



# PRESS-IN PILING PROJECT ACHIEVEMENTS

in North America

- Drainage Channels
- Seawalls
- Roads, Railroads, and Bridges
- Private Sector
- Emergencies



Construction Solutions Company

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PRESS-IN PILING PROJECT ACHIEVEMENTS in North America

# Drainage Channels

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## Wintersburg Channel Improvements Phase 2



Under Construction

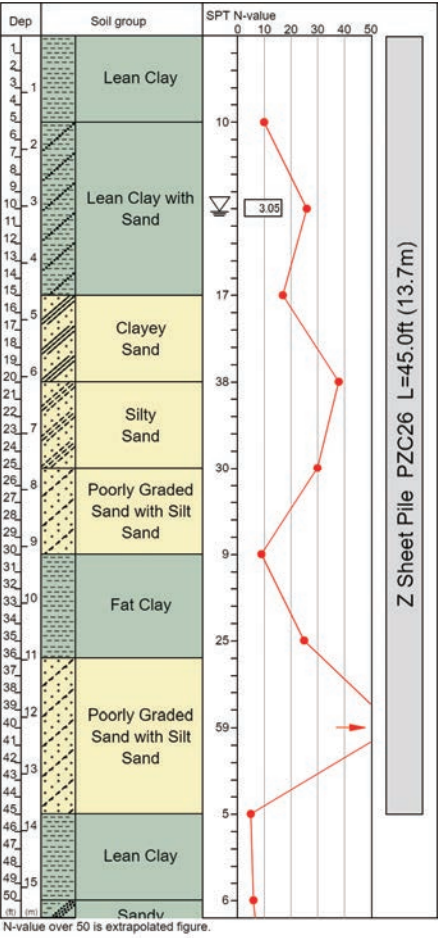


Before Construction



After Completion

Project Name	East Garden Grove-Wintersburg Channel Improvement Project
Purpose of Project	Flood Protection
Location	Huntington Beach, CA, U.S.A
Employer	County of Orange Public Works Flood Division
Duration	March 2013 to September 2013
Press-in Machinery	SILENT PILER™ SCZ-675WMG & ECO1400S
Pile Section & Length	Z Sheet Pile PZC26, L=45.0 ft (13.7m)
Features & Remarks	The Press-in Method was specified by the Orange County Public Works Flood Division in California to install a double sheet pile floodwall to minimize environmental impacts to the surrounding residential areas. 2-3 SILENT PILER were utilized simultaneously to reduce the duration & operating costs of the project.





# J Street Drain Improvement Phase 1



Sheet Pile Installation

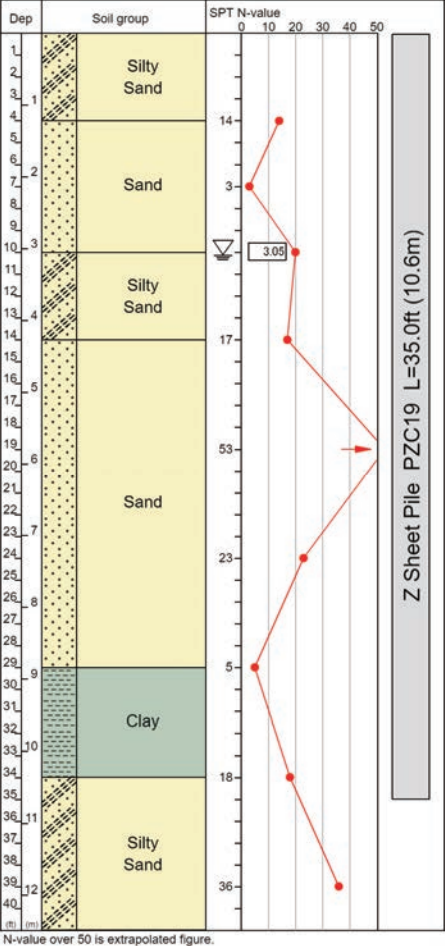


Before Construction



After Completion

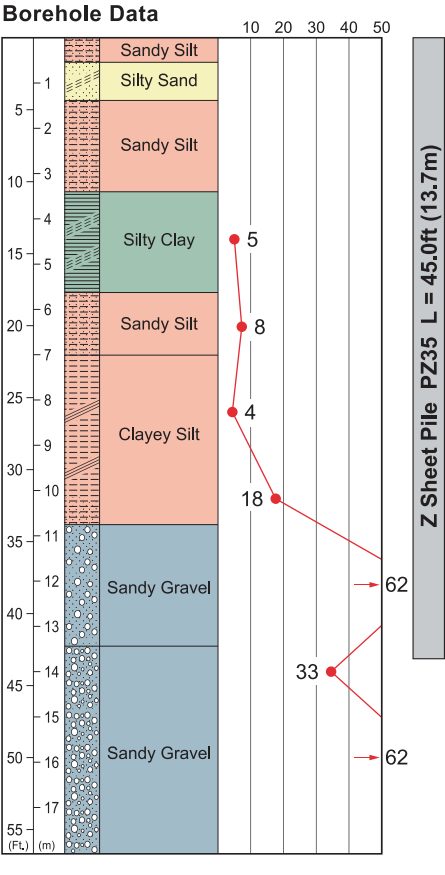
Project Name	J Street Drain Improvement Phase 1
Purpose of Project	Drain Improvement
Location	Oxnard, CA, U.S.A.
Employer	County of Ventura Watershed Protection District Zone 2
Duration	December 2013 to November 2014
Press-in Machinery	SILENT PIELR™ GV-ECO1400S
Pile Section & Length	Z Sheet Pile PZC19, L=35.0 ft (10.6 m)
Features & Remarks	The Press-in Method was specified by the City of Ventura Watershed Protection District in California to minimize noise & vibration impacts to adjacent apartments & homes while installing a retaining wall system. An existing sewer line located just 12 inches away from the sheet pile line was another reason for the specification of the Press-in Method.



# Wintersburg Channel C05 Improvement



Project Name	Wintersburg Channel C05 Improvement
Purpose of Project	Channel Improvements
Location	Huntington Beach, CA, U.S.A.
Employer	County of Orange Public Works Flood Division
Duration	January to February 2008
Press-in Machinery	SILENT PILER™ SCZ-675WM, 10-ton CLAMP CRANE™, UNIT RUNNER™, PILE RUNNER™
Pile Section & Length	Z Sheet Pile PZ35, L=45.0 ft (13.7 m)
Features & Remarks	The GRB System™ was specified by the owner to install an emergency flood control wall to minimize environmental impact and install the wall as quickly as possible working 24 hours each day.

