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Rockaway Park Former Manufactured Gas Plant (MGP) Site
Rockaway Park, Queens County, New York

April 24, 2009 Field Change Request: FCR-02a

Waterloo Barrier Installation Procedures

On behalf of National Grid US, Paulus, Sokolowski and Sartor Engineering, PC (PS&SPC) has prepared this Field Change Request# 2a (FCR-02a) to address the planned 120 foot Waterloo ™ Barrier Installation Procedures at the On-Site Area of the Rockaway Park Former MGP Site (Site).

PS&SPC and National Grid's remediation contractor, Posillico Environmental, Inc. (Posillico) have prepared the following clarifications to the Waterloo ™ Dense Non Aqueous Phase (DNAPL) Migration Barrier procedures identified in Section 3.4 of the November 2008 100 percent Remedial Design Report (RDR). On-Site Area DNAPL Migration Barrier installation activities commenced on March 16, 2009 and are scheduled for completion prior to May 25, 2009.

ON-SITE AREA 120 FOOT LONG WATERLOO BARRIER INSTALLATION PROCEDURES

In order to provide a safe work environment, Posillico has modified their procedures for the installation of the 120 foot long On-Site Area DNAPL Migration Barriers. Posillico has completed the installation of the bottom half (first 60 feet) of the On-Site Waterloo Barrier and Posillico commenced the installation of the top half of the On-Site Waterloo Barrier; however in order to address logistical and efficiency observations a revised installation procedure has been developed and will be implemented.

Posillico's Installation Procedures for the top half of the 120 foot long On-Site Area DNAPL Migration Barriers are presented in the attached document entitled "April 23, 2009 Installation of the Top Half of the Waterloo Barrier (refer to Attachment A)." In summary, the Waterloo Barrier Installation Procedures have been updated where a lattice boom crawler crane and a variable moment vibratory hammer will be utilized to install the steel sheet piles instead of the ABI Mobilram and vibratory hammer. The steel sheet pile will remain attached to the lattice boom crawler crane and the variable moment vibratory hammer assembly until the pile installation is completed.

The remedial design intent of the RDR has been and will continue to be achieved with these improved and revised On-Site Migration Barrier installation procedures.

Posillico will notify National Grid, National Grid's Construction Manager, ARCADIS-US, Inc., and PS&SPC of any emergency deviations from the prescribed Waterloo Barrier Installation Procedures within one day of the event. If Posillico plans to revise the Waterloo Barrier Installation Procedures, a written notice to National Grid and PS&SPC in the form of a Request for Information (RFI) or Field Change Request (FCR) will be submitted a minimum of one week prior to the planned revised Installation Procedures implementation. PS&SPC will then submit an FCR to NYSDEC for the regulatory compliance project record.

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Attachment A

April 23, 2009 Procedures for the Installation of the Waterloo Barrier

National Grid US
Rockaway Park Former Manufactured Gas Plant Site
Rockaway Park, Queens County New York

Item 3.11 Installation of the top half of the Waterloo Barrier With a Lattice Boom Crane and Variable Moment Vibratory Hammer

For the installation of the top half of 120 ft Waterloo Barrier, a Kobelco CK1000 Crawler Crane, APE Model 250 Variable Moment Hammer and Model 700 Power Unit will be utilized. The APE Model 250VM and Model 700 Power Unit were the same make and model as those used to install the test sheet piles prior to job design completion.

Please refer to the attached diagram and written procedure.

1) Once the bottom half of the 120 ft Waterloo sheet piles are driven to approximately 10ft above grade, the crane will be rigged to pick up the top half of the sheet pile using the secondary jib.
2) The crane will then lift the sheet pile using the secondary jib to a height sufficient enough to thread the top half of the sheet into the interlocks of the two adjacent sheets.
    a. A small piece of steel (roughly 4” x1/2” x 4”) will be placed between the leading half sheet and bottom sheet to allow for the full welding of the male interlock.
3) Once the sheet is fully interlocked into the two adjacent sheets, the crane will hold the sheet in place with the secondary jib while the bottom of the sheet is welded to the top of the previously driven sheet.
    a. Once the first half of the sheet pile is fully welded, (including the male interlock) the leading half of the sheet will be picked up so that the small piece of steel can be removed from between the top and bottom half sheets.
    b. Once the second half of the sheet (leading sheet) is completely welded, with the exception of the leading male interlock, the adjacent sheet pile will be driven so that the top of the sheet is a few inches below the splice location of the sheet being welded to allow for the complete welding of the leading male interlock.
4) At this point, the two 60 ft sheet piles are fully welded into one contiguous 120 ft sheet pile, allowing the secondary jib of the Crane to be detached from the top of the sheet.
5) The Crane will then lower the Variable Moment Hammer onto the sheet with the main jib, and drive the 120 ft sheet pile either to grade, or to a height that will facilitate the threading of the adjacent sheet.

