASE CARBON ADSORPTION MODEL CALCULATIONS

CARBONAIR ENVIRONMENTAL SYSTEMS  
 1480 COUNTY ROAD C WEST  
 ROSEVILLE, MN 55113  
 PHONE: 800-526-4999  
 FAX: 651-202-2985

CARBON ADSORBERS: PC28  
 NO OF ADSORBERS IN SERIES: 3  
 TOTAL MASS OF CARBON (LBS): 15000.  
 FLOW RATE (GPM): 105.00  
 HYDRAULIC LOADING (GPM/SQ.FT): 3.7083  
 EMPTY BED CONTACT TIME (MIN.): 38.944

DESIGN COMPOUND: TOLUENE  
 EXPECTED INFLUENT CONCENTRATION (PPB): 23400.  
 MODEL INFLUENT CONCENTRATION (PPB): 41800.  
 EFFLUENT CRITERIA (PPB): 74.000  
 EFFECTIVE K-VALUE (%): 50.000

TIME (DAYS)	VOLUME TREATED (GAL)	EFF. CONC. (PPB)
3.0	453600.	0.0000
6.0	907200.	0.0000
9.0	1360800.	0.0000
12.0	1814400.	0.0000
15.0	2268000.	0.0000
18.0	2721600.	0.0000
21.0	3175200.	0.0000
24.0	3628800.	0.0000
27.0	4082400.	0.0000
30.0	4536000.	0.0000
33.0	4989600.	0.0000
36.0	5443200.	0.0000
39.0	5896800.	0.0000
42.0	6350400.	416.1538
45.0	6804000.	17275.9200
48.0	7257600.	30149.1918
51.0	7711200.	36229.4664
54.0	8164800.	39142.6880
57.0	8618400.	40534.6296
60.0	9072000.	41204.0123

← BREAKTHROUGH

Note: The model influent concentration results from the impact of the other background compounds, which is determined by using a competitive adsorption model

DISCLAIMER: ACTUAL RESULTS MAY VARY SIGNIFICANTLY FROM THE MODEL. THE MODEL IS BASED ON THE ASSUMPTIONS THAT THE FLOW RATE AND INFLUENT CONCENTRATION ARE CONSTANT, AND ONLY THE CONTAMINANTS PROVIDED TO CARBONAIR ARE PRESENT IN THE WATER. VARYING OPERATING CONDITIONS CAN HAVE ADVERSE EFFECTS ON CARBON ADSORPTIVE CAPACITY. THE PREDICTED BED LIFE IS NOT GUARANTEED.





# APPENDIX D



TABLE  
 FYN PAINT LACQUER COMPANY, INC.  
 230 KENT AVENUE  
 WILLIAMSBURG, BROOKLYN, NEW YORK  
 Concrete Slab on Grade Waste Characterization - Core Samples (July 2019)  
 Volatile Organic Compounds - EPA Method 8260

