

Old Cutchogue Burying Ground

Conservation Treatment Program

Beginning in 2014, annual field treatments have been undertaken by Steward Preservation Services at the Old Cutchogue Burying Ground. The project has been offered as an interactive, hands-on workshop for volunteer participants who assist with general cleaning, repair of stones and targeted removal of failed previous repairs under the supervision of Joel C. Snodgrass, materials conservator. Conditions encountered at the site require both standard conservation procedures and specifically designed techniques, including the following:

Cleaning with D/2 Biological Solution

“D/2” was formulated for the conservation maintenance industry as a simple yet effective method for cleaning historic masonry, and particularly for historic stone burial markers located in outdoor sites. D/2 is pH neutral and biodegradable, and comes as a clear liquid solution that can be spray applied without the need for scrubbing or additional treatment in most cases. As such, it proves to be an easy method to achieve adequate if not superior cleaning, and can be used by volunteers with minimal training.

Resetting of Tilted and Fallen Markers

Stone markers typically move over time due to a variety of factors including settling in the soil, impact forces, or general weathering. While small amounts of movement do not need to be corrected, in cases where more severe movement has occurred it becomes necessary to straighten markers to a more vertical position in order to prevent possible breakage. Such breakage may be the result of impact damage, visitors putting undue weight on the marker, or even inherent weakness. Resetting is simple in concept, but requires hand work to excavate the soil immediately adjacent to the tilted marker, at the sides and away from the tilted side, after which the marker is freed and gently repositioned to a vertical orientation. In most cases, it is not necessary to lift the stone if free movement is confirmed. Once repositioned, the previously tilted side is back-filled with excavated earth mixed with stabilizing stone or brick pieces to provide additional firmness.

Removal of Damaging Concrete to Bases

Unfortunately, stone markers may have received previous “repairs” with concrete that is ultimately damaging to the stone due to significant rigidity and hardness, impeding of moisture transfer, and damage to fragile surfaces. As such, the removal of these concrete repairs is often equally complex. When concrete is formed around the base of a headstone, it may obscure portions of the original epitaph. Such applications must be carefully removed via cutting the concrete away from the stone

in successive layers with 'relief cuts' to prevent any impact to the stone itself, and selectively chiseling cut pieces away from the stone. In many cases it is not necessary to remove all concrete such as that buried below grade level; however, it is critical that the marker is freed from the concrete.

Structural Pinning of Broken Markers

In cases where markers have been broken and stability of repairs is in question, it may become necessary to utilize non-corrosive structural pins to ensure that structural stability is provided. Stainless steel pins or threaded plastic pins utilized in combination with structural adhesives can provide sufficient reinforcement to broken elements for proper repair. In complex breaks, using a variety of pins may be required. Pinning requires a determination if sufficient mass, thickness and strength resides in the stone elements prior to the creation of corresponding hole shafts to receive pins. Drilling in such cases is a skill that requires experience and a patient approach to avoid causing potential damage. Once a successful "dry run" has been executed, the broken markers are typically then reconstructed from the bottom moving upward.

Structural Adhesive Repair

Similar to structural pinning, broken stones can also be repaired using specifically formulated structural adhesives, but in cases where structural pins are not deemed necessary. In such cases, the structural adhesive can be successful if sufficient surface area to allow repair and breathability is available; again such determinations must be made prior to executing work and requires an experienced assessment. In most cases, bracing is required during adhesive procedures to ensure that no movement occurs after setting broken pieces together.

Removal of Failed Previous Repairs

In addition to the unfortunate use of concrete as a repair method, other similar well intended but unsuccessful repairs are often found. At the burying ground the use of inappropriate epoxy was applied to cracks and areas of separation on a select number of markers. The use of epoxy on exterior surfaces is generally detrimental given the material is not designed for this specific use, it does not allow breathing or moisture transfer, it is extremely hard, and it is not UV resistant thereby becoming brittle as well as discolored. Given these factors, removal of the epoxy becomes necessary but requires very careful and exacting extraction with the use of micro tools and solvents in gel form.

Grout Injection to Delaminated Surfaces

The use of masonry grouts is a traditional method for stabilization of delaminated surfaces, most typically found with sandstone ("brownstone") markers. Due to a variety of factors, sandstone markers often suffer from delaminating outer surfaces, and sadly, often the loss of carved inscriptions as these layers break off due to their advanced fragile nature. As such, providing stability to the delaminating layer requires filling

the void behind the outer delaminated layer with a specifically designed liquefied masonry grout, thereby providing a material that both spans the void and in so doing, also providing a stabilizing connection between. As the grout is designed to address the physical properties of the stone, including strength ratio's and moisture transmission, such use provides a compatible repair. In addition to removing unwanted materials such as incompatible caulks as a preparatory effort, delaminated layers require being cleared of debris and foreign matter, and other repairs made to the stone as required.