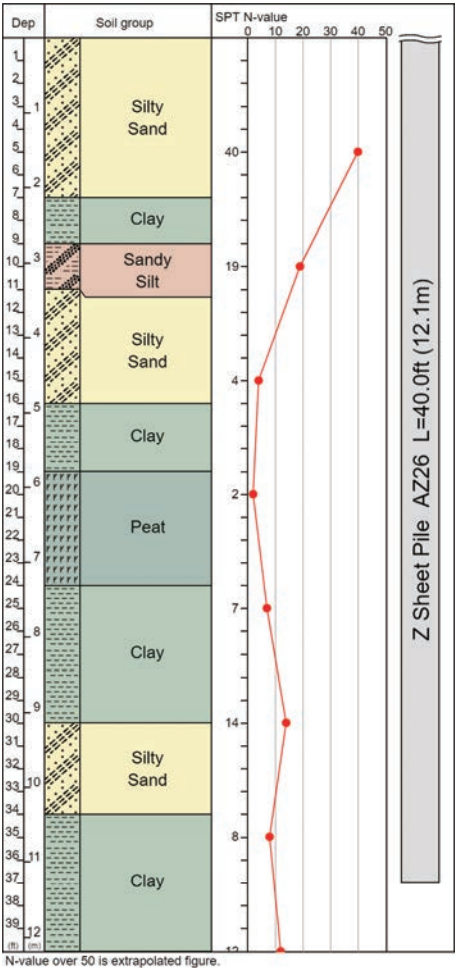




## Secondary Activated Sludge Facility 2 at Plant No.1



Project Name	Secondary Activated Sludge Facility 2 at Plant No.1
Purpose of Project	New Sludge Plant Construction
Location	Fountain Valley, CA, U.S.A.
Employer	County of Orange Public Works Flood Division
Duration	August 2007
Press-in Machinery	SILENT PILER™ SCZ-675WM
Pile Section & Length	Z Sheet Pile AZ26 L=40.0 ft (12.1m)
Features & Remarks	The Press-in Method was specified by the owner to install a temporary sheet pile shoring system within 12in of an existing 96in force main without any settlement. Previous attempts using conventional shoring systems caused settlement of the force main resulting in costly repairs.

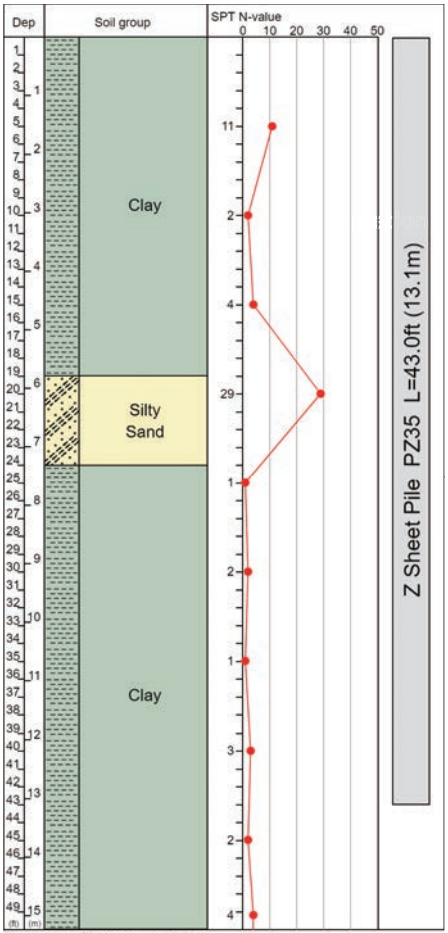


## Gardere Canal Improvements



Project Name	Gardere Canal Improvements
Purpose of Project	Canal Improvements
Location	New Orleans, LA, U.S.A.
Employer	US Army Corps of Engineers
Duration	March 2007
Press-in Machinery	SILENT PILER™ SCZ-675WM (2 Units)
Pile Section & Length	Z Sheet Pile PZ35, L=38.0 ft (11.6 m) & 43.0 ft (13.1 m)

Features & Remarks	The Press-in Method was specified by the US Army Corps of Engineers to minimize disruption to nearby homes and businesses in the community. In addition, the utilization of two SILENT PILER SCZ-675WM significantly reduced the duration of the pile driving activities that ultimately helped reduce the project duration.
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PRESS-IN PILING PROJECT ACHIEVEMENTS in North America

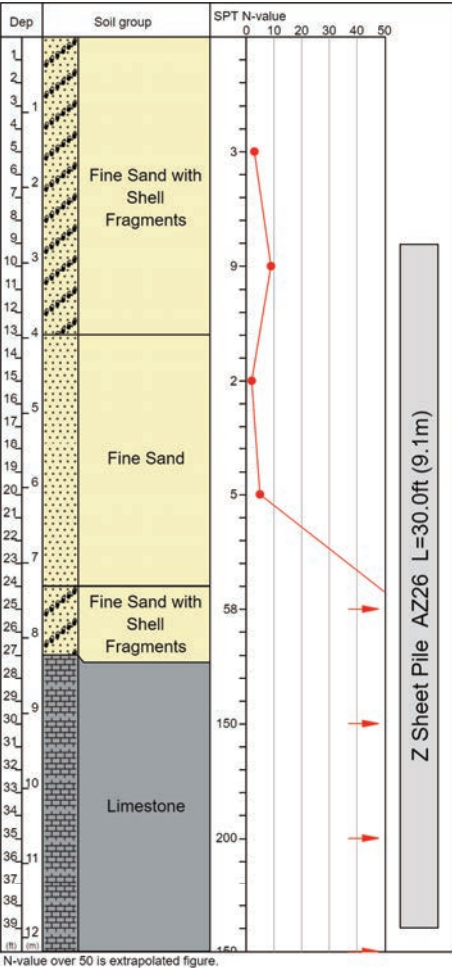
# Seawalls, Bulkhead

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## Connemara / Sea Dunes Seawall



Project Name	Connemara / Sea Dunes Seawall
Purpose of Project	Seawall Expansion
Location	Singer Island, FL, U.S.A.
Employer	Sea Dunes Condominium
Duration	September to October 2006
Press-in Machinery	SILENT PILER™ SCZ-675WM
Pile Section & Length	Z Sheet Pile AZ26, L= 25.0 ft (7.6 m) & 30.0 ft (9.1 m)
Features & Remarks	The Super Crush system was used to install 100% of the design length of sheet pile into dense coquina to create a benched retaining wall system to protect a 15-story condominium from eminent failure due to erosion.





# Lantana Emergency Seawall



Under Construction

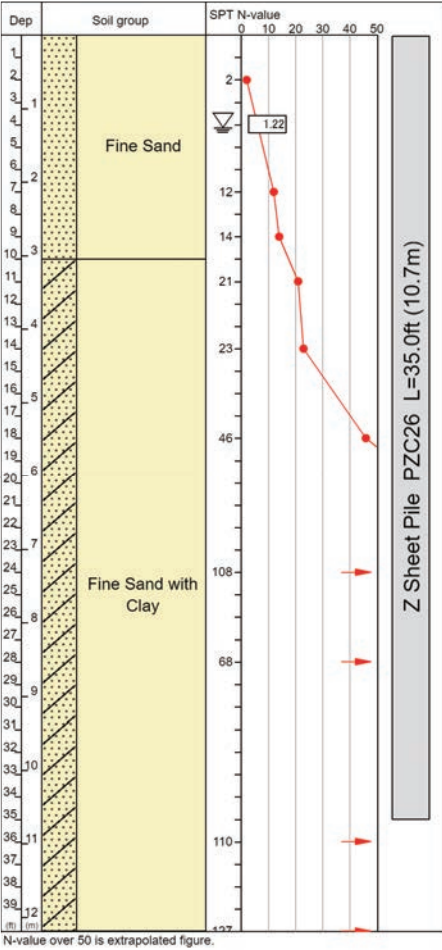


Erosion Damage (Before Construction)



New Seawall (After Completion)

Project Name	Lantana Emergency Seawall
Purpose of Project	Erosion Control
Location	Lantana, FL, U.S.A.
Employer	Town of Lantana
Duration	January to February 2009
Press-in Machinery	SILENT PILER™ GV-ECO1400S
Pile Section & Length	Z Sheet Pile PZC26, L=35.0 ft (10.7 m)
Features & Remarks	The Town of Lantana specified the Press-in Method with the Crush Auger System to penetrate into very difficult soil conditions, minimize the risk of settlement of nearby existing structures, and reduce noise & vibration impacts to keep from disturbing restaurant patrons & park visitors.