Sample ID York ID Sampling Date Client Matrix Discrete or Composite Sample Depth (ft bg)	CAS Number	GT-4 19G0849-05 7/18/2019 11:30:00 AM Soil Discrete 5-7 ft		GT-4 19G0849-06 7/18/2019 11:40:00 AM Soil Discrete 10-12 ft		GT-4 19G0849-07 7/18/2019 12:00:00 PM Soil Discrete 15-17 ft		GT-4 19G0849-08 7/18/2019 12:10:00 PM Soil Discrete 20-22 ft		GT-5 19G0849-09 7/18/2019 1:40:00 PM Soil Discrete 5-7 ft		GT-5 19G0849-10 7/18/2019 1:50:00 PM Soil Discrete 10-12 ft		GT-5 19G0849-11 7/18/2019 2:00:00 PM Soil Discrete 15-17 ft		GT-5 19G0849-12 7/18/2019 2:20:00 PM Soil Discrete 20-22 ft		GT-6 19G0849-13 7/19/2019 8:30:00 AM Soil Discrete 5-7 ft		GT-6 19G0849-14 7/19/2019 9:00:00 AM Soil Discrete 10-12 ft		GT-7 19G0849-15 7/19/2019 10:00:00 AM Soil Discrete 5-7 ft		GT-10 19G0902-05 7/19/2019 2:10:00 PM Soil Discrete 5-7 ft		GT-10 19G0902-06 7/19/2019 2:20:00 PM Soil Discrete 10-12 ft		NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives (Protection of Health)				NYSDEC Part 375 Restricted Use Soil Cleanup Objectives (Protection of Environment)	
		Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q		Residential	Restricted Residential	Commercial	Industrial	Protection of Ecological Resources	Protection of GW
Dilution Factor		1		1		1		1		1		1		1		1		1		1		1		1		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg		
Volatil Organics, 8260 - Comprehensive		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg			
Benzene	71-43-2	0.0020	U	0.0021	U	0.0021	U	0.0021	U	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.0021	U	0.0019	U	0.0021	U	0.0019	U	0.06	2.9	4.8	44	89	70	0.06
Toluene	108-88-3	0.0041	J	0.0550		0.0028	J	0.1000	D	0.0041		0.0031	J	0.0046		0.0260		0.0022	U	1.1	D	0.0019	J	0.0840		0.0023	J	0.7	100	100	500	1,000	36	0.7
Ethyl Benzene	100-41-4	0.0020	U	0.0240		0.1000		0.0630	D	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	1.00	D	0.0019	J	0.0720		0.0110		1	30	41	390	780	~	1
o-Xylene	95-47-6	0.0020	U	0.0320		0.0021	U	0.0680	D	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	1.80	D	0.0036	J	0.0980		0.1200		~	~	~	~	~	~	~
p- & m- Xylenes	179601-23-1	0.0041	U	0.1000		0.1900		0.1800	D	0.0040	U	0.0039	U	0.0051	J	0.0061	J	0.0043	U	4.50	D	0.0091		0.3200		0.2500		~	~	~	~	~	~	~
Xylenes, Total	1330-20-7	0.0061	U	0.1300		0.1900		0.2500	D	0.0060	U	0.0058	U	0.0066	U	0.0062	U	0.0065	U	6.3	D	0.0130		0.41		0.37		0.26	100	100	500	1,000	0.26	1.6
Methyl tert-butyl ether (MTBE)	1634-04-4	0.0020	U	0.0021	U	0.0021	U	0.0021	U	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.24	U	0.0018	U	0.0021	U	0.0019	U	0.93	62	100	500	1,000	~	0.93
1,2,4-Trimethylbenzene	95-63-6	0.0020	U	0.0021	U	0.0035	J	0.0021	D	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.24	U	0.0018	U	0.0021	U	0.0023	J	3.6	47	52	190	380	~	3.6
1,3,5-Trimethylbenzene	108-67-8	0.0020	U	0.0021	U	0.0021	U	0.0021	D	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.24	U	0.0018	U	0.0021	U	0.0019	U	8.4	47	52	190	380	~	8.4
2-Butanone	78-93-3	0.0020	U	0.0021	U	0.0027	J	0.0021	U	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.24	U	0.0018	U	0.0021	U	0.0019	U	0.12	100	100	500	1,000	100	0.12
Acetone	67-64-1	0.0240		0.0120		0.0170		0.0160	U	0.0180		0.0170		0.0360		0.0053	J	0.0150		0.47	U	0.0280		0.0400		0.0130		0.05	100	100	500	1,000	2.2	0.05
Tetrachloroethylene	127-18-4	0.0020	U	0.0021	U	0.0021	U	0.0021	D	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.24	U	0.0018	U	0.0021	U	0.0019	U	1.3	5.5	19	150	300	2	1.3
Trichloroethylene	79-01-6	0.0020	U	0.0021	U	0.0021	U	0.0021	U	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.24	U	0.0018	U	0.0021	U	0.0019	U	0.47	10	21	200	400	2	0.47
cis-1,2-Dichloroethylene	156-59-2	0.0020	U	0.0021	U	0.0021	U	0.0021	U	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.24	U	0.0018	U	0.0021	U	0.0019	U	0.25	59	100	500	1,000	~	0.25
Vinyl Chloride	75-01-4	0.0020	U	0.0021	U	0.0021	U	0.0021	U	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.24	U	0.0018	U	0.0021	U	0.0019	U	0.02	0.21	0.9	13	27	~	0.02
1,1,1-Trichloroethane	71-55-6	0.0020	U	0.0021	U	0.0021	U	0.0021	U	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.24	U	0.0018	U	0.0021	U	0.0019	U	0.68	100	100	500	1,000	~	0.68
1,1-Dichloroethane	75-34-3	0.0020	U	0.0021	U	0.0021	U	0.0021	U	0.0020	U	0.0019	U	0.0022	U	0.0021	U	0.0022	U	0.24	U	0.0018	U	0.0021	U	0.0019	U	0.27	19	26	240	480	~	0.27

