

ADDENDUM NUMBER 1 TO
GEL ENGINEERING, LLC'S ASBESTOS ABATEMENT DESIGN SPECIFICATION
DELTA MILLS PLANTS 2 AND 3

The following technical information below becomes a part of and is included in GEL Engineering, LLC's written asbestos abatement design specification dated March 11, 2022.

All bidders must acknowledge receipt of this Addendum number 1 via electronic mail, text, and/or other written means to the Marlboro County Government. Failure of any bidder to acknowledge receipt of Addendum number 1 in writing may result in rejection of the asbestos abatement bid by the Marlboro County Government.

Technical Information:

The following technical information applies to handling of asbestos-containing debris at the Delta Mills site. Asbestos-containing debris is defined as damaged or significantly damaged asbestos containing thermal system insulation, surfacing materials, and/or miscellaneous materials that are located on the floor of the building areas.

"Extreme care should be used to minimize contact and disturbance of asbestos-containing debris at the Delta Mills site. Clean-up of existing asbestos-containing debris must be performed under negative pressure, HEPA-filtrated enclosures.

In instances where erection of the enclosure (poly prep activities) cannot be performed without disturbance of asbestos-containing debris on the floor, approved methods (e.g., HEPA vacuuming and wet methods) must be utilized to clear a path to these areas so approved critical barriers and enclosures can be safely erected to minimize the disturbance and the re-entrainment of asbestos fibers into the air. Only limited sections of floors contaminated with asbestos-containing debris must be HEPA vacuumed and wet-removed to allow a safe pathway to allow erection of approved enclosures/containment systems."

The following technical information applies to glove bag work performed at the Delta Mills site:

"All applicable OSHA requirements shall be met during glove bagging operations. Asbestos-insulated pipes may be wrapped in 6-mil polyethylene plastic and duct tape, or equivalent materials; glove bagged in small sections at an appropriate distance (typically 10 to 20 feet apart); and metal piping can be cut at the glove bagged areas for removal of the section of pipe and disposal of the entire, wrapped piping as asbestos waste. Alternately, asbestos pipe insulation may be removed from the entire pipe using glove bagging techniques. Specific glove bag requirements are detailed below and become a part of the GEL Engineering; LLC's written asbestos abatement design specification dated March 11, 2022.

GLOVEBAG PROCEDURES

1. Mix the surfactant with water in the garden sprayer, following the manufacturer's directions.
2. Have each employee put on an OSHA/NIOSH approved respirator for asbestos and check the fit using the positive/negative fit check.
3. Have each employee put on a disposable full-body suit. Remember, the hood goes over the respirator straps.
4. Check closely the integrity of the glove bag to be used. Check all seams, gloves, sleeves, and glove openings. OSHA requires the bottom of the bag to be seamless.
5. Check the condition of the ACM/PACM (TSI) on the pipe where the work will be performed.
 - a. If TSI on the pipe is damaged (broken lagging, hanging, etc.), wrap the entire length of the pipe in poly sheeting and "candy stripe" it with duct tape. A common error when doing glove bag work is forgetting that loose pipe lagging several feet or even several yards away from the glove bag work may be jarred loose by the removal activity. This is one of the common causes of high airborne fiber concentrations during glove bag work. Another problem is failure to clean up asbestos-containing debris on the floor and other surfaces which has accumulated and contains asbestos.
 - b. If the TSI on the pipe is undamaged, it is still necessary to place one layer of duct tape around the pipe at each location where the glove bag will be attached, covering an 8" width. This serves two purposes.
 - i. First, it gives a good surface on which to seal the ends of the glove bag.
 - ii. Second, it minimizes the chance of releasing fibers when the tape at the ends of the glove bag is peeled off at the completion of the job.
6. Open the top of the glove bag and cut down the sides to accommodate the size of the pipe (about 6 to 8 inches longer than the pipe diameter). Some bags have zippers or two-sided tape on top and straps at each end facilitating easier installation of the bag on the pipe.
7. Place the necessary tools into the pouch located inside the glove bag. This will usually include a flex-saw, utility knife, rags, scrub brush, wire cutters, tin snips and

wettable cloth (or equivalent material). (Putting the wettable cloth, or equivalent material, in a small air-tight Ziploc bag may make it easier to handle).