# Naples Island Seawall Repair Phase 1



Under Construction

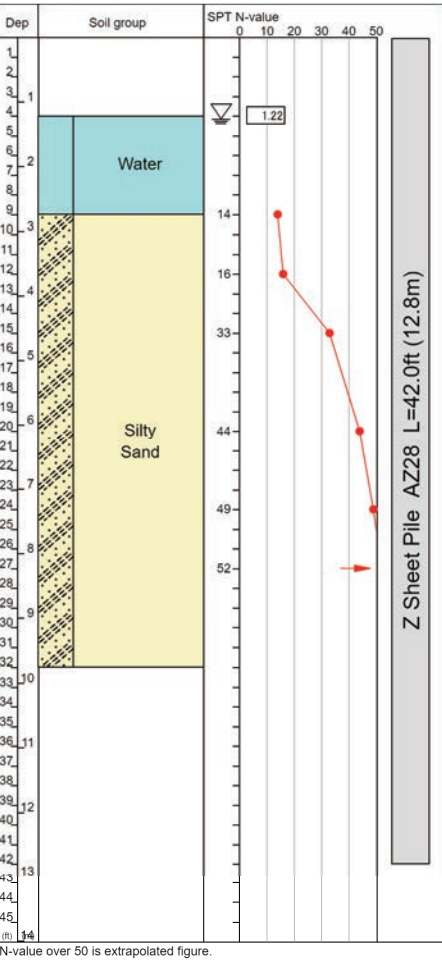


Before Construction



After Completion

Project Name	Naples Island Permanent Seawall Repair - Phase 1
Purpose of Project	Seawall Repair
Location	Long Beach, CA, U.S.A.
Employer	City of Long Beach Department of Public Works
Duration	January to March 2015
Press-in Machinery	SILENT PILER™ GV-ECO1400S
Pile Section & Length	Z Sheet Pile AZ28, L=42.0 ft (12.8 m)
Features & Remarks	The Press-in Method was specified by the City of Long Beach, CA to minimize noise & vibration impacts to adjacent homes and sensitive existing structures while installing new steel sheet pile flood walls in front of the existing failing walls with the GIKEN SILENT PILER. Concrete capping was applied to the finished sheet pile walls afterwards.





# Bulkhead Support for Butler St



Aerial view of the piling works

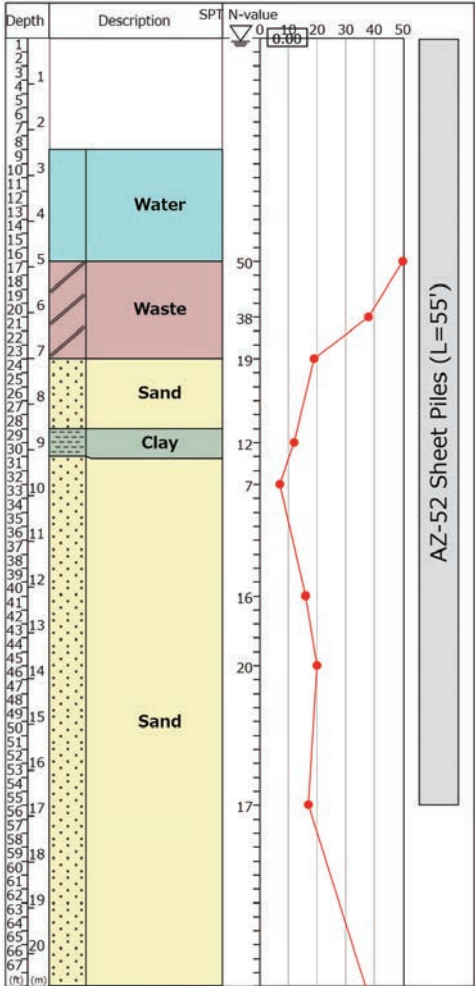
Project Name	Remediation Target Area 1 - Bulkhead Support for Butler St
Purpose of Project	Canal Improvement
Location	Brooklyn, New York,NY,UNITED STATES
Project Owner	Gowanus Canal Remedial Design Group
Main Contractor	Cashman Dredging & Marine Contracting Co.
Piling Contractor	Cashman Dredging & Marine Contracting Co.
Duration	November 2021 to December 2021
Press-in Machinery	SILENT PILER™ F401-1400
Pile Section & Length	AZ36, L=44ft, 55ft; AZ52 L=55ft
Features & Remarks	The Press-in method was specified for this section of the rehabilitation work at the Gowanus Canal due to the close proximity to nearby structures. The contractor chose to use thicker sheets with sacrificial thickness instead of sheet pile coating to increase piling production rates. The site was pre-excavated to a depth of -10 prior to the piling work to remove any underground obstructions.



Falsework to support the sheets



Sheet piles in front of existing wall



\*Soil Replacement Equivalent to SPT N Value of approximately 10

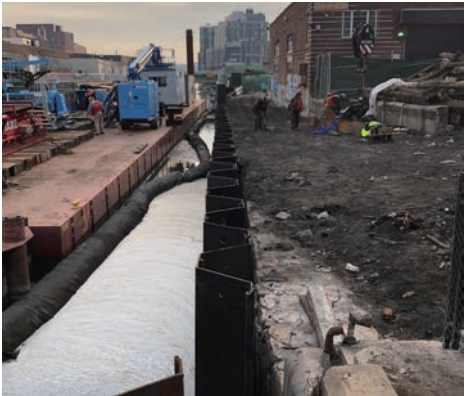
# Bulkhead Support for Douglass St



Installing the last sheet of the alignment next to the adjacent section

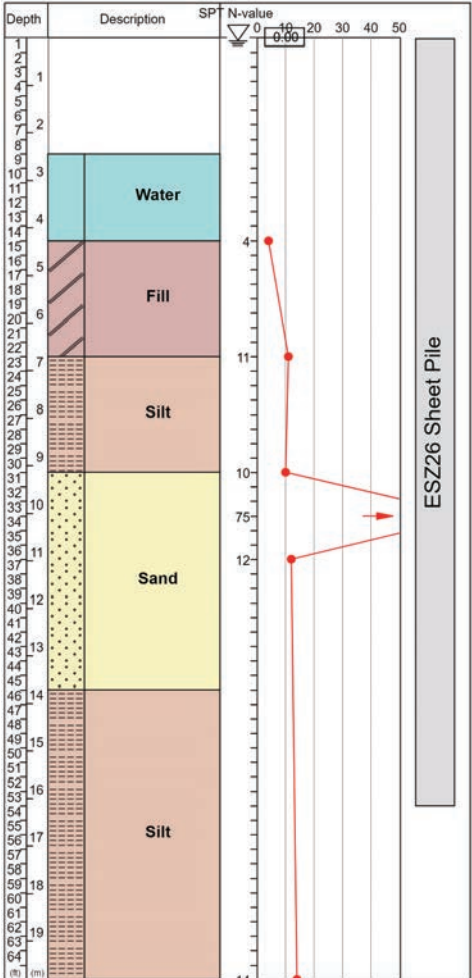


Sheet piling in front of existing bulkhead



Finished alignment

Project Name	Remediation Target Area 1 - Bulkhead Support for Douglass St
Purpose of Project	Canal Improvement
Location	Brooklyn, New York,NY,UNITED STATES
Project Owner	DoBoDe Holdings, LLC
Main Contractor	CM Ashland Construction
Piling Contractor	CM Ashland Construction
Duration	January 2022
Press-in Machinery	SILENT PILER™ F401-1400
Pile Section & Length	ESZ26 L = 53' (16.2m), No = 18 pairs
Features & Remarks	Coated piles were used for corrosion protection. The Press-in method was utilized for this section of the work at the Gowanus Canal due to significant concerns over potential settlement of the adjacent structure. The site was pre-excavated to a depth of -10 prior to the piling work to remove any underground obstructions.