**Q is the Qualifier Column with definitions as follows:**

U = analyte not detected at or above the level indicated  
 D = result is from an analysis that required a dilution  
 J = analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated and cannot be accurately reported due to levels encountered or interferences  
 B = analyte found in the analysis batch blank

**Result Contaminant Concentration Units:**

mg/kg = Milligrams per kilogram  
 ~ = this indicates that no regulatory limit has been established for this analyte  
 NT = this indicates the analyte was not a target for this sample

**Results are also highlighted when detected above or Results are also highlighted when detected above one of the referenced Screening Levels**

USEPA Generic Screening Levels (SLs) are references f USEPA Generic Screening Levels (SLs) are references for 0.1 Health Quotient for Residential Soil  
 Carbon Disulfide has an EPA SL of 4.8 mg/L (TCLP) Carbon Disulfide has an EPA SL of 4.8 mg/L (TCLP)  
 EPA Nonwastewater Universal Treatment Standard (L) EPA Nonwastewater Universal Treatment Standard (UTS)  
 10x EPA Nonwastewater UTS represents the equivalent 10x EPA Nonwastewater UTS represents the equivalent 90% reduction requirement



# APPENDIX E


FYN PAINT & LACQUER COMPANY, INC.  
 230 KENT AVENUE  
 WILLIAMSBURG, BROOKLYN, NEW YORK

Groundwater Quality Summary - August 2018  
 Volatile Organic Compounds (VOCs) by USEPA Method 8260