8. Put an initial layer of duct tape or equivalent material, 8" wide, at the glove bag attachment points on the pipe to facilitate sealing the glove bag to the piping. An initial layer of duct tape seals the lagging and allows removal of the glove bag without undue disturbance of the asbestos-containing piping/lagging.
9. Place the inspected glove bag with the tools in it around the pipe. Snug it up to the bottom of the slits in the sides. Holding the upper end tight, seal the two ends of the glove bag with several secure wraps of duct tape, securely attaching the ends to the pipe. At this point, you should have approximately 6" of glove bag above the top of the pipe. Tape the slit above the two points of attachment with duct tape or equivalent material. This will produce a crown effect so you can work on top of the pipe. Fold over neatly several times the horizontal slit along the top of the glove bag using about a one-inch fold each time, staple it securely and then tape it several times with duct tape or equivalent material, effecting an air-tight bag attached to the pipe.
10. Using the smoke tube and aspirator bulb, place the tube into the water porthole (two-inch opening to glove bag), and fill the bag with smoke and squeeze it. If leaks are detected, they should be taped closed using duct tape and the bag should be retested with smoke. Do not commence asbestos abatement until the glove bag is airtight as defined by no escape of visible smoke from the glove bag.
11. Insert the wand from the water sprayer through the water porthole. Using duct tape or equivalent material, tape the water porthole tightly around the wand to prevent air/water leakage. This is a critical seal.
12. Insert the hose end from a HEPA vacuum into the upper portion of the glove bag. It will be available for evacuating the air at the completion of the job and for emergency purposes, if necessary. DO NOT turn on the HEPA vacuum yet.
13. Have one person place his hands into the long-sleeved gloves while the second person directs the water spray at the work. Use talcum powder or similar material(s) for the sleeves/gloves to absorb perspiration.
14. If the section of pipe is covered with an aluminum jacket, remove it first using the wire cutters to cut any bands and the tin snips to remove the aluminum. It is important to fold the sharp edges in to prevent cutting the bag when placing it in the bottom. Use caution to prevent cuts - these edges are sharp!
15. With the insulation exposed, use the flex-saw or similar tool to cut the insulation at each end of the section to be removed. Please note that some cutting tools may cut

through the pipe! Be careful when using any cutting tool. Throughout this process, continuously spray water on the cutting area to keep dust to a minimum.

16. Once the ends are cut, slit the section of insulation from end to end using a utility knife or similar tool. The cut should be made along the top of the pipe and water continuously applied. Again, care should be taken when using the any tools so not to puncture the glove bag. Some insulation may have wire to be clipped as well.
17. Lift the insulation off the pipe and gently place it in the bottom of the glove bag. Wet the material again at this time. Using the nylon scrub brush, rags, and water, scrub and wipe down the exposed pipe inside the glove bag. No visible residue should remain on the underlying metal pipe substrate.
19. Wet the donut-shaped pieces of wettable cloth, or equivalent material, and place over the exposed ends of insulation remaining on the pipe.
20. When the work is complete, spray the upper portion of the glove bag with amended water and clean-push all residue into the bottom of the bag with the other waste material. Be very thorough. Use adequate water.
21. Put all tools, after washing them off in the bag, in one of the sleeves of glove bag and turn it inside out, drawing it outside of the bag. Twist the sleeve tightly several times to seal it and several tight turns of duct tape or equivalent material. Cut through the middle of the duct tape and remove the sleeve. Put the sleeve in the next glove bag or put it in a bucket of water to decontaminate the tools after cutting the sleeve open.
22. Turn on the HEPA vacuum and collapse the bag completely (evacuate air from the glove bag). Remove the vacuum nozzle, seal the hole with duct tape or equivalent material, twist the bag tightly several times in the middle, and tape it to keep the material in the bottom during removal of the glove bag from the pipe.
23. Slip a disposal bag over the glove bag (still attached to the pipe). Remove the tape securing the ends, slit open the top of the glove bag, and carefully fold it down into the disposal bag.
24. Remove and wet the disposable suits and place these into the bag with the waste.
25. Twist the top of the bag around the HEPA vacuum hose, evacuate the disposal bag and then fold this over ("gooseneck" style), and seal with duct tape or equivalent material. Ensure that the outermost bag is appropriately labeled, marked, and identified, per OSHA, EPA, and DOT asbestos regulations.

26. Using a clean damp rag, wipe the exterior of the respirator, and leave the regulated area. Remove the respirator and thoroughly wash and dry it.
27. ACMs/PACMs must be disposed in approved landfill in accordance with EPA/NESHAP regulations.'