\*Soil Replacement Equivalent to SPT N Value of approximately 10



PRESS-IN PILING PROJECT ACHIEVEMENTS in North America

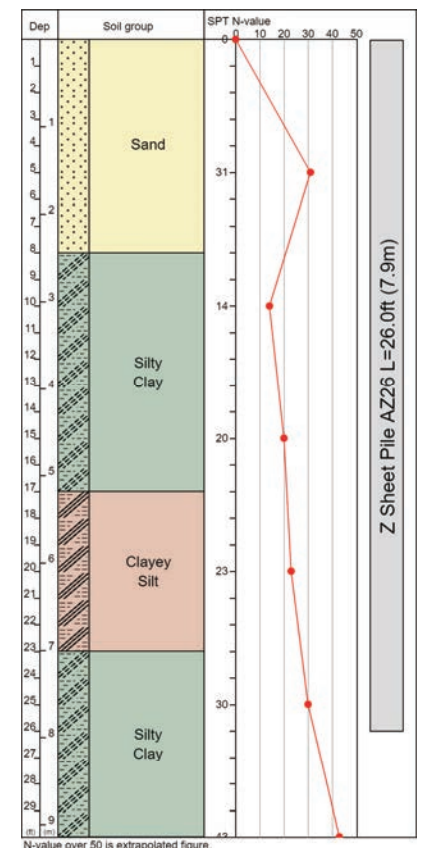
# Roads, Railroads, Subway, and Bridges

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## CSX and MD450



Project Name	CSX and MD450
Purpose of Project	Railroad Grade Separation
Location	Bladensburg, MD, U.S.A.
Employer	Balfour Beatty, CSX, State of Maryland Department of Transportation
Duration	June to August 2005
Press-in Machinery	SILENT PILER™ SCZ-675SM
Pile Section & Length	Z Sheet Pile AZ26 & CZ19, L=26.0 ft (7.9 m)
Features & Remarks	Silent and non-vibratory operation adjacent to historical buildings. Safe and secure operation while maintaining regular rail services.





# Canarsie Tunnel Rehabilitation and Core Capacity Improvement



△ Sheet Piling Situation

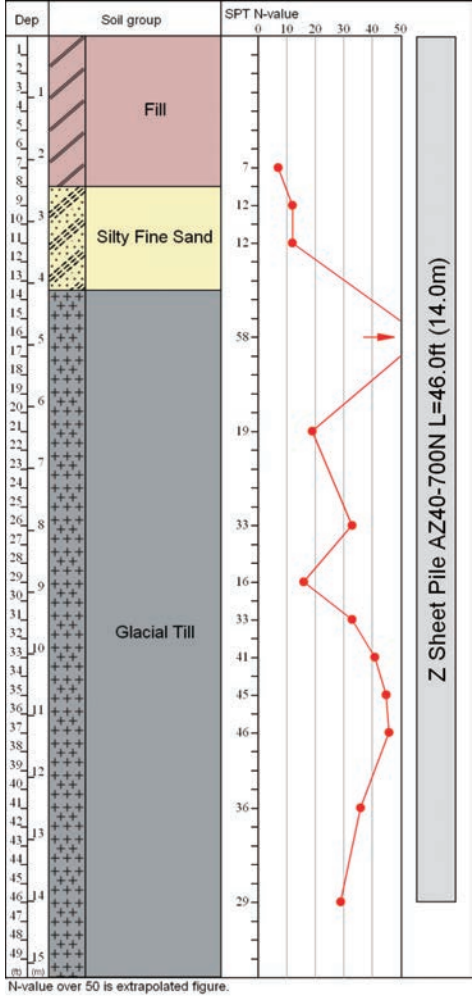


△ Piling Nearby Sidewalk



△ Night Shift Piling Next to Shops

Project Name	Canarsie Tunnel Rehabilitation and Core Capacity Improvement
Purpose of Project	Support of excavation for clean up and new subway entrances
Location	East 14th Street, New York, NY,UNITED STATES
Project Owner	Metropolitan Transportation Authority New York City Transit
Main Contractor	Judlau / TC Electric JV
Piling Contractor	Judlau Contracting, Inc.
Duration	December 2017 to April 2018
Press-in Machinery	SILENT PILER™ F401-Z1400 with Auger System
Pile Section & Length	Z Sheet Pile AZ19-700/AZ40-700N, L=33.0-46.0 ft (10.1-14.0m)
Features & Remarks	Press-in method utilized to avoid any damages to existing utilities. Press-in method utilized for night shift piling due to low noise. Crush auger system utilized to go through obstruction layer. Sheet pile installation was 4 feet away from existing buildings. Sheet pile wall utilized instead of secant wall due to cost and time.



# SOUTHWEST LIGHT RAIL TRANSIT PROJECT



Machine layout for piling works

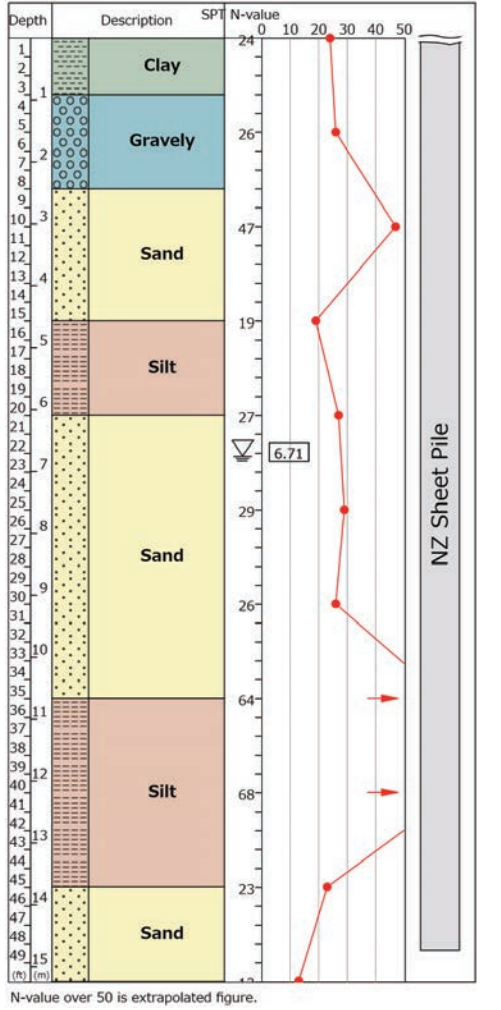


Train passing during piling works



Sheet Piles After Installation

Project Name	SOUTHWEST LIGHT RAIL TRANSIT PROJECT
Purpose of Project	Railway Extension(Support of Excavation&Permanent Retaining Wall)
Location	Minneapolis,Minnesota,UNITED STATES
Project Owner	Metro Council-SWLRT
Main Contractor	Lunda/C.S. McCrossan JV
Piling Contractor	Lunda/C.S. McCrossan JV
Duration	September 2019 to November 2020
Press-in Machinery	SILENT PILER™ F401-1400 x 2 Units
Pile Section & Length	NZ26, NZ38, NZ38-CP L = 25'(7.6m) - 65'(19.8m), No = 2,500 pairs
Features & Remarks	Super Crush Auger method allowed for sheet piles to be installed into hard ground conditions with SPT N values of greater than 50 which also included cobbles and boulders. The Press-in piling method allowed for piling works to be done within close proximity to an operational railroad without requiring closures. Piling works also done in close proximity to residential structures.