Well Identification	Sample Date	Concentration (ug/l) <sup>1)</sup>																																				
		Acetone	Benzene	Toluene	Ethylbenzene	Xylenes (total)	2-Butanone	Carbon Tetrachloride	Chloroform	Chlorobenzene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,2-Dichloroethane	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloropropane	1,2-Dichlorobenzene	Isopropylbenzene	n-Propylbenzene	4-Methyl-2-Pentanone	1,2,3-Trichloropropane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Tetrachloroethene	Trichloroethene	1,1,1-Trichloroethane	Trichlorofluoromethane	Methyl tert-butyl ether	Methylene Chloride	Vinyl Chloride	Bromoform	Carbon Disulfide	Chloromethane					
MW-1	08/22/2018	ND <sup>2)</sup>	ND	0.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
MW-2	08/22/2018	ND	ND	0.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
MW-4	08/21/2018	ND	2.0	ND	ND	ND	ND	ND	ND	ND	4.6	0.44 *	ND	ND	1.7	ND	ND	ND	ND	ND	ND	0.42 *	ND	ND	0.54	ND	ND	0.96	ND	2.0	ND	ND	ND	ND	ND			
MW-5	----	NS <sup>6)</sup>	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
MW-6	----	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			
MW-7	08/22/2018	ND	ND	13	1.2	6.5	ND	ND	0.48 *	ND	0.36 *	ND	ND	ND	6.2	ND	ND	ND	ND	ND	ND	ND	ND	2.0	2.1	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND			
MW-8	08/22/2018	ND	ND	18	1.1	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.54	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
MW-9A	08/23/2018	ND	34	32,000	2,100	16,000	ND	ND	ND	ND	5.9	ND	ND	ND	3.3	ND	ND	ND	1.8	ND	ND	7.8	2.4	ND	ND	5.0	ND	ND	ND	3.6	ND	ND	ND	ND	ND			
MW-10	08/22/2018	ND	ND	1.9	ND	0.94 *	ND	ND	ND	ND	0.58	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.78	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
MW-11	08/23/2018	53	92	160,000	6,100	34,000	6.4	ND	ND	ND	1.9	ND	ND	ND	3.3	ND	ND	18	3.4	ND	ND	11	4.0	13 *	13	42	ND	ND	2.9 *	ND	ND	0.48 *	ND	ND	ND			
MW-12	08/23/2018	ND	20	17,000	7,000	39,000	ND	ND	ND	ND	18	ND	ND	ND	6.0	ND	ND	36	9.2	ND	ND	46	13	0.52 *	0.66 *	ND	ND	ND	ND	5.6	ND	ND	ND	ND	ND	ND		
MW-13	----	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
MW-14	08/23/2018	ND	ND	0.44 *	ND	ND	ND	ND	ND	ND	0.42 *	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
MW-15	----	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
MW-16	08/21/2018	1,800 *	25	9,800	2,400	15,000	120	ND	ND	ND	1.7	ND	ND	ND	3.0	ND	ND	38	9.0	81	ND	44	14	7.3	6.4	0.78 *	ND	ND	8.3	ND	ND	ND	ND	ND	ND	ND		
MW-20	----	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		
MW-21	08/23/2018	ND	ND	5.3	1.3	7.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.48 *	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-22	08/23/2018	5.1	1.9	770	270	1,500	ND	ND	ND	ND	1.7	ND	ND	ND	1.6	ND	ND	2.4	0.62 *	ND	ND	5.1	1.5	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND	ND	ND		
MW-23	08/22/2018	ND	ND	4.0 *	2.3 *	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-24	----	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW-25	----	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW-26	08/23/2018	ND	ND	0.64	ND	1.1 *	ND	ND	0.40 *	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9	0.30 *	0.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-27	08/23/2018	ND	ND	1.6	ND	1.1 *	ND	ND	ND	ND	5.4	ND	ND	1.2	0.50	ND	ND	ND	ND	ND	ND	ND	7.0	9.4	ND	ND	7.1	ND	ND	ND	ND	ND	ND	ND	ND	ND		
MW-28	----	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW-29	08/23/2018	17	24	15,000	4,900	29,000	4.8 *	ND	ND	ND	8.0	ND	ND	ND	22	ND	ND	33	13	10 *	ND	110	32	0.64 *	1.0	1.1	ND	0.64 *	2.4 *	18	ND	0.66 *	ND	ND	ND	ND		
MW-30	08/23/2018	ND	13	1,000	3,400	14,000	2.5 *	ND	ND	ND	1.5	ND	ND	ND	0.86 *	ND	ND	18	3.6	1.1 *	ND	12	4.8	ND	0.62 *	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
MW-31	08/23/2018	ND	ND	15	14	40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.66 *	ND	ND	ND	ND	0.86 *	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-32	08/22/2018	ND	ND	ND	0.50	2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-33	08/22/2018	ND	ND	33	170	820	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
EW-1	08/23/2018	ND	0.72	0.36 *	1.3	27	ND	ND	ND	ND	0.31 *	ND	ND	ND	ND	ND	0.65	ND	ND	ND	ND	0.79	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
EW-2	08/23/2018	5.1	6.8	4,100	1,400	9,800	ND	ND	ND	ND	8.0	ND	ND	ND	3.9	ND	ND	3.7	0.66 *	1.6 *	ND	5.3	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
NYSDEC <sup>3)</sup> TOGS GWQS <sup>4)</sup>		50	1	5	5	5	50	5	7	5	5	5	0.6	5	5	1	3	5	5	N/A <sup>5)</sup>	0.04	5	5	5	5	5	5	10	5	2	50	N/A	5	5	5			

1) Micrograms per liter  
 2) Not detected above lab recordable limit  
 3) New York State Department of Environmental Conservation

4) Technical & Operational Guidance Series Ground Water Quality Standards  
 5) Not available  
 6) Not sampled