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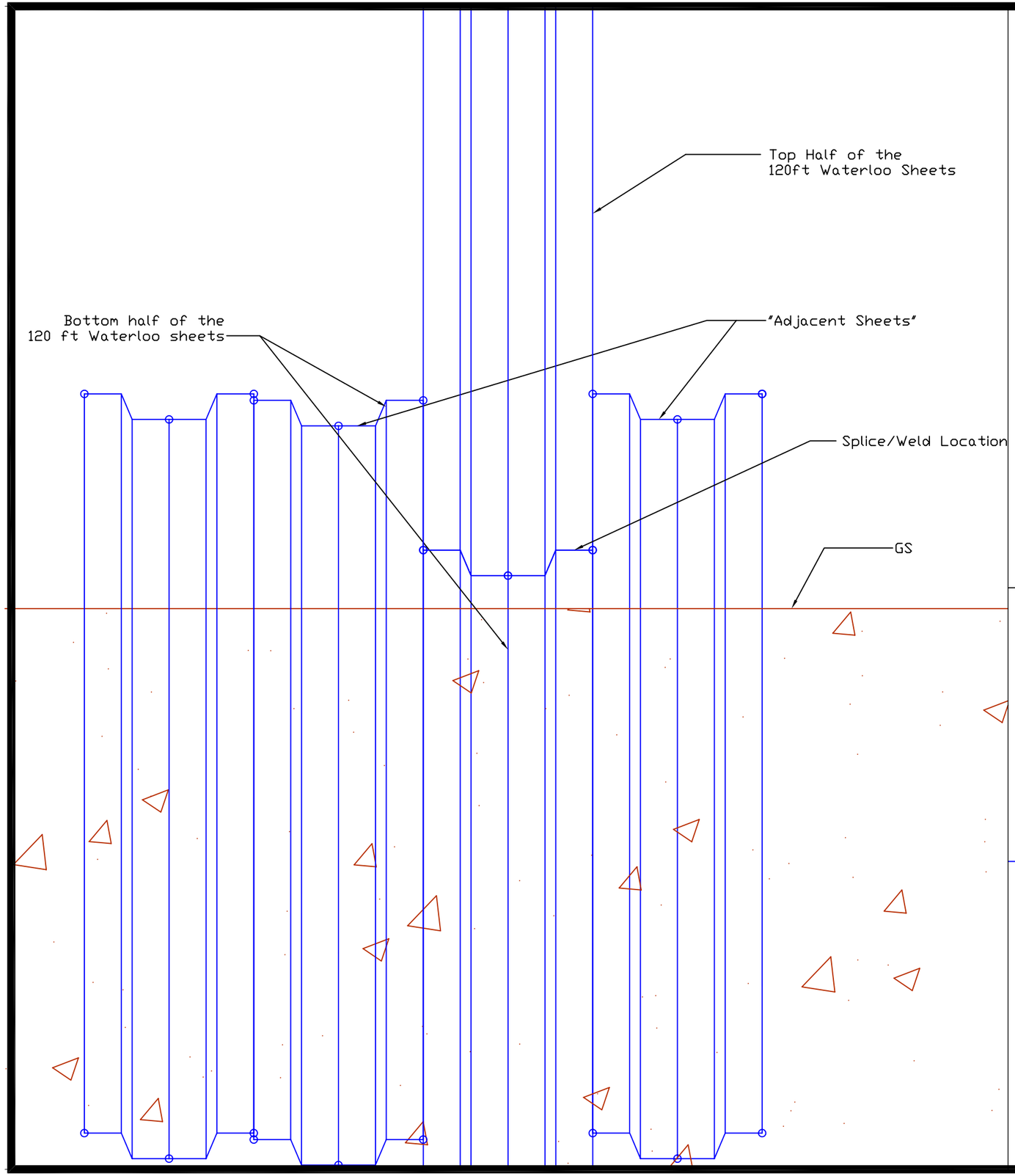