## MTA 8 Station ADA Upgrades - Lorimer Street

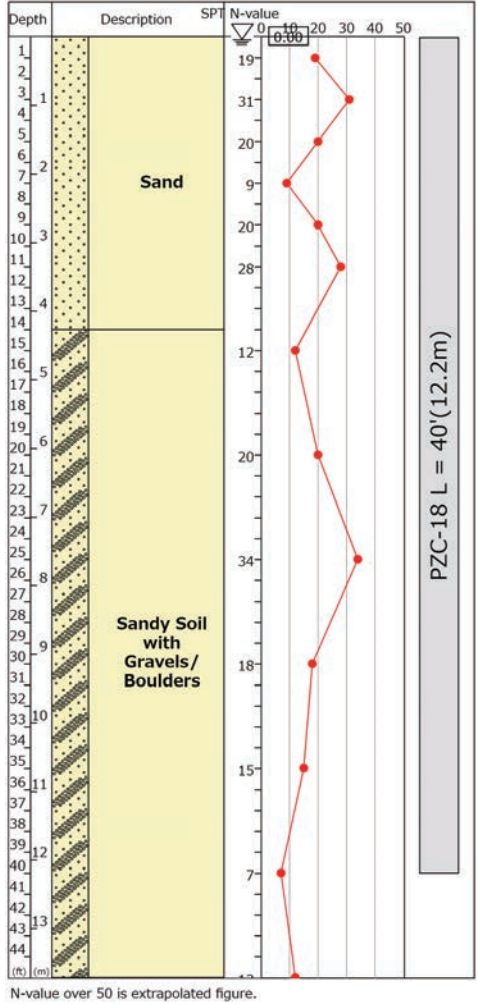


View of the site at Lorimer Street

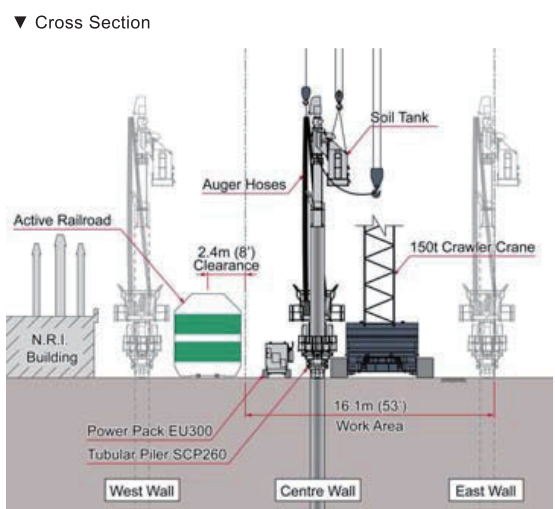
Project Name	MTA 8 Station ADA Upgrades - Lorimer Street
Purpose of Project	Support of Excavation
Location	Brooklyn, New York,NY,UNITED STATES
Project Owner	Metropolitan Transit Authority
Main Contractor	Judlau Contracting, Inc.
Piling Contractor	New York Concrete Corp.
Duration	February 2022 to March 2022
Press-in Machinery	SILENT PILER™ F401-1400
Pile Section & Length	PZC-18 L = 40' (12.2m)
Features & Remarks	<p>The Press-in method was specified for this site due to vibration and noise restrictions with the site located in Brooklyn, NY.</p> <p>The nearest structure was only 5ft from the face of sheet pile. A walkway was maintained for pedestrians between the site and structure while piles were installed.</p> <p>Due to the presence of boulders (some as large as 15"), the Super Crush Method was required to install the sheets.</p>