\* Analyte flagged as estimated J, B, E CCV-E and/or SCAL-E  
 indicates exceedance over standard



FYN PAINT & LACQUER COMPANY, INC.  
 230 KENT AVENUE  
 WILLIAMSBURG, BROOKLYN, NEW YORK

Groundwater Quality Summary - February 2019  
 Volatile Organic Compounds (VOCs) by USEPA Method 8260

Well Identification	Sample Date	Concentration (ug/l) <sup>1)</sup>																											
		Acetone	Benzene	Toluene	Ethylbenzene	Xylenes (total)	2-Butanone	tert-Butyl alcohol (TBA)	Carbon Disulfide	Chloroethane	Chloroform	Cyclohexane	cis-1,2-Dichloroethene	trans-1, 2-Dichloroethene	1,1-Dichloroethene	1,1-Dichloroethane	Isopropylbenzene	4-Methyl-2-Pentanone	Methyl tert-butyl ether	Methylcyclohexane	Methylene Chloride	n-Propylbenzene	Styrene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl Chloride
MW-1	02/25/2019	ND	ND	0.25*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	02/26/2019	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	02/26/2019	ND	ND	1.0	ND	0.99*	ND	ND	ND	0.74	ND	ND	1.4	0.29*	ND	0.92	ND	ND	0.95	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0
MW-5	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7	02/26/2019	ND	ND	1.1	ND	2.5	ND	ND	ND	0.46*	ND	0.24*	ND	ND	5.2	ND	ND	ND	ND	ND	ND	ND	ND	1.5	2.4*	1.6	ND	ND	ND
MW-8	02/26/2019	ND	ND	1.6	0.28*	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
MW-9A	02/26/2019	12	29	13,000	1,500	13,000	ND	1.3	0.72	ND	ND	0.47*	0.98	ND	ND	2.7	7.6	ND	ND	0.34*	ND	1.7	66	ND	2.9*	ND	10	3.0	1.2
MW-10	02/26/2019	ND	ND	2.1	0.20*	1.7	ND	ND	ND	ND	ND	ND	1.2	ND	0.27*	0.21*	ND	ND	ND	ND	ND	ND	ND	0.23*	ND	3.7	ND	ND	ND
MW-11	02/26/2019	ND	ND	25,000*	4,900	27,000	ND	ND	ND	ND	ND	1.6	51	ND	ND	ND	30	ND	ND	1.3	ND	4.7	ND	1.8	3.6*	0.80	17	6.5	ND
MW-12	02/26/2019	ND	14	2,800	3,500	18,000	ND	ND	ND	4.1	ND	1.2	3.4	ND	ND	3.0	59	ND	ND	3.6	ND	17	ND	0.23*	ND	ND	64	19	3.6
MW-13	02/26/2019	17	240	160,000	4,800	20,000	ND	ND	1.6	ND	ND	1.8	3.8	ND	ND	4.6	74*	51*	ND	3.2*	7.3	16*	ND	ND	9.4*	30*	19*	9.4*	ND
MW-14	02/26/2019	ND	0.21*	150*	13	85	ND	ND	ND	ND	ND	ND	0.38*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22*	ND	1.5	0.27*	ND	ND
MW-15	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-16	02/25/2019	4,200	21	18,000	5,900	39,000	92	ND	1.6	ND	ND	1.2	2.0	ND	ND	4.9	82*	ND	ND	0.67	1.3*	14	ND	8.1	0.91*	7.0	42*	17*	ND
MW-20	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-21	02/27/2019	ND	ND	0.32*	ND	ND	0.33*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-22	02/27/2019	ND	0.23*	14	9.4	50	ND	ND	ND	ND	ND	ND	0.65	ND	ND	ND	0.29*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.49*
MW-23	02/27/2019	ND	ND	0.34*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.23*	ND	ND	ND	ND	ND
MW-24	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-25	02/26/2019	ND	21	18,000	750	4,000	ND	ND	ND	ND	ND	ND	1.2*	3.0	ND	ND	5.0	ND	ND	ND	ND	1.2*	ND	ND	2.4*	1.5*	3.0	1.2*	ND
MW-26	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-27	02/27/2019	ND	ND	0.33*	ND	ND	ND	ND	ND	0.47*	ND	4.1*	ND	0.59	ND	ND	ND	ND	1.0	ND	ND	ND	ND	3.6	ND	6.0	ND	ND	ND
MW-28	02/25/2019	ND	37	19,000*	460	7,200	ND	ND	ND	ND	ND	3.9	ND	ND	1.7*	6.2	ND	ND	ND	ND	1.2*	ND	ND	ND	ND	37	6.6	1.3*	
MW-29	02/27/2019	ND	ND	2,700	2,800	13,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	25*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	46*	ND	ND
MW-30	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31	02/27/2019	ND	0.24*	64*	48	250	ND	ND	0.50	ND	0.44*	ND	ND	ND	ND	0.95	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	0.30*	ND	
MW-32	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33	02/27/2019	ND	ND	0.39*	0.62	1.2*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25*	ND	ND	ND	ND	ND	ND
EW-1	02/27/2019	ND	4.0	0.85*	19	53	ND	ND	ND	0.29*	ND	0.90	0.47*	ND	ND	ND	2.8	ND	ND	0.25*	ND	0.36*	ND	ND	ND	2.0	0.45*	ND	
EW-2	02/26/2019	14	12	10,000*	3,600	23,000	ND	ND	ND	ND	ND	ND	4.4	ND	ND	3.3	12	ND	ND	ND	ND	2.2*	ND	5.7	ND	3.0	9.4	3.6	ND
NYSDEC <sup>2)</sup> TOGS GWQS <sup>3)</sup>		50	1	5	5	5	50	N/A	N/A	5	7	N/A	5	5	5	5	5	N/A	10	N/A	5	5	5	5	5	5	5	5	2