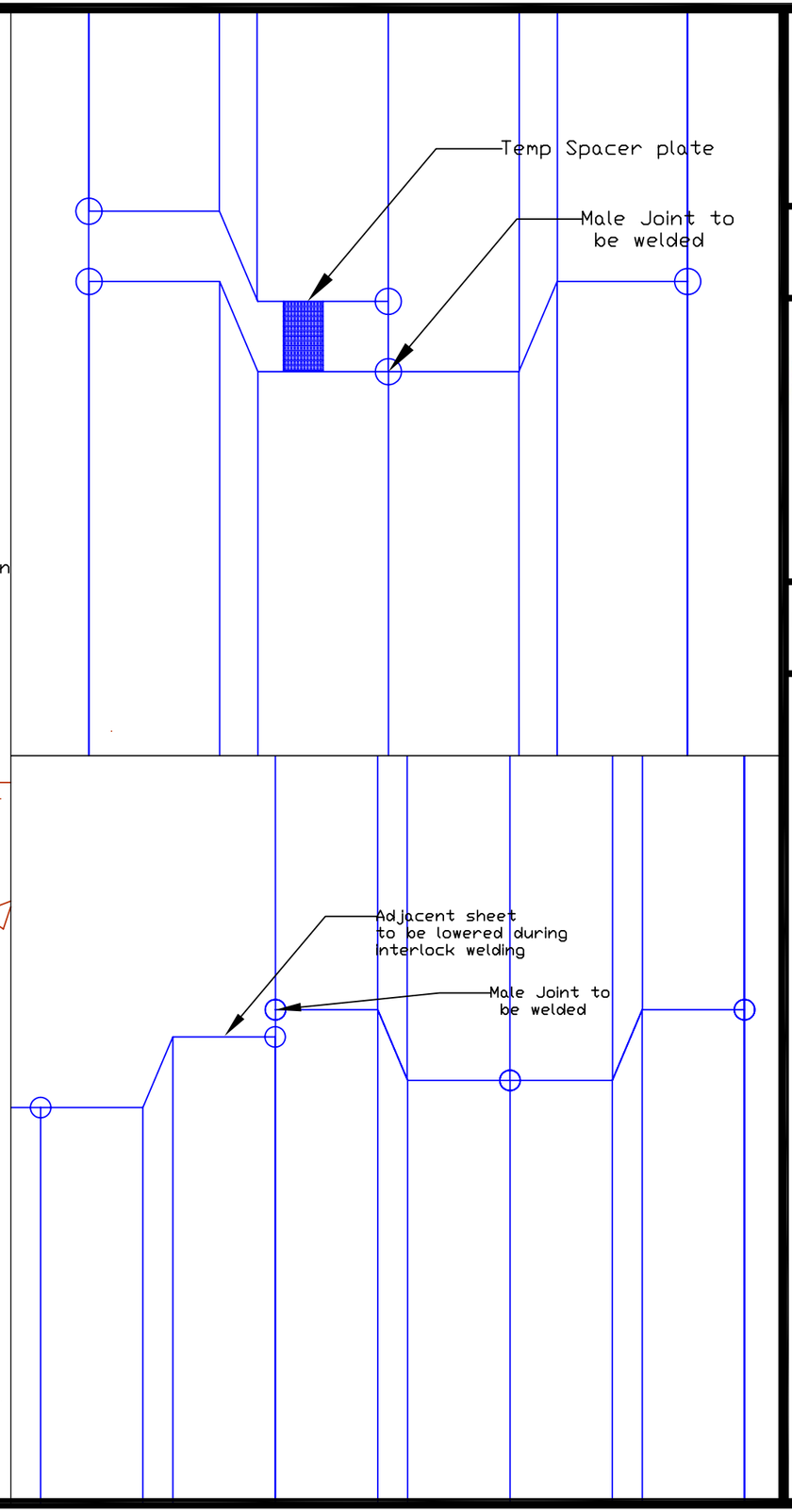

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Drawn: 4/13/09

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Waterloo Installation Procedure