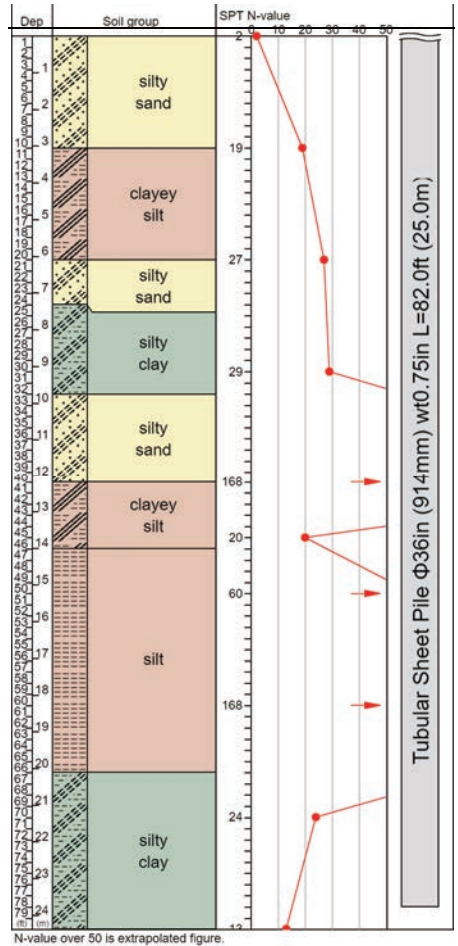
### Pedestrian Walkway



## West Toronto Diamond Grade Separation

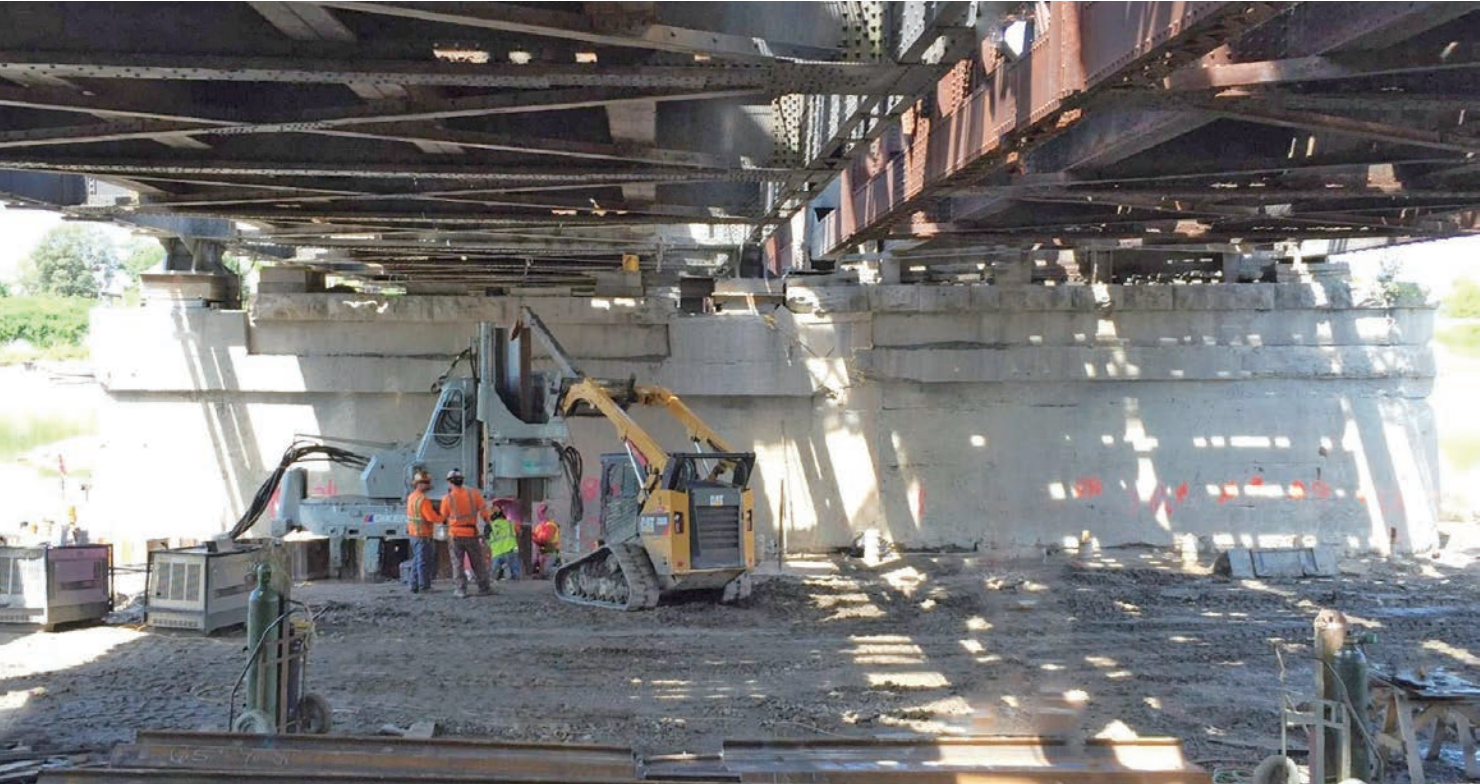


Project Name	West Toronto Diamond Grade Separation
Purpose of Project	Construction of Semi-subterranean Subway Rail
Location	Toronto, ON, CANADA
Employer	Go Transit
Duration	September 2009 to September 2010
Press-in Machinery	SILENT PILER™ SCP260
Pile Section & Length	Tubular Sheet Pile Φ36 in (914 mm), PT Interlock, wt=0.75 in, L=82.0 ft (25.0 m)
Features & Remarks	No negative impact to neighbors and nearby commercial facility. Sheet piling work at the silt layer with gravel with SPT N-value over 160. Safety piling work without disturbing active railway service. Press-in piling carried out 6.5 ft from an existing building.





# CSX Bridge Concrete Pier Repair



Sheet Pile Installation



Spliced Pile Welding



After Excavation

Project Name	CSX Bridge Concrete Pier Repair
Purpose of Project	Concrete Pier Repair
Location	Columbus, OH, U.S.A.
Employer	CSX
Duration	April to August 2015
Press-in Machinery	SILENT PILER™ SCZ675SMG, UP150
Pile Section & Length	Z Sheet Pile PZ18 & U Sheet Pile SX27, L=25.0 ft (7.6 m)
Features & Remarks	<p>The Press-in Pile Driving Method was utilized for this emergency bridge pier repair on the Scioto River in Columbus, OH since conventional pile driving equipment may have caused more damage to the actively sinking bridge pier.</p> <p>In addition, the smallest GIKEN SILENT PILER in the U.S. was used for this project due to the project's limited vertical clearance. Piling work proceeded on a 24-hour basis due to the SILENT PILER non-vibratory and minimal noise characteristics.</p> <p>The SILENT PILER power pack was able to elude the river's increasing and decreasing water levels during its 24-hour operation since the power pack is remote-controlled and equipped with a crawler.</p>

# BR 1-159 on James Street over Christina River



View of the Site at James Street

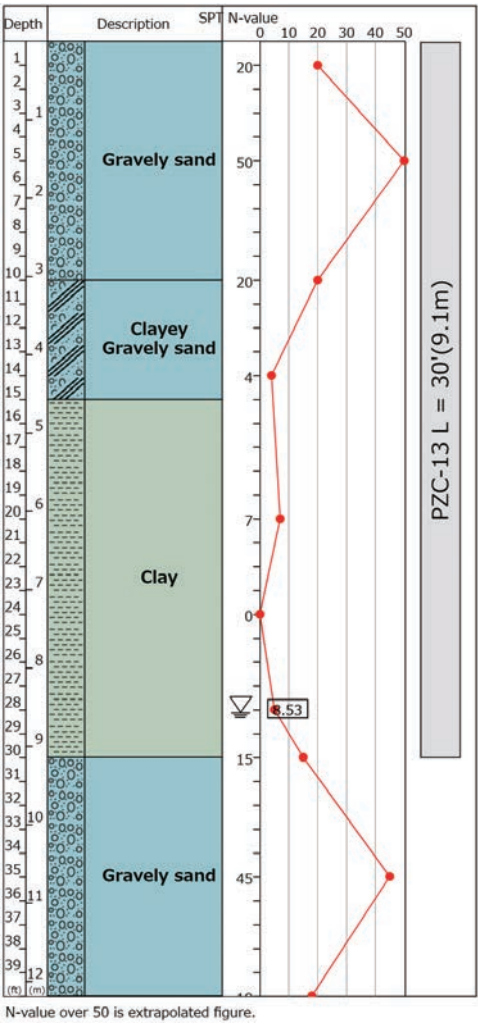


Low Overhead Clearance



Welded Splice Plates

Project Name	BR 1-159 on James Street over Christina River
Purpose of Project	Cutoff walls for new bridge construction
Location	Newport, DE, UNITED STATES
Project Owner	Delaware Dept. of Transportation (DelDOT)
Main Contractor	Mumford & Miller Concrete, Inc.
Piling Contractor	Mumford & Miller Concrete, Inc.
Duration	December 2021 to January 2022
Press-in Machinery	SILENT PILER™ F401-1400
Pile Section & Length	PZC-13 L = 30' (9.1m)
Features & Remarks	<p>The press-in method was specified for cutoff wall installation due to settling concerns of an existing sanitary sewer.</p> <p>The SILENT PILER™ F401-1400 was able to carry out sheet pile installation despite challenging space restrictions which low clearance pile installation under power lines.</p> <p>The sheet pile alignment had a 25' min clearance from the existing sanitary sewer.</p>





Private Sector

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Theme Park Causeway in Orlando



Sheet Pile Installation

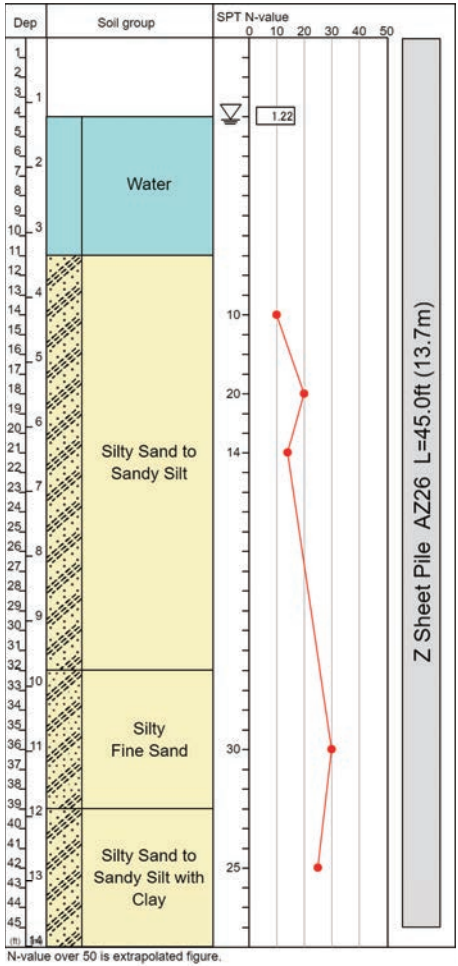


Sheet Pile Installation



Completion

Project Name	Theme Park Causeway
Purpose of Project	Stormwater Retention
Location	Orlando, FL, U.S.A.
Employer	Theme Park in Orlando, FL
Duration	February to April 2014
Press-in Machinery	SILENT PILER™ GV-ECO1400S
Pile Section & Length	Z Sheet Pile AZ26, L=45.0 ft (13.7 m)
Features & Remarks	The Press-in Method was utilized to install a steel sheet pile cofferdam in Orlando, FL with a GIKEN SILENT PILER press-in pile driver in order to minimize noise & vibration impacts for the theme park visitors. Due to its accurate functions, the SILENT PILER was also used to overcome very tight pile line tolerances on the project site since pre-cast concrete panels were to be installed after sheet pile installation was complete. The entire length of this causeway was designed based on a predetermined radius. The pressed-in sheet piles were designed to carry the entire bridge load.