1) Micrograms per liter

2) New York State Department of Environmental Conservation

3) Technical & Operational Guidance Series Ground Water Quality Standards

ND - Not detected above lab recordable limit

NS - Not sampled

N/A - Not available

\*Analyte flagged as estimated J, B, E, CCV-E and/or SCAL-E

indicates exceedance over standard

FYN PAINT & LACQUER COMPANY, INC.  
 230 KENT AVENUE  
 WILLIAMSBURG, BROOKLYN, NEW YORK

Groundwater Quality Summary - August 2019  
 Volatile Organic Compounds (VOCs) by USEPA Method 8260

Well Identification	Sample Date	Concentration (ug/l) <sup>1)</sup>																											
		Acetone	Benzene	Toluene	Ethylbenzene	Xylenes (total)	2-Butanone	tert-Butyl alcohol (TBA)	Carbon Disulfide	Chloroethane	Chloroform	Cyclohexane	cis-1,2-Dichloroethene	trans-1, 2-Dichloroethene	1,1-Dichloroethene	1,1-Dichloroethane	Isopropylbenzene	4-Methyl-2-Pentanone	Methyl tert-butyl ether	Methylcyclohexane	Methylene Chloride	n-Propylbenzene	Styrene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl Chloride
MW-1	08/12/2019	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-2	08/13/2019	ND	ND	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	08/06/2019	ND	10	1.4	380	2,000	ND	ND	0.45	1.50	ND	0.22	5.4	2.8	ND	ND	ND	ND	0.51	ND	ND	ND	ND	ND	ND	2.4 e	0.81 e	1.0	
MW-5	08/06/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.93	ND	ND	ND	ND	
MW-6	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
MW-7	08/07/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.96	0.75	1.0	ND	ND	
MW-8	08/08/2019	ND	ND	ND	ND	0.61	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.45 e	ND	ND	ND	ND	
MW-9A	08/06/2019	5.6	18	8,800	1,200	9,600	ND	ND	1.6 e	ND	ND	ND	ND	ND	2.7	8.2	ND	ND	ND	ND	ND	2.0 e	ND	ND	ND	9.4 e	2.4	ND	
MW-10	08/13/2019	ND	ND	2.1	0.20*	1.7	ND	ND	ND	ND	ND	ND	1.2	ND	0.27*	0.21*	ND	ND	ND	ND	ND	ND	ND	0.23*	ND	3.7	ND	ND	
MW-11	08/08/2019	2.2	ND	25,000*	76	1,500	ND	ND	0.63	ND	ND	ND	ND	ND	ND	ND	0.85	ND	ND	1.3	ND	4.7	ND	1.8	3.6*	0.80	1.8 e	0.64 e	ND
MW-12	08/06/2019	ND	10	2,800	2,200	7,700	ND	ND	ND	4.1	ND	1.2	3.4	ND	ND	3.0	25	ND	ND	3.6	ND	17	ND	0.23*	ND	ND	64	19	3.6
MW-13	08/07/2019	17	210	310,000	5,100	42,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND	16*	ND	ND	10	10*	12*	ND	ND