# Evo Condominiums Lot 114



Project Name	Evo Condominiums Lot 114
Purpose of Project	Underground Car Parking Structure
Location	Los Angeles, CA, U.S.A.
Employer	Howards Wright Construction Co
Duration	February to April 2006
Press-in Machinery	SILENT PILER™ SCZ-675SM x 2 units
Pile Section & Length	Z Sheet Pile AZ36, L=50.0 ft (15.2 m)
Features & Remarks	Installation into very dense coarse sand with gravel and cobbles. (Max. SPT value was more than 500)

# Sunrise Senior Living Facility



Vibration free machine to install sheet pile by radio control

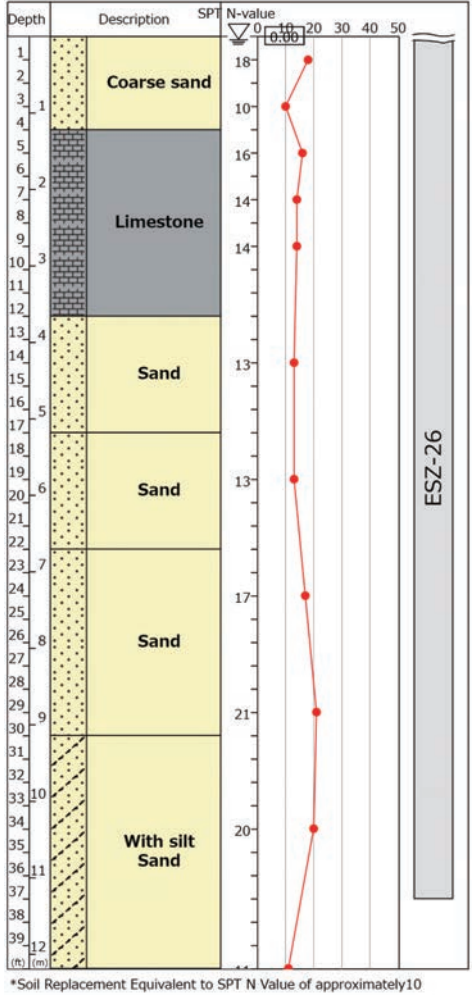


PILER STAGE™ for pitching sheet pile safely



How close to residential building

Project Name	Sunrise Senior Living Facility
Purpose of Project	SOE, Permanent basement wall
Location	1000 Ponce De Leon Blvd, Coral Gables,FL,UNITED STATES
Project Owner	Sunrise Senior Living LLC
Main Contractor	Winmar Construction
Piling Contractor	ASAP Installations
Duration	February 2023
Press-in Machinery	SILENT PILER™ F401-1400
Pile Section & Length	ESZ-26, L=40.0'(12.2m), No. 21
Features & Remarks	Due to noise and vibration issues to existing building, the Press-in piling method was utilized to install sheet pile wall to minimize environmental impacts to the surrounding residential areas. Reducing negative impact such as ground settlement and damages to neighbors buildings. Machine never toppled over since grabbing already installed piles into ground previously.



\*Soil Replacement Equivalent to SPT N Value of approximately 10



# 83-89 COLUMBIA STREET NEW BOILER PLANT & SITE WORK



Piling Work in Progress

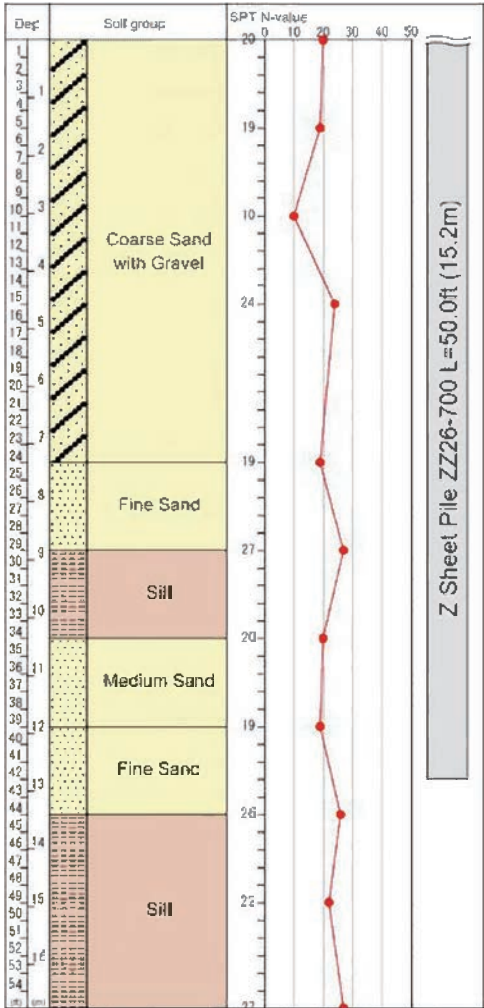
Project Name	83-89 COLUMBIA STREET NEW BOILER PLANT & SITE WORK
Purpose of Project	New Construction of Boiler Plant
Location	New York, UNITED STATES
Project Owner	MASARYK TOWERS CORP.
Main Contractor	AM&G WATERPROOFING LLC
Piling Contractor	Peterson Geotechnical Construction LLC
Duration	July 2019 to August 2019
Press-in Machinery	SILENT PILER™ F401-1400
Pile Section & Length	Z Sheet Pile ZZ26-700, L=50.0 ft (15.2m)
Features & Remarks	Achieved overall cost reduction by replacing soil mixing walls with sheet pile walls. Pile installation carried out to without noise & vibration. Pile installation carried in constrained residential area.



Aerial View



Piling Adjacent to Existing Structure



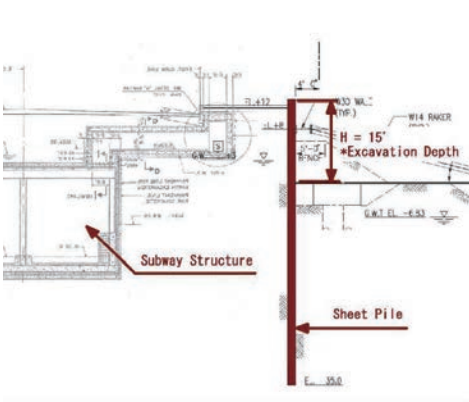
# 1998 Second Avenue – Support of Excavation