MW-14	08/06/2019	ND	ND	ND	0.27 e	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20 e	ND	0.69	0.27*	ND	ND
MW-15	08/08/2019	ND	36	180,000*	4,600*	25,000*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22*	ND	ND	ND	ND	ND	160.0	10*	ND	ND	10*	ND	ND
MW-16	08/08/2019	910	1.9	10,000	5,200	32,000	3.9	ND	ND	ND	ND	ND	0.24 e	ND	ND	4.9	82*	ND	ND	0.67	ND	ND	ND	0.64	0.91	0.62	2.8	0.9	ND
MW-20	08/07/2019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-21	08/12/2019	ND	ND	0.32*	ND	ND	0.33*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-22	08/12/2019	ND	0.23*	14	9.4	50	ND	ND	ND	ND	ND	ND	0.65	ND	ND	ND	0.29*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.49*
MW-23	08/12/2019	ND	ND	0.34*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.23*	ND	ND	ND	ND	ND
MW-24	08/07/2019	2.8*	ND	21,000	2,600*	ND	ND	ND	ND	ND	ND	0.78*	ND	ND	ND	ND	18	ND	ND	1.2	ND	4.5	ND	1.9	ND	ND	10	4	ND
MW-25	08/07/2019	1.6	7.6	10,000	840	4,600	ND	ND	0.32*	ND	ND	ND	0.43*	3.0	ND	0.29*	3.2	ND	ND	0.24*	ND	0.47*	ND	0.8	2.5	0.85	2.2	0.76	ND
MW-26	08/06/2019	ND	ND	9.8	3.3	18	ND	ND	ND	ND	0.31*	ND	0.21*	ND	ND	0.27 *	ND	ND	ND	ND	ND	ND	ND	1.6	ND	3.4	ND	ND	18
MW-27	02/27/2019	ND	ND	0.33*	ND	ND	ND	ND	ND	ND	0.47*	ND	4.1*	ND	0.59	ND	ND	ND	1.0	ND	ND	ND	ND	3.4	ND	0.9	ND	ND	ND
MW-28	08/08/2019	ND	58	64,000	1,500	8,900	ND	ND	ND	ND	ND	ND	3.9	ND	ND	1.7*	8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	21	ND	ND
MW-29	08/12/2019	ND	ND	2,700	2,800	13,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	25*	ND	ND	ND	ND	ND	ND	ND	ND	ND	46*	ND	ND
MW-30	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-31	08/12/2019	ND	0.24*	64*	48	250	ND	ND	0.50	ND	0.44*	ND	ND	ND	ND	ND	0.95	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	0.30*	ND
MW-32	---	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-33	08/12/2019	ND	ND	0.39*	0.62	1.2*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25*	ND	ND	ND	ND	ND
EW-1	08/12/2019	ND	4.0	0.85*	19	53	ND	ND	ND	0.29*	ND	0.90	0.47*	ND	ND	ND	2.8	ND	ND	0.25*	ND	0.36*	ND	ND	ND	2.0	0.45*	ND	
EW-2	08/08/2019	14	12	10,000*	3,600	23,000	ND	ND	ND	ND	ND	ND	4.4	ND	ND	3.3	12	ND	ND	ND	ND	2.2*	ND	5.7	ND	3.0	9.4	3.6	ND
NYSDEC <sup>2)</sup> TOGS GWQS <sup>3)</sup>		50	1	5	5	5	50	N/A	N/A	5	7	N/A	5	5	5	5	5	N/A	10	N/A	5	5	5	5	5	5	5	5	2

1) Micrograms per liter

2) New York State Department of Environmental Conservation

3) Technical & Operational Guidance Series Ground Water Quality Standards

ND - Not detected above lab recordable limit

NS - Not sampled

N/A - Not available

\*Analyte flagged as estimated J, B, E, CCV-E and/or SCAL-E

indicates exceedance over standard

# APPENDIX F



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 2  
290 BROADWAY  
NEW YORK, NY 10007-1866

SEP 10 2010

Sean Groszkowski  
Leggette, Brashears & Graham, Inc.  
110 Corporate Park Drive, Suite 112  
White Plains, NY 10604

**Re: Underground Injection Control (UIC) Program Regulation**  
Fyn Paint & Lacquer Co. Inc. (Reference UICID: 10NY08104016)  
230 Kent Avenue, Brooklyn, NY 11211  
**Authorization to Inject**

Dear Mr. Groszkowski:

This letter serves to inform you that the U.S. Environmental Protection Agency is in receipt of inventory information addressing wells authorized by rule located at the above-referenced facility in accordance with 40 Code of Federal Regulations (CFR) §144.26. The operation of the following Underground Injection Control wells are authorized by rule, pursuant to 40 CFR §144.24:

**Ten (10) injection wells to be used for remediation of volatile organic compound (VOC) contaminated soil and groundwater via in-situ chemical oxidation. The injection solution is composed of approximately 100 to 150 gallons of RegenOX. The injection will be accomplished using a direct-push drilling technology and a high-pressure pump. The injection will begin at approximately 5ft bg (feet below grade) and continue at 3-foot intervals into the saturated zone to approximately 20ft bg.**

Should any conditions change in the operation of any of the wells listed above (such as injectate composition, closure of the well, injection of cooling water greater than 98 degrees Fahrenheit, construction of additional wells, etc.) you are required to notify this office within five (5) days. Any accidental spills into a well should be reported within twenty-four (24) hours after the event. Change in operation information should be addressed to:

Nicole Foley Kraft, Chief  
Ground Water Compliance Section  
United States Environmental Protection Agency  
290 Broadway, 20<sup>th</sup> Floor  
New York, NY 10007-1866  
Re: 10NY08104016  
Attn: Luis Rodriguez

Should you own or operate **other** facilities using underground injection wells, please use the enclosed inventory form (EPA Form 7520-16) and instructions, copy for multiple facilities, and submit them to the address listed above. These documents can also be found on the internet at:

<http://www.epa.gov/safewater/uic/pdfs/7520-16.pdf>

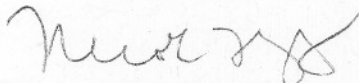
[http://www.epa.gov/region02/water/compliance/supplemental\\_instructions\\_inventory.pdf](http://www.epa.gov/region02/water/compliance/supplemental_instructions_inventory.pdf)

[http://www.epa.gov/region02/water/compliance/wellclasstypetable\\_inventoryc\\_form](http://www.epa.gov/region02/water/compliance/wellclasstypetable_inventoryc_form)

Failure to respond to this letter truthfully and accurately within the time provided may subject you to sanctions authorized by federal law. Please also note that all information submitted by you may be used in an administrative, civil judicial, or criminal action. In addition, making a knowing submission of materially false information to the U.S. Government may be a criminal offense.

Should you have any questions, please contact Luis Rodriguez of my staff at (212) 637-4274 or [rodriguez.luis@epa.gov](mailto:rodriguez.luis@epa.gov).

Sincerely,



Nicole Foley Kraft, Chief  
Ground Water Compliance Section

Enclosure

cc: Robert Elburn  
NYSDEC, Region 2  
1 Hunter's Point Plaza  
Long Island City, NY 11101NY