Under Construction

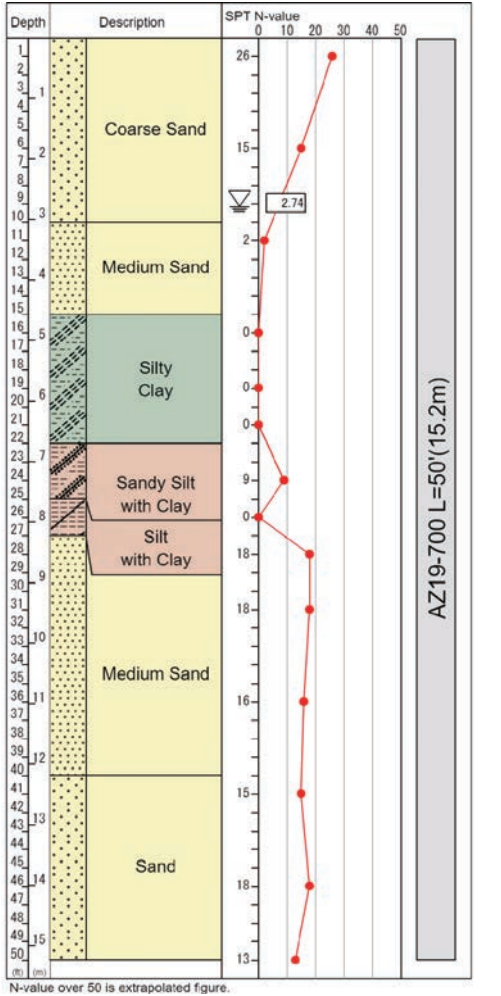


Initial Piling



Cross Section

Project Name	1998 Second Avenue – Support of Excavation
Purpose of Project	New Building Construction
Location	1998 2nd Avenue, New York, NY, UNITED STATES
Project Owner	Second and 103, LLC
Main Contractor	Simpson & Brown, Inc.
Piling Contractor	Simpson & Brown, Inc.
Duration	June 2020 to July 2020
Press-in Machinery	SILENT PILER™ F401-1400
Pile Section & Length	AZ19-700 L=50'(15.2m) No=190
Features & Remarks	The Press-in method was specified due to the proximity of vibration sensitive structures including apartment buildings and the New York City Transit Second Avenue Subway tunnel. Practically no risk of Press-in machines overturning during installation because it fully grasps piles already pressed into The ground.





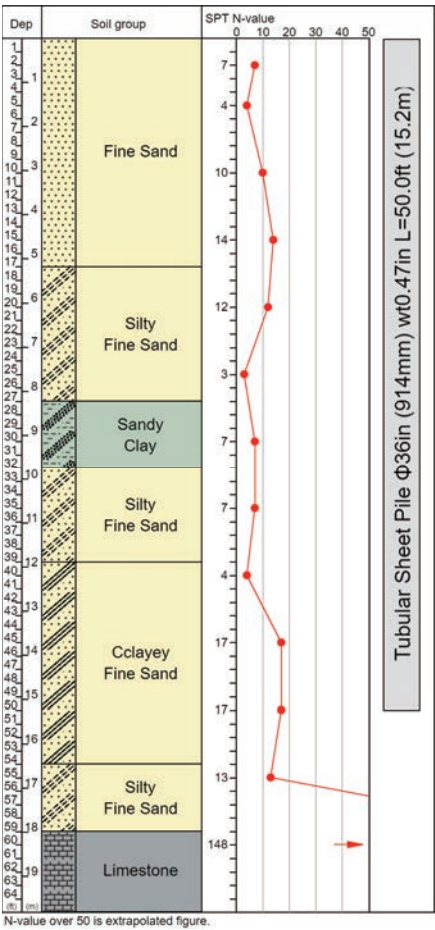
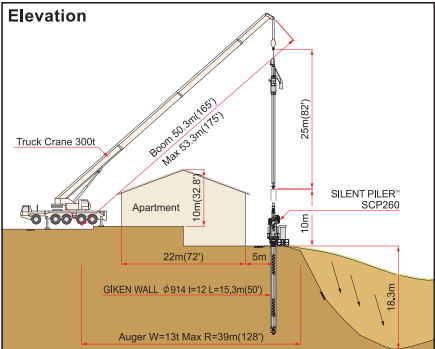
PRESS-IN PILING PROJECT ACHIEVEMENTS in North America

Emergencies

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Project Name	Woodhill Sinkhole
Purpose of Project	Rescue Method (protecting structures from sinkhole)
Location	Orlando, FL, U.S.A.
Employer	The Willson Company
Duration	June to July 2002
Press-in Machinery	SILENT PILER™ SCP260
Pile Section & Length	Tubular Sheet Pile Φ36 in (914 mm), PT Interlock, wt=0.47 in, L=50.0 ft (15.2 m)
Features & Remarks	Narrow and laterally limited working area. Piling close to the existing structures. Risk of damage to buildings significantly reduced while piling. Safety consideration to the building foundations and the unstable ground itself.





# Massive Drainage Collapse



Courtesy Aaron Morrison



Top: After Parking Lot Collapse  
Bottom: Sheet Piling

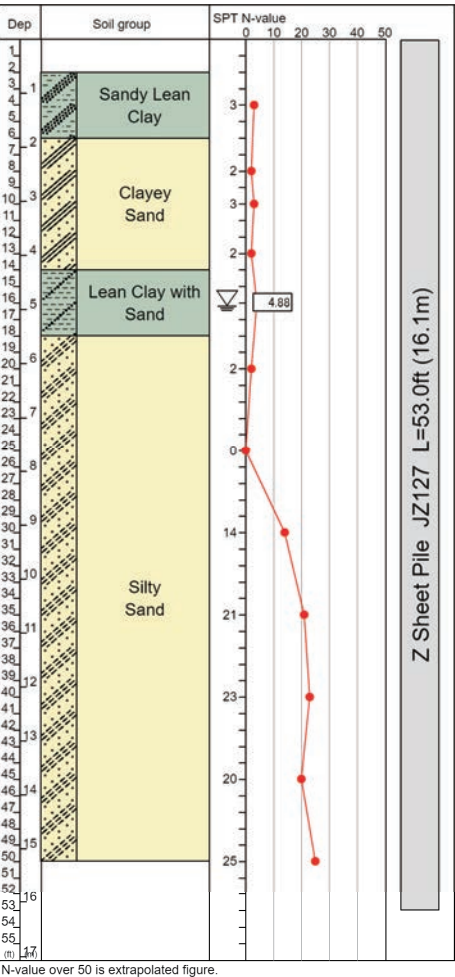
Project Name	Massive Drainage Collapse
Purpose of Project	Drainage Work
Location	Meridian, MS, U.S.A.
Employer	City of Meridian
Duration	November 2015
Press-in Machinery	SILENT PILER™ GV-ECO1400S
Pile Section & Length	Z Sheet Pile JZ112, 120, & 127; L=53.0 ft (16.1 m)
Features & Remarks	Emergency repair work was performed at a ditch collapse incident that happened on November 7, 2015 in Meridian, MS. Sheet pile driving was necessary for the emergency project. However, due to the risk of a secondary disaster occurring at an adjacent building by using a vibratory hammer, the SILENT PILER was chosen to press in the sheet piles.



Sheet Piling



Completion of Sheet Piling



# Carpet N' Drapes Culvert Rehabilitation



Sheet Pile Installation



Before Construction



Completion of Sheet Piling

Project Name	Carpet N' Drapes Culvert Rehabilitation
Purpose of Project	Culvert Rehabilitation
Location	Jacksonville, FL, U.S.A.
Employer	Clay County
Duration	October 2007
Press-in Machinery	SILENT PILER™ SCZ-675WM
Pile Section & Length	Z Sheet Pile PZC18, L=35.0 ft (10.6 m)
Features & Remarks	Due to heavy rain, a storm drain culvert collapsed, resulting in the above ground to collapse as well. In consideration of the risk of a secondary disaster occurring at an adjacent building by using a vibratory hammer, the SILENT PILER was chosen to press in the sheet piles.

